



*Florida Department of Transportation*

**RICK SCOTT**  
GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

**JIM BOXOLD**  
SECRETARY

October 14, 2016

Cynthia Kelly, Director  
Office of Policy and Budget  
Executive Office of the Governor  
1701 Capitol  
Tallahassee, Florida 32399-0001

JoAnne Leznoff, Staff Director  
House Appropriations Committee  
221 Capitol  
Tallahassee, Florida 32399-1300

Tim Sadberry, Deputy Staff Director  
Senate Committee on Appropriations  
201 Capitol  
Tallahassee, Florida 32399-1300

RE: FISCAL YEAR 2017-18 LEGISLATIVE BUDGET REQUEST

Dear Directors:

Pursuant to Chapter 216, Florida Statutes, our Legislative Budget Request for the Department of Transportation is submitted in the format prescribed in the budget instructions. The information provided electronically and contained herein is a true and accurate presentation of our proposed needs for the 2017-18 Fiscal Year. This submission has been approved by Jim Boxold, Secretary of the Florida Department of Transportation.

Sincerely,

A handwritten signature in blue ink that reads "Mechelle Marcum". The signature is written in a cursive style.

Mechelle Marcum  
Budget Officer

MM:jmp

Enclosure

BUDGET ENTITY	D3A ISSUE CODE	COLUMN NUMBERS	CODE	ERROR MESSAGE	PAGE
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THERE WERE 0 ERRORS DETECTED



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COL A03			
AGY REQUEST			
FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
ESTIMATED EXPENDITURES - FIXED			
CAPITAL OUTLAY			990I000
FIXED CAPITAL OUTLAY			080000
DEBT SERVICE		001	089070
TRUST FUNDS.....	166,414,920		2000
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SCH VIIIA NARR 17-18 NOTES: DEBT SERVICE

SUMMARY:

Priority #1

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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring

Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring

Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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Total Debt Service (990T000+990I000):\$ 173,773,466

Total Work Program: \$8,014,522,558

This request represents the second year of the July 1, 2016, Adopted Work Program for fiscal years 2017 through 2021 and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

Goal 1: Preserve and manage a safe, efficient transportation system.

Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.

Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SIB LOAN REPAYMENTS		001	080047
TRUST FUNDS.....	7,400,598		2000
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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SIB LOAN REPAYMENTS		001	080047

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SCH VIIIA NARR 17-18 NOTES: SIB LOAN REPAYMENTS

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SM CTY RESURFACE ASSIST PG		001	085575

TRUST FUNDS..... 25,143,082 2000

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SCH VIIIA NARR 17-18 NOTES: SM CTY RESURFACE ASSIST PG

SUMMARY:  
 Priority #1

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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SM CTY RESURFACE ASSIST PG	001		085575

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SM COUNTY OUTREACH PROGRAM	001		085576
TRUST FUNDS.....		65,041,227	2000

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SCH VIIIA NARR 17-18 NOTES: SM COUNTY OUTREACH PROGRAM

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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SM COUNTY OUTREACH PROGRAM	001		085576

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
COUNTY TRANSPORTATION PRGS	001		088572
TRUST FUNDS.....		50,562,030	2000

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SCH VIIIA NARR 17-18 NOTES: COUNTY TRANSPORTATION PRGS

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 FY 2017-18  
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CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
COUNTY TRANSPORTATION PRGS	001		088572

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
BOND GUARANTEE	001		088703
TRUST FUNDS.....		1,253,922	2000

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SCH VIIIA NARR 17-18 NOTES: BOND GUARANTEE

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COL A03 AGY REQUEST FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
BOND GUARANTEE		001	088703
Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety. Goal 3: Organizational excellence by promoting and encouraging continuous improvement. *****			
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
TRANSP PLANNING CONSULT		001	088704
TRUST FUNDS.....	52,420,962		2000
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SCH VIIIA NARR 17-18 NOTES:           TRANSP PLANNING CONSULT

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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
HIGHWAY MAINTENANCE CONTR		001	088712
TRUST FUNDS.....	505,539,515		2000
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SCH VIIIA NARR 17-18 NOTES: HIGHWAY MAINTENANCE CONTR

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
INTRASTATE HIGHWAY CONSTR		001	088716
TRUST FUNDS.....	3080,190,299		2000
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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
INTRASTATE HIGHWAY CONSTR		001	088716

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SCH VIIIA NARR 17-18 NOTES: INTRASTATE HIGHWAY CONSTR

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
ARTERIAL HIGHWAY CONSTR		001	088717

TRUST FUNDS..... 125,518,657 2000

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SCH VIIIA NARR 17-18 NOTES: ARTERIAL HIGHWAY CONSTR

SUMMARY:  
 Priority #1  
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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
ARTERIAL HIGHWAY CONSTR	001		088717

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
CONSTRUCT INSPECT CONSULT	001		088718
TRUST FUNDS.....		327,688,502	2000

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SCH VIIIA NARR 17-18 NOTES: CONSTRUCT INSPECT CONSULT

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COL A03			
AGY REQUEST			
FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			99000000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
CONSTRUCT INSPECT CONSULT		001	088718

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
AVIATION DEV/GRANTS		001	088719
TRUST FUNDS.....	225,478,114		2000

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SCH VIIIA NARR 17-18 NOTES: AVIATION DEV/GRANTS

SUMMARY:

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COL A03			
AGY REQUEST			
FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
AVIATION DEV/GRANTS		001	088719

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
PUBLIC TRANSIT DEV/GRANTS		001	088774
TRUST FUNDS.....	383,705,036		2000
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SCH VIIIA NARR 17-18 NOTES: PUBLIC TRANSIT DEV/GRANTS

SUMMARY:

Priority #1

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COL A03 AGY REQUEST FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
PUBLIC TRANSIT DEV/GRANTS		001	088774
Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety. Goal 3: Organizational excellence by promoting and encouraging continuous improvement. *****			
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
RIGHT-OF-WAY LAND ACQ		001	088777
TRUST FUNDS.....	589,897,622		2000
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SCH VIIIA NARR 17-18 NOTES:           RIGHT-OF-WAY LAND ACQ

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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SEAPORT - ECONOMIC DEV		001	088790
TRUST FUNDS.....	15,000,000		2000
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SCH VIIIA NARR 17-18 NOTES: SEAPORT - ECONOMIC DEV

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SEAPORTS ACCESS PROGRAM		001	088791
TRUST FUNDS.....	10,000,000		2000
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 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SEAPORTS ACCESS PROGRAM		001	088791

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SCH VIIIA NARR 17-18 NOTES: SEAPORTS ACCESS PROGRAM

SUMMARY:

Priority #1

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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SEAPORT GRANTS		001	088794

TRUST FUNDS..... 84,743,937 2000

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SCH VIIIA NARR 17-18 NOTES: SEAPORT GRANTS

SUMMARY:

Priority #1

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COL A03			
AGY REQUEST			
FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
SEAPORT GRANTS		001	088794

Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
HIWAY SAFETY CONSTR/GRANTS		001	088796
TRUST FUNDS.....	128,956,106		2000

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SCH VIIIA NARR 17-18 NOTES: HIWAY SAFETY CONSTR/GRANTS

SUMMARY:

Priority #1

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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
HIWAY SAFETY CONSTR/GRANTS	001		088796

Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
RESURFACING	001		088797
TRUST FUNDS.....		536,031,855	2000

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SCH VIIIA NARR 17-18 NOTES: RESURFACING

SUMMARY:

Priority #1  
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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to



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COL A03			
AGY REQUEST			
FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
RESURFACING		001	088797
<p>incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.</p> <p>LRPP REFERENCE:            Goal 1: Preserve and manage a safe, efficient transportation system.            Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.            Goal 3: Organizational excellence by promoting and encouraging continuous improvement.</p> <p>*****</p>			
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
BRIDGE CONSTRUCTION		001	088799
TRUST FUNDS.....	274,261,407		2000
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SCH VIIIA NARR 17-18 NOTES: BRIDGE CONSTRUCTION

SUMMARY:

Priority #1

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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring

Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring

Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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Total Debt Service (990T000+990I000):\$ 173,773,466

Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

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COL A03				
AGY REQUEST				
FY 2017-18				
POS	AMOUNT	PRIORITY	CODES	
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TRANSPORTATION, DEPT OF				55000000
CAPITAL IMPROVEMENT PLAN				9900000
TRANSPORTATION WORK PROGRAM				990T000
FIXED CAPITAL OUTLAY				080000
BRIDGE CONSTRUCTION		001		088799
<p>Goal 1: Preserve and manage a safe, efficient transportation system.</p> <p>Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.</p> <p>Goal 3: Organizational excellence by promoting and encouraging continuous improvement.</p> <p>*****</p>				
TRANSPORTATION WORK PROGRAM				990T000
FIXED CAPITAL OUTLAY				080000
SEAPORT INVESTMENT PRG		001		088807
TRUST FUNDS.....	11,448,082			2000
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SCH VIIIA NARR 17-18 NOTES: SEAPORT INVESTMENT PRG

SUMMARY:

Priority #1

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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring

Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring

Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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Total Debt Service (990T000+990I000):\$ 173,773,466

Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

Goal 1: Preserve and manage a safe, efficient transportation system.

Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.

Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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                                COL A03
                                AGY REQUEST
                                FY 2017-18
                                POS      AMOUNT      PRIORITY      CODES
                                -----
TRANSPORTATION, DEPT OF                                55000000
CAPITAL IMPROVEMENT PLAN                                99000000
TRANSPORTATION WORK PROGRAM                            990T000
FIXED CAPITAL OUTLAY                                    080000
RAIL DEVELOPMENT/GRANTS                                001          088808

TRUST FUNDS.....                                228,752,858                                2000
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SCH VIIIA NARR 17-18 NOTES: RAIL DEVELOPMENT/GRANTS

SUMMARY:  
 Priority #1  
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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM                                990T000
FIXED CAPITAL OUTLAY                                    080000
INTERMODAL DEVELOP/GRANTS                                001          088809

TRUST FUNDS.....                                87,701,480                                2000
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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
INTERMODAL DEVELOP/GRANTS		001	088809

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SCH VIIIA NARR 17-18 NOTES: INTERMODAL DEVELOP/GRANTS

SUMMARY:  
 Priority #1  
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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
CONTRACT MAINT W/ DOC		001	088810

TRUST FUNDS..... 19,146,000 2000

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SCH VIIIA NARR 17-18 NOTES: CONTRACT MAINT W/ DOC

SUMMARY:  
 Priority #1  
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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
CONTRACT MAINT W/ DOC	001		088810

Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
PRELIMINARY ENGR CONSULT	001		088849
TRUST FUNDS.....		512,584,724	2000

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SCH VIIIA NARR 17-18 NOTES: PRELIMINARY ENGR CONSULT

SUMMARY:  
 Priority #1  
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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			99000000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
PRELIMINARY ENGR CONSULT	001		088849

Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
HWY BEAUTIFICATION GRANTS	001		088850

TRUST FUNDS.....		1,000,000	2000
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SCH VIIIA NARR 17-18 NOTES: HWY BEAUTIFICATION GRANTS

SUMMARY:

Priority #1

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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to

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COL A03			
AGY REQUEST			
FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
HWY BEAUTIFICATION GRANTS		001	088850

incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
RIGHT-OF-WAY SUPPORT		001	088853
TRUST FUNDS.....	49,922,696		2000
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SCH VIIIA NARR 17-18 NOTES: RIGHT-OF-WAY SUPPORT

SUMMARY:

Priority #1

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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring

Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring

Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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Total Debt Service (990T000+990I000):\$ 173,773,466

Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.

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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
 -----

TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
RIGHT-OF-WAY SUPPORT	001		088853

Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.  
 Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
TRANSPORT PLANNING GRANTS	001		088854

TRUST FUNDS.....	25,910,510		2000
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SCH VIIIA NARR 17-18 NOTES: TRANSPORT PLANNING GRANTS

SUMMARY:  
 Priority #1  
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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

Goal 1: Preserve and manage a safe, efficient transportation system.  
 Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.  
 Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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COL A03 AGY REQUEST FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
MATERIALS AND RESEARCH		001	088857
TRUST FUNDS.....	14,414,285		2000
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SCH VIIIA NARR 17-18 NOTES: MATERIALS AND RESEARCH

SUMMARY:

Priority #1

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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring

Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring

Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

Total Debt Service (990T000+990I000):\$ 173,773,466

Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

Goal 1: Preserve and manage a safe, efficient transportation system.

Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.

Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
BRIDGE INSPECTION		001	088864
TRUST FUNDS.....	14,588,826		2000
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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
BRIDGE INSPECTION		001	088864

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SCH VIIIA NARR 17-18 NOTES: BRIDGE INSPECTION

SUMMARY:  
 Priority #1  
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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
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Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
ECON DEV/TRANSP PROJECTS		001	088865

TRUST FUNDS..... 15,000,000 2000

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SCH VIIIA NARR 17-18 NOTES: ECON DEV/TRANSP PROJECTS

SUMMARY:  
 Priority #1  
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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
ECON DEV/TRANSP PROJECTS	001		088865

Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

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LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
TRAFFIC ENGR CONSULTANTS	001		088866
TRUST FUNDS.....	170,521,909		2000

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SCH VIIIA NARR 17-18 NOTES: TRAFFIC ENGR CONSULTANTS

SUMMARY:  
 Priority #1  
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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			99000000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
TRAFFIC ENGR CONSULTANTS	001		088866

Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
LOCAL GOVERNMENT REIMBURSE	001		088867

TRUST FUNDS.....		1,049,106	2000
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SCH VIIIA NARR 17-18 NOTES: LOCAL GOVERNMENT REIMBURSE

SUMMARY:

Priority #1

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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to

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COL A03			
AGY REQUEST			
FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
LOCAL GOVERNMENT REIMBURSE		001	088867

incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
TOLL OPERATION CONTRACTS		001	088876
TRUST FUNDS.....	147,932,436		2000
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SCH VIIIA NARR 17-18 NOTES: TOLL OPERATION CONTRACTS

SUMMARY:

Priority #1

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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring

Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring

Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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Total Debt Service (990T000+990I000):\$ 173,773,466

Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.

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COL A03 AGY REQUEST FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
TOLL OPERATION CONTRACTS		001	088876
<p>Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.            Goal 3: Organizational excellence by promoting and encouraging continuous improvement.</p> <p>*****</p>			
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
TURNPIKE SYS EQUIP & DEVEL		001	088920
TRUST FUNDS.....	11,840,000		2000
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SCH VIIIA NARR 17-18 NOTES:           TURNPIKE SYS EQUIP & DEVEL

SUMMARY:  
 Priority #1  
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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

Goal 1: Preserve and manage a safe, efficient transportation system.  
 Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.  
 Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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COL A03 AGY REQUEST FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
TOLLS SYS EQUIP & DEVELOP		001	088922
TRUST FUNDS.....	40,103,309		2000
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SCH VIIIA NARR 17-18 NOTES: TOLLS SYS EQUIP & DEVELOP

SUMMARY:  
 Priority #1  
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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
DEBT SERVICE		001	089070
TRUST FUNDS.....	7,358,546		2000
	=====		

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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
TRANSPORTATION WORK PROGRAM			990T000
FIXED CAPITAL OUTLAY			080000
DEBT SERVICE		001	089070

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SCH VIIIA NARR 17-18 NOTES: DEBT SERVICE

SUMMARY:  
 Priority #1  
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Requests \$8,014,522,558 in budget authority for the department's Work Program.

Issue Code: 990T000 - Work Program - \$7,840,749,092 Nonrecurring  
 Issue Code: 990T000 - Debt Service - \$ 7,358,546 Recurring  
 Issue Code: 990I000 - Debt Service - \$ 166,414,920 Recurring

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 Total Debt Service (990T000+990I000):\$ 173,773,466  
 Total Work Program: \$8,014,522,558

Requests the second year of the July 1, 2016, Adopted Work Program and includes projects supporting the preservation, safety, maintenance and enhancement of Florida's Transportation Systems. The second year of the Adopted Work Program serves as a placeholder pending development of the new Tentative Work Program. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

LRPP REFERENCE:

- Goal 1: Preserve and manage a safe, efficient transportation system.
- Goal 2: Enhance Florida's economic competitiveness, quality of life and transportation safety.
- Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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AGENCY-WIDE INFORMATION TECHNOLOGY			3620000
TRANSPORTATION WORK PROGRAM			
INTEGRATION INITIATIVE		002	36233C0

TRUST FUNDS.....	15,000,000		2000
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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #2  
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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
AGENCY-WIDE INFORMATION TECHNOLOGY			3620000
TRANSPORTATION WORK PROGRAM			
INTEGRATION INITIATIVE	002		36233C0

Requests \$15,000,000 of nonrecurring budget authority in the Contracted Services category to FDOT's Transportation Work Program Integration Initiative (WPPII). The WPPII is a multi-year FDOT project to modernize the department's core financial systems used to develop the Work Program, ensure continued financial integrity, address changing partner demands and account for the uses of vital state and federal funding. WPPII impacts every office within the department. The project ultimately seeks to optimize the Work Program's production capabilities by aligning business processes to a common strategic objectives and operational standards, aided by modernized system solution.

LRPP REFERENCE: Goal #3: Organizational excellence by promoting and encouraging continuous improvement.

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MAINTENANCE OF ENTERPRISE SECURITY			
ACCESS CONTROL SYSTEM	003		36222C0

TRUST FUNDS.....	67,750		2000
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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #3  
 -----

Requests \$67,750 in recurring budget authority to maintain the replacement of obsolete access control systems with an Enterprise Security Access Control System. This critical multi-year request will replace obsolete stand-alone systems with one integrated, networked and cloud-based security system over three fiscal years. This procurement will not only enhance the safety and security of the department's personnel, resources and facilities, it will create security management efficiency, and reduce purchase, labor, training and maintenance costs.

LRPP REFERENCE: Goal #3: Organizational excellence by promoting and encouraging continuous improvement.

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COL A03			
AGY REQUEST			
FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
CODE CORRECTIONS			990C000
FIXED CAPITAL OUTLAY			080000
IMPROVS/SECURITY SYSTEMS		003	088225
TRUST FUNDS.....	470,125		2000
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SCH VIIIA NARR 17-18 NOTES: IMPROVS/SECURITY SYSTEMS

SUMMARY:  
 Priority #3  
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Requests \$470,125 in nonrecurring Fixed Capital Outlay budget authority to replace obsolete access control systems with an Enterprise Security Access Control System. This critical multi-year request will replace obsolete stand-alone systems with one integrated, networked and computer-based security system over three fiscal years. This procurement will not only enhance the safety and security of the department's personnel, resources and facilities, it will create security management efficiency, and reduce purchase, labor, training and maintenance costs.

LRPP REFERENCE: Goal #3: Organizational excellence by promoting and encouraging continuous improvement.

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CODE CORRECTIONS			990C000
FIXED CAPITAL OUTLAY			080000
MAJ REP,RENO & IMP/MAJ INS		004	083258
TRUST FUNDS.....	3,600,106		2000
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SCH VIIIA NARR 17-18 NOTES: MAJ REP,RENO & IMP/MAJ INS

SUMMARY:  
 Priority #4  
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Tampa District Headquarters Chiller System Replacement

Requests \$3,600,106 of nonrecurring Fixed Capital Outlay budget authority to replace the heating, ventilating and air conditioning (HVAC) system (two 500 ton chillers and four air handlers) at the Tampa District 7 Headquarters building. The HVAC was originally installed in 1992, when the building was constructed, and the existing chiller repairs costs have totaled over \$322,000 over the last five years. Future repairs are no longer cost effective and replacement in FY 2017/18 prevents catastrophic failure.

LRPP REFERENCE: Goal #3: Organizational excellence by promoting and encouraging continuous improvement.

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                                COL A03
                                AGY REQUEST
                                FY 2017-18
                                POS      AMOUNT      PRIORITY      CODES
                                -----
TRANSPORTATION, DEPT OF
CAPITAL IMPROVEMENT PLAN
CODE CORRECTIONS
FIXED CAPITAL OUTLAY
MINOR REPAIRS/IMPROV-STATE
                                005
TRUST FUNDS.....
                                3,497,527
                                =====
*****
  
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SCH VIIIA NARR 17-18 NOTES: MINOR REPAIRS/IMPROV-STATE  
 SUMMARY:  
 Priority #5  
 -----  
 Code Corrections

Requests \$3,497,527 of nonrecurring Fixed Capital Outlay budget authority to fund building and grounds projects department-wide which are necessary to meet federal, state, or local building code requirements. This issue is presented annually so FDOT can extend the life of facilities and create a safe working environment. Relevant projects include:

- Americans with Disabilities Act (ADA) bathroom renovations, covered ADA ramp
- Life Safety: fire alarm panels
- Environmental: fuel tank painting/removal, removal of laboratory fumes/dust collection, noise mitigation
- Building Critical: special need building transformer/switch gear, security, chiller/boiler/HVAC replacement, roof replacement, building envelope, drainage, safety, building wiring/emergency generator.

LRPP REFERENCE: Goal #3: Organizational excellence by promoting and encouraging continuous improvement.

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ENVIRONMENTAL PROJECTS
FIXED CAPITAL OUTLAY
ENVIRON SITE RESTORATION
                                006
TRUST FUNDS.....
                                620,000
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SCH VIIIA NARR 17-18 NOTES: ENVIRON SITE RESTORATION  
 SUMMARY:  
 Priority #6  
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Environmental Site Restoration: Requests \$620,000 of nonrecurring Fixed Capital Outlay budget authority to continue the cleanup of contaminated soil and groundwater at various FDOT facilities statewide to restore those sites to an environmentally uncontaminated, clean and safe condition. Failure to perform the needed cleanup will result in violation

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COL A03			
AGY REQUEST			
FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
ENVIRONMENTAL PROJECTS			990E000
FIXED CAPITAL OUTLAY			080000
ENVIRON SITE RESTORATION		006	088763
PROGRAM OR SERVICE-LEVEL			
INFORMATION TECHNOLOGY			3630000
CONSTRUCTION MANAGEMENT SYSTEM			
(CMS) UPDATES		007	36344C0
TRUST FUNDS.....	1,813,432		2000
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of the Federal Resource Conservation and Recovery Act.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #7  
 -----

Requests \$1,813,432 in nonrecurring budget authority for the migration of the Construction Management Software from AASHTOware Project/Site Manager client server-based application to the web-based version. Implementation for the new web-based version will take place over two fiscal years. The current software will cease to be supported after the FY 2019/2020.

The software manages all department construction contracts, with a consistent value of over \$10 billion. There are 4,500 users of the current software who manage approximately 500 construction contracts at any given time and process \$250 million in monthly contractor payments. The software facilitates the operations of the construction management program while maintaining full auditability of each individual user and contract. The system is the primary method the department uses to generate monthly invoice estimates for contractors on statewide construction projects, ensuring contractors are paid for work performed and materials used in a timely and highly efficient fashion.

The Construction Management Software increases user efficiency and saves time, allowing staff to focus on adding value instead of processing contracts. Modern solutions automate workflows while eliminating the need for manual and paper processes.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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COL A03 AGY REQUEST FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
SUPPORT FACILITIES			990F000
FIXED CAPITAL OUTLAY			080000
MINOR REPAIRS/IMPROV-STATE		008	080002
TRUST FUNDS.....	1,434,767		2000
	=====		
*****			

SCH VIIIA NARR 17-18 NOTES: MINOR REPAIRS/IMPROV-STATE  
 Priority #8  
 -----

Support Facilities: Requests \$1,434,767 of budget authority to fund nonrecurring Fixed Capital Outlay minor projects for new minor construction, installation of equipment storage units, modifications and renovations for additional work space, and protection of mechanical equipment at department-owned facilities. These projects are necessary to protect and preserve the value of assets (i.e., equipment and materials), reduce financial risk and to meet facility and space needs.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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EQUIPMENT NEEDS			2400000
REPLACEMENT EQUIPMENT FOR MATERIALS			
AND TESTING LABORATORIES		009	2401170
TRUST FUNDS.....	1,640,075		2000
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*****			

SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #9  
 -----

Requests \$1,640,075 in budget authority to replace specialized equipment in the Gainesville Material and Testing Laboratory, District 5 and District 6. The equipment has exceeded its useful life, is in constant need of repair or is no longer supported by the manufacturer. These specialized pieces of equipment are needed to ensure roads and bridges meet contract specifications and are safe to travel. FDOT conducts a combination of in-sourced and outsourced testing of road construction materials. Title 23 CFR 637.203 requires verification sampling, product testing and quality assurance on highway products. Proper testing equipment is needed to ensure compliance with Section 334.046(4)(a), F.S., which requires the department to meet 80 percent pavement and 90 percent bridge compliance. Replacing the aging equipment ensures timely completion of testing, feedback of results and final acceptance of the project.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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COL A03 AGY REQUEST FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
AGENCY-WIDE INFORMATION TECHNOLOGY			3620000
DATA INFRASTRUCTURE MODERNIZATION		010	36221C0
TRUST FUNDS.....	520,342		2000
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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #10  
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Requests \$520,342 in budget authority to develop the infrastructure necessary to move FDOT business applications to a Cloud environment. By transferring FDOT applications to the Cloud, hardware and operating system upgrades will be built into the contract with the host vendor. To minimize future data expenses, reduce support costs and remain current with modern business practices, FDOT plans to move all business applications into the Cloud over 10 years.

FDOT is taking a leading role among other state agencies by serving as the model for operating in a Cloud environment.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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CLOUD STORAGE		011	36224C0
TRUST FUNDS.....	754,280		2000
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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #11  
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Requests \$754,280 in budget authority to purchase an annual Cloud-based subscription as part of FDOT's long-term data storage solution. This subscription will allow for the long term storage of data files with retention policies surpassing 10 years, such as aerial photos and bridge structures. FDOT's rapidly expanding data and information requirements are straining the capacity of the Storage Areas Network (SAN) servers. The SAN is becoming slower and slower as more demand is placed on it for day to day use. The long-term Cloud-based storage environment meets the requirements for ensuring availability, integrity and security of stored data while decreasing the amount of data requiring back up and storage on the SAN.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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COL A03 AGY REQUEST FY 2017-18			
PROGRAM OR SERVICE-LEVEL INFORMATION TECHNOLOGY APPLICATION DEVELOPMENT - ANNUAL OPERATING REPORTING SYSTEM (AOR)	POS	AMOUNT	PRIORITY
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PROGRAM OR SERVICE-LEVEL			CODES
TRANSPORTATION, DEPT OF			55000000
PROGRAM OR SERVICE-LEVEL			3630000
INFORMATION TECHNOLOGY			36339C0
APPLICATION DEVELOPMENT - ANNUAL			
OPERATING REPORTING SYSTEM (AOR)			012
TRUST FUNDS.....		904,574	2000
		=====	

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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #12  
 -----

Requests \$904,574 of budget authority in the Contracted Services category to replace, maintain and support the Annual Operating Reporting system. Cash is available but budget authority is not. This project will enhance the Commission on Transportation Disadvantaged's ability to report its funding and activities in a timely manner.

LRPP REFERENCE: Goal 2: Enhance Florida's economic competitiveness, quality of life, and transportation safety.

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PROGRAM PLAN SUPPORT			6000000
SUPPORT FOR TRANSPORTATION			
DISADVANTAGED			013
TRUST FUNDS.....		3,433,239	2000
		=====	

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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #13  
 -----

Requests \$3,433,239 of budget authority to increase the Grants and Aids Transportation Disadvantaged and the Expenses categories with projected revenues. In addition to supporting the Transportation Disadvantaged Commission's mission, the Expenses budget will be used for quality assurance and oversight activities. This benefits the state with the opportunity for older adults, persons with disabilities, persons of low income, and at-risk children to have transportation access to health care, employment, education, and other life sustaining activities.

LRPP REFERENCE: Goal 2: Enhance Florida's economic competitiveness, quality of life, and transportation safety.

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COL A03 AGY REQUEST FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
SUPPORT FACILITIES			990F000
FIXED CAPITAL OUTLAY			080000
OCALA OPS CTR-REP/RENO/ADD		014	088628
TRUST FUNDS.....	1,428,894		2000
	=====		
*****			

SCH VIIIA NARR 17-18 NOTES: OCALA OPS CTR-REP/RENO/ADD  
 SUMMARY:  
 Priority #14  
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 Ocala Operations Center

Requests \$1,428,894 in Fixed Capital Outlay budget to begin the three-year project to design a new 46,917 sq.ft Ocala Operations Center at the existing FDOT-owned site in District 5. This project proposes consolidation of 22 existing maintenance and construction buildings to 7 new buildings to house up to 57 staff and the numerous functions performed on site. Existing buildings contain lead-based paint and asbestos, the buildings are too small and do not meet operational needs, and the electrical system does not meet code.

Year 1: \$1,428,894 (design)  
 Year 2: \$10,895,459 (construction)  
 Year 3: \$9,321,854 (construction)

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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SUPPORT FACILITIES			990F000
FIXED CAPITAL OUTLAY			080000
FACILITIES CONSTRCTN/RENOV		015	087571
TRUST FUNDS.....	1,711,552		2000
	=====		
*****			

SCH VIIIA NARR 17-18 NOTES: FACILITIES CONSTRCTN/RENOV  
 SUMMARY:  
 Priority #15  
 -----  
 Bartow Conference Center Renovation

Request \$1,711,552 in Fixed Capital Outlay budget to convert an unused, department-owned, former day care facility into a 6,847 sq.ft. functional Conference Center in District 1, Polk County. The conference center will accommodate 353 people



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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
CAPITAL IMPROVEMENT PLAN			9900000
SUPPORT FACILITIES			990F000
FIXED CAPITAL OUTLAY			080000
FACILITIES CONSTRCTN/RENOV	015		087571

and will serve as a statewide meeting center for the 24 counties of FDOT Districts 1, 5, 7 and the Turnpike Enterprise as well as other state and municipal agencies. The conference center will be used to conduct safety meetings, training, town hall meetings and conferences with business partners. The existing auditorium will be converted into an emergency operations center and computer training room. Cost for the emergency operations center and computer training room will be requested in future legislative budget requests.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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PROGRAM PLAN SUPPORT			6000000
SUPPORT FOR FAST ACT PERFORMANCE REPORTING	016		6001060
TRUST FUNDS.....		167,195	2000
		=====	

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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #16  
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Requests \$167,195 in recurring operating budget for consultant services related to new FAST Act (federal 23 U.S.C. 150) performance reporting requirements. Consultant services include: Additional training for MPOs, best practice development, data collection and analysis, report development and workshop curriculum development.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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PROGRAM OR SERVICE-LEVEL INFORMATION TECHNOLOGY			3630000
AUTOMATED SYSTEM FOR APPROXIMATE BRIDGE EVALUATION (ASABE)	017		36346C0
TRUST FUNDS.....		400,000	2000
		=====	

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 COL A03  
 AGY REQUEST  
 FY 2017-18  
 POS AMOUNT PRIORITY CODES  
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TRANSPORTATION, DEPT OF			55000000
PROGRAM OR SERVICE-LEVEL			
INFORMATION TECHNOLOGY			3630000
AUTOMATED SYSTEM FOR APPROXIMATE			
BRIDGE EVALUATION (ASABE)		017	36346C0

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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #17

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Requests \$400,000 in nonrecurring federal budget authority for application development contract staffing to incorporate advanced analytical features into the Automated System for Approximate Bridge Evaluation, an analytical tool used in the Permitting Application System to determine whether overweight vehicles can safely cross continuous span structures, girder/floorbeam structures, bascule/movable bridges, segmental box girder bridges and other unique bridges encountered on route. The improvements will allow the Office of Maintenance to better serve the commercial trucking industry through automated route analysis for overweight superloads. The system has a built-in redundancy to provide permitting analysis even when the department's network is not available.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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GLOBAL POSITIONING SYSTEM (GPS)			
ROUTING APPLICATION		018	36345C0

TRUST FUNDS.....	300,000		2000
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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:  
 Priority #18

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Requests \$300,000 in nonrecurring budget authority to identify user requirements and project scope to develop a GPS routing application for overweight permitted vehicles that is compatible with the Permit Application System. Commercial Motor Vehicle (CMV) drivers use hard-copy maps to identify structures on route that cannot be crossed with an overweight load. Requiring CMV drivers to operate on highways with a paper map is not in compliance with the Federal Motor Carrier Safety Administration's driver distraction laws. The department intends to use operating state funding to develop a mobile mapping application that will allow CMV drivers to develop travel routes consistent with their permits through a hands-free navigation system.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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COL A03			
AGY REQUEST			
FY 2017-18			
POS	AMOUNT	PRIORITY	CODES
-----			
TRANSPORTATION, DEPT OF			55000000
PROGRAM REDUCTIONS			33V0000
VACANT POSITION REDUCTIONS		020	33V0550
TRUST FUNDS.....	80.00- 2,529,140-		2000
	=====		

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SCH VIIIA NARR 17-18 NOTES:

SUMMARY:

Priority #20

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Deletes 80 positions, 1,345,256 in Salary Rate and \$2,529,140 in the Salaries and Benefits category, to reflect management reductions for organizational efficiencies implemented by the department. Efficiencies include improvements to processes, systematic enhancements, consolidation of activities in functional areas, and increased use of technology to automate manual tasks and improve speed of task completion. The department continues to restructure its workforce to leverage private sector support where cost effective. The department continues to transition its workforce to a knowledge-based organization while outsourcing non-core functions.

LRPP REFERENCE: Goal 3: Organizational excellence by promoting and encouraging continuous improvement.

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TOTAL: TRANSPORTATION, DEPT OF			55000000
BY FUND TYPE			
TRUST FUNDS.....	80.00- 8049,757,276		2000
	=====		

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* BPEADL01                                STATISTICAL INFORMATION                                10/11/2016 13:03:55 *
* BUDGET PERIOD: 2007-2018                EXHIBIT A, D AND D-3A LIST REQUEST                JMP 55 SP *
* COMPILE DATE: 09/16/2015                COMPILE TIME: 09:40:41                                PAGE: 1 *
*****
*                                     SAVE INITIALS:                SAVE DEPARTMENT: 07                SAVE ID: SC8A *
* ----- *
* SELECT CODES AND ACCUMULATION LEVELS WHERE ALLOWED.  WHEN NO CODE IS SELECTED, ALL CODES WILL BE REPORTED. *
* ITEMIZATION OF EXPENDITURE:                IOE ACCUMULATION LEVEL: 0 (1=OPER/FCO, 2=IOE, 0=MERGED) *
* MERGE GROUPS (Y/N): Y *
* BUDGET ENTITY OR GROUP/ACCUMULATION LEVEL (DEP, DIV, BUR, SUB, LBE, MRG): *
* 1-7:                DEP *
* 8-14: *
* 15-21: *
* 22-27: *
* EXCLUDE: *
* *
* PROGRAM COMPONENT/ACCUMULATION LEVEL (1, 2, 3, 4 OR 5 FOR 2, 4, 6, 8 OR 10 DIGITS, 6=MERGE POLICY, 0=MERGED): *
* 0                0                0                0                0                0 *
* *
* APPROPRIATION CATEGORY OR GROUP/ACCUMULATION LEVEL (1=MAJOR, 2=MINOR, 0=MERGED): *
* 0                0                0                0                0                0 *
* *
* FUND GROUPS SET:                OR FUND:                FUNDING SOURCE IDENTIFIER:                MERGE FSI (Y/N): Y *
* FCO (Y/N): Y                FTE (Y/N): Y                SALARY RATE (Y/N): N *
* ----- *
* ISSUE CODE OR GROUP/ACCUMULATION LEVEL (1, 2 OR 3 FOR 1, 3 OR 7 CHARACTERS, 0=MERGED): *
* 3 *
* *
* REPORT OPTION: 4                COLUMN SELECTION:                A03                CODES *
* 1=EAD REPORT *
* 2=SCHEDULE IV/IT ISSUES                REPORT COLUMNS WITH CALCULATION DIFFERENCE ONLY (Y/N): N THAT EXCEED: *
* 3=STATEWIDE ISSUES *
* 4=SCHEDULE VIIIA ISSUES *
* SCHEDULE VIIIA ISSUES SPREADSHEET (Y/N): N *
* *
* LEVELS OF TOTALS: (N=NO TOTAL, L=LINE TOTAL, T=BY FUND TYPE, D=BY DETAIL FUND, B=BY DETAIL FUND AND FUND TYPE, *
* G=FUND GROUP LINE TOTALS, E=BY DETAIL FUND AND FUND GROUP) *
* RUN: N                ITEM OF EXP: N                GROUP: N                DEPARTMENT: T                DIVISION: N                BUREAU: N *
* SUB-BUREAU: N                LBE: T                POLICY AREA: N                PROG COMP: N                D3A SUM ISSUE: N                D3A DETAIL ISSUE: T *
* MAJOR APP CAT: N                MINOR APP CAT: N *
* *
* APPROPRIATION CATEGORY TITLES: S (S=SHORT, L=LONG)                REPORT SEQUENCE: DEPT/BUDGET ENTITY: N A=ALPHABETICAL *
* PROGRAM COMPONENT: N N=NUMERICAL *
* ----- *
* DEPARTMENT NARRATIVE SET: *
* BUDGET ENTITY NARRATIVE SET:                PROGRAM COMPONENT NARRATIVE (Y/N): N *
* *
* ISSUE/ACTIVITY NARRATIVE SET: P1                PRIORITY ISSUE NARRATIVE SET (1-9): 1 *
* *
* INCLUDE POSITION DATA (Y/N): N *
* *
* INCLUDE COLUMN CODES (Y/N): Y *
* *
* OUTPUT FORMAT: L                PAGE BREAKS: DEP *
* L=LANDSCAPE                (IOE, GRP, DEP, DIV,                REPORT HEADING:                SCHEDULE VIIIA *
* P=PORTRAIT                BUR, SUB, LBE, PRC,                PRIORITY LISTING OF AGENCY BUDGET ISSUES *
*                SIS, ISC)                REQ EXPENDITURES OVER BASE BUDGET *
* ----- *

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*****
* BPEADL01                               STATISTICAL INFORMATION                10/11/2016 13:03:55 *
* BUDGET PERIOD: 2007-2018                EXHIBIT A, D AND D-3A LIST REQUEST          JMP 55      SP   *
* COMPILE DATE: 09/16/2015                COMPILE TIME: 09:40:41                    PAGE:      2   *
*****
*
* TOTAL RECORDS READ FROM SORT:           127
* TOTAL RECORDS READ FROM CARD:           43
* TOTAL PAF RECORDS READ:                  0
* TOTAL OAF RECORDS READ:                  0
* TOTAL IEF RECORDS READ:                  0
* TOTAL BGF RECORDS READ:                  0
* TOTAL BEF RECORDS READ:                  1
* TOTAL PCF RECORDS READ:                  0
* TOTAL ICF RECORDS READ:                  25
* TOTAL INF RECORDS READ:                  1,077
* TOTAL ACF RECORDS READ:                  63
* TOTAL FCF RECORDS READ:                  1
* TOTAL FSF RECORDS READ:                  0
* TOTAL PCN RECORDS READ:                  0
* TOTAL BEN RECORDS READ:                  0
* TOTAL DPC RECORDS READ:                  0
* TOTAL RECORDS IN ERROR:                  0
*
*****
*
* BUDGET ENTITIES SELECTED:
*   1-9: 55
*  10-18:
*  19-27:
*
*****

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## Florida Department of Transportation

### Temporary Special Duty – General Pay Additive Implementation Plan for Fiscal Year 2017-2018

The department plans to use the temporary special duty (TSD) additive – general when a critical position is vacant and the work needs to be performed while the vacancy is advertised and filled. The pay additive will be implemented upon assignment of the temporary additional duties to a qualified Career Service employee, will not exceed 10 percent of the employee's base salary, and should not exceed 90 days without the department reviewing the circumstances under which the additive is implemented.

Based on the department's historical data captured for Fiscal Year 2015-16 and current Fiscal Year 2017-18 (detailed spreadsheet attached), the temporary special duty additive – general is utilized conservatively when the need is well documented, justified and consistent with the provisions stated in Article 21 of the AFSCME Master contract, "each time an employee is designated by the employee's immediate supervisor to act in a vacant established position in a higher broadband level than the employee's current broadband level and actually performs a major portion of the duties of the higher level position."

Since it cannot be predicted in advance when these situations will occur, the department can only rely on historical data. Combined data illustrates that in the last and current fiscal years, a total of eight temporary special duty pay additives have been issued. Two were related to assuming higher-level duties of a vacant position and six were for assuming duties of a position whose incumbent was out due to illness. The estimated annual cost to the department for TSD-Vacancy \$171.66 bi-weekly and TSD-Family Medical Leave Act \$119.88. Employees in varied job classes received the pay additive.

**Florida Department of Transportation**  
**Temporary Special Duty – General Pay Additive**

Fiscal Year	EFFECTIVE DATE	ENDING DATE	DISTRICT	COST CENTER	EMPLOYEE NAME	POSITION #	TYPE OF ACTION	CLASS TITLE	FOR	CURRENT BIWEEKLY SALARY	PERCENTAGE INCREASE DECREASE	NEW BIWEEKLY SALARY	BIWK TSD AMOUNT	ANNUAL TSD AMOUNT
2015-16	09-22-15	11-16-15	7	Traffic Operations	Ismael Velez	55003809	Temporary Special Duty - FMLA	Engineering Specialist I	12755-Engineering Specialist IV	1,346.99	10.00000	1,481.69	134.69	3,501.94
2015-16	09-25-15	12-17-15	7	Tampa Operations	Kenneth Green	55003462	Temporary Special Duty - FMLA	Senior Heavy Equipment Operator	03462-Highway Maintenance Supervisor II-SES	1,252.06	10.00000	1,377.27	125.20	3,255.20
2015-16	12-30-15	03-30-16	1	Facilities Management	William Warneke	55002299	Temporary Special Duty - FMLA	Maintenance Mechanic	07986-Trade Supervisor-SES	1,461.85	10.00000	1,608.04	146.18	3,800.68
2015-16	01-05-16	02-22-16	6	South Dade Maintenance	Jose Martinez	55010551	Temporary Special Duty - FMLA	Storekeeper II	10550-Distribution Agent	968.73	10.00000	1,114.40	96.87	2,518.62
2015-16	02-01-16	05-01-16	7	Intermodal Systems Development	Lisa Luberza	55000073	Temporary Special Duty - Vacancy	Administrative Secretary	09426-Administrative Assistant II	1,279.28	10.00000	1,407.21	127.93	3,326.18
2015-16	03-11-16	TBD	7	Brooksville Operations	Camille McDaris	55003515	Temporary Special Duty - FMLA	Senior Clerk	03487-Administrative Assistant III-SES	1,171.79	10.00000	1,288.97	117.17	3,046.42
2015-16	06-20-16	08-01-16	6	South Dade Maintenance	Lorenzo Williams, Jr.	55007773	Temporary Special Duty - FMLA	Highway Maintenance Tech Coordinator	07822-Highway Maintenance Supervisor II-SES	991.88	10.00000	1,091.07	99.18	2,578.68
2016-17	07-05-16	09-09-16	6	Construction	Katherine McLendon	55005224	Temporary Special Duty - Vacancy	Information Specialist III	06307-Public Information Director-SES	2,153.99	10.00000	2,418.19	215.39	5,600.14



**LEGISLATIVE  
BUDGET REQUEST  
2017-2018**

**Department Level Exhibits and  
Schedules**





*Florida Department of Transportation*


RICK SCOTT  
GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

JIM BOXOLD  
SECRETARY

**MEMORANDUM**

TO: Mechelle Marcum  
Budget Officer

FROM: Tom Thomas   
General Counsel

DATE: September 27, 2016

SUBJECT: Schedule VII: Agency Litigation Inventory  
2018 Legislative Budget Request

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We have attached an inventory of the Department's current litigation in accordance with the Planning and Budgeting Instructions. Based on your request, we have exercised due diligence by requesting that each attorney assigned to the Office of the General Counsel in Tallahassee and each of the District Chief Counsels, including the Chief Counsel for the Turnpike Enterprise, identify any litigation cases known to them that may require additional appropriations in excess of \$500,000, may increase revenues by more than \$500,000, may impact enforceability of a current state law, or are otherwise required to be reported pursuant to section 216.023(5).

If you have any questions, or need additional information, please feel free to contact me at 414-5270.

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Calvin Johnson	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Angie's Transportation, Inc., Plaintiff, v. FDOT, and Secretary Boxold, Defendants.		
<b>Court with Jurisdiction:</b>	2 <sup>nd</sup> Judicial Circuit, Leon County		
<b>Case Number:</b>	2014-CA-000489		
<b>Summary of the Complaint:</b>	Plaintiff claims it was charged incorrect amounts for tolls in using a SunPass Account to pay for tolls on roads throughout Central Florida, some roads owned by the FDOT and others owned and operated by local expressway authorities. The Plaintiff alleges classwide relief should be awarded against the FDOT for damages and other equitable relief.		
<b>Amount of the Claim:</b>	Indeterminate, but the alleged class members could be in the millions.		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	Plaintiff served the class action complaint for class certification on 02/25/14. FDOT served its Motion to Dismiss 04/18/14. FDOT's Motion to Dismiss was granted and case dismissed with leave to amend within 20 days by Order dated 09/16/14. FDOT answered amended complaint 10/16/14. Discovery and motion practice ongoing. The parties have reached a settlement on 09/10/16 for \$85,000.00 inclusive of all attorney's fees and costs.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	

<p>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</p>	<p>Lawsuit is a class action and a class has not been certified.</p> <p>Cory S. Feinman Caddell &amp; Chapman Houston, Texas</p> <p>Jack Scarola, Searcy Denney Scarola Barnhart &amp; Shipley, P.A. Tallahassee, FL (Co-counsel)</p>
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*Office of Policy and Budget – June 2016*

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Roger B. Wood	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Bay Drum Superfund Site		
<b>Court with Jurisdiction:</b>	US DC Middle District		
<b>Case Number:</b>	97-1564-CIV-T-26(A)		
<b>Summary of the Complaint:</b>	The EPA has told FDOT it is responsible for groundwater contamination at this site. EPA is overseeing the cleanup of this site under CERCLA, the Comprehensive Environmental Response, Compensation, and Liability Act. FDOT has entered into a consent decree that requires it to clean this site.		
<b>Amount of the Claim:</b>	Potential exposure is estimated to be \$10,000,000.		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	FDOT has responded to EPA's information request and has joined a Potential Responsible Party group. FDOT is a major participant due to its allocation. On 01/21/05, EPA agreed to amend the Record of Decision to provide for monitoring and natural attenuation as the remedy for the deep Floridian Aquifer. No additional assessment was made in 2014/15 and 2015/16. An additional assessment of \$48,679.17 is expected in 2016/17.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>			

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Butler Carpet Company, d/b/a Bob's Carpet Mart, Plaintiff v. FDOT, Defendant.		
<b>Court with Jurisdiction:</b>	Second District Court of Appeal		
<b>Case Number:</b>	2012-2404-CI-11; 2D15-2030		
<b>Summary of the Complaint:</b>	Plaintiff seeks severance damages and damages for an alleged loss of access, view and visibility attributed to FDOT's reconstruction of US 19 from an at grade divided highway to grade separated interchanges with one-way frontage roads.		
<b>Amount of the Claim:</b>	\$2,000,000		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	The FDOT filed a Motion for Summary Judgment on 08/05/13. FDOT's Motion for Summary Judgment was denied 06/12/14. Trial court found for the Plaintiff and final judgment for \$2,807,000 was entered 04/07/15. FDOT appealed on 05/06/15. Case has been fully briefed. Oral argument is scheduled for 09/28/16.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>			

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	CHK, LLC, Plaintiff, v. FDOT, Defendant.		
<b>Court with Jurisdiction:</b>	Second District Court of Appeal		
<b>Case Number:</b>	06-730-CI-8; 2D15-3075		
<b>Summary of the Complaint:</b>	This is an inverse condemnation case. CHK seeks damages for an alleged loss of access and physical invasion attributed to FDOT's reconstruction of US 19 from an at grade divided highway to grade separated interchanges with one-way frontage roads.		
<b>Amount of the Claim:</b>	\$2,000,000		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	The Complaint was served on 02/09/06. The Court abating the case pending the outcome of the appeal of Fisher v. FDOT in which a private property owner asserted similar claims. The FDOT received a favorable decision in Fisher on 10/11/07. On 08/18/09, Plaintiff amended its complaint to add a count for physical invasion. The FDOT's Motion for Summary Judgment was denied on 10/21/13. Trial court found for the Plaintiff and a final judgment in the amount of \$3,101,670 was entered 06/08/15. FDOT appealed on 07/07/15. Case has been fully briefed. Oral argument is scheduled for 09/28/16.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	

If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).

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*Office of Policy and Budget – June 2016*



## Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Crosspointe Baptist Church, Inc., Plaintiff, v. FDOT, Defendant.		
<b>Court with Jurisdiction:</b>	2nd District Court of Appeal		
<b>Case Number:</b>	2D 10-4254		
<b>Summary of the Complaint:</b>	This is an inverse condemnation case. Plaintiff seeks damages for physical invasion of its property, flooding, and loss of access attributed to FDOT's reconstruction of US 19 from an at grade divided highway to grade separated interchanges with one-way frontage roads.		
<b>Amount of the Claim:</b>	\$2,000,000		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	The Summons and Complaint were served on 07/28/08. On 02/16/10, after a trial the Court entered an Order of Taking, concluding that the FDOT was liable only for a temporary taking for periodic ponding during significant rain events. Court specifically found there was no taking of access. On 08/18/10, a Stipulated Final Judgment was entered for the temporary taking in the amount of \$20,000. On 09/01/10, Crosspointe appealed the Court's denial of its other claims. The case was affirmed on 09/16/11. The Mandate issued on 10/07/11. Crosspointe's motion to re-open the case was granted on 09/21/12. Mediation resulted in impasse on 02/13/14. Trial court found for the FDOT regarding access but found minimal new takings on 02/21/15. Plaintiff insists on damages for an access taking. Mediation resulted in impasse. Discovery ongoing in valuation phase in preparation of jury trial.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	



If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).

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*Office of Policy and Budget – June 2016*

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Roger B. Wood	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Peak Oil Superfund Site		
<b>Court with Jurisdiction:</b>	US DC Middle District		
<b>Case Number:</b>	97-1564-CIV-T-26(A)		
<b>Summary of the Complaint:</b>	The EPA has told FDOT it is responsible for groundwater contamination at this site. EPA is overseeing the cleanup of this site under CERCLA, the Comprehensive Environmental Response, Compensation, and Liability Act. FDOT has entered into a consent decree that requires it to clean this site.		
<b>Amount of the Claim:</b>	In excess of \$10,000,000.		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	FDOT has responded to the EPA's information request. FDOT made payment pursuant a 1998 consent decree. Implementation of remedial design in progress. Evaluation of the need for remedy in wetlands and deep aquifer is ongoing. No assessments for cleanup costs were made in 2014/15, 2015/16 and no assessment is expected for 2016/17.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>			

## Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Nicholas R. Sayat, Plaintiff v. FDOT, Defendant.		
<b>Court with Jurisdiction:</b>	6 <sup>th</sup> Judicial Circuit, Pinellas County		
<b>Case Number:</b>	2010-13468-CI-11		
<b>Summary of the Complaint:</b>	Plaintiff seeks severance damages and damages for an alleged loss of access, view and visibility attributed to FDOT's reconstruction of US 19 from an at grade divided highway to grade separated interchanges with one-way frontage roads.		
<b>Amount of the Claim:</b>	\$2,000,000		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	Plaintiff filed a Notice of Voluntary Dismissal of a prior Complaint, without prejudice, on 11/23/09. The pending Complaint was filed on 09/16/10. FDOT filed its Answer on 06/13/11. On 05/20/15 trial court found liability for the FDOT. Pursuant to the court order, the appraisal of the property taking has been completed. Discovery is ongoing in the valuation phase of the case.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>			

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Marc Peoples	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Dorothy Schwefringhaus, Plaintiff, v. CSX Transportation, Inc., Defendant/Third Party Plaintiff/Appellee, v. FDOT, Third Party Defendant/Appellant		
<b>Court with Jurisdiction:</b>	2 <sup>nd</sup> District Court of Appeal		
<b>Case Number:</b>	2D12-1097		
<b>Summary of the Complaint:</b>	Plaintiff sued CSX for injuries arising from an accident near a rail crossing. CSX sued FDOT for both contractual and common law indemnity for any loss or liability it incurred to Plaintiff and CSX settled the underlying claim against CSX and CSX obtained judgment against FDOT for the amount it paid Plaintiff and its attorneys' fees. FDOT is appealing the judgment in favor of CSX.		
<b>Amount of the Claim:</b>	\$502,462.22		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	This appeal arises from a case that was previously covered by the Division of Risk Management. On 01/18/12, the Court entered judgment on CSX's claim for contractual indemnity in favor of CSX and against the FDOT in the amount of \$502,462.22. The FDOT filed its Notice of Appeal on 02/14/12. Oral argument was held on 02/19/13. Second District Court of Appeal affirmed decision 2-1 and certified questions of great public importance to Supreme Court of Florida on 12/11/13. Supreme Court accepted jurisdiction on 04/03/14. Oral argument heard 11/04/14. Opinion issued 04/07/16 upholding the validity of the plaintiff's contractual indemnity clause absence of statutory authority.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	

If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).

*Office of Policy and Budget – June 2016*

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Erik R. Fenniman	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Fellsmere Water Control District, Plaintiff v. FDOT, Defendant.		
<b>Court with Jurisdiction:</b>	19 <sup>th</sup> Judicial Circuit, Volusia County		
<b>Case Number:</b>	12-CA-001295		
<b>Summary of the Complaint:</b>	Plaintiff seeks severance damages and damages for an alleged loss of use of canal and banks attributed to the FDOT's design build reconstruction of Interstate 95. The Plaintiff has also moved for an injunction of all construction activities due to the FDOT's failure to get a permit from the special district. Pursuant to Section 335.02(4), Florida Statutes the FDOT asserts it does not have to get a permit from Fellsmere WCD.		
<b>Amount of the Claim:</b>	\$1,800,000		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	The pending Complaint was filed on 08/01/12 in Indian River County. FDOT's motion for judgment on the pleadings denied 05/02/13. Mediation reached an impasse on 06/04/14. Plaintiff has noticed for trial. Injunction hearing held 09/30/14 and trial court denied motion. Plaintiff filed amended complaint on 02/25/15. FDOT's Answer filed 06/22/16. Discovery and motion practice ongoing.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	

If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).

*Office of Policy and Budget – June 2016*

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Hudson Parkside LLP, Plaintiff v. FDOT, Defendant.		
<b>Court with Jurisdiction:</b>	6 <sup>th</sup> Judicial Circuit, Pinellas County		
<b>Case Number:</b>	2014-011031-CI		
<b>Summary of the Complaint:</b>	Plaintiff seeks severance damages and damages for an alleged loss of access, view and visibility attributed to FDOT's reconstruction of US 19 from an at grade divided highway to grade separated interchanges with one-way frontage roads.		
<b>Amount of the Claim:</b>	\$2,000,000		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	The FDOT filed its Answer on 06/09/14. Plaintiff filed second amended complaint. FDOT motion to dismiss was denied 04/07/15. Discovery ongoing.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>			



### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5367
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Kings Avenue Redevelopment, Plaintiff v. Department of Transportation, co-defendant and Jacksonville Transportation Agency, co-defendant.		
<b>Court with Jurisdiction:</b>	4 <sup>th</sup> Judicial Circuit, Duval County		
<b>Case Number:</b>	2014-CA-2882		
<b>Summary of the Complaint:</b>	Plaintiff sued the FDOT alleging inverse condemnation for interference with Public Private Partnership lease with JTA in regards to transportation improvements made to the Interstate 95 overland bridge project in Jacksonville.		
<b>Amount of the Claim:</b>	\$3,500,000		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	Plaintiff filed its complaint against the FDOT on 04/13/14 alleging oppressive pre-condemnation conduct, due process, civil conspiracy and inverse condemnation. FDOT's motion to dismiss granted to due process, civil conspiracy and oppressive conduct counts on 11/18/14. Plaintiff's filed second amended complaint 07/15/15. Matter is set for trial 02/02/17.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>			

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Gerald T. Prescott, The Gerald T. Prescott Revocable Inter Vivos Trust, Mary Lou Prescott, and The Mary Lou Prescott Revocable Inter Vivos Trust v. State of Florida, Department of Transportation.		
<b>Court with Jurisdiction:</b>	Circuit Court, Sixth Judicial Circuit, Pinellas County		
<b>Case Number:</b>	16-005293-CI		
<b>Summary of the Complaint:</b>	Inverse condemnation claim based on FDOT voiding a parcel in lieu of condemning it.		
<b>Amount of the Claim:</b>	\$1,500,000 (est.)		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	The case is in the initial pleadings stage. Complaint served on 08/08/16, and FDOT's response is due 09/17/16.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>			

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Florida Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Murphy Auto Group, Inc. v. State of Florida, Department of Transportation		
<b>Court with Jurisdiction:</b>	Circuit Court, Tenth Judicial Circuit, Polk County		
<b>Case Number:</b>	15-CA-001614		
<b>Summary of the Complaint:</b>	Two count claim against FDOT for unlawful exaction and unlawful compensation arising from Plaintiff's use of FDOT's right of way.		
<b>Amount of the Claim:</b>	\$900,000		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	Case is at the discovery stage. Mediation nor trial have been set.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>			

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Florida Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	New Testament Missionary Baptist Church, Inc. v. State of Florida, Department of Transportation		
<b>Court with Jurisdiction:</b>	Circuit Court, Fifteenth Judicial Circuit, Palm Beach County		
<b>Case Number:</b>	502016CA007900XXXXMB		
<b>Summary of the Complaint:</b>	Inverse condemnation claim based on substantial loss of access.		
<b>Amount of the Claim:</b>	\$900,000		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	The case is in the initial pleadings stage. Complaint was served on 08/29/16, and FDOT's response is due 10/8/16.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>			

### Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Florida Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Karin Gobel, et. al. v. Department of Transportation and Central Florida Regional Transport Authority		
<b>Court with Jurisdiction:</b>	Circuit Court, Eighteenth Judicial Circuit, Seminole County		
<b>Case Number:</b>	2016 CA 001829-13-W		
<b>Summary of the Complaint:</b>	Inverse condemnation claim for taking of homeowners' property caused by the operation of the SunRail Vehicle Storage and Maintenance Facility.		
<b>Amount of the Claim:</b>	\$2,700,000 (est.)		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	The case is in the initial pleadings stage. Complaint was served on 07/28/16, and FDOT filed a motion to dismiss on 09/06/16.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>			

## Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Florida Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	DBI Services, LLC, Plaintiff v. Caticia Shorter, Defendant/Counter-Plaintiff/Cross-Plaintiff and State of Florida, Department of Transportation, Cross-Defendant.		
<b>Court with Jurisdiction:</b>	United States District Court, Northern District of Florida, Tallahassee Division		
<b>Case Number:</b>	4:16-CV-00127-MW/CAS		
<b>Summary of the Complaint:</b>	The only count pending against FDOT is a class action claim asserting FDOT is vicariously liable for violation of the Florida Deceptive and Unfair Trade Practices Act due to actions taken by FDOT's contractor.		
<b>Amount of the Claim:</b>	\$5,000,000		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>	Florida Statutes, Chapter 501.201, et. Seq.		
<b>Status of the Case:</b>	Cross-Plaintiff filed an amended one count cross-claim against FDOT. FDOT has filed a motion to dismiss (based on multiple grounds including sovereign immunity) and counter-defendant has filed a motion for summary judgment. Because of the forum (federal court), this matter is currently set for trial on 12/19/16. On 09/15/16, Cross-Plaintiff filed a motion for class certification.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	
<b>If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).</b>	Counter-Plaintiff/Cross-Plaintiff is represented by Patrick R. Franks, Esq., Keisha D. Rice, Esq., Alan D. Smith, Esq., Frank and Rice P.A., 325 West Park Avenue, Tallahassee, Florida 32301.		



## Schedule VII: Agency Litigation Inventory

*For directions on completing this schedule, please see the "Legislative Budget Request (LBR) Instructions" located on the Governor's website.*

<b>Agency:</b>	Department of Transportation		
<b>Contact Person:</b>	Clinton Doud	<b>Phone Number:</b>	414-5265
<b>Names of the Case: (If no case name, list the names of the plaintiff and defendant.)</b>	Tropical Trailer Leasing, LLC, Inc., Plaintiff, v. FDOT, and Secretary Boxold, Defendants.		
<b>Court with Jurisdiction:</b>	2 <sup>nd</sup> Judicial Circuit, Leon County		
<b>Case Number:</b>	2014-CA-0002706		
<b>Summary of the Complaint:</b>	Plaintiff claims it was charged incorrect amounts for tolls via the "toll by plate" method on trailers towed on the Florida Turnpike. The plaintiff alleges Section 316.003(21) before 2012 did not include trailer in the definition of motor vehicle. FDOT's position is Chapter 316 is for enforcement of toll violations only and FDOT has broad and diverse statutory powers to collect tolls in Chapter 338.		
<b>Amount of the Claim:</b>	Indeterminate, but the alleged class members could be in the millions.		
<b>Specific Statutes or Laws (including GAA) Challenged:</b>			
<b>Status of the Case:</b>	Plaintiff served the complaint for class certification on 01/08/15. FDOT served its Answer and Defenses 06/09/15. After discovery, Plaintiffs' moved for class certification 03/09/16. On 09/12/16 Order granting class certification issued. The Department is appealing the order. Mediation scheduled for 09/19/16.		
<b>Who is representing (of record) the state in this lawsuit? Check all that apply.</b>	<input checked="" type="checkbox"/>	Agency Counsel	
	<input type="checkbox"/>	Office of the Attorney General or Division of Risk Management	
	<input type="checkbox"/>	Outside Contract Counsel	

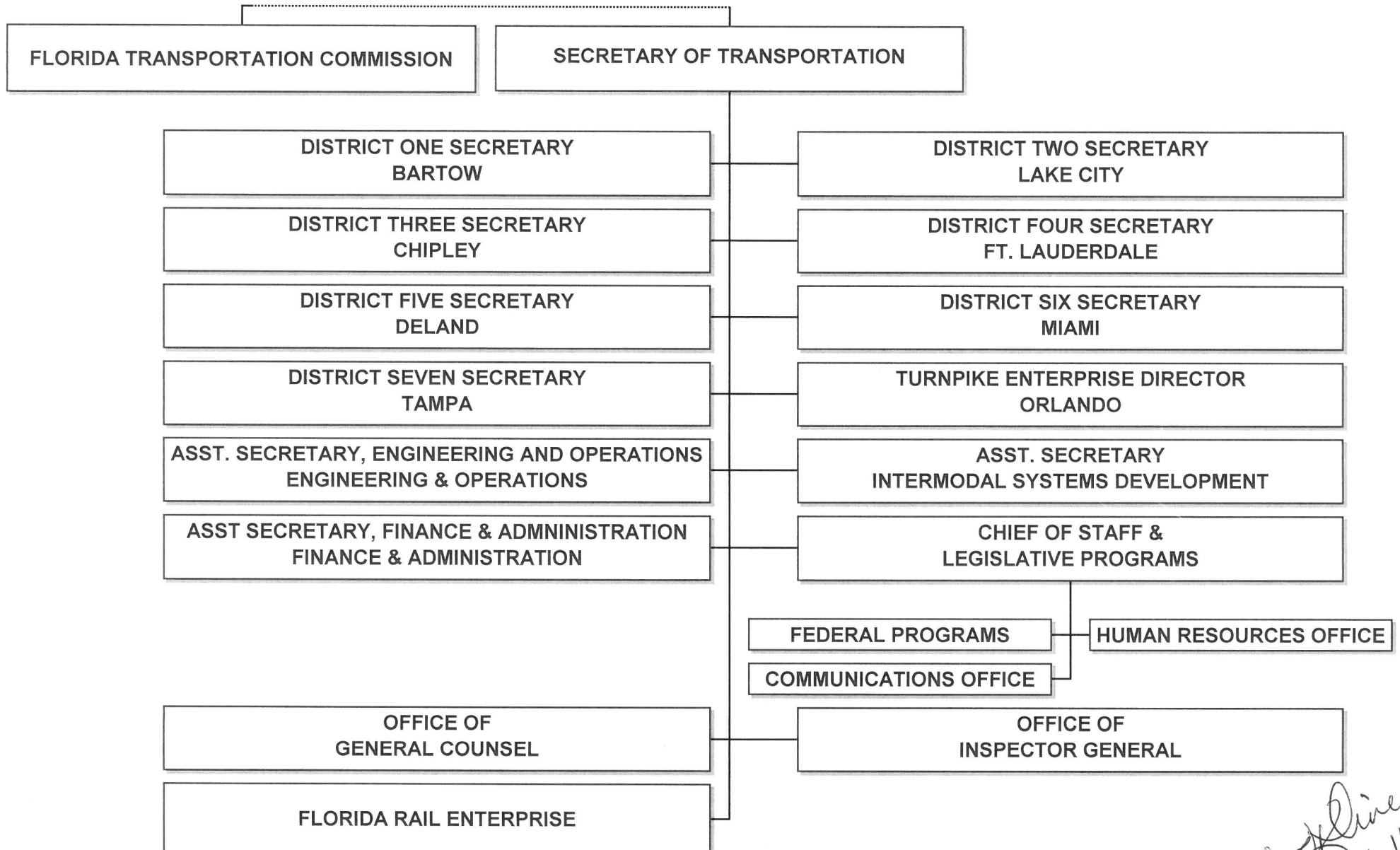
If the lawsuit is a class action (whether the class is certified or not), provide the name of the firm or firms representing the plaintiff(s).

Lawsuit is a class action and a class was certified 09/12/16. The class is represented by

Lawrence Silverman, Esquire  
Rodger Traynor, Esquire  
Akerman LLP  
One SE Third Avenue  
Suite 1200  
Miami, Florida 33131

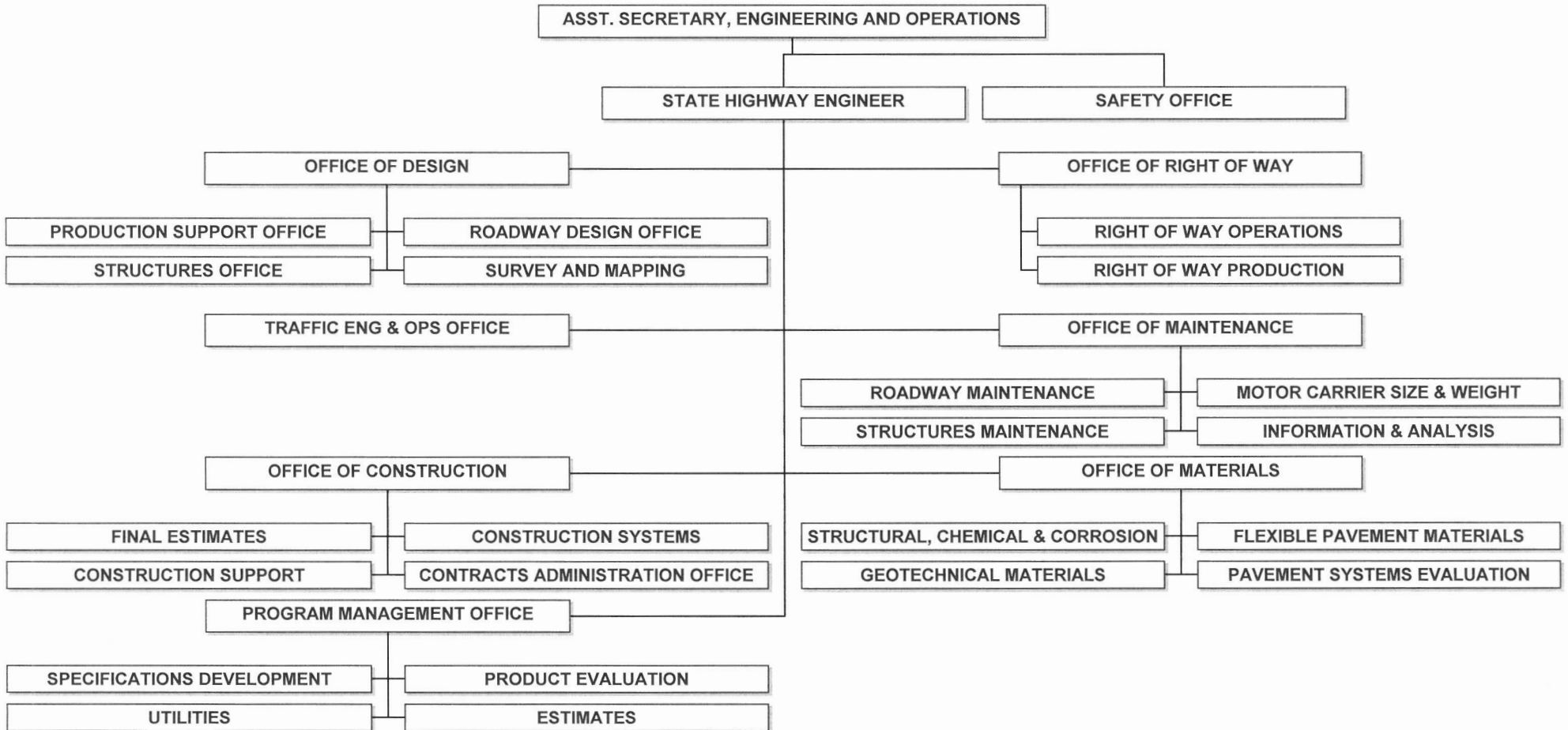


# FLORIDA DEPARTMENT OF TRANSPORTATION OFFICE OF THE SECRETARY



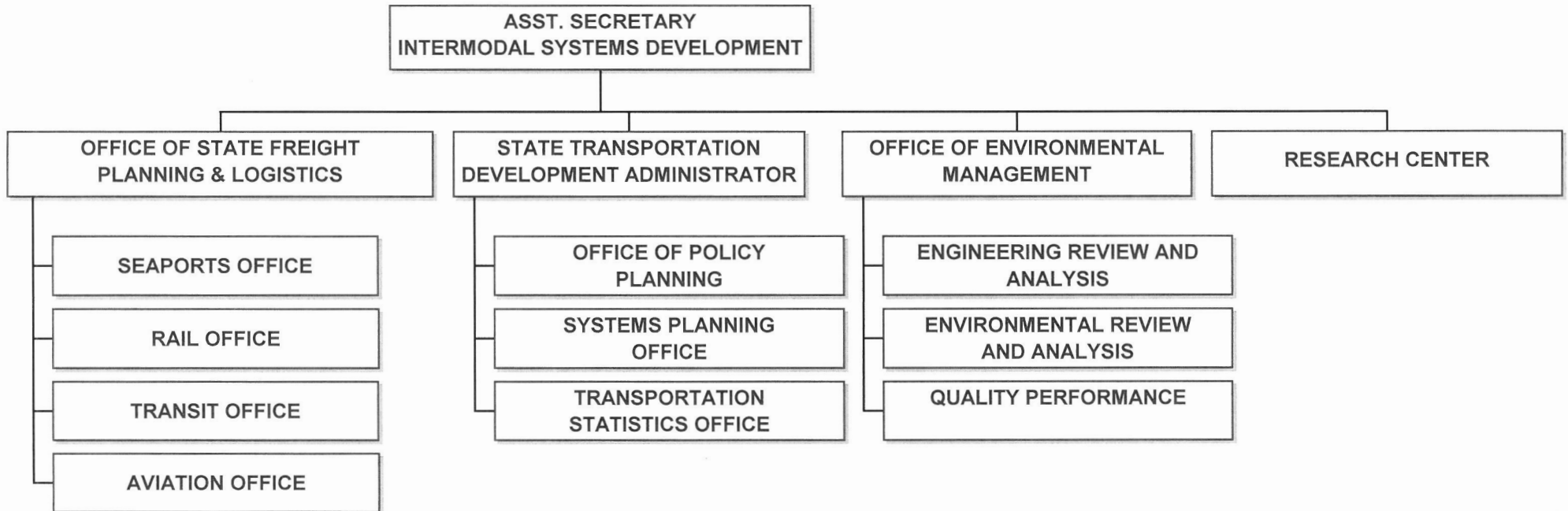
*Adine*  
8.26.16

**FLORIDA DEPARTMENT OF TRANSPORTATION  
ASSISTANT SECRETARY FOR ENGINEERING AND OPERATIONS**



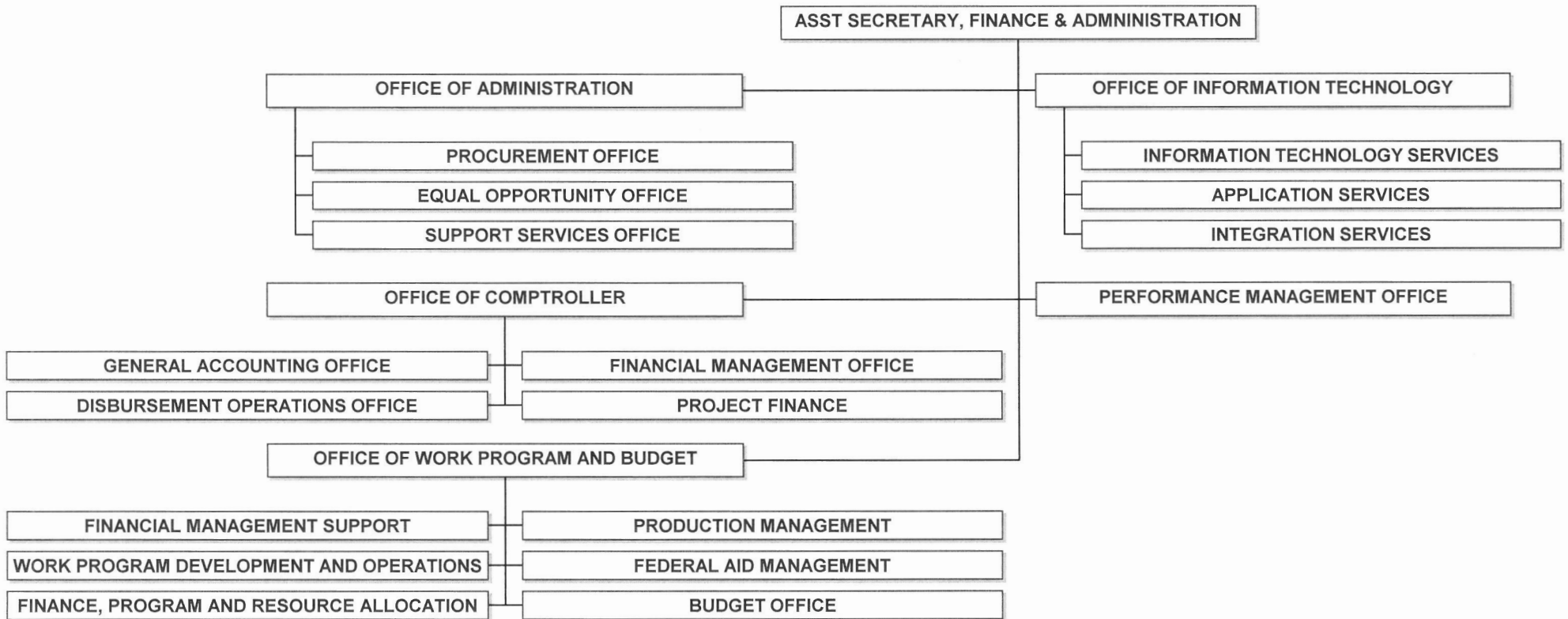
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8.26.16

FLORIDA DEPARTMENT OF TRANSPORTATION  
ASSISTANT SECRETARY FOR INTERMODAL SYSTEMS  
DEVELOPMENT



*Alina*  
8.26.16

# FLORIDA DEPARTMENT OF TRANSPORTATION ASSISTANT SECRETARY FOR FINANCE AND ADMINISTRATION



*W. Jones*  
8.26.16

TRANSPORTATION, DEPARTMENT OF		FISCAL YEAR 2015-16			
SECTION I: BUDGET		OPERATING	FIXED CAPITAL OUTLAY		
TOTAL ALL FUNDS GENERAL APPROPRIATIONS ACT		732,767,020	9,358,596,341		
ADJUSTMENTS TO GENERAL APPROPRIATIONS ACT (Supplementals, Vetoes, Budget Amendments, etc.)		-1,248,681	1,564,043,121		
FINAL BUDGET FOR AGENCY		731,518,339	10,922,639,462		
SECTION II: ACTIVITIES * MEASURES		Number of Units	(1) Unit Cost	(2) Expenditures (Allocated)	(3) FCO
Executive Direction, Administrative Support and Information Technology (2)					0
Intrastate Highways * Intrastate highway lane miles contracted for highway capacity improvements.		246	0.00		2,861,930,324
Arterial Highways * Arterial highway lane miles contracted for highway capacity improvements.		10	0.00		115,055,839
Resurface Roads * Number of lane miles contracted for resurfacing.		2,613	0.00		659,882,197
Repair And Replace Bridges *		109	0.00		229,980,229
Preliminary Engineering * Number of projects with preliminary engineering provided.		960	141,462.23	135,803,744	855,099,484
Materials Testing And Research * Number of projects with materials and research provided.		48	804,162.19	38,599,785	12,296,851
Construction Engineering Inspection *		398	199,746.92	79,499,273	427,491,038
Planning * Number of projects with planning provided.		369	65,613.24	24,211,287	78,786,541
Right Of Way Land * Number of Right-of-Way parcels acquired.		1,334	0.00		459,595,328
Right Of Way Support * Number of projects with right of way support provided.		879	32,619.05	28,672,141	69,370,524
Aviation * Number of aviation projects.		266	0.00		349,552,195
Transit * Number of public transit passenger trips provided.		270,776,337	0.00		455,679,769
Transportation Disadvantaged * Number of trips provided (transportation disadvantaged).		4,706,186	11.09	52,198,119	
Rail * Number of rail projects.		99	0.00		119,047,087
Intermodal * Number of intermodal projects.		36	0.00		41,169,886
Seaports * Number of seaport projects.		27	0.00		81,177,808
Bridge Inspection * Number of bridge inspections conducted.		7,143	0.00		11,823,021
Routine Maintenance * Lane miles maintained on the State Highway System.		43,813	4,803.04	210,435,413	499,804,590
Traffic Engineering * Number of projects with traffic engineering provided.		87	361,894.30	31,484,804	116,940,105
Motor Carrier Compliance *		16,853,404	0.79	13,321,525	
Toll Operations * Number of toll transactions.		973,233,692	0.08	74,336,593	170,980,710
TOTAL				688,562,684	7,615,663,526
SECTION III: RECONCILIATION TO BUDGET					
PASS THROUGHS					
TRANSFER - STATE AGENCIES					
AID TO LOCAL GOVERNMENTS					
PAYMENT OF PENSIONS, BENEFITS AND CLAIMS					
OTHER				10,057,838	439,193,134
REVERSIONS				25,046,722	2,867,782,802
TOTAL BUDGET FOR AGENCY (Total Activities + Pass Throughs + Reversions) - Should equal Section I above. (4)				723,667,244	10,922,639,462

**SCHEDULE XI/EXHIBIT VI: AGENCY-LEVEL UNIT COST SUMMARY**

(1) Some activity unit costs may be overstated due to the allocation of double budgeted items.  
(2) Expenditures associated with Executive Direction, Administrative Support and Information Technology have been allocated based on FTE. Other allocation methodologies could result in significantly different unit costs per activity.  
(3) Information for FCO depicts amounts for current year appropriations only. Additional information and systems are needed to develop meaningful FCO unit costs.  
(4) Final Budget for Agency and Total Budget for Agency may not equal due to rounding.

Footnotes to Schedule XI, Agency Level Unit Cost  
Summary - October 2016 Submission

1. The following table shows the calculated unit costs with FCO expenditures included.

Activity/Measure	Number of Units	Unit Cost	FY 2015/16 Expenditures		
			Allocated	FCO	Total
Exec Direction and Info Tech					
Intrastate Highways (Intrastate highways lane miles contracted for highway capacity improvements)	246	11,633,863.11		2,861,930,324	2,861,930,324
Arterial Highways (Arterial highways lane miles contracted for highway capacity improvements)	10	11,505,583.90		115,055,839	115,055,839
Resurface Roads (Number of lane miles contracted for resurfacing)	2,613	252,538.15		659,882,197	659,882,197
Repair and Replace Bridges (Number of bridges contracted for repair or replacement)	109	2,109,910.36		229,980,229	229,980,229
Preliminary Engineering (Number of projects with preliminary engineering provided)	960	1,032,190.86	135,803,744	855,099,484	990,903,228
Material Testing and Research (Number of projects with materials and testing provided)	48	1,060,346.58	38,599,785	12,296,851	50,896,636
Construction Engineering Inspection (Number of projects with Construction Engr provided)	398	1,273,845.00	79,499,273	427,491,038	506,990,311
Planning (Number of projects with planning provided)	369	279,126.91	24,211,287	78,786,541	102,997,828
Right of Way Land (Number of Right-of-Way parcels acquired)	1,334	344,524.23		459,595,328	459,595,328

Footnotes to Schedule XI, Agency Level Unit Cost  
Summary - October 2016 Submission

Activity/Measure	Number of Units	Unit Cost	FY 2015/16 Expenditures		
			Allocated	FCO	Total
Right of Way Support (Number of projects with right-of-way support provided)	879	111,538.87	28,672,141	69,370,524	98,042,665
Aviation (Number of aviation projects)	266	1,314,106.00		349,552,195	349,552,195
Transit (Number of public transit passenger trips provided)	270,776,337	1.68		455,679,769	455,679,769
Transportation Disadvantaged [Number of trips provided (transportation disadvantaged)]	4,706,186	11.09	52,198,119		52,198,119
Rail (Number of rail projects)	99	1,202,495.83		119,047,087	119,047,087
Intermodal (Number of intermodal projects)	36	1,143,607.94		41,169,886	41,169,886
Seaports (Number of Seaport projects)	27	3,006,585.48		81,177,808	81,177,808
Public Transportation Operations (Number of projects in public transportation operations)		See Note 3			0
Bridge Inspection (Number of bridges inspected)	7,143	1,655.19		11,823,021	11,823,021
Routine Maintenance (Lane miles maintained on the State Highway System)	43,813	16,210.71	210,435,413	499,804,590	710,240,003
Traffic Engineering (Number of projects with traffic engineering provided)	87	1,706,033.44	31,484,804	116,940,105	148,424,909
Motor Carrier Compliance (Number of commercial vehicles weighed)	16,853,404	0.79	13,321,525		13,321,525
Toll Operations (Number of toll transactions)	973,233,692	0.25	74,336,593	170,980,710	245,317,303
<b>Total</b>			<b>688,562,684</b>	<b>7,615,663,526</b>	<b>8,304,226,210</b>

Footnotes to Schedule XI, Agency Level Unit Cost  
Summary - October 2016 Submission

2. The expenditures exception of \$7,851,095 noted at the end of Section III relates to the Carry Forward budget for the Rail Enterprise & Turnpike budget entities. It shows that Sections II and III (expenditures plus reversions) do not account for \$7,851,095 of budget that was available in 2015/16 as reflected in Section I. Rail Enterprise & Turnpike operating budget that was eligible to be retained as Carry Forward budget in 2016/17 is not reflected as either a reversion in Column G69 nor as an expenditure in Column A01. Therefore, it is not captured in either Section II or III totals. However, it is appropriate that this amount not be counted as a 2015/16 expenditure in Section II because this budget was neither disbursed nor committed at June 30, 2016.
3. The measure "Number of projects in public transportation operations" no longer adequately reflects the public transportation operations unit/cost performance. The FDOT is moving away from 'number of projects' and is moving towards 'revenue hours' as this unit of measure better reflects Florida's transit systems operations.



## Schedule XIV Variance from Long Range Financial Outlook

Agency: Department of Transportation

Contact: Mechelle Marcum

Article III, Section 19(a)3, Florida Constitution, requires each agency Legislative Budget Request to be based upon and reflect the long range financial outlook adopted by the Joint Legislative Budget Commission or to explain any variance from the outlook.

- 1) Does the long range financial outlook adopted by the Joint Legislative Budget Commission in September 2016 contain revenue or expenditure estimates related to your agency?

Yes  No

- 2) If yes, please list the estimates for revenues and budget drivers that reflect an estimate for your agency for Fiscal Year 2017-2018 and list the amount projected in the long range financial outlook and the amounts projected in your Schedule I or budget request.

	Issue (Revenue or Budget Driver)	R/B*	FY 2017-2018 Estimate/Request Amount	
			Long Range Financial Outlook	Legislative Budget Request
a	Work Program	Y	\$8 Billion	\$8 Billion
b				
c				
d				
e				
f				

- 3) If your agency's Legislative Budget Request does not conform to the long range financial outlook with respect to the revenue estimates (from your Schedule I) or budget drivers, please explain the variance(s) below.

The Department of Transportation develops a Work Program, which is the list of transportation projects planned for the following five years. It is supported by a balanced five-year finance plan and a three-year cash forecast of receipts and expenditures. Funding projections for each year are based on Revenue Estimating Conferences (REC) held throughout the year. The August 2016 REC revenues will be programmed into the Tentative Work Program and be used by the Governor and Legislature for consideration. The development cycle enables FDOT to incorporate policy changes and Revenue Estimating Conference adjustments so the preliminary plan can be timely and accurately submitted to the Governor and Legislature 14 days prior to convening of the regular Legislative Session. The final plan is submitted 14 days after the start of Session.

\* R/B = Revenue or Budget Driver



**LEGISLATIVE  
BUDGET REQUEST  
2017-201**

**Budget Entity Level  
Exhibits and Schedules**



**LEGISLATIVE  
BUDGET REQUEST  
2017-2018**

**Schedule I Series  
(Sort by Trust Fund)**

## SCHEDULE IC: RECONCILIATION OF UNRESERVED FUND BALANCE

**Budget Period: 2017 - 2018**

<b>Department Title:</b>	Department of Transportation
<b>Trust Fund Title:</b>	Turnpike Renewal & Replacement TF
<b>Budget Entity:</b>	
<b>LAS/PBS Fund Number:</b>	2324

	Balance as of 6/30/2016	SWFS* Adjustments	Adjusted Balance
<b>Chief Financial Officer's (CFO) Cash Balance</b>	505,824 (A)		505,824
ADD: Other Cash (See Instructions)			0
ADD: Investments	26,079,292 (C)		26,079,292
ADD: Outstanding Accounts Receivable	42,074 (D)		42,074
ADD: Anticipated revenues for future commitments	14,431,707 (E)		14,431,707
<b>Total Cash plus Accounts Receivable</b>	<b>41,058,897 (F)</b>	<b>0</b>	<b>41,058,897</b>
LESS Allowances for Uncollectibles			0
LESS Approved "A" Certified Forwards			0
Approved "B" Certified Forwards			0
Approved "FCO" Certified Forwards	41,040,493 (H)		41,040,493
LESS: Other Accounts Payable (Nonoperating)	18,404 (I)		18,404
LESS: FCO not included on Sch I			0
<b>Unreserved Fund Balance, 07/01/16</b>	<b>0 (K)</b>	<b>0</b>	<b>0</b> **

**Notes:**

\*SWFS = Statewide Financial Statement

\*\* This amount should agree with Line I, Section IV of the Schedule I for the most recent completed fiscal year and Line A for the following year.

**RECONCILIATION: BEGINNING TRIAL BALANCE TO SCHEDULE I and IC**

**Budget Period: 2017 - 2018**

**Department Title:** Department of Transportation  
**Trust Fund Title:** Turnpike Renewal & Replacement TF  
**LAS/PBS Fund Number:** 2324

**BEGINNING TRIAL BALANCE:**

**Total Fund Balance Per FLAIR Trial Balance, 07/01/16**

Total all GLC's 5XXXX for governmental funds; 87,937,446 (A)  
 GLC 539XX for proprietary and fiduciary funds

**Subtract Nonspendable Fund Balance (GLC 56XXX)**   (B)

**Add/Subtract Statewide Financial Statement (SWFS) Adjustments :**

SWFS Adjustment # and Description   (C)

SWFS Adjustment # and Description   (C)

**Add/Subtract Other Adjustment(s):**

Approved "B" Carry Forward (Encumbrances) per LAS/PBS   (D)

Approved "E" Carry Forward Total (FCO) per LAS/PBS (41,040,493) (D)

A/P not C/F-Operating Categories   (D)

Anticipated revenues for future commitments 14,431,707 (D)

FCO - Long-Term Assets (61,880,009) (D)

FCO - Account Payable 551,350 (D)

**ADJUSTED BEGINNING TRIAL BALANCE:** 0 (E)

**UNRESERVED FUND BALANCE, SCHEDULE IC (Line K)** 0 (F)

**DIFFERENCE:** 0 (G)\*

**\*SHOULD EQUAL ZERO.**

## SCHEDULE IC: RECONCILIATION OF UNRESERVED FUND BALANCE

<b>Department Title:</b>	Budget Period: 2017 - 2018
<b>Trust Fund Title:</b>	Department of Transportation
<b>Budget Entity:</b>	Turnpike General Reserve TF
<b>LAS/PBS Fund Number:</b>	2326

	Balance as of 6/30/2016	SWFS* Adjustments	Adjusted Balance
<b>Chief Financial Officer's (CFO) Cash Balance</b>	1,035,773 (A)		1,035,773
ADD: Other Cash (See Instructions)	2,313,513 (B)		2,313,513
ADD: Investments	821,977,092 (C)		821,977,092
ADD: Outstanding Accounts Receivable	52,511,982 (D)	292,330	52,804,312
ADD: Anticipated revenues for future commitments	294,938,810 (E)		294,938,810
<b>Total Cash plus Accounts Receivable</b>	<b>1,172,777,171 (F)</b>	<b>292,330</b>	<b>1,173,069,501</b>
LESS Allowances for Uncollectibles			0
LESS Approved "A" Certified Forwards			0
LESS Approved "B" Certified Forwards			0
LESS Approved "FCO" Certified Forwards	1,066,624,057 (H)		1,066,624,057
LESS: Other Accounts Payable (Nonoperating)	100,308,927 (I)		100,308,927
LESS: Unearned Revenue	6,136,517 (J)		6,136,517
LESS: _____			0
<b>Unreserved Fund Balance, 07/01/16</b>	<b>(292,330) (K)</b>	<b>292,330</b>	<b>0**</b>

**Notes:**

\*SWFS = Statewide Financial Statement

\*\* This amount should agree with Line I, Section IV of the Schedule I for the most recent completed fiscal year and Line A for the following year.

**RECONCILIATION: BEGINNING TRIAL BALANCE TO SCHEDULE I and IC**

<b>Budget Period:</b>	2017 - 2018
<b>Department Title:</b>	Department of Transportation
<b>Trust Fund Title:</b>	Turnpike General Reserve TF
<b>LAS/PBS Fund Number:</b>	2326

**BEGINNING TRIAL BALANCE:**

**Total Fund Balance Per FLAIR Trial Balance, 07/01/16**  
 Total all GLC's 5XXXX for governmental funds; 7,850,507,309 (A)  
 GLC 539XX for proprietary and fiduciary funds

**Subtract Nonspendable Fund Balance (GLC 56XXX)** (B)

**Add/Subtract Statewide Financial Statement (SWFS) Adjustments :**

SWFS Adjustment # C5500022 292,330 (C)

SWFS Adjustment # and Description (C)

**Add/Subtract Other Adjustment(s):**

Approved "B" Carry Forward (Encumbrances) per LAS/PBS (D)

Approved "E" Carry Forward Total (FCO) per LAS/PBS (1,066,624,057) (D)

A/P not C/F-Operating Categories (D)

A/P not C/F-FCO 54,158,972 (D)

Long-Term Receivables (400,677,252) (D)

Deferred Charges (D)

Goods Purchased for Resale (1,443,704) (D)

Prepays (239,983) (D)

Non-Spendable Investments (75,160,280) (D)

Current Bonds Payable 133,590,000 (D)

Deferred Inflows on Service Concession Arrangements 139,040,441 (D)

Long-Term Unearned Revenue 450,711 (D)

Long-Term Payables from Restricted Assets 37,117,171 (D)

Long-Term Bonds Payable 2,792,466,265 (D)

Fixed Assets GLC 26xxx (7,565,253,380) (D)

Fixed Assets GLC 27xxx (2,183,372,609) (D)

Fixed Assets GLC 28xxx (9,790,745) (D)

Anticipated revenues for future commitments 294,938,810 (D)

Other Restricted (D)

**ADJUSTED BEGINNING TRIAL BALANCE:** (0) (E)

**UNRESERVED FUND BALANCE, SCHEDULE IC (Line K)** 0 (F)

**DIFFERENCE:** (0) (G)\*

**\*SHOULD EQUAL ZERO.**

**SCHEDULE 1A: DETAIL OF FEES AND RELATED PROGRAM COSTS**

**Department:** TRANSPORTATION **Budget Period: 2017 - 18**  
**Program:** OUTDOOR ADVERTISING  
**Fund:** 2540

**Specific Authority:** Chapter 479, Florida Statutes  
**Purpose of Fees Collected:** To offset the total cost of the outdoor advertising program

Type of Fee or Program: (Check **ONE** Box and answer questions as indicated.)

<input checked="" type="checkbox"/>	Regulatory services or oversight to businesses or professions. (Complete Sections I, II, and III and attach <b>Examination of Regulatory Fees Form - Part I and II.</b> )
<input type="checkbox"/>	Non-regulatory fees authorized to cover full cost of conducting a specific program or service. (Complete Sections I, II, and III only.)

<b><u>SECTION I - FEE COLLECTION</u></b>	<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
	<b>FY 2015 - 16</b>	<b>FY 2016 - 17</b>	<b>FY 2017 - 18</b>
<b>Receipts:</b>			
<u>Permit Renewals/New Tags</u>	\$1,299,313.75	\$1,288,650.00	\$1,290,425.00
<u>Licenses</u>	\$172,500.00	\$170,000.00	\$170,000.00
<u>Reinstatements/Delinquent Fees</u>	\$12,526.20	\$10,500.00	\$11,500.00
<u>Other Receipts</u>	\$42,040.09	\$76,710.00	\$20,464.92
<b>Total Fee Collection to Line (A) - Section III</b>	<b>\$1,526,380.04</b>	<b>\$1,545,860.00</b>	<b>\$1,492,389.92</b>

<b><u>SECTION II - FULL COSTS</u></b>			
<b>Direct Costs:</b>			
<u>Salaries and Benefits</u>	\$448,412.31	\$440,000.00	\$440,000.00
<u>Other Personal Services</u>			
<u>Expenses</u>	\$1,010,157.73	\$1,095,495.08	\$1,102,441.63
<u>Operating Capital Outlay</u>			
<u>Deficiency Recapture</u>	\$0.00	\$0.00	\$0.00
<u>Indirect Costs Charged to Trust Fund</u>			
<b>Total Full Costs to Line (B) - Section III</b>	<b>\$1,458,570.04</b>	<b>\$1,535,495.08</b>	<b>\$1,542,441.63</b>

**Basis Used:** \_\_\_\_\_  
 \_\_\_\_\_

<b><u>SECTION III - SUMMARY</u></b>			
<b>TOTAL SECTION I</b>	(A)	\$1,526,380.04	\$1,545,860.00
<b>TOTAL SECTION II</b>	(B)	\$1,458,570.04	\$1,542,441.63
<b>TOTAL - Surplus/Deficit</b>	(C)	<b>\$67,810.00</b>	<b>(\$10,364.92)</b>

**EXPLANATION of LINE C:**  
 Any excess or deficiency is carried forward in setting permit fee amounts for the subsequent biennial fee period.  
 Permit fee amounts are set in Rule 14-10.0043, Florida Administrative Code.  
 The rule implements the authority in Section 479.07(3)(c), Florida Statutes.



## SCHEDULE IC: RECONCILIATION OF UNRESERVED FUND BALANCE

<b>Department Title:</b>	<b>Budget Period: 2017 - 2018</b>
<b>Trust Fund Title:</b>	Department of Transportation
<b>Budget Entity:</b>	State Transportation Trust Fund
<b>LAS/PBS Fund Number:</b>	2540

	Balance as of 6/30/2016		SWFS* Adjustments	Adjusted Balance
<b>Chief Financial Officer's (CFO) Cash Balance</b>	58,934,665 (A)			58,934,665
ADD: Other Cash (See Instructions)	101,028 (B)			101,028
ADD: Investments	571,509,103 (C)			571,509,103
ADD: Outstanding Accounts Receivable	562,054,822 (D)		2,513,467	564,568,288
ADD: Estimated cash forecast for FCO projects	9,008,154,236 (E)			9,008,154,236
<b>Total Cash plus Accounts Receivable</b>	<b>10,200,753,854 (F)</b>		<b>2,513,467</b>	<b>10,203,267,320</b>
LESS Allowances for Uncollectibles	1,738,872 (G)			1,738,872
LESS Approved "A" Certified Forwards	16,388,475 (H)			16,388,475
LESS Approved "B" Certified Forwards	16,823,219 (H)			16,823,219
LESS Approved "FCO" Certified Forwards	9,775,162,633 (H)			9,775,162,633
LESS: Other Accounts Payable (Nonoperating)	11,848,622 (I)			11,848,622
LESS: Unearned Revenue	320,241,994 (J)			320,241,994
LESS: Deferred Inflows - Current Portion	61,063,505 (J)			61,063,505
<b>Unreserved Fund Balance, 07/01/16</b>	<b>(2,513,467) (K)</b>		<b>2,513,467</b>	<b>0 **</b>

**Notes:**

\*SWFS = Statewide Financial Statement

\*\* This amount should agree with Line I, Section IV of the Schedule I for the most recent completed fiscal year and Line A for the following year.

**RECONCILIATION: BEGINNING TRIAL BALANCE TO SCHEDULE I and IC**

	<b>Budget Period: 2017 - 2018</b>
<b>Department Title:</b>	Department of Transportation
<b>Trust Fund Title:</b>	State Transportation Trust Fund
<b>LAS/PBS Fund Number:</b>	2540

**BEGINNING TRIAL BALANCE:**

<b>Total Fund Balance Per FLAIR Trial Balance, 07/01/16</b>	
Total all GLC's 5XXXX for governmental funds;	1,890,706,101 (A)
GLC 539XX for proprietary and fiduciary funds	
<b>Subtract Nonspendable Fund Balance (GLC 56XXX)</b>	(7,172,879) (B)
<b>Add/Subtract Statewide Financial Statement (SWFS)Adjustments :</b>	
SWFS Adjustment # B5500001	441,353 (C)
SWFS Adjustment # B5500020	2,072,113.39 (C)
SWFS Adjustment #	
<b>Add/Subtract Other Adjustment(s):</b>	
Approved "B" Carry Forward (Encumbrances) per LAS/PBS	(16,823,219) (D)
Approved "E" Carry Forward Total (FCO) per LAS/PBS	(9,775,162,633) (D)
A/P not C/F-Operating Categories	13,817,797 (D)
FCO not C/F	353,993,539 (D)
Compensated Absences	5,687,280 (D)
Deferred Outflows	
Advances and Receivables- L/T	(1,083,996,880) (D)
Allowance for Uncollectibles - L/T	7,976,668 (D)
Nonstate & Cu Investments with Stat	(1,039,165,987) (D)
Deferred Inflows	639,472,511 (D)
Estimated Cash Forecast for FCO Projects	9,008,154,236 (D)
<b>ADJUSTED BEGINNING TRIAL BALANCE:</b>	<b>0 (E)</b>
<b>UNRESERVED FUND BALANCE, SCHEDULE IC (Line K)</b>	<b>0 (F)</b>
<b>DIFFERENCE:</b>	<b>0 (G)*</b>

\*SHOULD EQUAL ZERO.

## SCHEDULE IC: RECONCILIATION OF UNRESERVED FUND BALANCE

<b>Department Title:</b>	Budget Period: 2017 - 2018
<b>Trust Fund Title:</b>	Department of Transportation
<b>Budget Entity:</b>	Right of Way Acquisition/Bridge Construction TF
<b>LAS/PBS Fund Number:</b>	2586

	Balance as of 6/30/2016		SWFS* Adjustments	Adjusted Balance
<b>Chief Financial Officer's (CFO) Cash Balance</b>	1,993,513	(A)	0	1,993,513
ADD: Other Cash (See Instructions)		(B)	0	0
ADD: Investments	55,982,400	(C)	0	55,982,400
ADD: Outstanding Accounts Receivable	99,915	(D)	0	99,915
ADD: Anticipated revenues for future commitments	30,588,012	(E)	0	30,588,012
<b>Total Cash plus Accounts Receivable</b>	<b>88,663,840</b>	(F)	<b>0</b>	<b>88,663,840</b>
LESS Allowances for Uncollectibles		(G)	0	0
LESS Approved "A" Certified Forwards		(H)	0	0
LESS Approved "B" Certified Forwards		(H)	0	0
LESS Approved "FCO" Certified Forwards	88,657,585	(H)	0	88,657,585
LESS: Other Accounts Payable (Nonoperating)	6,254	(I)	0	6,254
LESS:		(J)	0	0
<b>Unreserved Fund Balance, 07/01/16</b>	<b>0</b>	(K)	<b>0</b>	<b>0</b> **

**Notes:**

\*SWFS = Statewide Financial Statement

\*\* This amount should agree with Line I, Section IV of the Schedule I for the most recent completed fiscal year and Line A for the following year.

**RECONCILIATION: BEGINNING TRIAL BALANCE TO SCHEDULE I and IC**

**Budget Period: 2017 - 2018**

**Department Title:** Department of Transportation  
**Trust Fund Title:** Right of Way Acquisition/Bridge Construction TF  
**LAS/PBS Fund Number:** 2586

**BEGINNING TRIAL BALANCE:**

<b>Total Fund Balance Per FLAIR Trial Balance, 07/01/16</b>	
Total all GLC's 5XXXX for governmental funds;	57,635,420 (A)
GLC 539XX for proprietary and fiduciary funds	
<b>Subtract Nonspendable Fund Balance (GLC 56XXX)</b>	(B)
<b>Add/Subtract Statewide Financial Statement (SWFS) Adjustments :</b>	
SWFS Adjustment #	(C)
SWFS Adjustment #	(C)
SWFS Adjustment #	(C)
<b>Add/Subtract Other Adjustment(s):</b>	
Approved "B" Carry Forward (Encumbrances) per LAS/PBS	(D)
Approved "E" Carry Forward Total (FCO) per LAS/PBS	(88,657,585) (D)
A/P not C/F-Operating Categories	(D)
Anticipated revenues for future commitments	30,588,012 (D)
FCO Account Payables	434,153 (D)
	(D)
<b>ADJUSTED BEGINNING TRIAL BALANCE:</b>	<b>0 (E)</b>
<b>UNRESERVED FUND BALANCE, SCHEDULE IC (Line K)</b>	<b>0 (F)</b>
<b>DIFFERENCE:</b>	<b>0 (G)*</b>

**\*SHOULD EQUAL ZERO.**

## SCHEDULE IC: RECONCILIATION OF UNRESERVED FUND BALANCE

<b>Department Title:</b>	<b>Budget Period: 2017 - 2018</b>
<b>Trust Fund Title:</b>	Department of Transportation
<b>Budget Entity:</b>	Transportation Disadvantaged TF
<b>LAS/PBS Fund Number:</b>	2731

	Balance as of 6/30/2016	SWFS* Adjustments	Adjusted Balance
<b>Chief Financial Officer's (CFO) Cash Balance</b>	245,532 (A)		245,532
ADD: Other Cash (See Instructions)	(B)		0
ADD: Investments	32,535,637 (C)		32,535,637
ADD: Outstanding Accounts Receivable	764,043 (D)	243	764,286
ADD:	(E)		0
<b>Total Cash plus Accounts Receivable</b>	<b>33,545,212 (F)</b>	<b>243</b>	<b>33,545,455</b>
LESS Allowances for Uncollectibles	(G)		0
LESS Approved "A" Certified Forwards	33,051 (H)		33,051
Approved "B" Certified Forwards	19,828,551 (H)		19,828,551
Approved "FCO" Certified Forwards	(H)		0
LESS: Other Accounts Payable (Nonoperating)	3,348 (I)		3,348
LESS:	(J)		0
<b>Unreserved Fund Balance, 07/01/16</b>	<b>13,680,263 (K)</b>	<b>243</b>	<b>13,680,505</b> **

**Notes:**

\*SWFS = Statewide Financial Statement

\*\* This amount should agree with Line I, Section IV of the Schedule I for the most recent completed fiscal year and Line A for the following year.

**RECONCILIATION: BEGINNING TRIAL BALANCE TO SCHEDULE I and IC**

**Budget Period: 2017 - 2018**

**Department Title:** Department of Transportation  
**Trust Fund Title:** Transportation Disadvantaged Trust Fund  
**LAS/PBS Fund Number:** 2731

**BEGINNING TRIAL BALANCE:**

**Total Fund Balance Per FLAIR Trial Balance, 07/01/16**

Total all GLC's 5XXXX for governmental funds; 28,723,401 (A)  
GLC 539XX for proprietary and fiduciary funds

**Subtract Nonspendable Fund Balance (GLC 56XXX)**  (B)

**Add/Subtract Statewide Financial Statement (SWFS) Adjustments :**

SWFS Adjustment # B55000021 243 (C)

SWFS Adjustment  (C)

**Add/Subtract Other Adjustment(s):**

Approved "B" Carry Forward (Encumbrances) per LAS/PBS (19,828,551) (D)

Approved "E" Carry Forward Total (FCO) per LAS/PBS  (D)

A/P not C/F-Operating Categories 4,773,219 (D)

Compensated Absences 12,193 (D)

(D)

**ADJUSTED BEGINNING TRIAL BALANCE:** 13,680,505 (E)

**UNRESERVED FUND BALANCE, SCHEDULE IC (Line K)** 13,680,505 (F)

**DIFFERENCE:** 0 (G)\*

**\*SHOULD EQUAL ZERO.**

# SCHEDULE IV-B FOR CONSTRUCTION MANAGEMENT SOFTWARE UPGRADE

For Fiscal Year 2017-18



10/14/2016

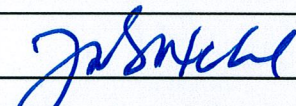
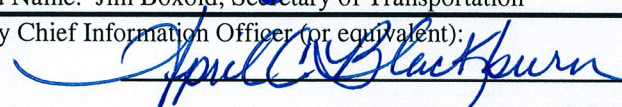
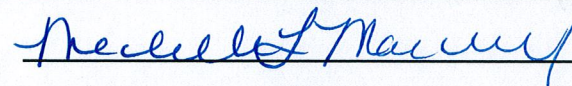
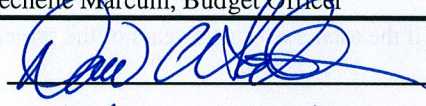
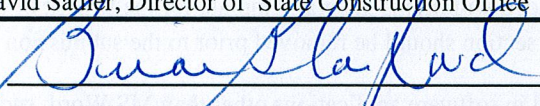
FLORIDA DEPARTMENT OF TRANSPORTATION

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**I. Schedule IV-B Cover Sheet**

Schedule IV-B Cover Sheet and Agency Project Approval	
Agency: Florida Department of Transportation	Schedule IV-B Submission Date: 10/14/2016
Project Name: Construction Management Software Upgrade	Is this project included in the Agency's LRPP? _____ Yes <input checked="" type="checkbox"/> No
FY 2017-18 LBR Issue Code: 36344C0	FY 2017-18 LBR Issue Title: Construction Management Software Upgrade
Agency Contact for Schedule IV-B (Name, Phone #, and E-mail address): Lisa Saliba, 414-4622, lisa.saliba@dot.state.fl.us	
AGENCY APPROVAL SIGNATURES	
I am submitting the attached Schedule IV-B in support of our legislative budget request. I have reviewed the estimated costs and benefits documented in the Schedule IV-B and believe the proposed solution can be delivered within the estimated time for the estimated costs to achieve the described benefits. I agree with the information in the attached Schedule IV-B.	
Agency Head: 	Date: 10-12-16
Printed Name: Jim Boxold, Secretary of Transportation	
Agency Chief Information Officer (or equivalent): 	Date: 10-10-16
Printed Name: April Blackburn, Chief Information Officer	
Budget Officer: 	Date: 10-10-16
Printed Name: Mechelle Marcum, Budget Officer	
Planning Officer: 	Date: 10/10/16
Printed Name: David Sadler, Director of State Construction Office	
Project Sponsor: 	Date: 10-10-16
Printed Name: Brian Blanchard, Assistant Secretary of Engineering and Operations	
Schedule IV-B Preparers (Name, Phone #, and E-mail address):	
Business Need:	Quinton Tillman, 414-4163, quinton.tillman@dot.state.fl.us
Cost Benefit Analysis:	Brandy Furbee, 414-4066, brandy.furbee@dot.state.fl.us
Risk Analysis:	Steve Carter, 414-4251, steve.carter@dot.state.fl.us
Technology Planning:	Sean Nyberg, 410-5445, sean.nyberg@dot.state.fl.us
Project Planning:	Glendora Fortune, 410-5454, glendora.fortune@dot.state.fl.us



## General Guidelines

The Schedule IV-B contains more detailed information on information technology (IT) projects than is included in the D-3A issue narrative submitted with an agency's Legislative Budget Request (LBR). The Schedule IV-B compiles the analyses and data developed by the agency during the initiation and planning phases of the proposed IT project. A Schedule IV-B must be completed for all IT projects when the total cost (all years) of the project is \$1 million or more.

Schedule IV-B is not required for requests to:

- Continue existing hardware and software maintenance agreements,
- Renew existing software licensing agreements that are similar to the service level agreements currently in use, or
- Replace desktop units ("refresh") with new technology that is similar to the technology currently in use.
- Contract only for the completion of a business case or feasibility study for the replacement or remediation of an existing IT system or the development of a new IT system.

## Documentation Requirements

The type and complexity of an IT project determines the level of detail an agency should submit for the following documentation requirements:

- Background and Strategic Needs Assessment
- Baseline Analysis
- Proposed Business Process Requirements
- Functional and Technical Requirements
- Success Criteria
- Benefits Realization
- Cost Benefit Analysis
- Major Project Risk Assessment
- Risk Assessment Summary
- Current Information Technology Environment
- Current Hardware/Software Inventory
- Proposed Technical Solution
- Proposed Solution Description
- Project Management Planning

Compliance with s. 216.023(4)(a)10, F.S. is also required if the total cost for all years of the project is \$10 million or more.

A description of each IV-B component is provided within this general template for the benefit of the Schedule IV-B authors. These descriptions and this guidelines section should be removed prior to the submission of the document.

Sections of the Schedule IV-B may be authored in software applications other than MS Word, such as MS Project and Visio. Submission of these documents in their native file formats is encouraged for proper analysis.

The Schedule IV-B includes two required templates, the Cost Benefit Analysis and Major Project Risk Assessment workbooks. For all other components of the Schedule IV-B, agencies should submit their own planning documents and tools to demonstrate their level of readiness to implement the proposed IT project. It is also necessary to assemble all Schedule IV-B components into one PDF file for submission to the Florida Fiscal Portal and to ensure that all personnel can open component files and that no component of the Schedule has been omitted.

Submit all component files of the agency's Schedule IV-B in their native file formats to the Office of Policy and Budget and the Legislature at IT@LASPBS.STATE.FL.US. Reference the D-3A issue code and title in the subject line.

## II. Schedule IV-B Business Case – Strategic Needs Assessment

### A. Background and Strategic Needs Assessment

#### 1. Business Need

The Florida Department of Transportation (FDOT) has primary statutory responsibility to provide a safe statewide transportation system that ensures the mobility of people and goods, enhances economic prosperity, and preserves the quality of Florida's environment and communities. The department's construction program provides the physical means to ensure accomplishment of the department's mission.

FDOT manages between 450 to 500 construction contracts at any given time, having a total of approximately \$12 billion. The department processes on average approximately \$250 million in payments each month to construction contractors on active construction projects. For these active construction projects, the department is required by statute to make monthly payments for work completed and timely payments upon final acceptance of work (s. 337.141. and s. 337.015(6), F.S., respectively). Additionally, the department's maintenance offices manage their contracts using the current application with similar processes. At any given time, there are typically 700 to 800 active maintenance contracts, for a total active contract amount of approximately \$2 billion.

With the department authorized to operate on a cash-flow basis (s. 339.135(6) (a), F.S.), it is imperative that accurate records of completed work are maintained in a manner that enables precise monthly payment calculations. These monthly payment calculations must be completed at a project-specific level in addition to an overall monthly summary in order to ensure the department continues to comply with the requirement to have as little cash balance fluctuation as practical (s. 337.015(6), F.S.).

Over the years, the department has used commercially available products, accompanied by internally developed programs, to allow project staff to capture and enter active construction project data in order to develop the necessary payment records. The primary commercial product being used is a client-server based application. This client-server based application will no longer be supported by the vendor beginning fiscal year 2019-20. If the department remains with the current application past system sunset, FDOT will assume responsibility for the application's maintenance, as enhancements and upgrades will no longer be supported by the application provider.

The application owner (American Association of State Highway and Transportation Officials [AASHTO]) is in the process of converting all client-server based applications to vendor-hosted, web-based applications. Florida has been an active AASHTO member since 1920. One of the membership benefits is that construction management application innovations and developments are shared among other state transportation agencies. These agencies have developmental input, resulting in the new web-based solution, which meets a majority of FDOT's business requirements without requiring a change to business practices or operating procedures. This new vendor-hosted, web-based product increases accessibility for remote users who collect and input data in construction project records.

To minimize disruption to the established processes for construction project data collection, it is essential that the vendor-hosted, web-based product be adopted. This option will ensure projects and data can be migrated into the new application as seamlessly as possible.

If unsuccessful in gaining approval to transition to the vendor-hosted, web-based version of this application, the department will be faced with the following alternatives: procuring another commercially available application, developing its own application internally or reverting to a manual calculation process. Each alternative option will be more costly, more time consuming and require significant training and procedure development. Given the department's history with the current application owner, the expectation is a virtually seamless migration to the web-based version of the same product.

Choosing an alternative option to the proposed solution (e.g., purchasing a new commercial product, developing an application internally or returning to a manual process), is expected to impact the productivity and efficiency of both internal department staff and consultant construction engineering and inspection (CCEI) staff. Diminished productivity and efficiency has the potential to impact monthly contractor payments, and possibly the construction industry and the Florida economy.

The most feasible approach would be to transition to the vendor-hosted, web-based version of the same application currently in use, which is the most cost effective in terms of product purchase, the least disruptive to currently

established procedures, and assures the development of timely, accurate payment requests.

## **2. Business Objectives**

- The below are FDOT's business objectives in procuring a vendor hosted, web-based solution:
- Procure a solution that is fully compatible with current applications to replace an end of life product.
- Improve server utilization. A web-based vendor hosted solution will provide optimum utilization of server space.
- Reduce the risks associated with unsupported software applications.
- Improve efficiencies and productivity.
- Maintain auditability.
- Support the statutory requirements to maintain accurate records of completed work and comply with the requirements to have as little cash balance fluctuation as practical.
- Secure the ability to seamlessly link to other enterprise data as required.

## **B. Baseline Analysis**

### **1. Current Business Process(es)**

The current construction management system is a client-server based application that is reaching end of life. The process starts with the contract activation function where project specific information is loaded in or extracted from other sources into the current program. The information contains the scope of the project, the contractor and project number, key personnel, key dates on the project and approved subcontractors.

Daily work reports are produced for project specific records of the work performed by construction contractors on individual projects. Reports include such information as weather conditions, equipment used, active project contractors and subcontractors, hours worked, location on the project site where the work is performed, measurements of work completed, and subcontractors or suppliers on the project. The daily work report is electronically routed through a hierarchal work-flow.

Directions or instructions given to contractor or subcontractors relative to the performance or limitations of the work by the contractor is documented including: traffic impacts, public involvement, unacceptable contractor quality control practices, etc. Construction project pay items are tracked and recorded to ensure completion of the work required on the project.

Department staff are able collect information at the project site and derive monthly estimates from the data. This information is reviewed weekly and rolled into a payment submittal and transmitted electronically to the Comptroller's Office for payment.

Contract modifications are handled by the current application. These are time extensions, change orders or supplemental agreements to add or delete work to a contract. The application documents the department's final acceptance of the project with key dates, including: final acceptance, material certification, offer of final payment to contractor, acceptance of final payment by contractor, comptroller final acceptance of contract and final contract payment.

FDOT has developed policies and procedures following AASHTO principles by using commercially available products to manage construction and maintenance projects. Using AASHTO products allows for a level of compatibility with other state transportation agencies. AASHTO helps to unify and standardize state transportation agencies by promoting innovation, developing transportation solutions, and assisting policy development, advocacy and technical services.

The current application accommodates the department's operations, maintains auditability of the entire construction program and is consistent with other AASHTO member states. It also enables periodic payments, which can be generated based on completed work quantities. Contractors and subcontractors can be tracked and monitored within

the current application to ensure compliance with applicable project requirements.

## 2. Assumptions and Constraints

This section addresses assumptions which may impact or influence the department's construction project delivery. It also outlines potential constraints that could impact the outcome of proposed solutions.

### Assumptions

- If the existing application ceases operation during fiscal year 2019-20, the department would revert to manual/paper processing of construction project payments. Returning to a manual/paper processing solution would result in dramatic slowing of the contract payment process, significantly impacting the construction contracting industry. This is due to the reliance on an electronic approach in construction management for the past two decades, resulting in few staff experienced in developing and processing manual contractor payments.
- FDOT will continue to require a method to collect construction project information to enable accurate, timely payments for completed construction work in order to comply with statutory requirements.
- Any solution chosen will require some level of customization and configuration to meet FDOT's business and technical needs and requirements. The proposed solution will require the least amount of customization and configuration, and will be the most cost effective solution.
- Adopting an alternative solution would result in higher error rates during the start of product use, which would necessitate increased oversight of department managerial staff to ensure compliance with the statutes. Policies and procedures developed around the current client-server application would have to be revised to provide guidance and direction to the users.

### Constraints

- The current product and vendor is so embedded in the department's construction management operations that other internally constructed applications and operating procedures are built into and developed around the current application. Changing vendors will be costly on three fronts: different application implementation requirements, extensive internal reprogramming to reestablish communication and connectivity with internal applications, and statewide training of application users.
- FDOT does not have the staff, expertise or procedures to handle the volume of manual input required to submit payment requests electronically. This will negatively affect FDOT and its contractors.
- Internal applications that extract data from the existing application for the Florida Transportation Commission's reporting purposes must be redeveloped, which will create a delay in the timely reporting of data.
- FDOT electronically issues payments to construction contractors using the Electronic Estimates Disbursement System (EED). The data used to develop the invoices is derived from the current client-server based application. Interruption of this process could cause a delay to construction contractor payments.

## C. Proposed Business Process Requirements

### 1. Proposed Business Process Requirements

The proposed business process requirements being submitted allows the department to transition from the current use of a client-server based application to a hosted web-based solution from the same application owner.

The proposed business process will be capable of:

- Starting with the contract activation function where project specific information is loaded in or extracted from other sources.
- Producing daily work reports for project specific records of the work performed by construction contractors on individual projects. Includes such information as weather conditions, equipment used, active project contractors and subcontractors and hours worked, location on the project site where the work is performed, measurements of work completed, subcontractors or suppliers on the project.
- Including a daily work report approval process with a hierarchal, electronically routed work-flow.

- Producing customizable and scalable ad hoc reports.
- Documenting directions or instructions given to the contractor or subcontractors. Any pertinent information relative to the performance or limitations of the work by the contractor is documented including traffic impacts, public involvement, unacceptable contractor quality control practices, etc.
- Automatically synchronizing with remote mobile devices to allow for field data collection and continuous workflow.
- Tracking and recording construction project pay items to ensure completion of the work required on the project.
- Allowing department staff to collect information at the project site and derive monthly estimates from the data. This information is reviewed weekly and rolled into a payment submittal transmitted electronically to the Comptroller's Office for payment.
- Allowing contract modifications. These are time extensions, change orders or supplemental agreements to add or delete work to a contract.
- Documenting the department's final acceptance of the project with key dates, including: document final acceptance, material certification, offer of final payment to contractor, acceptance of final payment by contractor, comptroller final acceptance of contract and final contract payment.

## **2. Business Solution Alternatives**

- Upgrade the current client-server based application to the current vendor hosted web-based solution.
- Purchase a new off-the-shelf application, involving substantial customization to meet FDOT business requirements.
- Internal development of a new construction management application.
- Reversion to a manual/paper processing of construction management contracts.

## **3. Rationale for Selection**

In addition to maintaining consistency in processes and avoiding a halt to business operations, the upgrade from a client-server based application to a hosted web-based solution of the same provider will also result in reduced costs, reduced time impacts and reduced training needs. The department must continue to use technology to manage its construction projects in order to ensure timely and accurate construction contract payments.

The proposed solution is similar to the current application, but features an intuitive, user-friendly design to users already familiar with the department's current operations. This will reduce training requirements and costs. The enhanced features, including quicker log-in and streamlined changing of user roles, is expected to improve user performance by 30 percent. Also, since the proposed and current applications share the same vendor, data compatibility issues will be minimal, allowing for a faster transition period.

FDOT was one of seven states selected for beta testing during the web-based solution's development phase. FDOT helped to design a product that is not only compatible with the department's current business practices and procedures, but features enhancements on the current system that affect user productivity. Additionally, FDOT has internal staff not only familiar with the proposed application's operations, but also its technological design and function. This internal knowledge will significantly impact FDOT's ability to successfully transition to the new application.

## **4. Recommended Business Solution**

The department recommends upgrading from the current client-server based application to the vendor-hosted, web-based solution. This solution aligns seamlessly with the department's goals, objectives and business processes.

## **D. Functional and Technical Requirements**

The construction management application must provide the functionality necessary to manage contract data from award through contract finalization (integrating field based data collection, administration of contract records, and contractor payments). This application must also be able to provide payment, change order data and contract related

information that is compatible with existing financial management, SiteManager and PreConstruction applications. The application needs be robust, web-based, configurable by role and designed to streamline the workflow of each specific user's roles and responsibilities. In addition to these features, key functions of the application-wide functionality must include:

**Attachments and agency fields:** any user with proper access must be able to attach multiple files/URL links and add an unlimited number of agency fields to any record in the application.

**System events and issue tracking:** these features enable the department to automate complex processes and workflows that might require input or review from several different levels of authority.

**Integrated agency views** (also referred to as templates or forms): this feature must allow the department to design and implement agency-specific forms, extend contracts, daily work report postings, daily source report postings and mix designs.

**Extensive online help** must be available throughout the application, including configurable tooltips.

**Field-based data entry:** this functionality must be a part of the daily work reports.

**Diaries** for the project manager to review the inspectors daily work reports.

**Contract change order functionality:** for creation, review, and approval of contract changes, including agency-configurable exceptions such as item over-runs, limited funding, missed time. Other items will be defined later.

**Various reports** that the department will find beneficial in managing its construction projects, including reports for the Contract Status, Change Orders, Work Item Detail, Contractor Payment, and the Outstanding Item List.

The solution must effectively manage the volume of information involved in a transportation construction project. It must seamlessly integrate field-based data collection, administration of contract records, and contractor payments.

The solution should decrease the time needed for approval of change orders and estimates, while providing more timely, accurate and easier to access statewide information for management decision-making and historical analysis.

The solution must automate transportation construction project recordkeeping through the following functions:

- Data must be electronically transferred to and from the field to minimize data entry and reduce errors.
- Must allow extensive creation, review and approval of contract changes.
- Estimates must be automatically generated and reviewed.
- Must allow sophisticated adjustments and calculations which are provided in the estimate, along with reported discrepancies.
- Data must be compatible with the department's financial management system.
- Data must be compatible with the department's preconstruction application to ensure a seamless and customizable interface for the import and export of data.

The application must be able to generate a number of reports that provide a variety of project information such as:

**Contract status:** display the current stage of the contract's construction activity including critical dates, percentage of work completed and history of individual payments to the contractor.

**Daily work report history:** list daily work report activities by individual daily work report, work items and contractor activities.



**Installed work report:** document the installed quantities by project and item that will be paid by the next estimate.

**Change order report:** details the comprehensive specifics of a contract change including time extensions, modification of existing item quantities and addition of new items.

**Field Data Collection**

To keep the current status on a project, regular supervision from field inspectors is vital. These key individuals monitor progress and record and report important data. The solution must allow for both on-line and off-line field data collection.

Data transfer of the solution’s on-line and off-line field collection system must be simple. Information must be automatically synched between the off-line system and the host application. The updated data must be periodically uploaded via an automated process that both imports the new data and exports any new contract reference information back to the off-line system, all in one simple execution.

To maintain auditability, the solution must ensure all data shared between the on-line system and the off-line system is user specific and password protected.

Field data shall be compiled by the application in the proposed solution as daily work reports, which track detailed item and material progress for the prime contractor and all of the subcontractors, record weather and temperature data, track contractor personnel and equipment, track agency staff, and provide space for a large number of user classified remarks. For added efficiency, previous daily work reports must be automatically carried over to the next day’s daily work report, saving valuable time recording information. These reports must allow inspectors to collect information in a quick and uniform manner.

**III. Success Criteria**

SUCCESS CRITERIA TABLE				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
1	No system-wide interruption of the progress of the department’s construction and maintenance contracting program	Construction Management staff will not have any system interruptions in the construction and maintenance contracting program once the web-based version goes live	FDOT and External Stakeholders	02/19
2	Minimal interruption of the department’s monthly payments to the construction and maintenance contracting industry	Will be measured by having less than 1% in delayed monthly payments on construction contracts	FDOT and External Stakeholders	02/19
3	Successful migration of active contract data from the local site to the hosted web-based site	The department will conduct quality control checks of the migrated data of active contracts to ensure a minimum of 95% accuracy	FDOT and External Stakeholders	02/18
4	Timely and accurate reporting	Provide timely and accurate reports to the Florida Transportation Commission with 99% accuracy	FTC and FDOT	06/19



SUCCESS CRITERIA TABLE				
5	Ad hoc reporting	The data retrieved from the web-based application is 95% accurate with little to no delay in the production of the report	FDOT and requesting parties	02/19
6	Field staff with wireless communication service will be able to upload data on a real time basis	90% of the time field staff with a wireless connection can upload field collected data from the project site	FDOT and Consultant Project personnel	02/19
7	Successful tracking of individual project expenditures	98% of the projects will not exceed the allowable amount of expenditures	FDOT	02/19
8	Accurate Status Update	Users can retrieve a real time snapshot of the status of individual or multiple projects	FDOT	02/19
9	FHWA Funds Tracking	Users can successfully track the payments made on contracts using federal funds	FDOT	02/19
10	Training	90% of the users will be able to successfully operate the application	FDOT and Consultant Project personnel	02/19

#### IV. Schedule IV-B Benefits Realization and Cost Benefit Analysis

##### A. Benefits Realization Table

For each tangible benefit, identify the recipient of the benefit, how and when it is realized, how the realization will be measured, and how the benefit will be measured to include estimates of tangible benefit amounts.

Benefits Realization Table					
#	Description of Benefit	Who receives the benefit?	How is benefit realized?	How is the realization of the benefit measured?	Realization Date (MM/YY)
1	Reduction in risk due to product end of life	FDOT and External Stakeholders	FDOT and Stakeholders will not experience delays in processing data	Reduction in staff time and costs related to application failure	02/19
2	Cost avoidance of adding additional staff to manually process contracts	FDOT and External Stakeholders	FDOT – will avoid claims. Stakeholders – paid on time	Avoiding costs associated with manual processing	02/19

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3	Increase efficiency of data entry by project personnel	FDOT and Consultants	There will be a 30% performance improvement gained during processing	Representative sample will be taken during performed tasks	02/19
4	Reduction in field staff data entry time	FDOT and Consultants	Reduction in time spent by FDOT and Consultants performing data entry	Representative sample will be taken during performed tasks	02/19
5	Increase efficiencies in accessing and reporting data	FDOT, and other Transportation Stakeholders	Ease of use and reduction in time spent accessing and creating reports	Representative sample will be taken during performed tasks	02/19

**B. Cost Benefit Analysis (CBA)**

The chart below summarizes the required CBA Forms which are included as Appendix A on the Florida Fiscal Portal and must be completed and submitted with the Schedule IV-B.

Cost Benefit Analysis	
Form	Description of Data Captured
CBA Form 1 - Net Tangible Benefits	<p>Agency Program Cost Elements: Existing program operational costs versus the expected program operational costs resulting from this project. The agency needs to identify the expected changes in operational costs for the program(s) that will be impacted by the proposed project.</p> <p>Tangible Benefits: Estimates for tangible benefits resulting from implementation of the proposed IT project, which correspond to the benefits identified in the Benefits Realization Table. These estimates appear in the year the benefits will be realized.</p>
CBA Form 2 - Project Cost Analysis	<p>Baseline Project Budget: Estimated project costs.</p> <p>Project Funding Sources: Identifies the planned sources of project funds, e.g., General Revenue, Trust Fund, Grants.</p> <p>Characterization of Project Cost Estimate.</p>
CBA Form 3 - Project Investment Summary	<p>Investment Summary Calculations: Summarizes total project costs and net tangible benefits and automatically calculates:</p> <ul style="list-style-type: none"> <li>• Return on Investment</li> <li>• Payback Period</li> <li>• Breakeven Fiscal Year</li> <li>• Net Present Value</li> <li>• Internal Rate of Return</li> </ul>

## V. Schedule IV-B Major Project Risk Assessment

The Risk Assessment Tool and Risk Assessment Summary are included in Appendix B on the Florida Fiscal Portal and must be completed and submitted with the agency’s Schedule IV-B. After answering the questions on the Risk Assessment Tool, the Risk Assessment Summary is automatically populated.

<b>Project</b>	<i>Construction Management Software Upgrade</i>	
<b>Agency</b>	<i>Department of Transportation</i>	
<b>FY 2017-18 LBR Issue Code:</b>	<b>FY 2017-18 LBR Issue Title:</b>	
<i>36344C0</i>	<i>Construction Management Software</i>	
<b>Risk Assessment Contact Info (Name, Phone #, and E-mail Address):</b>		
<i>Steve Carter 850-414-4144 steve.carter@dot.state.fl.us</i>		
<b>Executive Sponsor</b>	<i>Bram Blanchard</i>	
<b>Project Manager</b>	<i>David Sadler</i>	
<b>Prepared By</b>	<i>Steve Carter</i>	<i>9/1/2016</i>
<b>Risk Assessment Summary</b>		
<b>Business Strategy</b>	Most Aligned	Least Aligned
	Least Risk	Most Risk
<b>Project Risk Area Breakdown</b>		
<b>Risk Assessment Areas</b>		<i>Risk Exposure</i>
Strategic Assessment		LOW
Technology Exposure Assessment		LOW
Organizational Change Management Assessment		LOW
Communication Assessment		LOW
Fiscal Assessment		MEDIUM
Project Organization Assessment		MEDIUM
Project Management Assessment		MEDIUM
Project Complexity Assessment		MEDIUM
<i>Overall Project Risk</i>		MEDIUM

## VI. Schedule IV-B Technology Planning

### A. Current Information Technology Environment

#### 1. Current System

SiteManager is published to a Citrix 4.5 environment, which is on Windows 2003 SP2 servers, with 2008 R2 application servers. It uses an Oracle 11g database, which is on a Windows 2012 R2 Enterprise Edition server. SiteManager is a COTS application written in Power Builder.

##### a. Description of Current System

There is currently a total of 2,863 active user IDs with active AD accounts. User types can fall within 115 different security groups ranging from Inquiry Only to Administrator. SiteManager access is controlled by security coordinators within each district. SiteManager does not handle confidential data. The current system operates on Windows 2003 SP2 client-servers, Windows 2008 R2 application servers and Windows 2012 R2 Enterprise Edition server for the database. The software uses a Power Builder GUI presentation.

FDOT adds specific functionality with the following VB6 application “plug-ins”: Contract Change Tracking System, Copy Contract, Maintenance Management System and a Data Quality Reporting and Update utility. These VB6 applications are launched from within SiteManager and run in the Citrix environment.

Several COBOL programs run on the mainframe and access SiteManager’s database. These programs range from EED (validating and approving pay estimates for construction), to processes extracting data for a de-normalized data warehouse, to a pay estimate report, to a process loading equipment into SiteManager (allowing vendors to report equipment use in contracts). SiteManager adheres to FDOT’s software standards and hardware platforms.

Citrix client machines can be added to meet demand, and servers can be upgraded to keep up with performance demands. The current software system, however, will sunset in fiscal year 2019-20, meaning continuation of the current system will require FDOT to accept all maintenance and upgrade responsibility.

##### b. Current System Resource Requirements

SiteManager currently has the following hardware and software:

- Windows 2003 SP2 client-servers has 4 CPUs with 4GB MEM.
- Windows 2008 R2 application servers have 2 SPU’s with 8GB MEM.
- Windows 2012 R2 Enterprise Edition servers has 48GB MEM with a 4-core processor.

##### c. Current System Performance

SiteManager performance is relatively stable, performing with adequate speed and response times. However, users regularly experience problems when launching SiteManager. The delay in launch time is usually triggered from problems with the server or from corrupt user profiles.

SiteManager is meeting the current workload requirements. Workload requirements are not projected to increase, however, the current system is projected to sunset in fiscal year 2019-20, meaning continuation will require FDOT to accept all maintenance and upgrade responsibility.

An estimated 75 percent of users and technical staff are satisfied with the current system.

If the proposed vendor-hosted web-based solution is not adopted, the largest concern would be an operating system compatibility issue after sunset of the current system. Newer versions of SiteManager will not be developed, causing it to eventually cease functioning on new operating systems. Additionally, any system issues or routine maintenance would fall upon FDOT to correct or develop internally.

With current software projected to sunset in fiscal year 2019-20, newer versions of SiteManager will not be developed unless FDOT assumes responsibility and develops upgrades internally. The technical support staff troubleshoots and solves Citrix user issues. Anticipated failures prior to sunset can include anything from a problem with a Citrix Server to a corrected Citrix user profile. When running properly, both Citrix and SiteManager perform

with adequate speed and response time.

## 2. Information Technology Standards

Projects managed by Applications Services (the application development section of the Office of Information Technology) are developed following Agency for State Technology (AST) guidelines (AST Security Rule 74-2 F.A.C and Project Management Rule 74-1 F.A.C), which are based on the Project Management Institute's methodology including standard phases, tools, steps and sign-off processes. This methodology is made available to all project management and project staff working within FDOT to ensure consistent steps are followed when developing system applications.

## B. Current Hardware and/or Software Inventory

*NOTE: Current customers of the state data center would obtain this information from the data center.*

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Not applicable. FDOT is not replacing any hardware.

## C. Proposed Technical Solution

### 1. Technical Solution Alternatives

- Upgrade the current client-server based application to the current vendor hosted web-based solution.
- Purchase a new off-the-shelf application, involving substantial customization to meet FDOT business requirements.
- Internal development of a new construction management application.
- Reversion to a manual/paper processing of construction management contracts

### 2. Rationale for Selection

The technical requirements are the driving force behind transitioning to a web-based solution. In addition to providing a seamless transition from a client-server application to a web-based solution, the current provider is able to meet all of FDOT's specifications and requirements with only a moderate amount of additional configuration or customization. Any required customization can easily be integrated into the recommended web-based solution.

The proposed web-based solution effectively manages the volume of information involved in a transportation construction project, and will be able to seamlessly integrate field-based data collection, contract record administration and contractor payments.

The proposed web-based solution will allow for sophisticated adjustments and calculations provided in the estimate, in addition to reported discrepancies.

The proposed web-based solution will be compatible with both the department's financial management system and the preconstruction application, which it relies upon to import and export data required for construction management.

The proposed web-based solution is able to generate the variety of reports required for department operations, such as: contract status, daily work report histories, installed work reports and change order reports, contract status, work item detail, contractor payment and outstanding item list.

In addition, the proposed web-based solution is configurable by role, allowing the user to easily switch from role to role within the system depending on his or her responsibilities. The solution provides the following key features: attachments and agency fields, system events and issue tracking, integrated agency view, extensive online help, field-based data entry, and contract change order functionality.

3. **Recommended Technical Solution**

The recommended technical solution is a vendor hosted solution for both the application and the associated databased, based on a foundation of web application in a loosely coupled, multi-tiered, Microsoft .Net architecture. The current application owner provides a web-based platform meeting all FDOT's technical requirements in a consistent, unified data model with a single standard security model.

**D. Proposed Solution Description**

**1. Summary Description of Proposed System**

Since the department currently operates under an AASHTOWare client-based application and they offer a vendor hosted, web-based product, the proposed solution is to continue using an AASHTOWare product. This proposed product meets all FDOT business and technical requirements. Below is a description of the proposed solution:

AASHTOWare Project Construction & Materials is a web-based construction and materials management application. AASHTOWare Project Construction & Materials covers the construction and materials management process, including laboratory information management functionality. It is a powerful application spanning all levels of construction and materials enabling personnel to progress a contract and its supporting documentation from contract award through finalization. It will also allow the department to manage all aspects of a construction project through daily work reports, diaries, storm water compliance inspections, contract change orders, force accounts, contractor and design evaluations, plan discrepancies, meeting records, document submission and review and contractor payments.

AASHTOWare Project 3.01 web-based application manages virtually all aspects of the road construction and maintenance project life cycle, from cost estimation to proposal preparation. AASHTOWare Project 3.01 software suite includes four modular components targeting different business areas and functionality dealing with road construction and maintenance projects in a single web-based application and database. The specific modular components are enabled by entering license keys tied to each component. The software suite provides different modules to meet construction/materials needs, including an integrated laboratory information management system and a module to manage labor and civil rights issues. Modular components exist of the following; AASHTOWare Project Construction & Materials, AASHTOWare Preconstruction, AASHTOWare Project Estimation, and AASHTOWare Project Civil Rights & Labor software. FDOT is using a modular component of the AASHTOWare Project 3.01 software: AASHTOWare Project Construction & Materials.

The vendor-hosted, web-based AASHTOWare Project application is a three-tier setup. The configuration consists of a web server, an application server and a database server. The web server hosts the user interface (UI) website; the application server hosts the web-based AASHTOWare Project application and business layer; the database server hosts the database used by the web-based AASHTOWare Project application. Security is enabled through LDAP lookup of FDOT Active Directory.

**2. Resource and Summary Level Funding Requirements for Proposed Solution (if known)**

**Database**

- SQL Server 2008 Win Server 2008 64-bit
- SQL Server 2012 Win Server 2012 R2 64-bit (FDOT currently hosting)
- Oracle Version 11.2.0.4g on Win Server 2008 64-bit
- Oracle 12.1c on Windows 2012 R2 64-bit

**Web Browser Clients**

- Internet Explorer 10
- Internet Explorer 11 (FDOT currently hosting)
- Google Chrome

### Web/Application Server

- Windows Server 2008 64-bit with a minimum of eight processors and 8GB of RAM
- Windows Server 2012 64-bit with a minimum of eight processors and 8GB of RAM (FDOT currently hosting 2 servers – F5 enabled for Internet accessibility from any IP provider – SSL enabled)
- Internet Information Server 7 64-bit
- Internet Information Server 8 64-bit (FDOT currently hosting)
- Recommended that the Application Server and UI Server features are installed together on each server if using more than one server (FDOT currently has two servers each hosting application and UI separately; server 1 – application server, server 2 UI server)
- Microsoft .NET Framework 4.5.1

### **E. Capacity Planning** *(historical and current trends versus projected requirements)*

FDOT's data requirements for the current client-server based application identified a current data storage usage of 180GB, which includes active and archive construction management contract data. The vendor-hosted solution will provide a storage capacity of 500GB. This is anticipated to fulfill FDOT's data requirements for the new application for a minimum of 10 years after the transition to the vendor-hosted solution.

Servers for testing, training and production will be provided as part of the hosted solution and are scalable per customer need.

2,863 users operate within the current client-based application. Due to planning for future construction projects and FDOT staffing requirements, this number is not expected to rise. However, additional users can be accommodated within the system with no impact to system operations.

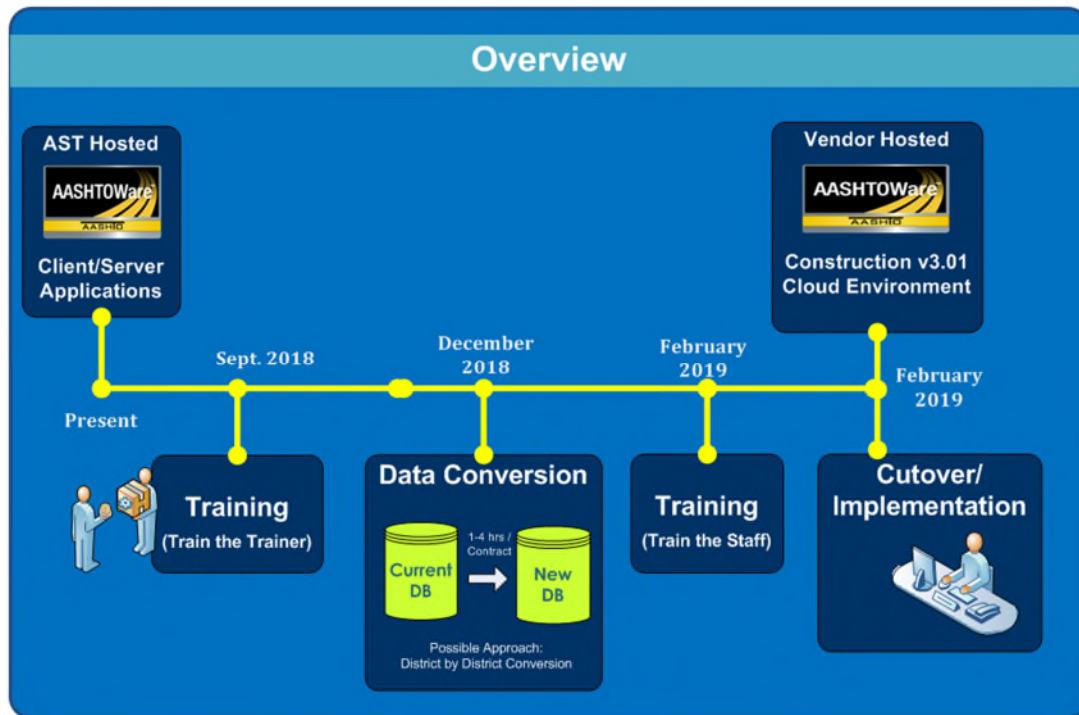


## VII. Schedule IV-B Project Management Planning

*Purpose: To require the agency to provide evidence of its thorough project planning and provide the tools the agency will use to carry out and manage the proposed project. The level of detail must be appropriate for the project's scope and complexity.*

Include through file insertion or attachment the agency's project management plan and any associated planning tools/documents.

### Project Scope



Milestones	No. of Days	Completion Date
Role Development	90	9/29/2017
Application Services	335	8/30/2018
System Test vendor hosted site	14	9/13/2018
Application Services	335	8/30/2018
Training Coordinators	7	9/20/2018
Training End Users	150	2/17/2019
Cutover to vendor hosted site	10	2/27/2019

The scope of the proposed project includes:

- Analyzing and documenting the necessary steps to perform the transition from the existing technical architecture (client-server and local web hosting) and to a vendor-hosted, web-based environment.



**SCHEDULE IV-B FOR CONSTRUCTION MANAGEMENT SOFTWARE UPGRADE**

- Determine the least risky and most seamless approach to this migration (see the charts in the Appendix).
- Once funding is approved, establish a project manager and team to ensure timely milestone completion.
- Establish a project schedule to include all the major tasks and milestones.
- Testing of the construction data conversion to the new formats.
- Establish the training schedule: train the trainer and then train the staff and application users.

**Project Phasing Plan**

This is a two fiscal year plan where the project will be managed by a project team that will execute the plan when it is fully realized. The project will follow the Project Management Rule 74-1 F.A.C.

Once funding approval is given the following phases will be implemented:

**FY 2017-18**

Major work activates anticipated:

- Form the project team
- Verify proposed solution implementation and determine all necessary modifications to existing applications/processes (assumption that implementation of test, system test and production has been completed in FY 2016-17)
- Determine data conversion strategies
- Test data conversion from the existing client-based application to proposed web-based solution
- Determine required modifications to existing applications
- Develop Training Materials

**FY 2018-19**

Major work activates anticipated:

- Train the Trainer training
- Train the Users training
- Final data conversion to local production
- Finalize application roles and responsibilities
- Copy of databases sent to proposed application vendor
- Cutover to the proposed web-based application

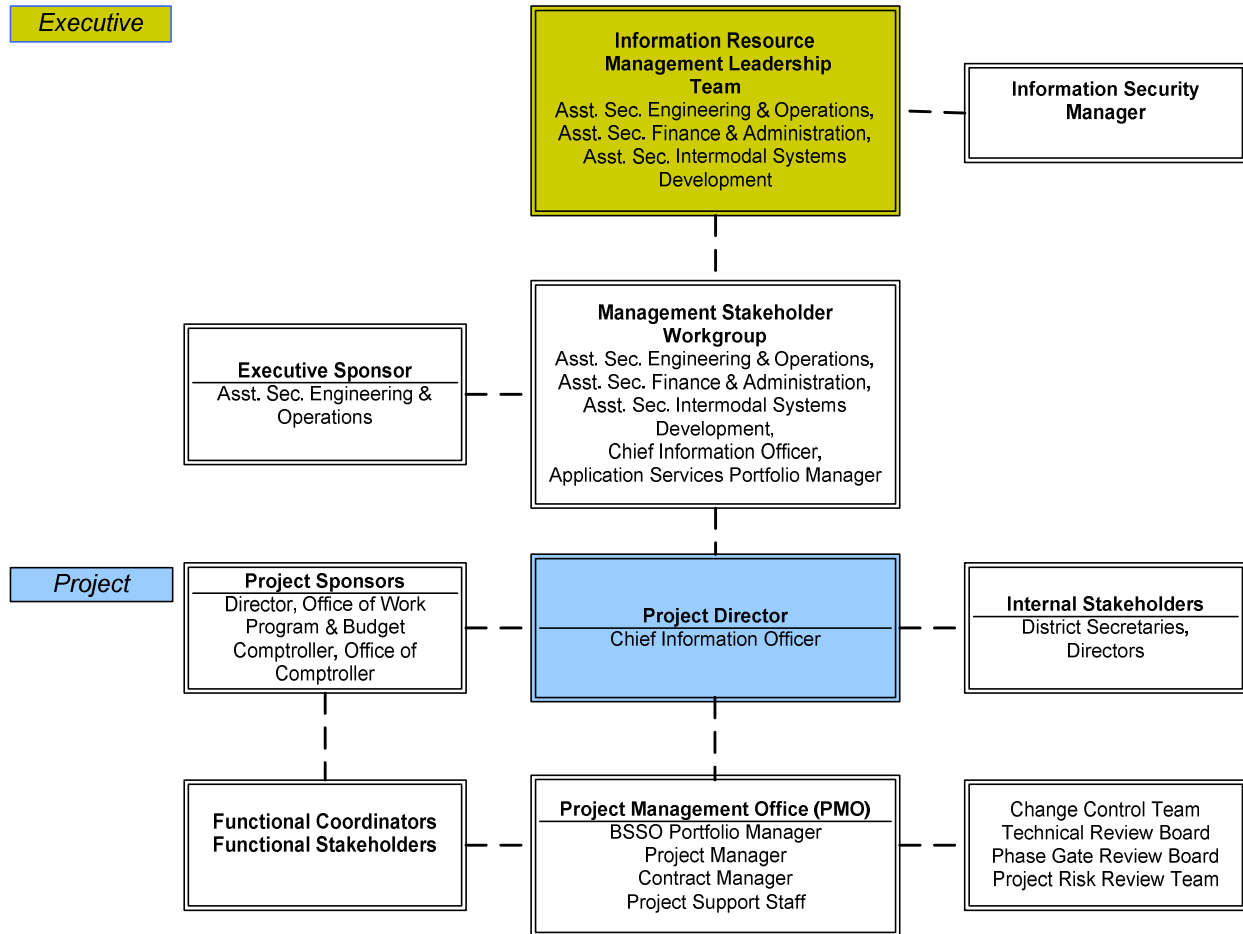
**Baseline Schedule**

Task	Status	Planned Start	Planned Stop
<b>Planning</b>	<i>Pending Funding</i>	<b>7/2016</b>	<b>8/2016</b>
<ul style="list-style-type: none"> <li>• <b>Detailed Requirements</b></li> </ul>	<i>Pending Funding</i>	<b>8/2015</b>	<b>9/2016</b>

**Note: this chart will be completed when the funding has been received and the project manager is assigned.**

**Project Organization and Governance**

This subsection describes the proposed project organization and governance.



The project governance structure consists of the following elements:

- **Information Resource Management Leadership Team:** provides direction and prioritization for information technology resources and projects estimated at over 1,500 hours of effort. The group usually consists of the department’s Assistant Secretaries and the Chief Information Officer (CIO).
  - **The Information Security Manager (ISM)** reports directly to the CIO. The ISM is responsible for statewide coordination and administration of the Department's security policies, procedures, and standards including security awareness training and security compliance assessment. The ISM reviews and approves the Security Plans that are submitted for all enterprise applications including this initiative.
- **Office of Inspector General:** serves as a central point for coordination of and responsibility for activities that promote accountability, integrity and efficiency in the department. Conducts audits, investigation and management review relating to the programs and operation of the agency.
- **Management Stakeholder Workgroup:** the Management Stakeholder Workgroup provides functional management oversight for the application projects.
- **Executive Sponsor:** the Executive Sponsor is a chairperson of the subject business process improvement, analysis, and design efforts. The Executive Sponsor acts as a visionary and motivator and instills the project with a purpose and a sense of mission. The Executive Sponsor introduces the project within the organization and demonstrates commitment to its success.

## SCHEDULE IV-B FOR CONSTRUCTION MANAGEMENT SOFTWARE UPGRADE

- **Project Sponsors:** ensure that security controls related to access and integrity of the application and data are in place. Ensure that the needed resources from the Functional Office are available to serve in various roles throughout the application's life cycle.
- **Project Director:** Coordinates and manages the information resources management policies, procedures and standards activities. Advises executive management regarding information resources management needs of the department. Assist in the development and prioritization of the information resources management schedule of the department's legislative budget request.
- **Internal Stakeholders:** functional areas and Directors that are affected by the project. It is critical that Internal Stakeholders are kept aware of the project; and are involved (provide staff) in discussions regarding their functional area at the appropriate time in the project.
- **Functional Coordinators:** serve as a dedicated resource from the Functional Office assigned to serve as liaison between the Office of Information Systems and the Functional Office. The role of the Functional Coordinator will exist beyond the project, throughout the life of an application. The Functional Coordinator may act as an agent for the Project Sponsor.
- **Functional Stakeholders:** provide functional management oversight of the application project for which they have been delegated responsibility. Provide direction to the Project Team in regard to project strategy and planning.
- **Project Management Office (PMO):** provides coordination and support for Communications, Human Resource, Risk, Integration, Time, Cost and Quality management. Reports to Executive Leadership overall status of projects. Monitors project progress against business objectives. Monitors relationships with internal and external stakeholders. Responsible for document management and requirements management process. The Project Management Office includes the Application Services Portfolio Manager, Project Manager, Contract Manager and other support staff as needed.
- **Application Services Portfolio Manager:** the Business Systems Support Office Portfolio Manager provides leadership and facilitation to the Program Managers of the development and maintenance of applications taken on by the Application Support Office within the Office of Information Technologies. The Application Services Portfolio Manager ensures proper methodology support is provided for Application Services application development projects and maintenance efforts. The Application Services Portfolio Manager also represents the application development and maintenance perspective within Office of Information Systems management and to other Offices or work groups within the Department as required.
- **Project Manager:** the Project Manager is accountable for maintaining project scope, cost, and schedule in accordance with the baselines established in the Project Plan. The Project Manager plans, assigns, and oversees the deliverables provided by team members.
- **Contract Manager:** a department employee responsible for enforcing performance of the contract terms and conditions, serving as liaison with the vendor and ensuring that the contractual terms have been complied with prior to processing the invoice for payment.
- **Change Control Team (CCT):** responsible for reviewing and determining the outcome of all change requests submitted to the project during the project life cycle. The CCT will meet as often as necessary, as changes are introduced throughout the project, to discuss potential impacts or changes to the scope, schedule or budget. If the CCT approves a change, the CCT must then seek authorization from the Executive Sponsor, Project Sponsor, Application Services Portfolio Manager, or combination of those stakeholders, depending on the type of impact the change will have on the project.
- **Technical Review Board:** reviews technical components of the project to ensure alignment with scope, time, budget and quality.
- **Project Risk Review Team:** prioritizes and ranks all risks identified for project, and agree on a risk response strategy for each identified risk.

### Quality Assurance Plan

FDOT follows standard practice project management principles to reduce project incurred risks, ensure compliance

**SCHEDULE IV-B FOR CONSTRUCTION MANAGEMENT SOFTWARE UPGRADE**

with stated quality standards and keep the project on track. This subsection describes several of FDOT’s quality assurance plans including:

- Communication Plan
- Deliverables Review and Acceptance
- Issue Management
- Risk Management
- Scope Change Management

**Communication Plan**

Communication is important in all projects, and particularly on projects of this scale. Providing consistent, timely and appropriate communication keeps the project in the minds of all stakeholders. The following Communication methods are planned:

Item	Purpose	Frequency	Audience
Functional Steering Committee Meeting	Provide updates on project activities, issue and deadlines	Monthly	Functional Steering Committee
Written Status Report	Provide update on project activities, issues and deadlines	Monthly	All Project Team Members
Legislative Status Report	Provide update on project activities for all projects funded by a Budget Request	Monthly	Legislative Members and Staff
Executive Status Report and Review Meeting	Monthly review of the project status and schedule with the Information Resource Management Leadership Team	Monthly	Information Resource Management Leadership Team, Executive Sponsor, Project Sponsor, CIO, Application Services Portfolio Manager
Functional Group Status Presentations	Provide project status updates to existing functional teams that are affected by the project. Management Stakeholders will request time on the agenda of these existing meeting to provide status and answer questions	As Needed	Statewide Teams that are affected by project.
Project 101 Presentation	Presentation that gives overview, purpose and objectives of project. Slide sets will be available with latest status as needed	Available at all times. Update as needed	Any FDOT Staff
Project FAQ	Provide list of answers to frequently asked questions	Available at all Times. Update as needed	All FDOT Staff

**Deliverables Review and Acceptance**

All deliverables are reviewed by appropriately appointed staff. Standard review teams will be established, by

technology or business area, to provide a consistent review base. Project schedules must be established to provide time for deliverables review, feedback and secondary review.

**Issue Management**

Issues are problems that have occurred and/or exist on the project that need to be addressed with a decision.

- The Project Issue Management Process will be documented in the Issue Management section of the Project Management Plan. This plan will address:
  - What constitutes an issue
  - Who can create or update issues
  - How will issues be reported
  - Where will issues be documented and tracked
  - Who will receive/review the issues
  - How/When will issues be reviewed
  - How will issues be resolved
  - How and when will unaddressed issues be escalated
  - How will information be communicated
- All Project Issues will be documented in the change control log and will be available and reviewable by all project members.
- The Project Manager is responsible for ensuring the project team (both functional staff and technical staff) have a clear understanding of the purpose and details of the Issue Management Process.
- Weekly Status Reports will track and provide status for all open project issues.

**Change Management**

Monitoring and controlling change is critical to the successful delivery of a project. Changes are inevitable. Any change to project scope, cost, and/or schedule will invoke the Change Control process.

- The Project Change Control Process will be documented in the Change Management section of the Project Management Plan.
- Any proposed changes will be documented using a change control form and tracked through the change control log.
- The change control log and form will be available and reviewable by all project members.
- The Project Director will establish the CCT.
- The CCT will meet as often as necessary to ensure changes are dealt with in a timely manner.
- The Project Manager is responsible for ensuring the project team (both functional staff and technical staff) have a clear understanding of the purpose and details of the Change Management Process.
- Changes that are approved by the CCT will seek final approval from the appropriate staff and stakeholders.
- Monthly Status Reports will track and provide status for all open change requests.

**Security Plan**

The objectives of the Security Plan are to:

- Ensure confidentiality, integrity, and availability of the system data
- Identify confidential or sensitive information in the system
- Define system security methods, requirements and procedures
- Promote consistency and uniformity in the system’s security practices

The following Sections are outlined in the document to address risk management and reduce exposure to the Department by identifying controls to offset threats and protect the Department’s resources.

1. Risk Analysis (Authentication/ Data and System Integrity/ Confidential Information)
2. Federal Information Processing Standards (FIPS) 199 Potential Impact Categorization
3. Critical Resources
4. Roles and Responsibilities

5. FDOT Policies and Procedure

**Risk Management**

A key focus of risk management is to anticipate, identify and address events or occurrences that left unabated could negatively impact a project's success. Risk Management Plans define work products and processes for assessing and controlling risks. The process of Risk Management has two parts: risk assessment, which involves identifying, classifying, analyzing and prioritizing risk; and risk monitoring and control, which involves planning, tracking and reporting, reducing and resolving risk.

This project will follow FDOT's standard process for Risk Management. This includes:

- Identification of potential risks early in the planning phases. Potential Project Risks are provided in Exhibit VII-3 below.
- Establishment of a formal Project Risk Review Team to evaluate risks on a scheduled basis.
- Establishment of a method for analyzing and prioritizing risk.
- Review new or changing Risks at Weekly Project Status Meetings.
- Ensure all Project Team Members are aware of the Risk Management process and their involvement in the process.

Inventory of Potential Risks and Response Strategies		
Risk Type	Risk Description	Risk Response Strategy and Notes
Project Organization	Inconsistent processes and standards across FDOT business units could impact drive to standardize business processes	<ul style="list-style-type: none"> <li>• Establish organizational change management program</li> <li>• Engage stakeholders from various agencies in defining process changes</li> </ul>
Change Management, Technology	Perception by various FDOT business units about apparent loss of tailored functionality	<ul style="list-style-type: none"> <li>• Encourage early involvement by key business units</li> <li>• Ensure Change Management and Communication Plan emphasizes benefits of enterprise solution</li> <li>• Ensure consistent and ongoing senior management support</li> </ul>
Project Organization	Changes in FDOT executive management can impact program execution	<ul style="list-style-type: none"> <li>• Immediately brief new management on program objectives and status</li> <li>• Implement Steering Committee to manage program with a mix of executive-level policymakers and senior-level career staff</li> <li>• Engage continuing Steering Committee members to assist in presenting program benefits to new management team members</li> <li>• Include career staff in key roles responsible for managing program execution for continuity</li> </ul>

SCHEDULE IV-B FOR CONSTRUCTION MANAGEMENT SOFTWARE UPGRADE

Inventory of Potential Risks and Response Strategies		
Risk Type	Risk Description	Risk Response Strategy and Notes
Fiscal	Delay in obtaining funding for all or part of proposed program effort from the legislature	<ul style="list-style-type: none"> <li>Actively engage with stakeholders and policymakers to obtain approval for change in scope based on funding</li> <li>Revisit budgets regularly; economic factors should be on agenda for discussion at Steering Committee meetings and other executive management briefings where appropriate</li> <li>Adjust program schedule as necessary based on timing of funding</li> <li>Identify activities that could continue in the interim (process analysis, etc.) to maintain momentum</li> </ul>
Fiscal	Less funding than requested is approved for the program effort	<ul style="list-style-type: none"> <li>Actively engage with stakeholders and policymakers to obtain approval</li> <li>Revisit budgets regularly; economic factors should be on agenda at Steering Committee meetings or executive briefings as appropriate</li> <li>Adjust scope and/or program schedule as necessary based on timing of funding</li> </ul>
Project Complexity	Challenges in aligning project schedule with current hosting services or the vendor's hosting solution	<ul style="list-style-type: none"> <li>Initiate early discussions with the current hosting provider and/or the vendor hosting team and continue dialogue throughout planning process</li> </ul>
Communication	Project delays not resolved in a timely manner	<ul style="list-style-type: none"> <li>Initiate early discussions</li> <li>Monitor and track resolution</li> <li>Ensure management understands required timeline for resolution and cost/schedule impact of not resolving</li> </ul>
Strategic	Desired business benefits not achieved	<ul style="list-style-type: none"> <li>Adhere to requirements, involve stakeholders and tie scope decisions to performance measures and anticipated benefits to ensure success</li> <li>Incorporate business process training and mentoring into the work plan</li> </ul>

Inventory of Potential Risks and Response Strategies		
Risk Type	Risk Description	Risk Response Strategy and Notes
Project Organization	Staff not being able to participate when needed or review deliverables within schedule	<ul style="list-style-type: none"> <li>Utilize a project approach that leverages best practices as a starting point for discussions to better leverage staff time</li> <li>Proactively identify resource constraints and escalate in a timely manor</li> <li>Re-assign some responsibilities of key extended team members</li> <li>Reprioritize some activities assigned to extended team members</li> </ul>
Project Complexity	Project scope too large or complex and/or implementation strategy attempts to implement too much at one time	<ul style="list-style-type: none"> <li>Establish implementation plan, carefully develop the plan and link it to expected business benefits</li> <li>Link project scope to business benefits</li> <li>Careful review by FDOT Steering Committee of requirements and implementation plan before approving implementation go-ahead</li> <li>Develop scope change process that requires demonstrated link to targeted business benefits and program steering committee approval of any proposed scope changes</li> </ul>
Project Organization, Project Management	Availability of FDOT resources (business and technical) to support implementation	<ul style="list-style-type: none"> <li>Develop detailed estimates of resource requirements as early as possible as part of planning</li> <li>Develop an implementation strategy and work plan that is in sync with availability of FDOT resources</li> <li>Obtain specific commitment of resources from FDOT management prior to start of implementation</li> </ul>
Project Complexity, Project Management	Need to provide large number of employees with training on various new application functions	<ul style="list-style-type: none"> <li>Initiate organizational change management program from start of program</li> <li>Develop training strategy for each project component early and monitor status of training effort closely</li> </ul>

**Implementation Plan**

The Implementation Phase will be defined as the project progresses.

**Project Staffing and Continuity**

Providing adequate resources for this project is critical for project success. Functional Coordinators, Functional/Subject Matter Experts and IT technical staff will all be expected to spend an appropriate amount of time involved in the project.



## SCHEDULE IV-B FOR CONSTRUCTION MANAGEMENT SOFTWARE UPGRADE

To ensure that day-to-day work proceeds during this effort, the Legislative Budget Request includes funding to address staffing. The department plans to use staff augmentation to backfill for personnel assigned to the project.

### **Project Manager (half-time)**

- All project planning and documentation, etc.
- Set the schedules, assigning tasks, etc.

### **System Project Consultant (full time)**

- Team lead, senior technical analyst, coding, data conversion planning, transferring data to the hosting vendor

### **Contractor – Lead (full time)**

- Senior technical analyst, data conversion lead, coding, testing and verification, assist in transferring data to the hosting vendor

### **Contractor (full time)**

- Data conversion, report writing, misc. duties as they arise

### **Database Administrator (half time)**

- Set up test regions and databases for the conversion effort

### **Server Support Staff (1/4 to 1/2 time)**

- Establish test regions, server configuration as needed, set up Secure VPN connections to the vendor hosted site

Additional information will be provided as the project progresses.

## **VIII. Appendices**

Number and include all required spreadsheets along with any other tools, diagrams, charts, etc. chosen to accompany and support the narrative data provided by the agency within the Schedule IV-B.

- A. Cost Benefit Analysis FY 17/18
- B. Project Risk Assessment FY 17/18
- C. Acronym Definition

CBAForm 1 - Net Tangible Benefits

Agency	Department of Transportation	Project	Construction Management Software Upgrade
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Net Tangible Benefits - Operational Cost Changes (Costs of Current Operations versus Proposed Operations as a Result of the Project) and Additional Tangible Benefits -- CBAForm 1A															
Agency <i>(Recurring Costs Only -- No Project Costs)</i>	FY 2017-18			FY 2018-19			FY 2019-20			FY 2020-21			FY 2021-22		
	(a) Existing Program Costs	(b) Operational Cost Change	(c) = (a)+(b) New Program Costs resulting from Proposed Project	(a) Existing Program Costs	(b) Operational Cost Change	(c) = (a) + (b) New Program Costs resulting from Proposed Project	(a) Existing Program Costs	(b) Operational Cost Change	(c) = (a) + (b) New Program Costs resulting from Proposed Project	(a) Existing Program Costs	(b) Cost Change Operational Cost Change	(c) = (a) + (b) New Program Costs resulting from Proposed Project	(a) Existing Program Costs	(b) Operational Cost Change	(c) = (a) + (b) New Program Costs resulting from Proposed Project
A. Personnel Costs -- Agency-Managed Staff	\$203,706	\$758,214	\$961,920	\$203,706	\$271,254	\$474,960	\$4,327,984	-\$4,309,741	\$18,243	\$4,327,981	-\$4,309,738	\$18,243	\$4,327,981	-\$4,309,738	\$18,243
A.b Total Staff	0.00	8.00	8.00	0.00	8.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-1.a. State FTEs (Salaries & Benefits)	\$203,706	-\$45,786	\$157,920	\$203,706	-\$124,746	\$78,960	\$0	\$18,243	\$18,243	\$0	\$18,243	\$18,243	\$0	\$18,243	\$18,243
A-1.b. State FTEs (#)	0.00	3.00	3.00	0.00	3.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-2.a. OPS Staff (Salaries)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
A-2.b. OPS (#)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-3.a. Staff Augmentation (Contract Cost)	\$0	\$804,000	\$804,000	\$0	\$396,000	\$396,000	\$4,327,984	-\$4,327,984	\$0	\$4,327,981	-\$4,327,981	\$0	\$4,327,981	-\$4,327,981	\$0
A-3.b. Staff Augmentation (# of Contractors)	0.00	5.00	5.00	0.00	5.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B. Application Maintenance Costs	\$774,908	\$183,334	\$958,242	\$774,908	\$116,666	\$891,574	\$0	\$703,908	\$703,908	\$0	\$703,908	\$703,908	\$0	\$703,908	\$703,908
B-1. Managed Services (Staffing)	\$339,908	\$121,000	\$460,908	\$339,908	\$121,000	\$460,908	\$0	\$339,908	\$339,908	\$0	\$339,908	\$339,908	\$0	\$339,908	\$339,908
B-2. Hardware	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B-3. Software	\$435,000	-\$71,000	\$364,000	\$435,000	-\$71,000	\$364,000	\$0	\$364,000	\$364,000	\$0	\$364,000	\$364,000	\$0	\$364,000	\$364,000
B-4. Other <i>Data Migration</i>	\$0	\$133,334	\$133,334	\$0	\$66,666	\$66,666	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C. Data Center Provider Costs	\$254,119	-\$74,269	\$179,850	\$254,119	-\$74,269	\$179,850	\$0	\$179,550	\$179,550	\$0	\$179,550	\$179,550	\$0	\$179,550	\$179,550
C-1. Managed Services (Staffing)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C-2. Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C-3. Network / Hosting Services	\$254,119	-\$74,269	\$179,850	\$254,119	-\$74,269	\$179,850	\$0	\$179,550	\$179,550	\$0	\$179,550	\$179,550	\$0	\$179,550	\$179,550
C-4. Disaster Recovery	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C-5. Other <i>Specify</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D. Plant & Facility Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E. Other Costs	\$0	\$77,720	\$77,720	\$0	\$138,180	\$138,180	\$2,907,800	-\$2,907,800	\$0	\$2,907,800	-\$2,907,800	\$0	\$2,907,800	-\$2,907,800	\$0
E-1. Training	\$0	\$0	\$0	\$0	\$99,900	\$99,900	\$411,800	-\$411,800	\$0	\$411,800	-\$411,800	\$0	\$411,800	-\$411,800	\$0
E-2. Travel	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E-3. Other <i>GAP Measures(17/18) &amp;(18/19) Claims</i>	\$0	\$77,720	\$77,720	\$0	\$38,280	\$38,280	\$2,496,000	-\$2,496,000	\$0	\$2,496,000	-\$2,496,000	\$0	\$2,496,000	-\$2,496,000	\$0
<b>Total of Recurring Operational Costs</b>	<b>\$1,232,733</b>	<b>\$944,999</b>	<b>\$2,177,732</b>	<b>\$1,232,733</b>	<b>\$451,831</b>	<b>\$1,684,564</b>	<b>\$7,235,784</b>	<b>-\$6,334,083</b>	<b>\$901,701</b>	<b>\$7,235,781</b>	<b>-\$6,334,080</b>	<b>\$901,701</b>	<b>\$7,235,781</b>	<b>-\$6,334,080</b>	<b>\$901,701</b>
F. Additional Tangible Benefits:		\$0			\$0			\$0		\$0			\$0		\$0
F-1. <i>Specify</i>		\$0			\$0			\$0		\$0			\$0		\$0
F-2. <i>Specify</i>		\$0			\$0			\$0		\$0			\$0		\$0
F-3. <i>Specify</i>		\$0			\$0			\$0		\$0			\$0		\$0
<b>Total Net Tangible Benefits:</b>		<b>(\$944,999)</b>			<b>(\$451,831)</b>			<b>\$6,334,083</b>			<b>\$6,334,080</b>			<b>\$6,334,080</b>	

CHARACTERIZATION OF PROJECT BENEFIT ESTIMATE -- CBAForm 1B			
Choose Type		Estimate Confidence	Enter % (+/-)
Detailed/Rigorous	<input checked="" type="checkbox"/>	Confidence Level	90%
Order of Magnitude	<input type="checkbox"/>	Confidence Level	
Placeholder	<input type="checkbox"/>	Confidence Level	

Department of Transportation

Construction Management Software Upgrade

CBA Form 2A Baseline Project Budget

Costs entered into each row are mutually exclusive. Insert rows for detail and modify appropriation categories as necessary, but do not remove any of the provided project cost elements. Reference vendor quotes in the Item Description where applicable. Include only one-time project costs in this table. Include any recurring costs in CBA Form 1A.

			CBA Form 2A Baseline Project Budget																		
			FY2017-18			FY2018-19			FY2019-20			FY2020-21			FY2021-22			TOTAL			
			\$ -			\$ 1,293,973			\$ 800,806			\$ -			\$ -			\$ -			\$ 2,094,779
Item Description <i>(remove guidelines and annotate entries here)</i>	Project Cost Element	Appropriation Category	Current & Previous Years Project-Related Cost	YR 1 Base Budget			YR 2 Base Budget			YR 3 Base Budget			YR 4 Base Budget			YR 5 Base Budget			TOTAL		
				YR 1 #	YR 1 LBR		YR 2 #	YR 2 LBR		YR 3 #	YR 3 LBR		YR 4 #	YR 4 LBR		YR 5 #	YR 5 LBR				
Costs for all state employees working on the project.	FTE	S&B	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ -	
Staffing costs for personnel using Time & Expense.	Staff Augmentation	Contracted Services	\$ -	0.00	\$ 133,333	\$ -	0.00	\$ 66,666	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ -	\$ 199,999
Project management personnel and related deliverables.	Project Management	Contracted Services	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ -	\$ -
Project oversight to include Independent Verification & Validation (IV&V) personnel and related deliverables.	Project Oversight	Contracted Services	\$ -	0.00	\$ 157,920	\$ -	0.00	\$ 78,960	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ -	\$ 236,880
Staffing costs for all professional services not included in other categories.	Consultants/Contractors	Contracted Services	\$ -	0.00	\$ 121,000	\$ -	0.00	\$ 121,000	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ -	\$ 242,000
Separate requirements analysis and feasibility study procurements.	Project Planning/Analysis	Contracted Services	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
Commercial software purchases and licensing costs.	Commercial Software	Expense	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
Professional services with fixed-price costs (i.e. software development, installation, project documentation)	Project Deliverables	Contracted Services	\$ -		\$ 881,720	\$ -		\$ 434,280	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ 1,316,000
All first-time training costs associated with the project.	Training	Contracted Services	\$ -		\$ -	\$ -		\$ 99,900	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ 99,900
Include the quote received from the data center provider for project equipment and services. Only include one-time project costs in this row. Recurring, project-related data center costs are included in CBA Form 1A.	Data Center Services - One Time Costs	Data Center Category	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
Other contracted services not included in other categories.	Other Services	Contracted Services	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
Include costs for non-state data center equipment required by the project and the proposed solution (insert additional rows as needed for detail)	Equipment	Expense	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
Include costs associated with leasing space for project personnel.	Leased Space	Expense	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
Other project expenses not included in other categories.	Other Expenses	Expense	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>			\$ -	0.00	\$ 1,293,973	\$ -	0.00	\$ 800,806	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ -	\$ 2,094,779

CBAForm 2 - Project Cost Analysis

Agency	<u>Department of Transportation</u>	Project	<u>Construction Management Software Upgrade</u>
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PROJECT COST SUMMARY	PROJECT COST SUMMARY (from CBAForm 2A)					TOTAL
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	
TOTAL PROJECT COSTS (*)	\$1,293,973	\$800,806	\$0	\$0	\$0	\$2,094,779
CUMULATIVE PROJECT COSTS <i>(includes Current &amp; Previous Years' Project-Related Costs)</i>	\$1,293,973	\$2,094,779	\$2,094,779	\$2,094,779	\$2,094,779	
Total Costs are carried forward to CBAForm3 Project Investment Summary worksheet.						

PROJECT FUNDING SOURCES	PROJECT FUNDING SOURCES - CBAForm 2B					TOTAL
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	
General Revenue	\$0	\$0	\$0	\$0	\$0	\$0
Trust Fund	\$2,177,431	\$1,684,264	\$883,458	\$883,458	\$883,458	\$6,512,069
Federal Match <input type="checkbox"/>	\$0	\$0	\$0	\$0	\$0	\$0
Grants <input type="checkbox"/>	\$0	\$0	\$0	\$0	\$0	\$0
Other <input type="checkbox"/> Specify	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL INVESTMENT</b>	\$2,177,431	\$1,684,264	\$883,458	\$883,458	\$883,458	\$6,512,069
<b>CUMULATIVE INVESTMENT</b>	\$2,177,431	\$3,861,695	\$4,745,153	\$5,628,611	\$6,512,069	

Characterization of Project Cost Estimate - CBAForm 2C			
Choose Type	Estimate Confidence	Enter % (+/-)	
Detailed/Rigorous	Confidence Level		
Order of Magnitude	Confidence Level		
Placeholder	Confidence Level		

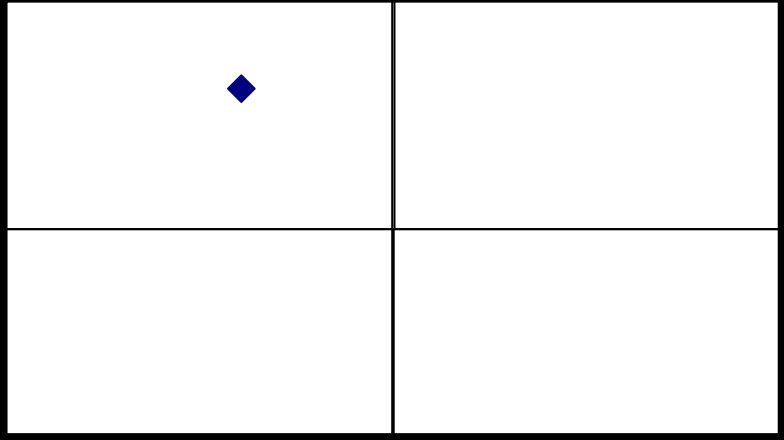
CBAForm 3 - Project Investment Summary

Agency	<u>Department of Transportation</u>	Project	<u>Construction Management Software Upgrade</u>
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COST BENEFIT ANALYSIS -- CBAForm 3A						
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	TOTAL FOR ALL YEARS
Project Cost	\$1,293,973	\$800,806	\$0	\$0	\$0	\$2,094,779
Net Tangible Benefits	(\$944,999)	(\$451,831)	\$6,334,083	\$6,334,080	\$6,334,080	\$17,605,413
Return on Investment	(\$2,238,972)	(\$1,252,637)	\$6,334,083	\$6,334,080	\$6,334,080	\$15,510,634
Year to Year Change in Program Staffing	8	8	0	0	0	

RETURN ON INVESTMENT ANALYSIS -- CBAForm 3B		
Payback Period (years)	2 5/9	Payback Period is the time required to recover the investment costs of the project.
Breakeven Fiscal Year	2019-20	Fiscal Year during which the project's investment costs are recovered.
Net Present Value (NPV)	\$12,714,380	NPV is the present-day value of the project's benefits less costs over the project's lifecycle.
Internal Rate of Return (IRR)	97.18%	IRR is the project's rate of return.

Investment Interest Earning Yield -- CBAForm 3C					
Fiscal Year	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Cost of Capital	1.94%	2.07%	3.18%	4.32%	4.85%

	B	C	D	E	F	G	H
3	<b>Project</b>		<i>Construction Management Software Upgrade</i>				
4							
5	<b>Agency</b>		<i>Department of Transportation</i>				
6	<b>FY 2017-18 LBR Issue Code:</b>			<b>FY 2017-18 LBR Issue Title:</b>			
7	<i>36344C0</i>			<i>Construction Management Software</i>			
8	<b>Risk Assessment Contact Info (Name, Phone #, and E-mail Address):</b>						
9	<i>Steve Carter 850-414-4144 steve.carter@dot.state.fl.us</i>						
10	<b>Executive Sponsor</b>		<i>Brain Blanchard</i>				
11	<b>Project Manager</b>		<i>David Sadler</i>				
12	<b>Prepared By</b>		<i>Steve Carter</i>			<i>9/1/2016</i>	
14	<b>Risk Assessment Summary</b>						
15							
16	<b>Business Strategy</b>						
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30	<b>Level of Project Risk</b>						
31	<b>Least Risk</b>					<b>Most Risk</b>	
32							
34	<b>Project Risk Area Breakdown</b>						
35	<b>Risk Assessment Areas</b>						<i>Risk Exposure</i>
36	<b>Strategic Assessment</b>						<b>LOW</b>
37							
38	<b>Technology Exposure Assessment</b>						<b>LOW</b>
39							
40	<b>Organizational Change Management Assessment</b>						<b>LOW</b>
41							
42	<b>Communication Assessment</b>						<b>LOW</b>
43							
44	<b>Fiscal Assessment</b>						<b>MEDIUM</b>
45							
46	<b>Project Organization Assessment</b>						<b>MEDIUM</b>
47							
48	<b>Project Management Assessment</b>						<b>MEDIUM</b>
49							
50	<b>Project Complexity Assessment</b>						<b>MEDIUM</b>
51							
52							
53	<b>Overall Project Risk</b>						<b>MEDIUM</b>

	B	C	D	E
1	Agency: Department of Transportation		Project: Construction Management Software Upgrade	
3	Section 1 -- Strategic Area			
4	#	Criteria	Values	Answer
5	1.01	Are project objectives clearly aligned with the agency's legal mission?	0% to 40% -- Few or no objectives aligned	81% to 100% -- All or nearly all objectives aligned
6			41% to 80% -- Some objectives aligned	
7			81% to 100% -- All or nearly all objectives aligned	
8	1.02	Are project objectives clearly documented and understood by all stakeholder groups?	Not documented or agreed to by stakeholders	Documented with sign-off by stakeholders
9			Informal agreement by stakeholders	
10			Documented with sign-off by stakeholders	
11	1.03	Are the project sponsor, senior management, and other executive stakeholders actively involved in meetings for the review and success of the project?	Not or rarely involved	Project charter signed by executive sponsor and executive team actively engaged in steering committee meetings
12			Most regularly attend executive steering committee meetings	
13			Project charter signed by executive sponsor and executive team actively engaged in steering committee meetings	
14	1.04	Has the agency documented its vision for how changes to the proposed technology will improve its business processes?	Vision is not documented	Vision is completely documented
15			Vision is partially documented	
16			Vision is completely documented	
17	1.05	Have all project business/program area requirements, assumptions, constraints, and priorities been defined and documented?	0% to 40% -- Few or none defined and documented	81% to 100% -- All or nearly all defined and documented
18			41% to 80% -- Some defined and documented	
19			81% to 100% -- All or nearly all defined and documented	
20	1.06	Are all needed changes in law, rule, or policy identified and documented?	No changes needed	No changes needed
21			Changes unknown	
22			Changes are identified in concept only	
23			Changes are identified and documented	
24			Legislation or proposed rule change is drafted	
25	1.07	Are any project phase or milestone completion dates fixed by outside factors, e.g., state or federal law or funding restrictions?	Few or none	Few or none
26			Some	
27			All or nearly all	
28	1.08	What is the external (e.g. public) visibility of the proposed system or project?	Minimal or no external use or visibility	Minimal or no external use or visibility
29			Moderate external use or visibility	
30			Extensive external use or visibility	
31	1.09	What is the internal (e.g. state agency) visibility of the proposed system or project?	Multiple agency or state enterprise visibility	Single agency-wide use or visibility
32			Single agency-wide use or visibility	
33			Use or visibility at division and/or bureau level only	
34	1.10	Is this a multi-year project?	Greater than 5 years	Between 1 and 3 years
35			Between 3 and 5 years	
36			Between 1 and 3 years	
37			1 year or less	

	B	C	D	E
1	<b>Agency: Department of Transportation</b>		<b>Project: Construction Management Software Upgrade</b>	
3	<b>Section 2 -- Technology Area</b>			
4	<b>#</b>	<b>Criteria</b>	<b>Values</b>	<b>Answer</b>
5	2.01	Does the agency have experience working with, operating, and supporting the proposed technical solution in a production environment?	Read about only or attended conference and/or vendor presentation	Supported production system 1 year to 3 years
6			Supported prototype or production system less than 6 months	
7			Supported production system 6 months to 12 months	
8			Supported production system 1 year to 3 years	
9			Installed and supported production system more than 3 years	
10	2.02	Does the agency's internal staff have sufficient knowledge of the proposed technical solution to implement and operate the new system?	External technical resources will be needed for implementation and operations	External technical resources will be needed through implementation only
11			External technical resources will be needed through implementation only	
12			Internal resources have sufficient knowledge for implementation and operations	
13	2.03	Have all relevant technical alternatives/ solution options been researched, documented and considered?	No technology alternatives researched	All or nearly all alternatives documented and considered
14			Some alternatives documented and considered	
15			All or nearly all alternatives documented and considered	
16	2.04	Does the proposed technical solution comply with all relevant agency, statewide, or industry technology standards?	No relevant standards have been identified or incorporated into proposed technology	Proposed technology solution is fully compliant with all relevant agency, statewide, or industry standards
17			Some relevant standards have been incorporated into the proposed technology	
18			Proposed technology solution is fully compliant with all relevant agency, statewide, or industry standards	
19	2.05	Does the proposed technical solution require significant change to the agency's existing technology infrastructure?	Minor or no infrastructure change required	Minor or no infrastructure change required
20			Moderate infrastructure change required	
21			Extensive infrastructure change required	
22			Complete infrastructure replacement	
23	2.06	Are detailed hardware and software capacity requirements defined and documented?	Capacity requirements are not understood or defined	Capacity requirements are based on historical data and new system design specifications and performance requirements
24			Capacity requirements are defined only at a conceptual level	
25			Capacity requirements are based on historical data and new system design specifications and performance requirements	



	B	C	D	E
1	<b>Agency: Department of Transportation</b>		<b>Project: Construction Management Software Upgrade</b>	
3	<b>Section 3 -- Organizational Change Management Area</b>			
4	<b>#</b>	<b>Criteria</b>	<b>Values</b>	<b>Answer</b>
5	3.01	What is the expected level of organizational change that will be imposed within the agency if the project is successfully implemented?	Extensive changes to organization structure, staff or business processes	Minimal changes to organization structure, staff or business processes structure
6			Moderate changes to organization structure, staff or business processes	
7			Minimal changes to organization structure, staff or business processes structure	
8	3.02	Will this project impact essential business processes?	Yes	No
9			No	
10	3.03	Have all business process changes and process interactions been defined and documented?	0% to 40% -- Few or no process changes defined and documented	81% to 100% -- All or nearly all processes defined and documented
11			41% to 80% -- Some process changes defined and documented	
12			81% to 100% -- All or nearly all processes defined and documented	
13	3.04	Has an Organizational Change Management Plan been approved for this project?	Yes	Yes
14			No	
15	3.05	Will the agency's anticipated FTE count change as a result of implementing the project?	Over 10% FTE count change	Less than 1% FTE count change
16			1% to 10% FTE count change	
17			Less than 1% FTE count change	
18	3.06	Will the number of contractors change as a result of implementing the project?	Over 10% contractor count change	Less than 1% contractor count change
19			1 to 10% contractor count change	
20			Less than 1% contractor count change	
21	3.07	What is the expected level of change impact on the citizens of the State of Florida if the project is successfully implemented?	Extensive change or new way of providing/receiving services or information)	Minor or no changes
22			Moderate changes	
23			Minor or no changes	
24	3.08	What is the expected change impact on other state or local government agencies as a result of implementing the project?	Extensive change or new way of providing/receiving services or information	Minor or no changes
25			Moderate changes	
26			Minor or no changes	
27	3.09	Has the agency successfully completed a project with similar organizational change requirements?	No experience/Not recently (>5 Years)	Recently completed project with similar change requirements
28			Recently completed project with fewer change requirements	
29			Recently completed project with similar change requirements	
30			Recently completed project with greater change requirements	

	B	C	D	E
1	Agency: Agency Name		Project: Project Name	
3	<b>Section 4 -- Communication Area</b>			
4	#	Criteria	Value Options	Answer
5	4.01	Has a documented Communication Plan been approved for this project?	Yes	Yes
6			No	
7	4.02	Does the project Communication Plan promote the collection and use of feedback from management, project team, and business stakeholders (including end users)?	Negligible or no feedback in Plan	Proactive use of feedback in Plan
8			Routine feedback in Plan	
9			Proactive use of feedback in Plan	
10	4.03	Have all required communication channels been identified and documented in the Communication Plan?	Yes	Yes
11			No	
12	4.04	Are all affected stakeholders included in the Communication Plan?	Yes	Yes
13			No	
14	4.05	Have all key messages been developed and documented in the Communication Plan?	Plan does not include key messages	Some key messages have been developed
15			Some key messages have been developed	
16			All or nearly all messages are documented	
17	4.06	Have desired message outcomes and success measures been identified in the Communication Plan?	Plan does not include desired messages outcomes and success measures	Success measures have been developed for some messages
18			Success measures have been developed for some messages	
19			All or nearly all messages have success measures	
20	4.07	Does the project Communication Plan identify and assign needed staff and resources?	Yes	Yes
21			No	

	B	C	D	E
1	Agency: Department of Transportation		Project: Construction Management Software Upgrade	
3	Section 5 -- Fiscal Area			
4	#	Criteria	Values	Answer
5	5.01	Has a documented Spending Plan been approved for the entire project lifecycle?	Yes	Yes
6			No	
7	5.02	Have all project expenditures been identified in the Spending Plan?	0% to 40% -- None or few defined and documented	81% to 100% -- All or nearly all defined and documented
8			41% to 80% -- Some defined and documented	
9			81% to 100% -- All or nearly all defined and documented	
10	5.03	What is the estimated total cost of this project over its entire lifecycle?	Unknown	Between \$2 M and \$10 M
11			Greater than \$10 M	
12			Between \$2 M and \$10 M	
13			Between \$500K and \$1,999,999	
14			Less than \$500 K	
15	5.04	Is the cost estimate for this project based on quantitative analysis using a standards-based estimation model?	Yes	Yes
16			No	
17	5.05	What is the character of the cost estimates for this project?	Detailed and rigorous (accurate within ±10%)	Detailed and rigorous (accurate within ±10%)
18			Order of magnitude – estimate could vary between 10-100%	
19			Placeholder – actual cost may exceed estimate by more than 100%	
20	5.06	Are funds available within existing agency resources to complete this project?	Yes	No
21			No	
22	5.07	Will/should multiple state or local agencies help fund this project or system?	Funding from single agency	Funding from single agency
23			Funding from local government agencies	
24			Funding from other state agencies	
25	5.08	If federal financial participation is anticipated as a source of funding, has federal approval been requested and received?	Neither requested nor received	Not applicable
26			Requested but not received	
27			Requested and received	
28			Not applicable	
29	5.09	Have all tangible and intangible benefits been identified and validated as reliable and achievable?	Project benefits have not been identified or validated	All or nearly all project benefits have been identified and validated
30			Some project benefits have been identified but not validated	
31			Most project benefits have been identified but not validated	
32			All or nearly all project benefits have been identified and validated	
33	5.10	What is the benefit payback period that is defined and documented?	Within 1 year	Within 3 years
34			Within 3 years	
35			Within 5 years	
36			More than 5 years	
37			No payback	
38	5.11	Has the project procurement strategy been clearly determined and agreed to by affected stakeholders?	Procurement strategy has not been identified and documented	Stakeholders have reviewed and approved the proposed procurement strategy
39			Stakeholders have not been consulted re: procurement strategy	
40			Stakeholders have reviewed and approved the proposed procurement strategy	
41	5.12	What is the planned approach for acquiring necessary products and solution services to successfully complete the project?	Time and Expense (T&E)	Combination FFP and T&E
42			Firm Fixed Price (FFP)	
43			Combination FFP and T&E	
44	5.13	What is the planned approach for procuring hardware and software for the project?	Timing of major hardware and software purchases has not yet been determined	Purchase all hardware

	B	C	D	E
1	Agency: Department of Transportation		Project: Construction Management Software Upgrade	
3	Section 5 -- Fiscal Area			
4	#	Criteria	Values	Answer
45			Purchase all hardware and software at start of project to take advantage of one-time discounts	and software at start of project to take advantage of one-time discounts
46			Just-in-time purchasing of hardware and software is documented in the project schedule	
47	5.14	Has a contract manager been assigned to this project?	No contract manager assigned	Contract manager assigned is not the procurement manager or the project manager
48			Contract manager is the procurement manager	
49			Contract manager is the project manager	
50			Contract manager assigned is not the procurement manager or the project manager	
51	5.15	Has equipment leasing been considered for the project's large-scale computing purchases?	Yes	Yes
52			No	
53	5.16	Have all procurement selection criteria and outcomes been clearly identified?	No selection criteria or outcomes have been identified	All or nearly all selection criteria and expected outcomes have been defined and documented
54			Some selection criteria and outcomes have been defined and documented	
55			All or nearly all selection criteria and expected outcomes have been defined and documented	
56	5.17	Does the procurement strategy use a multi-stage evaluation process to progressively narrow the field of prospective vendors to the single, best qualified candidate?	Procurement strategy has not been developed	Multi-stage evaluation not planned/used for procurement
57			Multi-stage evaluation not planned/used for procurement	
58			Multi-stage evaluation and proof of concept or prototype planned/used to select best qualified vendor	
59	5.18	For projects with total cost exceeding \$10 million, did/will the procurement strategy require a proof of concept or prototype as part of the bid response?	Procurement strategy has not been developed	Not applicable
60			No, bid response did/will not require proof of concept or prototype	
61			Yes, bid response did/will include proof of concept or prototype	
62			Not applicable	
63				
64				
65				
66				

	B	C	D	E
1	Agency: Department of Transportation		Project: Construction Management Software Upgrade	
3	Section 6 -- Project Organization Area			
4	#	Criteria	Values	Answer
5	6.01	Is the project organization and governance structure clearly defined and documented within an approved project plan?	Yes	Yes
6			No	
7	6.02	Have all roles and responsibilities for the executive steering committee been clearly identified?	None or few have been defined and documented	All or nearly all have been defined and documented
8			Some have been defined and documented	
9			All or nearly all have been defined and documented	
10	6.03	Who is responsible for integrating project deliverables into the final solution?	Not yet determined	Agency
11			Agency	
12			System Integrator (contractor)	
13	6.04	How many project managers and project directors will be responsible for managing the project?	3 or more	1
14			2	
15			1	
16	6.05	Has a project staffing plan specifying the number of required resources (including project team, program staff, and contractors) and their corresponding roles, responsibilities and needed skill levels been developed?	Needed staff and skills have not been identified	Some or most staff roles and responsibilities and needed skills have been identified
17			Some or most staff roles and responsibilities and needed skills have been identified	
18			Staffing plan identifying all staff roles, responsibilities, and skill levels have been documented	
19	6.06	Is an experienced project manager dedicated fulltime to the project?	No experienced project manager assigned	No, project manager assigned more than half-time, but less than full-time to project
20			No, project manager is assigned 50% or less to project	
21			No, project manager assigned more than half-time, but less than full-time to project	
22			Yes, experienced project manager dedicated full-time, 100% to project	
23	6.07	Are qualified project management team members dedicated full-time to the project	None	No, business, functional or technical experts dedicated more than half-time but less than full-time to project
24			No, business, functional or technical experts dedicated 50% or less to project	
25			No, business, functional or technical experts dedicated more than half-time but less than full-time to project	
26			Yes, business, functional or technical experts dedicated full-time, 100% to project	
27	6.08	Does the agency have the necessary knowledge, skills, and abilities to staff the project team with in-house resources?	Few or no staff from in-house resources	Completely staffed from in-house resources
28			Half of staff from in-house resources	
29			Mostly staffed from in-house resources	
30			Completely staffed from in-house resources	
31	6.09	Is agency IT personnel turnover expected to significantly impact this project?	Minimal or no impact	Minimal or no impact
32			Moderate impact	
33			Extensive impact	
34	6.10	Does the project governance structure establish a formal change review and control board to address proposed changes in project scope, schedule, or cost?	Yes	Yes
35			No	
36	6.11	Are all affected stakeholders represented by functional manager on the change review and control board?	No board has been established	No board has been established
37			No, only IT staff are on change review and control board	
38			No, all stakeholders are not represented on the board	
39			Yes, all stakeholders are represented by functional manager	

	B	C	D	E
1	Agency: Department of Transportation		Project: Construction Management Software Upgrade	
3	Section 7 -- Project Management Area			
4	#	Criteria	Values	Answer
5	7.01	Does the project management team use a standard commercially available project management methodology to plan, implement, and control the project?	No	Yes
6			Project Management team will use the methodology selected by the systems integrator	
7			Yes	
8	7.02	For how many projects has the agency successfully used the selected project management methodology?	None	More than 3
9			1-3	
10			More than 3	
11	7.03	How many members of the project team are proficient in the use of the selected project management methodology?	None	All or nearly all
12			Some	
13			All or nearly all	
14	7.04	Have all requirements specifications been unambiguously defined and documented?	0% to 40% -- None or few have been defined and documented	81% to 100% -- All or nearly all have been defined and documented
15			41 to 80% -- Some have been defined and documented	
16			81% to 100% -- All or nearly all have been defined and documented	
17	7.05	Have all design specifications been unambiguously defined and documented?	0% to 40% -- None or few have been defined and documented	81% to 100% -- All or nearly all have been defined and documented
18			41 to 80% -- Some have been defined and documented	
19			81% to 100% -- All or nearly all have been defined and documented	
20	7.06	Are all requirements and design specifications traceable to specific business rules?	0% to 40% -- None or few are traceable	81% to 100% -- All or nearly all requirements and specifications are traceable
21			41 to 80% -- Some are traceable	
22			81% to 100% -- All or nearly all requirements and specifications are traceable	
23	7.07	Have all project deliverables/services and acceptance criteria been clearly defined and documented?	None or few have been defined and documented	Some deliverables and acceptance criteria have been defined and documented
24			Some deliverables and acceptance criteria have been defined and documented	
25			All or nearly all deliverables and acceptance criteria have been defined and documented	
26	7.08	Is written approval required from executive sponsor, business stakeholders, and project manager for review and sign-off of major project deliverables?	No sign-off required	Only project manager signs-off
27			Only project manager signs-off	
28			Review and sign-off from the executive sponsor, business stakeholder, and project manager are required on all major project deliverables	
29	7.09	Has the Work Breakdown Structure (WBS) been defined to the work package level for all project activities?	0% to 40% -- None or few have been defined to the work package level	41 to 80% -- Some have been defined to the work package level
30			41 to 80% -- Some have been defined to the work package level	
31			81% to 100% -- All or nearly all have been defined to the work package level	
32	7.10	Has a documented project schedule been approved for the entire project lifecycle?	Yes	No
33			No	
34	7.11	Does the project schedule specify all project tasks, go/no-go decision points (checkpoints),	Yes	No

	B	C	D	E
1	Agency: Department of Transportation		Project: Construction Management Software Upgrade	
3	Section 7 -- Project Management Area			
4	#	Criteria	Values	Answer
35		critical milestones, and resources?	No	No
36	7.12	Are formal project status reporting processes documented and in place to manage and control this project?	No or informal processes are used for status reporting	Project team uses formal processes
37			Project team uses formal processes	
38			Project team and executive steering committee use formal status reporting processes	
39	7.13	Are all necessary planning and reporting templates, e.g., work plans, status reports, issues and risk management, available?	No templates are available	Some templates are available
40			Some templates are available	
41			All planning and reporting templates are available	
42	7.14	Has a documented Risk Management Plan been approved for this project?	Yes	No
43			No	
44	7.15	Have all known project risks and corresponding mitigation strategies been identified?	None or few have been defined and documented	Some have been defined and documented
45			Some have been defined and documented	
46			All known risks and mitigation strategies have been defined	
47	7.16	Are standard change request, review and approval processes documented and in place for this project?	Yes	Yes
48			No	
49	7.17	Are issue reporting and management processes documented and in place for this project?	Yes	Yes
50			No	

	B	C	D	E
1	Agency: Department of Transportation		Project: Construction Management Software Upgrade	
2				
3	<b>Section 8 -- Project Complexity Area</b>			
4	#	Criteria	Values	Answer
5	8.01	How complex is the proposed solution compared to the current agency systems?	Unknown at this time	Similar complexity
6			More complex	
7			Similar complexity	
8			Less complex	
9	8.02	Are the business users or end users dispersed across multiple cities, counties, districts, or regions?	Single location	More than 3 sites
10			3 sites or fewer	
11			More than 3 sites	
12	8.03	Are the project team members dispersed across multiple cities, counties, districts, or regions?	Single location	Single location
13			3 sites or fewer	
14			More than 3 sites	
15	8.04	How many external contracting or consulting organizations will this project require?	No external organizations	No external organizations
16			1 to 3 external organizations	
17			More than 3 external organizations	
18	8.05	What is the expected project team size?	Greater than 15	9 to 15
19			9 to 15	
20			5 to 8	
21			Less than 5	
22	8.06	How many external entities (e.g., other agencies, community service providers, or local government entities) will be impacted by this project or system?	More than 4	None
23			2 to 4	
24			1	
25			None	
26	8.07	What is the impact of the project on state operations?	Business process change in single division or bureau	Business process change in single division or bureau
27			Agency-wide business process change	
28			Statewide or multiple agency business process change	
29	8.08	Has the agency successfully completed a similarly-sized project when acting as Systems Integrator?	Yes	Yes
30			No	
31	8.09	What type of project is this?	Infrastructure upgrade	Implementation requiring software development or purchasing commercial off the shelf (COTS) software
32			Implementation requiring software development or purchasing commercial off the shelf (COTS) software	
33			Business Process Reengineering	
34			Combination of the above	
35	8.10	Has the project manager successfully managed similar projects to completion?	No recent experience	Greater size and complexity
36			Lesser size and complexity	
37			Similar size and complexity	
38			Greater size and complexity	
39	8.11	Does the agency management have experience governing projects of equal or similar size and complexity to successful completion?	No recent experience	Similar size and complexity
40			Lesser size and complexity	
41			Similar size and complexity	
42			Greater size and complexity	



Acronym	Definition
AASHTO	American Association of State Highway Transportation Officials
AASHTOWare	AASHTO Software Product Names
AD	Active Directory
AST	Agency for State Technology
CCEI	Consultant Construction Engineering and Inspection
CCT	Change Control Team
CIO	Chief Information Officer
COBOL	Common Business Oriented Language
COTS	Commercial-Off-The-Shelf
CPU	Control Processing Unit
EED	Electronic Estimates Disbursement System
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FTC	Florida Transportation Commission
GB	Gigabyte
GUI	Graphical User Interface
ID	Identity
IT	Information Technology
LDAP	Lightweight Directory Access Protocol
MEM	Memory
PMO	Project Management Office
R2	Release 2
RAM	Random Access Memory
SP2	Service Pack 2
SPU	Secure Processing Unit
SQL	Structured Query Language
SSL	Secure Socket Layer
UI	User Interface
VB6	Visual Basic 6

# SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

For Fiscal Year 2017-18



October 14, 2016

FLORIDA DEPARTMENT OF TRANSPORTATION

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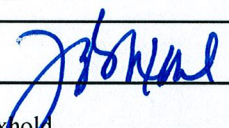
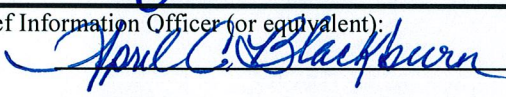
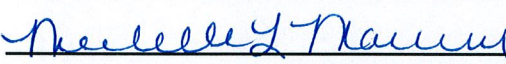
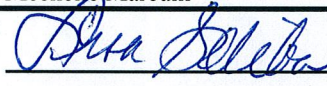
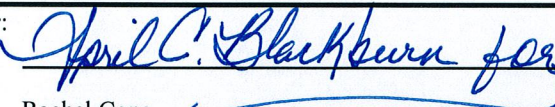
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**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

**I. Schedule IV-B Cover Sheet**

Schedule IV-B Cover Sheet and Agency Project Approval	
Agency: Department of Transportation	Schedule IV-B Submission Date: October 14, 2016
Project Name: Work Program Integration Initiative	Is this project included in the Agency's LRPP? ____ Yes <input checked="" type="checkbox"/> No
FY 2017-18 LBR Issue Code: 36233C0	FY 2017-18 LBR Issue Title: Transportation Work Program Integration Initiative
Agency Contact for Schedule IV-B (Name, Phone #, and E-mail address): Lisa Saliba, (850) 414-4649, Lisa.Saliba@dot.state.fl.us	
AGENCY APPROVAL SIGNATURES	
I am submitting the attached Schedule IV-B in support of our legislative budget request. I have reviewed the estimated costs and benefits documented in the Schedule IV-B and believe the proposed solution can be delivered within the estimated time for the estimated costs to achieve the described benefits. I agree with the information in the attached Schedule IV-B.	
Agency Head: 	Date: 10-12-16
Printed Name: Jim Boxhold	
Agency Chief Information Officer (or equivalent): 	Date: 10-12-16
Printed Name: April Blackburn	
Budget Officer: 	Date: 10/12/16
Printed Name: Mechelle Marcum	
Planning Officer: 	Date: 10/12/16
Printed Name: Lisa Saliba	
Project Sponsor: 	Date: 10-12-16
Printed Name: Rachel Cone	
Schedule IV-B Preparers (Name, Phone #, and E-mail address):	
Business Need:	Lisa Saliba, 414-4649, Lisa.Saliba@dot.state.fl.us
Cost Benefit Analysis:	Greg Patterson, 414-4637, Greg.Patterson@dot.state.fl.us
Risk Analysis:	Greg Patterson, 414-4637, Greg.Patterson@dot.state.fl.us
Technology Planning:	Brian Toppel, 410-5566, Brian.Toppel@dot.state.fl.us
Project Planning:	Tom McCullion, 445-9065, Tom.McCullion@dot.state.fl.us

**Lee, Beth**

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**From:** Cone, Rachel  
**Sent:** Thursday, October 13, 2016 7:48 AM  
**To:** Lee, Beth  
**Cc:** Blackburn, April  
**Subject:** Signature authority

I delegate signature authority to April Blackburn for the purposes of signing the Schedule IVB for the WPIL.

Sent from my iPhone

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### General Guidelines

The Schedule IV-B contains more detailed information on information technology (IT) projects than is included in the D-3A issue narrative submitted with an agency's Legislative Budget Request (LBR). The Schedule IV-B compiles the analyses and data developed by the agency during the initiation and planning phases of the proposed IT project. A Schedule IV-B must be completed for all IT projects when the total cost (all years) of the project is \$1 million or more.

Schedule IV-B is not required for requests to:

- Continue existing hardware and software maintenance agreements,
- Renew existing software licensing agreements that are similar to the service level agreements currently in use, or
- Replace desktop units ("refresh") with new technology that is similar to the technology currently in use.
- Contract only for the completion of a business case or feasibility study for the replacement or remediation of an existing IT system or the development of a new IT system.

### Documentation Requirements

The type and complexity of an IT project determines the level of detail an agency should submit for the following documentation requirements:

- Background and Strategic Needs Assessment
- Baseline Analysis
- Proposed Business Process Requirements
- Functional and Technical Requirements
- Success Criteria
- Benefits Realization
- Cost Benefit Analysis
- Major Project Risk Assessment
- Risk Assessment Summary
- Current Information Technology Environment
- Current Hardware/Software Inventory
- Proposed Technical Solution
- Proposed Solution Description
- Project Management Planning

Compliance with s. 216.023(4)(a)10, F.S. is also required if the total cost for all years of the project is \$10 million or more.

A description of each IV-B component is provided within this general template for the benefit of the Schedule IV-B authors. These descriptions and this guidelines section should be removed prior to the submission of the document.

## **SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

Sections of the Schedule IV-B may be authored in software applications other than MS Word, such as MS Project and Visio. Submission of these documents in their native file formats is encouraged for proper analysis.

The Schedule IV-B includes two required templates, the Cost Benefit Analysis and Major Project Risk Assessment workbooks. For all other components of the Schedule IV-B, agencies should submit their own planning documents and tools to demonstrate their level of readiness to implement the proposed IT project. It is also necessary to assemble all Schedule IV-B components into one PDF file for submission to the Florida Fiscal Portal and to ensure that all personnel can open component files and that no component of the Schedule has been omitted.

Submit all component files of the agency's Schedule IV-B in their native file formats to the Office of Policy and Budget and the Legislature at [IT@LASPBS.STATE.FL.US](mailto:IT@LASPBS.STATE.FL.US). Reference the D-3A issue code and title in the subject line.



## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### II. Schedule IV-B Business Case – Strategic Needs Assessment

#### A. Background and Strategic Needs Assessment

##### 1. Business Need

The Florida Department of Transportation (FDOT) manages over \$10 billion a year in transportation projects in various stages of the project lifecycle. Functional activities include managing over 9,000 active contracts valued at over \$11 billion, planning for over \$40 billion in future commitments, implementing \$10 billion in current year commitments and monitoring transportation systems and infrastructure performance for critical information inputs into planning activities. These activities are spread across the broad spectrum of transportation modes including: roads, bridges, airports, seaports, rail systems, spaceports, bus transit, and bicycle and pedestrian facilities. Not only does FDOT contribute to Florida's economy through infrastructure investments, it also contributes to the traveling public's quality of life and supports the movement of commercial goods and services.

FDOT is entrusted by Florida's taxpayers to deliver a safe, viable and balanced transportation system serving all regions of the state and to assure the compatibility of all components (s. 334.044, F.S.). FDOT works diligently to protect the public's interest through established policies, procedures, technology systems and processes. The Work Program Administration (WPA) system supports core activities related to planning for future projects, programming projects within resources, implementing planned commitments, managing and monitoring projects and associated contracts and measuring performance for compliance with legal mandates. It is also the tool for reporting the five year list of projects which FDOT plans to undertake (s. 339.135, F.S.) and is used to manage the projects in their various lifecycle states. (See Exhibit 1 below).

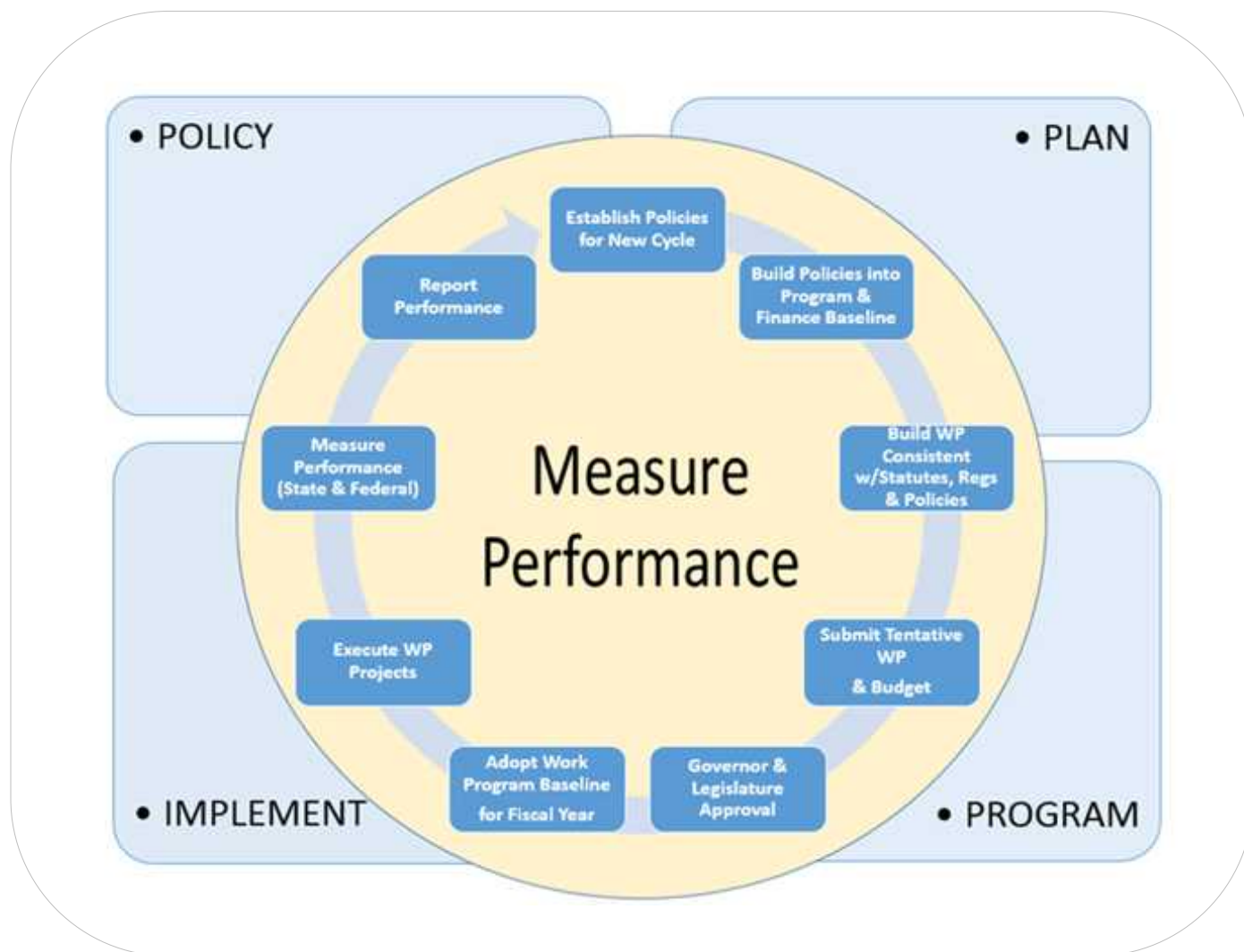
The Financial Management (FM<sup>1</sup>) suite of systems and the 150 plus system interfaces present tangible risks to the FDOT's ability to continue supporting its core operations essential to managing its multi-billion dollar transportation business. This suite is a complex aggregation of business processes and supporting systems which are disjointed and brittle, are costly to maintain, and demand significant manual intervention to meet new business needs. Its intricacies often obscure the usefulness of data resulting in duplication in other systems. The systems are supported by a small team of functional experts, who each possess singular institutional knowledge and are reaching retirement, which increases the risks and potentially shortens these systems useful lives. It is imperative that FDOT continues efforts to develop an enterprise-based solution with a consolidated information base and the flexibility to meet the organization's requirements in order to mitigate impacts to potential project production or financial failures.

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<sup>1</sup> A complete glossary of terms can be found in Appendix H.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### Exhibit 1: Work Program Lifecycle



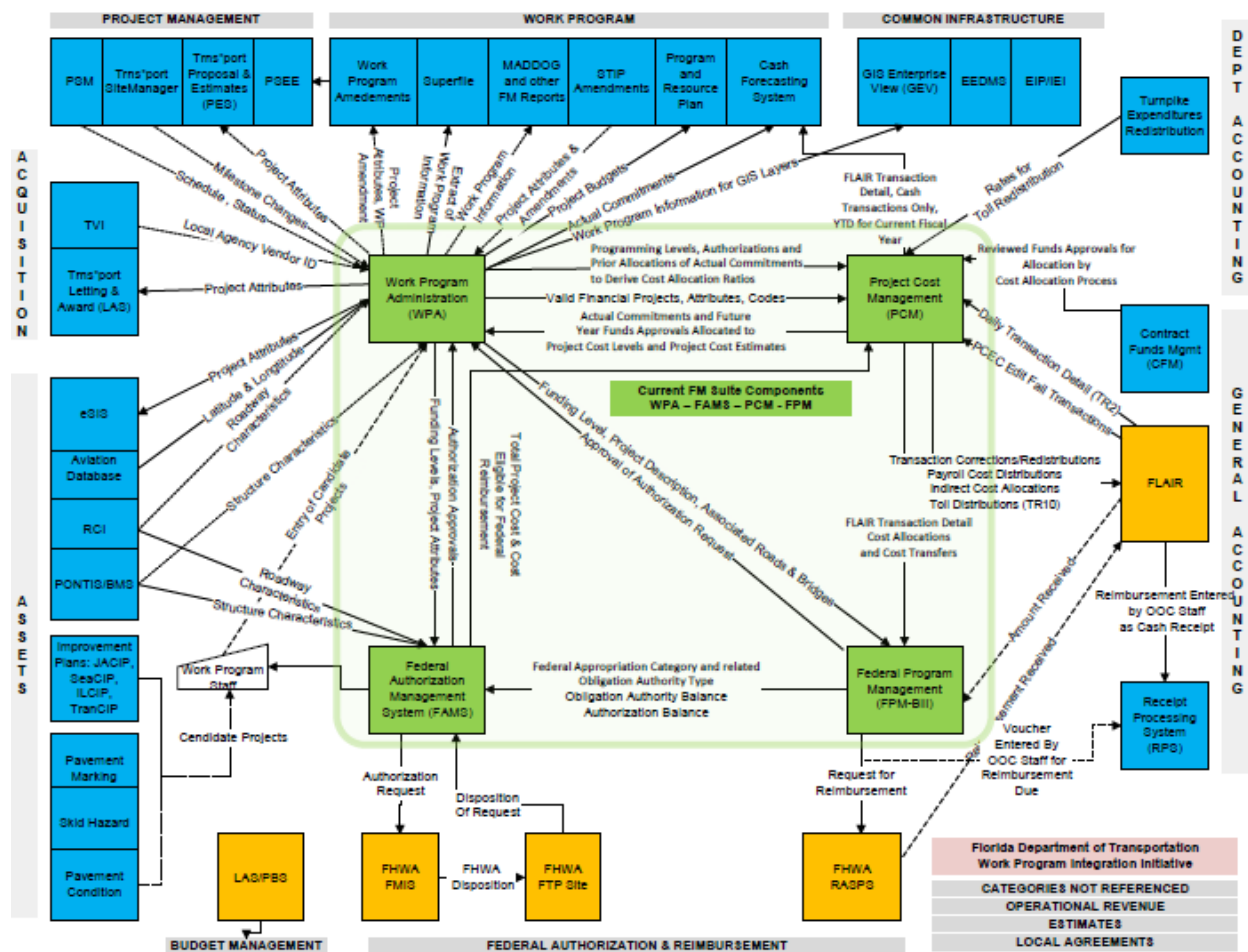
The WPA system is one of four major systems used to support transportation projects and their financial lifecycle. The other primary systems are the Federal Authorization Management System (FAMS), the Federal Program Management (FPM) system and the Project Cost Management system (PCM). These support systems and related business processes are referred to as the FM suite of systems and are critical to carrying out FDOT's core business functions as every line of business uses some combination of or all components.

The FM Suite has been modified over time in response to federal and state laws, internal and external partner business needs and changes in technology solutions and standards. The result is a collection of systems requiring multiple interfaces, manual intervention where processes are insufficient, intensive data management and expert support in order to function together (See Exhibit 2 below).

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

Given its enterprise role, the FM suite of systems must be capable of supporting thousands of users, must be able to substantiate fiscal accountability and guarantee fiscal integrity, and be able to validate performance against established measures. It must also be flexible enough to interface with internal and external partner systems. The graphic below depicts (some but not all) of the major software applications that support the FDOT business processes. The four centered applications labeled “Current FM Suite Components,” are the core applications of the Transportation Finance Lifecycle (TFLC). This Suite interfaces with internal FDOT applications and applications external to the department. The external applications include connectivity to the Department of Financial Services (DFS) and the Federal Highway Administration (FHWA). The combination of these applications encompasses a great part of the FDOT software platform.

**Exhibit 2: Current Business Process Map and Applications Architecture**



The operating environment is increasingly more complex, difficult to maintain and riddled with potential points of failure. To address risks and mitigate potential failures, FDOT staff analyzed and identified challenges which could disrupt systems and compromise ongoing operations. Immediate action was imperative as replacement of such a complex set of systems would take

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

several years. Discounting the situation and waiting for the brittle architecture to break compromises existing commitments totaling over \$11 billion, future project commitments of over \$10 billion per year, as well as the public trust placed in FDOT.

The Work Program Integration Initiative (WPII) was launched to immediately consider technology alternatives to the current situation and to address the following risks:

- Discrete Systems Needing Integration  
Various applications manage duplicative data and require manual intervention to reconcile and convert the data into strategic decision-making information. Aggregating and correlating data across systems is time consuming, introduces additional risk of error and is dependent upon a few expert staff. This heightens the risk of information inaccuracy and prevents timely data retrieval.
- Externally Mandated Changes  
Systems have been modified over the years due to changes to or the implementation of new state statutes, federal regulations and mandates. These changes have triggered changes to business rules and processes, systems and/or system interfaces. Maintaining consistent business rules across these systems is difficult at best and creates the opportunity for missing, conflicting and inaccurate data.
  - New business processes create new lines of code. The existing programming logic does not clearly identify the business rules being implemented.
  - Lack of system documentation exists across the enterprise, creating failures in system updates and maintenance. This increases risks associated with succession planning and training due to near-term retirement of long-term subject matter experts.
  - Redundant processes and 'work-arounds' create inefficiencies by requiring additional reconciliation steps. These steps create increased data storage costs and data retrieval response times.
  - System architectures have evolved over time rather than being intentionally designed and implemented.
- Institutional Knowledge  
As the primary system code is uncommon, there are few experts in the market able to make immediate contributions in the operating environment. Thus, processes and systems development projects rely on staff with long-term institutional knowledge to support daily break-fix requests, bridge gaps and manage work-around processes. This approach is not sustainable and exposes the department to risks which must be addressed to avoid triggering a financial crisis similar to the one of the late 1980s. Additionally, FDOT processes and supporting computer systems are not conducive for training the next generation of FDOT staff.
- Access to Information  
The absence of consistent, predictable and repeatable information is preventing FDOT from acting as an integrated whole and sharing information across its enterprise. Because the various operating units within FDOT do not know what information is available in other units or how it is stored, it is not shared in the most effective manner.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

WPII is in its third year of project development. The Fiscal Year 2017-18 budget request is needed to continue development of “To-Be” business processes, development of detailed business requirements sufficient for procurement, staff augmentation to support functional areas, refine project Return on Investment (ROI) calculations, support project management and change management, and development of a procurement strategy leading up to selecting a solution and systems integration services. FDOT is requesting funding to engage sufficient resources to accomplish these tasks.

### 2. Business Objectives

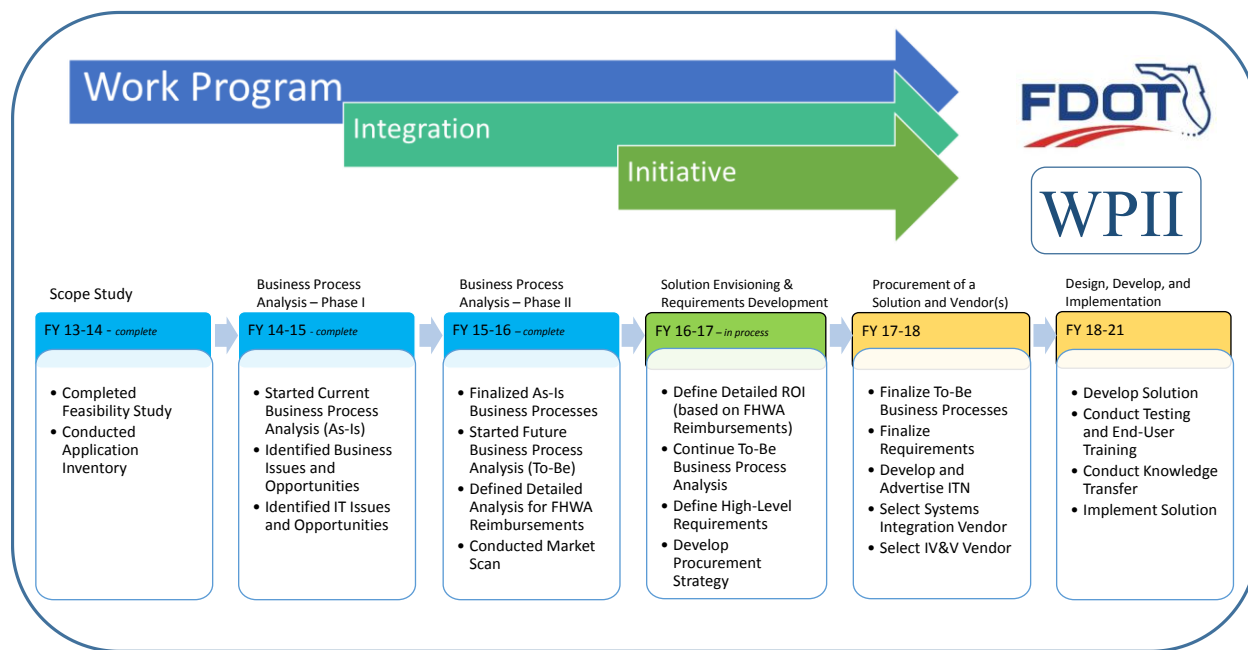
WPII is the department’s effort to re-engineer the Work Program’s business processes and leverage new technology to support the delivery of the \$40 billion, annual 5-Year Work Program. This is fundamentally a business process reengineering effort which impacts every office within the department. This project is not a technology refresh with a sole focus on upgrading the technical infrastructure. Funding this initiative is necessary to mitigate the risks identified from the Strengths/Weakness/Opportunities/Threats analysis (SWOT – Exhibit 4) and ensure FDOT’s continued successful management of the Work Program.

WPII will integrate the financial aspects of Work Program projects with key contract management information and reduce manual user interfaces between its systems. This integration and automation of information processes will ensure the department’s continued financial integrity, address changing partner demands and account for the use of vital project funding sources. New system logic will be established based on a principled set of business rules and seamlessly convert data from various sources into decision-making information to all stakeholders.

The project ultimately seeks to optimize the Work Program’s production capabilities by aligning business processes to a common set of strategic objectives and operational standards, aided by modernized system solution, which will reduce redundancy, increase efficiency and mitigate risks. The Initiative is comprised of a series of related phases (see Exhibit 3 below).

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### Exhibit 3: Funded WPII Phases



The WPII initiative seeks to enhance FDOT’s ability to meet its statutory goals and objectives for financial integrity and accountability through improved business processes and modernized technologies. The Initiative is comprised of a series of related projects.

During the first phase of the Business Process Analysis (BPA) the team completed the As-Is, or current state, business processes related to the Work Program. Following the As-Is phase, the BPA continued with the definition of the To-Be, or future state, business processes and the development of the functional and technical requirements to support the Annual Work Program and financial management functions.

The outputs of the BPA are as follows:

- A comprehensive set of transportation finance lifecycle As-Is business process documents (completed as of June 2015)
- Documented opportunities for improvement which FDOT can evaluate for implementation (completed as of June 2015)
- Strategic Articulation Map that establishes common goals and objectives for the future state processes and modernized technologies (completed as of June 2015)
- A comprehensive set of transportation finance lifecycle To-Be business process documents based on the goals and objectives presented in the Strategic Articulation Map
- A comprehensive set of functional and technical requirements which FDOT can use to identify the long-term solution for the modernized FM Suite

More information can be found in Appendix C: WPII Process Documents

Following the BPA, the WPII initiative is expected to continue with solution procurement activities and the Design, Develop and Implement phases of the FM Suite modernization.



## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

The To-Be Business Processes and High Level Requirements Deliverables will allow the project to move forward during FY 17-18.

These deliverables will address the following needs:

- Identify the business processes that are needed to support the transportation finance lifecycle into the future (known as To-Be or Future Business State)
- Identify the high-level requirements that support the To-Be Business Processes
- Development of a Request for Information or similar activity to gather industry information which will assist in identifying options available to meet high-level requirements. This information will also support the procurement process and future funding requests.
- Further focus on areas of project concern such as:
  - Florida Planning, Accounting, and Ledger Management (PALM) Transition Planning
  - Succession Planning
  - WPII Process Efficiencies
  - Identify IT System Risks

The results of the process improvements and any future system modernization efforts must allow the department to continue to meet its stated goals and objectives to deliver its projects on time and within budget.

### B. Baseline Analysis

#### 1. Current Business Processes

To maximize the project's value and achieve WPII's stated objective, the combined North Highland and FDOT project team coordinated to define an accurate project scope. Given the high number of complex business processes FDOT supports, it was imperative the team focus its efforts on defining the highest-level functions within FDOT's TFLC. These functional areas are Policy, Plan, Program, Implement and Measure. While the first four functions are sequential, the Measure "oversight" function is present throughout the TFLC, tracking FDOT's progress toward attaining goals and objectives. Some of the highest-level processes within these functional areas are characterized as follows:

- Policy - Executive-level decisions that provide a methodology to align department resources to its long-term objectives and obligations. Sub-processes include:
  - Review of the Florida Transportation Plan - The department engages its partners and establishes its policy directives and goals setting the direction for transportation for the 50 year planning horizon.
  - Development of the Strategic Intermodal System (SIS) Strategic Plan – Providing an assessment of investment needs, a project prioritization process and a finance plan based on reasonable projections of anticipated revenues
  - Inputs to Policy Development include:
    - State statutes
    - Federal regulations
    - Federal, state and local partners and stakeholders

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

- The public
    - Previous statewide and local plans.
  - Outputs from Policy Development include:
    - Guidance for transportation decisions and investments made based upon the prevailing principles of providing for the safety of the public
    - Preserving the existing transportation infrastructure
    - Enhancing economic competitiveness
  - Improving travel choices to ensure mobility
- Plan - Processes related to the planning of projects, particularly with respect to the anticipated funding and financing of the Tentative Work Program. Sub-processes include:
  - Development of the Multimodal Unfunded Needs Plan
  - Development of the SIS Cost Feasible Plan
  - Development of modal master plans (airports, seaports, rail, and transit)
  - Development of safety plans
  - Development of the Preliminary Program and Resource Plan
  - Inputs to Planning include:
    - Florida Transportation Plan
    - Policy decisions
    - Legislative bill impacts
    - Current transportation needs
  - Outputs from Planning include:
    - Project scoping and feasibility
    - Initial project cost estimating
    - Project prioritization
    - Funding allocations (Schedule A)
    - Program Targets (Schedule B)
    - 10-Year Preliminary Program and Resource Plan
- Program and Implement functional areas are closely related and have been combined in this bullet – Processes are related to aligning financial resources to planned products based on prioritized lists. This includes submission of a budget request and development of the five year work program of projects. Sub-processes include:
  - Developing the Tentative Work Program
  - Financing the Tentative Work Program
  - Adoption of the Work Program
  - Budget Allocation
  - Funding Authorization
  - Project funds approvals
  - Management and monitoring of projects and associated contracts
  - Closeout of projects and associated contracts
  - Inputs into programming and implementation processes include:
    - State statutes
    - Federal regulations



## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

- Input from federal, state and local partners and stakeholders
- The Florida Transportation Plan (FTP)
- The Cost Feasible Plan
- System plans
- Metropolitan planning organization, county and city prioritized plans
- Direct input from the public
- Outputs from programming and implementation processes include:
  - Balanced Tentative Work Program
  - Tentative Program and Resource Plans
  - Public Private Partnership financing details
  - Statewide and district program planned commitments
  - Finance Plan
  - Cash Forecast
  - Financing strategies
  - LBR
  - Adopted projects
  - Letting Plan
  - Budget Allocations
  - Adopted Finance Plan and Adopted Cash Forecast
  - Project Work Plans
  - Authorized Financial Projects
  - Approved Federal Authorization Requests
  - Local Funds Deposits
  - Advertised Contracts
  - Memo Encumbrances
  - Approve Project Funding
  - Contract funds approvals
  - Project encumbrances
  - Work Program amendments
  - Contract modifications
  - Contract funds approvals
  - Reviewed and approved invoices
  - Cost allocations
  - Funding reimbursement requests
  - Monthly Cash Forecast
  - Closing packages
- Measure - The department measures product, finances, performance and conformity with policies and goals across the Work Program Lifecycle. Lessons learned are used to improve future operations and programs. Sub-processes include:
  - Performance Monitoring
  - Performance Reporting
  - Inputs to measurement include:
    - Data from active projects

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

- Data from funds and program management
- Outputs of measurement include:
  - Florida Transportation Commission (FTC) assessment
  - Monthly Performance Report
  - Work Program reviews and results
  - Quality Assurance Review results
  - Audit Findings
  - Finance Plan and Cash Forecast variance analysis
  - Cash Management Improvement Act (CMIA) submission
  - Schedule of Expenditures for Federal Awards details

FDOT analyzed and documented the current business and technology environments’ strengths, weaknesses, opportunities and threats (SWOT). The results are captured in this graphic below.

**Exhibit 4: Strengths/Weaknesses/Opportunities/Threats (SWOT) Matrix**



## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### 2. Assumptions and Constraints

This section identifies key assumptions that may influence WPII. It also outlines potential constraints which could impact the outcome of the proposed solutions recommended as a result of the department's needs assessment project.

#### Assumptions

FDOT will continue to operate on a cash flow basis and be responsible for the agency unique functions to maximize the use of funds over time and cover existing commitments as they occur. As such, the department will continue to perform the functions required to manage budget, funding sources and cash flow concurrently.

Adequate funding and resource availability are primary drivers in the Pre-Implementation, Implementation and Maintenance phases of the department's WPII initiative.

The department will continue to satisfy the information needs and address system interface requirements with its external partners. Some of these key areas include:

- Legislative Appropriation Systems/Planning Budgeting Subsystem (LAS/PBS), the state's budgeting and appropriation subsystem, will continue to be used for developing, preparing, analyzing and evaluating agency budget requests
- The department will continue to maintain the interface to LAS/PBS for the Work Program plan of projects in addition to Legislative Budget Request submittals
- The department must continue to interact with Financial Management Information System (FMIS 5.0), the Federal Highway Administration's (FHWA) major financial information system for tracking Federal-Aid projects, to manage the obligation of federal funds to specific projects and to submit periodic billings to FHWA for the reimbursement of expended federal funds
- FDOT will continue to update its supporting applications to provide geospatial information, improvement types and other new project attributes as required by FHWA

Per s. 215.94 F.S., the Department of Financial Services (DFS), will continue to be the owner of the state of Florida's statewide accounting system (currently, Florida Accounting Information Resource (FLAIR)) and will continue to perform the accounting, financial reporting and treasury functions commonplace for modern core financial management systems

- DFS is in the process of replacing FLAIR and the Cash Management System with the Florida PALM project, which will support the general accounting and financial management needs of Florida's agencies, including: general ledger, accounts payable, accounts receivable and payroll functionality
- PALM Phase I is scheduled for deployment in FY 2020-21 and will not encompass the unique financial requirements of FDOT, meaning FDOT must continue to actively engage and collaborate with DFS prior to pre-implementation to ensure the continued functionality of approximately 50 incoming and outgoing interface points between the two agencies

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### Constraints

- Funding constraints may impact the specific timing and deployment of the proposed solutions recommended in the Detailed or High Level Requirements
- Due to the magnitude of TFLC, hiring consultant augmentations to support WPII is essential for the department's continuity of operations, however, limited resources could have an impact on the timing and scope of recommended solutions
- WPII must be able to interface with systems outside of the scope of the project, many of which are based on technology that is either outdated or considered non-strategic
- As the department continues to refine business processes and seek technological solutions in response to customer driven needs resources may be dedicated to other strategic initiatives

### C. Proposed Business Process Requirements

#### 1. Proposed Business Process Requirements

The improvements to the business processes and modernizing technologies will address the following requirements:

- Achieve the common goals and objectives identified in the Strategic Articulation Map (see Exhibit 5 below)
- Establish a comprehensive set of functional and technical requirements which FDOT can use to identify the long-term solution for the modernized suite of applications

Given the size, complexity and importance of the overall WPII business processes to FDOT's operations, it was necessary to take an incremental approach when analyzing the Work Program's processes. Therefore, FDOT focused resources on the core functional area of FHWA Billings and Reimbursements (Reimbursements) to move WPII forward. Reimbursements is a critical component of the integrated business processes and supporting technologies encompassed within the FDOT WPII effort. It provides a highly valuable combination of business needs and opportunities for improving FDOT's business processes, removing critical risks associated with continued receipt of federal funding and realizing a positive ROI. In addition, the analysis provided the project team with an opportunity to validate the "proof of concept" for the overall methodology approach and develop teamwork skills in business process analysis for the remainder of the WPII initiative.

FDOT relies heavily on the federal funding provided by the FHWA to successfully carry out its statutory and departmental obligations. FDOT processes approximately \$2 billion in FHWA billings to complete the magnitude of projects to ensure the quality and safety of Florida's transportation system. The Reimbursements processes represent the essential groupings of dependent activities which ensure uniform validations and controls are in place to demonstrate to FHWA the business processes and the billing system support the requirements for reimbursement as described by federal mandates.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

Specifically, the primary objectives of the Reimbursements business process analysis activities were to:

- Consider more critically the relevant level of detail for the process narratives
- Establish a reasonable basis of estimation for ROI
- Analyze the business processes to a level sufficient for developing comprehensive requirements for future-state solutions
- Facilitate a smooth transition to the "To-Be" process analysis efforts

More information can be found in Appendix D: FHWA Reimbursements Process Documents.

To meet these objectives, the Reimbursements processes were chosen for the following reasons:

- *Data Duplication* – The current, or As-Is, Reimbursements processes produce significant duplication of data between FDOT systems when performing the processing and reconciliation necessary to generate the federal bill. Opportunities existed to remove this data duplication by integrating the comprehensive data from systems such as the WPA, FAMS and PCM.
- *Processing Inefficiencies* – Much of the Reimbursements process activities are automated via nightly batch processing on the mainframe platform. However, the processing method was inefficient and presented opportunities for restructuring and streamlining. For example, opportunities existed to transition from historical processing of summary data to processing data at a transactional level which provides FDOT with greater controls, insights, flexibility, and efficiency.
- *Manual Processes* – FDOT staff spend substantial amounts of time each billing cycle manually extracting, assembling, and validating data during various phases of the reimbursement process. The team identified these manually-intensive activities during the business process analysis exercise and designed new methods for minimizing the need for manual steps, allowing staff to focus their time on the critical analytical and issue resolution activities.
- *Limited Relative Footprint* – In the context of WPPI and the FM suite of supporting applications, the Reimbursements processes within the application are managed by a small number of Central Office staff in the Office of Comptroller. Unlike other areas in WPPI that involve stakeholders and systems state-wide, the Reimbursements processes were comprehensively analyzed in one location by a core team of process owners and experts, allowing for high-value outputs in a short amount of time.
- *Potential for Broader Application* – This phase of analysis focused on the Reimbursements activities since these represent the largest source of federal funding. However, FDOT manages multiple other types of reimbursements from the federal government and other funding partners in the form of non-FHWA funding and grants. One of the goals of redesigning the Reimbursements processes is to ultimately implement a solution which could support, improve, and potentially standardize the management of all reimbursements.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### 2. Business Solution Alternatives

FDOT has considered the following business solution alternatives:

- Maintain existing systems and processes – maintaining the status quo presents the greatest risk to ongoing operations. Given the risks (i.e., loss of staff with institutional knowledge, aging systems demanding increasing support costs, adjusting business to changing laws and statutes and discrete or disconnected business solutions requiring extensive interfaces and manual interventions) this is not a viable solution.
- Incremental business process and system changes – segmenting the project by business function continues the risk of replicating discrete or disconnected business solutions and systems. FDOT initiated a proof of concept of this approach in the Federal Reimbursements areas. Each level of the business processes were evaluated and documented resulting in clear and significant ROI. However, the parallel stream of approach demanded full-time attention of the same staff resources. FDOT determined proceeding with the incremental approach placed greater risk on each of the parallel efforts.
- Full business process and system changes – the current project activities focus on integration of work flows which will result in improved business reporting and reconciliation, elimination of manual work processes, data integration and/or sharing, improved business intelligence and provide the best overall support of FDOT’s financial functions. This bullet refers to the options proposed in the Technical Solution Alternative Section (VI C.1).

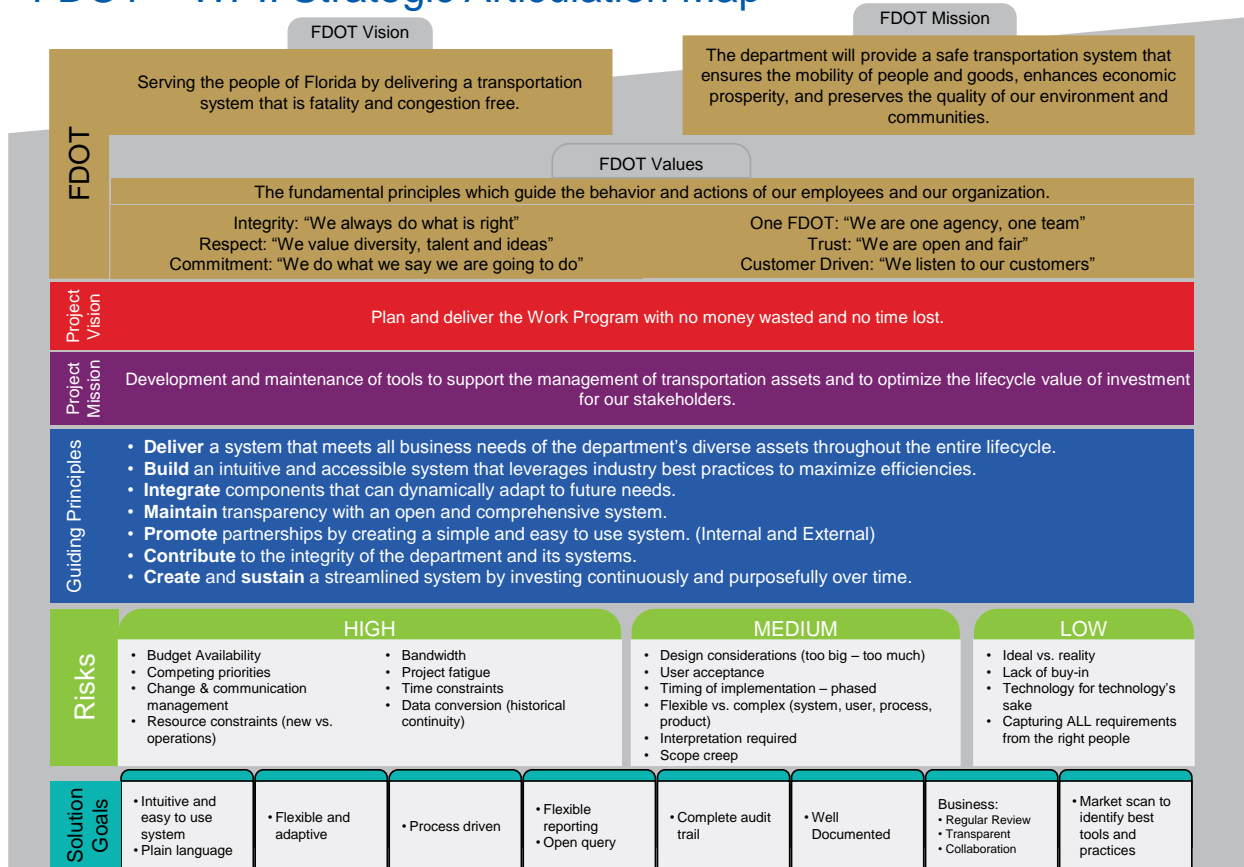
### 3. Rationale for Selection

The WPII Strategic Articulation Map below includes a project vision statement, along with four solution goals and their associated business value. The vision provides direction on the achievements of any potential solution and also provides a basis for future planning. The Solution Goals (see Exhibit 5 below) provide a minimum set of capabilities which must be met by any potential solution. Establishing a minimum set of capabilities is critical in order to ensure all options are compared to a common standard. This common base will allow option costs, timelines and capabilities to be compared in a consistent manner.



Exhibit 5: WPII Strategic Articulation Map

FDOT – WPII Strategic Articulation Map



4. Recommended Business Solution

While the department does not have sufficient information to make a recommendation at this time, the Market Scan (as noted in Section VI C Proposed Technical Solution) noted several of the DOTs which have reengineered their Work Program areas selected a Commercial Off The Shelf (COTS or package) solution. The cost for those efforts ranged widely from \$8 million to \$100 million but do not have a consistent basis for comparison of those costs. For FY18 planning and budgetary purposes, the department used a \$50 million COTS estimate as a model as it seems to be a reasonable target. Once the As-Is business processes and requirements are complete, and the responses to the Invitation to Negotiate on the new system have been proposed, the final recommendation and a more refined ROI will be determined.

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

**D. Functional and Technical Requirements**

Include through file insertion or attachment the functional and technical requirements analyses documentation developed and completed by the agency.

Functional and technical requirements will be developed to provide a solution that satisfies the following criteria:

- Intuitive and easy to use system
- Flexible and adaptive
- Process driven
- Flexible reporting and open query
- Complete audit trail
- Well documented
- Enforces transparent and collaborative business practices

The initial functional and technical requirements for the proof of concept area, FHWA Reimbursements, are attached in Appendix E. Within the next fiscal year, FDOT will develop requirements for the entire transportation finance lifecycle.

**III. Success Criteria**

The criteria below apply to the successful implementation of the business initiative:

<b>SUCCESS CRITERIA TABLE I – NEW SYSTEM</b>				
<b>#</b>	<b>Description of Criteria</b>	<b>How will the Criteria be measured/assessed?</b>	<b>Who benefits?</b>	<b>Realization Date (MM/YY)</b>
1	Certification of the new system by the FHWA	Approval from the FHWA that the new system has been certified for use	FDOT	Just prior to system implementation
2	Complete project scoping and feasibility studies for potential projects	Definition of scope for candidate projects completed	FDOT and transportation stakeholders	At system implementation
3	Preparation of initial cost estimates for candidate projects for potential inclusion in the Work Program	Completed cost estimates based on the department’s cost estimate handbook and guidelines	FDOT and transportation stakeholders	At system implementation



**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

<b>SUCCESS CRITERIA TABLE I – NEW SYSTEM</b>				
<b>#</b>	<b>Description of Criteria</b>	<b>How will the Criteria be measured/assessed?</b>	<b>Who benefits?</b>	<b>Realization Date (MM/YY)</b>
4	FTP	Contains specific long and short range components; major programs of the department; products to be delivered; resources required.	FDOT and transportation stakeholders	At system implementation
5	Prioritize candidate projects	Preliminary list to be considered during Work Program gaming process	FDOT and transportation stakeholders	At system implementation
6	Development of the Program and Resource Plan Summary	Adheres to guidance by the FTP; consistent with established performance measures; compliant with funding policies	FDOT	At system implementation
7	Completion of funding allocations	Consumes all available funding and revenue sources; adheres to the department's program objectives	FDOT	At system implementation
8	Build the tentative and adopted Work Programs	Compliance with allocations, Work Program Instructions, funding policies, legislation and appropriations.	FDOT	At system implementation

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

<b>SUCCESS CRITERIA TABLE I – NEW SYSTEM</b>				
<b>#</b>	<b>Description of Criteria</b>	<b>How will the Criteria be measured/assessed?</b>	<b>Who benefits?</b>	<b>Realization Date (MM/YY)</b>
9	Capture a “snap shot” in time of the versions of the Work Program	Creation of the Program and Resource Plan Summary; Work Program information by Program Plan, Category and Sub-category	FDOT	At system implementation
10	Produce a balanced financial plan projecting cash needs for the Program and Resource Plan Summary	Work Program is planned to deplete estimated resources; includes a balanced Cash Forecast and Finance Plan; estimated cash balances are above working minimums	FDOT	At system implementation
11	Create the Legislative Budget Request	Submission of tentative and adopted Work Programs; compliance with statutory due dates	FDOT	At system implementation
12	Manage the federal funds program and support the department’s partnerships with federal agencies	Review of mandated federal project tier analysis; adherence to Federal Funding Accountability and Transparency Act reporting requirements	FDOT	At system implementation

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

<b>SUCCESS CRITERIA TABLE I – NEW SYSTEM</b>				
<b>#</b>	<b>Description of Criteria</b>	<b>How will the Criteria be measured/assessed?</b>	<b>Who benefits?</b>	<b>Realization Date (MM/YY)</b>
13	Develop the annual Obligation Authority Plan	Consumption of federal appropriation by September 30 <sup>th</sup> of each federal fiscal year	FDOT	At system implementation
14	Obtain FHWA approval for federal participation in eligible costs on individual transportation projects	Successful acknowledgment and approval of FDOT authorization requests	FDOT	At system implementation
15	Managing and monitoring of the execution of the Five-Year Work Program	Required adjustments to the planned number and mix of projects based on performance measures	FDOT	At system implementation
16	Provide funds approval documentation for contracts and purchase orders prior to agreement execution	Compliance with Section 339.135(6)(a),F.S.	FDOT	At system implementation
17	Validation of the FDOT’s interface with the state of Florida accounting system	Data validation for approved invoices; internal control validations; successful interface of accounting and budgeting transactions; completion of the project cost allocation process for department projects	FDOT	At system implementation

SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

SUCCESS CRITERIA TABLE I – NEW SYSTEM				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
18	Validate and generate the period billing for reimbursement from FHWA	Successful transmission and receipts of cash; completion of the quarterly CMIA requirements; status of outstanding billings	FDOT	At system implementation
19	Satisfy the department’s certification forward and carry forward statutory requirements	Tested and approved functionality	FDOT	At system implementation
20	Provide required information for the Florida Accountability Contract Tracking System (FACTS).	Tested and approved functionality	FDOT	At system implementation
21	Management and monitoring of project, grant and contract functions concurrently	Adherence to 2 CFR Part 200, 215.97 F.S., 215.971 F.S; establishment, modification and ongoing management of agreements; oversight and reporting of locally funded agreements	FDOT	At system implementation
22	Monitor the overall performance in accomplishing the annual FDOT Work Program	Performance reporting to FTC, legislators, legislative staff, EOG; FDOT management, etc.	FDOT	At system implementation

SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

SUCCESS CRITERIA TABLE I – NEW SYSTEM				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
23	Provide a broad range of business intelligence and analytics capabilities	Adherence to Government Accounting Standards Board and financial statement reporting requirements; ad-hoc, business analytics and decision support for department projects and other financial related information; enterprise-wide geographic information system integration and spatial display for department projects and other financial related information	FDOT	At system implementation

The criteria below apply to the successful completion of the project itself:

SUCCESS CRITERIA TABLE II – PROJECT MANAGEMENT				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
1	Establish a comprehensive governance model for the WPII project	<ul style="list-style-type: none"> <li>Variance analysis of project progress points and scheduled due dates versus actual results</li> </ul>	FDOT	From project initiation

SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

SUCCESS CRITERIA TABLE II – PROJECT MANAGEMENT				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
2	Review of the To-Be (i.e. future state) analysis of relevant business processes and the high-level requirements	<ul style="list-style-type: none"> <li>• Identification of in-scope processes</li> <li>• High-level requirements were included in Requirements Traceability Matrix</li> <li>• Deliverables met the criteria established in the Deliverable Expectations Documents</li> </ul>	FDOT	09/17
3	Maintenance of a Project Management Plan detailing a consistent and disciplined approach for managing the project	<ul style="list-style-type: none"> <li>• Details communication of project status and progress reporting</li> <li>• Defines how issues and risks will be documented and managed</li> <li>• Incorporates feedback received during the Kickoff Meeting</li> </ul>	FDOT	From project initiation
4	Maintenance of a high-level schedule, including milestones and deliverables	<ul style="list-style-type: none"> <li>• Modified to reflect actual project funding and FDOT directives</li> <li>• Includes resource-loaded activities</li> <li>• Predecessor and successor dependencies are identified with critical path established</li> <li>• Projected FDOT resource allocation</li> <li>• Includes FDOT review time periods</li> </ul>	FDOT	From project initiation
5	Submission of the Deliverable Expectations Documents outlining the acceptance criteria for each deliverable	<ul style="list-style-type: none"> <li>• Common, well-aligned expectations are set</li> <li>• Basis is established against which to consider deliverable feedback</li> </ul>	FDOT	From project initiation

SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

SUCCESS CRITERIA TABLE II – PROJECT MANAGEMENT				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
6	Reconfirmation of project scope	<ul style="list-style-type: none"> <li>• Documentation of processes identified during To-Be phase is complete</li> <li>• Justification for out-of-scope processes is provided</li> <li>• High-level requirement deliverable adheres to Deliverable Expectation Document</li> <li>• Recommendations for managing anticipated changes to internal and external stakeholders are documented</li> </ul>	FDOT	09/17
7	Development of requirements sufficient for procurement	<ul style="list-style-type: none"> <li>• Assessment of high-level technical requirements is completed</li> <li>• Updated Requirements Traceability Matrix</li> <li>• Confirmation to the overall FDOT business and IT strategy, platforms, and standards</li> <li>• Ground rules provided for technical selection criteria during vendor procurement process</li> <li>• Validation completed by process owners and subject matter experts</li> </ul>	FDOT	11/17

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

<b>SUCCESS CRITERIA TABLE II – PROJECT MANAGEMENT</b>				
<b>#</b>	<b>Description of Criteria</b>	<b>How will the Criteria be measured/assessed?</b>	<b>Who benefits?</b>	<b>Realization Date (MM/YY)</b>
8	Completion of Requirements Traceability Matrix	<ul style="list-style-type: none"> <li>• Document includes requirement number, core and sub process definitions, process descriptions, prioritization measure, FDOT owner</li> <li>• Detailed requirements are associated with the in-scope To-Be processes</li> <li>• Detailed requirements include identification of application interfaces, data and information management needs, and required computing infrastructure needs</li> </ul>	FDOT	11/17
9	Formalized ROI based on completed detailed requirements	<ul style="list-style-type: none"> <li>• Sufficient detail must be available from the Detailed Requirements to identify potential benefits of the project, which are inputs in calculations for the ROI.</li> <li>• The Request for Information must be developed in a way that FDOT receives examples of net benefits from recent, similar, implementation of projects such as this.</li> </ul>	FDOT	11/17



**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

<b>SUCCESS CRITERIA TABLE II – PROJECT MANAGEMENT</b>				
<b>#</b>	<b>Description of Criteria</b>	<b>How will the Criteria be measured/assessed?</b>	<b>Who benefits?</b>	<b>Realization Date (MM/YY)</b>
10	Develop implementation strategy	<ul style="list-style-type: none"> <li>• Final specifications needed to assess the capability of vendor solutions</li> <li>• Evaluation criteria established to meet the objectives of the To-Be processes and satisfy functional and technical requirements</li> </ul>	FDOT	11/17
11	Development of Invitation to Negotiate	<ul style="list-style-type: none"> <li>• Vendor response process has been detailed</li> <li>• Scope of work is defined</li> <li>• Acceptance and grading criteria has been established</li> <li>• Adherence to state of Florida procurement statutes and FDOT policies and procedures</li> </ul>	FDOT	11/17
12	Identification of risks throughout project	<ul style="list-style-type: none"> <li>• Probability measures have been established</li> <li>• Mitigation strategies are detailed</li> </ul>	FDOT	From project initiation

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

**IV. Schedule IV-B Benefits Realization and Cost Benefit Analysis**

**A. Benefits Realization Table**

For each tangible benefit, identify the recipient of the benefit, how and when it is realized, how the realization will be measured, and how the benefit will be measured to include estimates of tangible benefit amounts.

<b>BENEFITS REALIZATION TABLE</b>					
<b>#</b>	<b>Description of Benefit</b>	<b>Who receives the benefit?</b>	<b>How is benefit realized?</b>	<b>How is the realization of the benefit measured?</b>	<b>Realization Date (MM/YY)</b>
1	User interface efficiencies	Users of FM Suite and systems to be integrated	Reduced staff time spent on support activities associated with data entry and manipulation	Percentage of charges to direct projects as compared to indirect projects.	06/22
2	Increased deployment of funds on transportation infrastructure	Traveling Public	Increased amount of transportation infrastructure accomplished with the same resources	Infrastructure measurements of lane miles, bridges, seaports, rail lines, airports, spaceports, and transit options	06/22
3	Reduced risk in federal funding impacts	Traveling Public	Little or no impact to apportionments, redistribution, or reimbursements	Apportionment levels, redistribution levels, and reimbursement amounts	06/21

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

BENEFITS REALIZATION TABLE					
4	Seamless view into the department's vast information assets	FDOT and transportation stakeholders	<p>Ability to more quickly convert data into information for decision-making</p> <p>More efficient development of ROI analyses for transportation projects</p>	<p>Quicker response on requests for information</p> <p>Quicker response with improved variables when developing ROI profiles of transportation investments</p>	06/21
5	Ability to act as an integrated system and efficiently share data across the department and externally	FDOT and transportation stakeholders	<p>Ability to more efficiently transition between phases of a transportation project</p> <p>More effectively and efficiently reply to requests for information with data that is more consistently reported</p>	Reduced operating cost and improved cost effectiveness in service delivery	06/22

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

BENEFITS REALIZATION TABLE					
6	Enhance performance reporting	FDOT and transportation stakeholders	<p>More efficient reporting of performance data</p> <p>Consistent data reporting from one integrated system</p> <p>Eliminates cross-checking due to multiple systems' performance data</p>	<p>Compliance with state and federal law concerning performance reporting (ex. S. 334.045, F.S., 334.046, F.S., S. 150 Title 23 of USC)</p>	6/21

**B. Cost Benefit Analysis (CBA)**

The chart below summarizes the required CBA Forms which are included as Appendix A on the Florida Fiscal Portal and must be completed and submitted with the Schedule IV-B.

Cost Benefit Analysis	
Form	Description of Data Captured
CBA Form 1 - Net Tangible Benefits	<p>Agency Program Cost Elements: Existing program operational costs versus the expected program operational costs resulting from this project. The agency needs to identify the expected changes in operational costs for the program(s) that will be impacted by the proposed project.</p> <p>Tangible Benefits: Estimates for tangible benefits resulting from implementation of the proposed IT project, which correspond to the benefits identified in the Benefits Realization Table. These estimates appear in the year the benefits will be realized.</p>
CBA Form 2 - Project Cost Analysis	<p>Baseline Project Budget: Estimated project costs.</p> <p>Project Funding Sources: Identifies the planned sources of project funds, e.g., General Revenue, Trust Fund, Grants.</p> <p>Characterization of Project Cost Estimate.</p>

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

Cost Benefit Analysis	
Form	Description of Data Captured
CBA Form 3 - Project Investment Summary	Investment Summary Calculations: Summarizes total project costs and net tangible benefits and automatically calculates: <ul style="list-style-type: none"><li>• ROI</li><li>• Payback Period</li><li>• Breakeven Fiscal Year</li><li>• Net Present Value</li><li>• Internal Rate of Return</li></ul>

### V. Schedule IV-B Major Project Risk Assessment

The Risk Assessment Tool and Risk Assessment Summary are included in Appendix B on the Florida Fiscal Portal and must be completed and submitted with the agency's Schedule IV-B. After answering the questions on the Risk Assessment Tool, the Risk Assessment Summary is automatically populated.

The risk assessment completed for this project indicates an overall project risk of "High."

Note that the risk assessment represents a snapshot of the project's risk portfolio as of the date of the Schedule IV-B submission. Several items are contributing to the "High" rating because the project has not reached the point where these items can be completed. For example, the project is in the planning stages, therefore, a technology has not been chosen. The risk questions within the Technology area assume a technology has been chosen and provide no option to indicate otherwise.

SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

Exhibit 6: WPII Project Risk Assessment Summary

<b>Project</b>	<i>Work Program Integration Initiative</i>	
<b>Agency</b>	<i>Transportation</i>	
<b>FY 2016-17 LBR Issue Code:</b>	<b>FY 2016-17 LBR Issue Title:</b>	
<i>Issue Code</i>	<i>Work Program Integration Initiative</i>	
<b>Risk Assessment Contact Info (Name, Phone #, and E-mail Address):</b>		
<b>Executive Sponsor</b>	<i>Rachel Cone</i>	
<b>Project Manager</b>	<i>Tom McCullion</i>	
<b>Prepared By</b>	<i>Jeremy Segers</i>	<i>9/23/2016</i>
<b>Risk Assessment Summary</b>		
<b>Business Strategy</b>		
	<b>Level of Project Risk</b>	
<b>Project Risk Area Breakdown</b>		
<b>Risk Assessment Areas</b>		<b>Risk Exposure</b>
Strategic Assessment		<b>MEDIUM</b>
Technology Exposure Assessment		<b>HIGH</b>
Organizational Change Management Assessment		<b>HIGH</b>
Communication Assessment		<b>MEDIUM</b>
Fiscal Assessment		<b>HIGH</b>
Project Organization Assessment		<b>MEDIUM</b>
Project Management Assessment		<b>MEDIUM</b>
Project Complexity Assessment		<b>HIGH</b>
<i>Overall Project Risk</i>		<b>HIGH</b>

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### VI. Schedule IV-B Technology Planning

#### A. Current Information Technology Environment

##### 1. Current System

###### a. Description of Current System

There are a variety of systems involved in the transportation finance lifecycle. The FDOT Financial Management Systems Inventory (prepared June 2014) identified over 150 systems performing some level of financial management systems functionality. Some characteristics of the current environment and systems supporting the transportation finance lifecycle are listed below:

- 1) **Total Number of Users and User Types:** The systems that support the transportation finance lifecycle are utilized by a broad range of FDOT Offices. It is estimated that 4,500 employees and contractors use the various systems in this lifecycle. Of those, 2 percent (90) are administrative level users, 10 percent (450) are data entry users, and 88 percent (3960) are read only users.
- 2) **Number/Percent of Transactions:** The systems in the lifecycle utilize both online and batch transactions. While the majority are online transactions, batch transactions are particularly important as they are utilized to download FDOT-specific data from FLAIR. In addition, batch transactions are also used to transmit data to many of the department's system interfaces with external partners.
- 3) **Requirements for Public Access, Security, Privacy, and Confidentiality.** The finance lifecycle is primarily inward-facing, and very few components require input by external, non-FDOT users. The current system has very specific rules regarding input and usage. While the majority of information is available as read-only data for all departmental users, data entry, power user, and administrative access is limited in number and strictly controlled. Private and confidential data does exist within this lifecycle. Access to this data is managed through database and access controls. Those systems within the lifecycle that are maintained on hardware provided by the Office of Information Technology (OIT) adhere to and utilize established department access procedures for computer security and access to department resources through the FDOT Automated Computer Security Access Request system. Systems which are produced locally using tools such as Excel or Access typically are not controlled by the standard processes.
- 4) **Hardware Characteristics:** The systems in the lifecycle include a mixture of hardware. A number of the systems are hosted on FDOT's mainframe that is housed at the Southwood Shared Resource Center (SSRC) in Tallahassee. Many of the systems are web-based and exist on Microsoft Server-based systems also housed at the SSRC. In addition, some of these systems are locally maintained desktop systems developed using tools such as Microsoft Excel or Access. These systems are run on FDOT standard desktop computers.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

5) **Software Characteristics:** The systems in the lifecycle are developed using a mixture of software, programming languages, databases and protocols including:

- COBOL
- Customer Information Control System (CICS)
- VB. NET
- Microsoft .NET
- Microsoft Classic ASP
- Microsoft Visual Studio
- Microsoft Excel
- Microsoft Access
- Microsoft SharePoint Server
- TN3270 Plus Terminal Emulator
- Web Focus (Reporting Tool)
- Mainframe Focus (Reporting Tool)
- Web Focus Maintain (Programming Language)
- CA-Gen (formerly AllFusion Gen, CoolGen) Case Tool
- File Transfer Protocol
- Simple Mail Transfer Protocol (SMTP)
- DB2 Database
- Oracle Database
- SQL Server Database
- Primavera
- ArcGIS
- IBM Resource Access Control Facility – User Authentication
- Microsoft Active Directory – User Authentication

6) **Existing System or Process Documentation:** The availability of system documentation is varied among the systems. The systems within the FM suite have an average age of 16.4 years. If system documentation is not available, staff often rely on experts within their office for information whom have been working with the system(s) for a long period of time. Many of the staff with the technical knowledge are within retirement age or are no longer with the department. Often the knowledge possessed by these subject matter experts has not been properly recorded to ensure continuity of operations should there be a change in staffing.

During FY 15-16, the WPII project team created detailed documentation of all future state (or To-Be) business processes involved in the transportation finance lifecycle. The documentation includes extensive information on the inputs, outputs, participants, and text description of processes as well as visual diagrams of each process. Opportunities for improvement were documented including the perceived benefits and constraints for each opportunity. During the fiscal year, the WPII project team decided to focus efforts on FHWA Billings and Reimbursements, an area within the transportation finance lifecycle. This decision was made because this area is a centralized function, had many known pain points, and could be used to develop a basis of estimation for ROI. Detailed As-Is and To-Be documentation were created and potential ROI inputs identified.

During FY 16-17, a team of 11 dedicated FDOT resources will focus primarily on the WPII project. This team will leverage documentation from the prior fiscal year, finalize To-Be processes, and develop requirements to support future procurement efforts.

More information can be found in Appendix C: WPII Process Summary.



**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

7) **Internal and External Interfaces:** On average, the systems closely aligned with the financial aspects of the lifecycle have 3.5 internal interfaces and 1.5 external interfaces. External interfaces include other state agency and federal systems, such as FLAIR and FHWA’s FMIS 5.0. When looking at the interface count for FM suite only, the number of interfaces increases, as these systems are critical to information needed by this lifecycle.

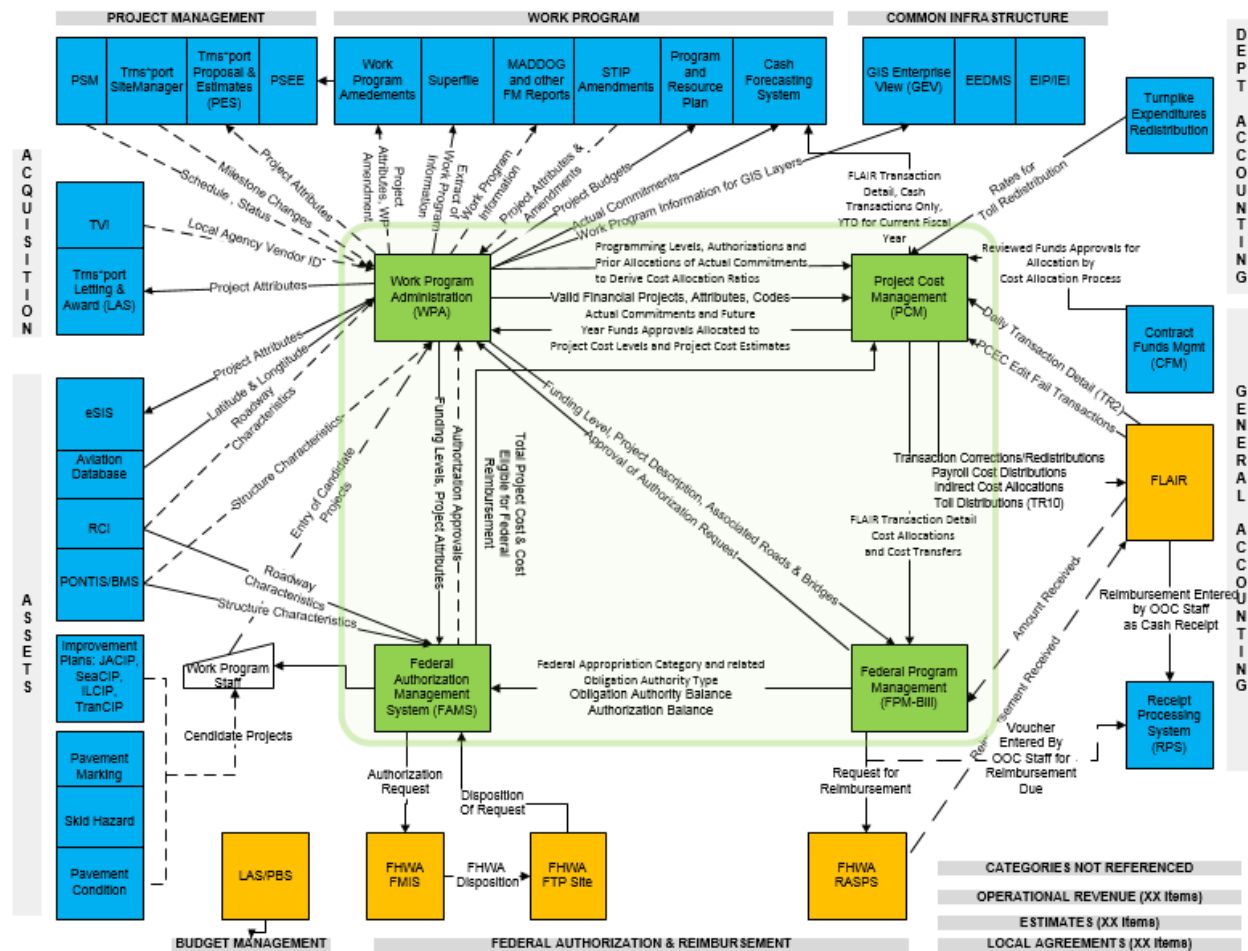
	Average Number of Internal Interfaces	Average Number of External Interfaces
All Systems Central to TFLC	3.5	1.6
FM Suite Only	8.5	2.7
Non-FM Suite Systems	3.0	1.2

The systems with the largest number of interfaces include:

System Name	Number of Internal Interfaces
WPA	18
Cash Forecast System	9
Integrated Enterprise Information Data Warehouse	9
Project Cost Management	7
ProjectSuite Enterprise Edition	7
System Name	Number of External Interfaces
PCM	4
FAMS	2
Batch Error Management	2
Financial Statement Infrastructure Report	2
CMIA	2
Contract Funds Management	2

# SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

## Exhibit 7: Work Program Applications Architecture



8) **Consistency with Agency Standards:** Over time, the systems performing some level of financial management functionality have undergone updates to handle changes in business processes or state and federal mandates; however, the underlying development platform is still very similar to what was originally implemented. Additional systems have been implemented to extend and supplement this lifecycle, each with varying kinds of technology. Many of these systems use a technology that is either outdated or considered non-strategic<sup>2</sup> by the department.

One of the most troubling non-strategic technologies is CA-Gen. CA-Gen is a Case Tool used to generate COBOL code. The department’s dependency on this tool, for some critical applications, presents a concern to management. CA-Gen is a case tool that was popular in the mid-1990s to

<sup>2</sup> Non-Strategic Technologies include (1) unsupported versions (2) software/technology that is no longer standard for the department. The department has chosen to make no further investments in expanding the use of this technology. (3) outdated technology that must move to a more current version.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

develop mainframe-based applications. The tool is a proprietary model based tool that was designed to improve COBOL coding efficiency by creating models that could then be used to reuse and generate code. Even at its peak the tool struggled to be competitive because it required a very long lead time (3-6 months) for developers to become proficient and the tool required a significant fixed amount of support resources to administer the tools and manage configuration and deployment.

Because the tool generates COBOL code, some may think that the dwindling market of COBOL developers that are charging increasing premium rates could be used to maintain and support the system. This is unlikely because the COBOL code generated by the case tool is very long and by maintaining the COBOL code directly there is great risk that ongoing use of the case tool would be undermined or that later tool generated code would conflict with direct manual COBOL modifications

Developers with CA-Gen skills are harder to find, and in general have a higher bill rate compared to other developers. According to internet job site Indeed.com, the salaries for CA-Gen developers are 11 to 12 percent higher than a comparable .NET developer. The CA-GEN rate differential could change in the future due to changes in supply and demand. There is unlikely to be any significant increase in supply of CA-Gen available resources and because most developers are approaching retirement age a decrease in supply is possible. Demand, however, is likely to be constant or decreasing as CA-Gen systems are modernized.

	CA-GEN Developer	.NET Developer	Percentage Difference
National Average Salary	\$98,000	\$88,000	11.4%
Florida Average Salary	\$92,000	\$82,000	12.2%
Tallahassee Average Salary	\$118,000	\$106,000	11.3%

- 9) **Scalability to Meet Long-Term System and Network Requirements.** The growth of additional systems to support and supplement the existing transportation finance lifecycle is proof that the scalability of the existing systems is an issue. Whether this is due to technology issues or governance, the result is users and offices creating new systems instead of extending existing systems. This perpetuates the problems that arise in trying to aggregate data across multiple systems as well as increases the risk to the department when trying to provide accurate and timely data.

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

**b. Current System Resource Requirements**

The section below highlights the resource requirements of the current systems that support the transportation lifecycle.

- 1) **Hardware and Software Requirements.** The systems supporting the transportation finance lifecycle exist on both mainframe and web environments. These systems include hundreds of DB2 and/or Oracle tables. The department’s mainframe environment consists of a z/Enterprise server housed at the SSRC. The TFLC systems hosted at the SSRC account for a large percentage of the department’s processing and data storage requirements as seen below:

System Component	Estimated Usage Attributed to Transportation Finance Lifecycle Systems
CICS Processing	>30%
Z/OS Processing	>60%
DB2 Processing	>60%
Mainframe Storage	>60% of DB2 Application Space

- 2) **Cost/Availability of Maintenance or Service for Existing System Hardware or Software.** Systems maintained on non-OIT infrastructure have varying times of availability. The current systems that are available on infrastructure supported by the OIT are available as listed:

		Monday – Friday	Saturday	Sunday
OIT ENTERPRISE APPLICATIONS (FM, CITS, Trns*port, etc.)	Available	6am-9pm	6am-7pm	
	Maintenance	9pm-6am	7pm -11:59pm	
EMAIL and NETWORK (Exchange, Enterprise Vault)	Available	6am-11:59pm	6am-7pm	10am-11:59pm
	Maintenance	12am-6am	7pm-11:59pm	12am-10am
MAINFRAME and DATABASE (Internet, intranet, TSO, FOCUS, SAS, and access to application databases for ad hoc reporting)	Available	6am-11:59pm	7am-7pm	
	Maintenance	12am-6am	7pm-11:59pm	

FDOT’s Enterprise Application environment is hosted by the SSRC in Tallahassee. In FY 15-16, the department was billed \$7,070,111 for these services. Analysis of the bill estimates that the systems comprising this lifecycle account for 24.19 percent of the billable costs to FDOT. This results in an annual cost to FDOT of \$1.16 million.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

- 3) **Staffing Requirements.** Staff within the OIT Application Support are responsible for the maintenance and support of Enterprise Applications. The transportation finance lifecycle also includes systems supported by office-level staff that are heavily dependent on customized systems to supplement detailed analysis, decision making, and reporting functions. These needs have continued to grow as changes and mandates have been made over the years. As an example, the Office of the Comptroller and Office of Work Program and Budget are heavily involved in the financial portions of this lifecycle and account for a large amount of the support of these systems. Those numbers are reflected in the summary section below.
- 4) **Summary of Cost to Operate Existing System.** The following are the costs to maintain the known elements of the lifecycle during recent fiscal years. Cost is unavailable for systems maintained by the districts.

	FY 13-14	FY 14-15	FY 15-16
Hosting: Hardware and Software Provided by SSRC	\$1,440,000	\$1,159,770	\$1,710,259
Support Staff - OIT Application Support	\$857,383	\$738,546	\$567,648
Support Staff - Office of Comptroller and Office of Work Program and Budget.	\$686,912	\$648,591	\$803,659
<b>TOTAL</b>	<b>\$2,284,295</b>	<b>\$2,546,907</b>	<b>\$3,081,566</b>

### c. Current System Performance

The systems involved in the transportation finance lifecycle are major contributors to usage on the department's systems, in particular the Mainframe and DB2 Resources. The following represent elements provided by the SSRC in hosting the department's application environment.

System Component	Estimated Percentage of Usage Attributed to Transportation Finance Lifecycle Systems
CICS Processing	70% (1201 out of 1718 of CICS transactions processed in a month.)
Z/OS Processing	>60%
DB2 Processing	>60%
Scheduling Services	>50%
Mainframe Storage	60 % (2,120,037 out of a total 3,554,851 of DB2 Application Space.)

An example of system performance can be seen in the Work Program process where there is high-utilization, particularly during the development of the tentative work program, when final analysis is being completed to select projects for and preparation of the FDOT five-year Work Program. During this time, it is a common occurrence that FDOT staff not involved in the tentative work program development process are asked to delay their mainframe processing to ensure the process has the mainframe resources necessary to proceed.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### 2. Information Technology Standards

Applications developed by the OIT Application Support, the application development section of the OIT, are developed following a Project Development Methodology. This methodology is based on the Project Management Institute's methodology, which includes standard phases, tools, steps and sign-off processes. This methodology is made available to all development staff working within FDOT to ensure consistent steps are followed. In addition, standards for .NET coding, web development, accessibility and multimedia development are also maintained by OIT. Reviews against these standards are part of the standard methodology.

### B. Current Hardware and/or Software Inventory

#### Current Hardware

The systems supporting the transportation finance lifecycle exist on both mainframe and web environments. The department's mainframe environment consists of a z/Enterprise server housed at the SSRC. It also includes multiple instances of Microsoft Internet Information Services Servers for hosting internet, intranet, and end user applications. Web applications hosted by a district office will reside on local web servers maintained by district or user-office support staff.

The FDOT Information Technology Strategic Plan, completed by the department in August 2014, highlighted the wide variance in Enterprise Architecture as an issue to be addressed, and the current Reliable, Organized, and Accurate Data Sharing (ROADS) Initiative is working to establish governance and optimal structures to resolve this issue.

#### Current Software

Four of the most prominent systems currently supporting the FDOT transportation finance lifecycle are a set of custom applications known collectively as the FM Suite. Originally implemented in the late 1990s, the FM Suite includes four programs:

- WPA supports the development and ongoing management of FDOT's Work Program
- FAMS manages federal appropriations and obligation authority and interfaces with FHWA's FMIS 5.0 to manage the obligation of federal funds to specific projects
- PCM is the repository of actual project cost historical information and is FDOT's primary interface with the state's FLAIR system.
- FPM manages and tracks various federal programs as well as supports and provides the tracking ability for federal billing, vouchering, and generating the periodic billing for federal reimbursement from FHWA

There are also numerous systems which perform either financial management functions or support the management and execution of FDOT's Work Program. These include both enterprise systems and systems developed by various FDOT offices (Central Office, district offices, and Florida's Turnpike Enterprise) to supplement or address perceived gaps in the agency-wide financial management systems. The department's Financial Management Systems Inventory prepared in the spring of 2014 identified over 150 systems performing some level of financial management systems functionality.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

Examples of these systems include:

- Department-wide or enterprise systems which were developed to support and supplement the functions of the FM Suite such as various FM reporting tools, the Work Program Amendment application, the Finance Plan, the Cash Forecasting System, Schedule A and Schedule B
- Enterprise systems which support the management and execution of elements of the FDOT Work Program including:
  - Long Range Estimating System, supporting the development of conceptual estimates
  - The new Design Quantities Estimate application, which generates detailed cost estimates during preconstruction
  - Estimate Report Tracking System, which tracks the history of changes to estimates on projects
  - Primavera P6 and Project Scheduling and Management which support the development and ongoing monitoring of project schedules
  - Project Suite Enterprise Edition which is designed to provide FDOT project managers a one-stop shop for critical project financial and schedule information
  - AASHTOware Suite which supports the preparation of specifications, the letting and award of construction contracts and the management of those construction contracts through a series of interrelated modules
  - Right of Way Management System, which supports all aspects of the acquisition of right of way in support of transportation projects
- Various mode or discipline specific systems which support the identification of needs and the development, prioritization and selection of candidate projects for inclusion in the FDOT Work Program
- Various office or district developed standalone or offline applications which support managing, tracking and executing Work Program activities

### C. Proposed Technical Solution

#### Technical Solution Alternatives

As a way to understand the possible solutions that exist in the marketplace, a market scan of 24 state departments of transportation was conducted in the first half of 2016. Based on the results of these surveys and subsequent interviews, there are three potential technical solutions:

- 1) COTS – e.g. an Enterprise Resource Planning (ERP) product (see description below)
- 2) Custom Development
- 3) Maintain Current System

The commercial software market commonly labels software which can perform the functions required by enterprises as ERP software. ERP is business process management software that allows an organization to use a system of integrated applications to manage the business and automate back office functions. Common to all ERP systems are core financial transactions (general ledger, accounts payable, accounts receivable, asset accounting), and basic procurement (purchasing, contracts, and receiving). ERP systems also include additional functions such as



## **SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

project and grants tracking, human resources, and payroll. To be consistent with standard industry definition, the term ERP is used when reviewing the options to replace the transportation finance lifecycle processes including reimbursement.

The following section provides a description of each option along with the results from the market scan (more information can be found in Appendix F: Market Scan):

### **Option 1: COTS ERP Solution**

A COTS ERP solution is a commercially available solution provided by vendors such as SAP, Oracle, PeopleSoft, Workday, etc. Customization of a COTS ERP solution is often required to meet specific business needs. According to the market scan, the majority of state DOTs are utilizing a COTS ERP solution, or are planning to transition to a COTS ERP solution within the next few years. Most of the state DOTs that are transitioning to a COTS ERP are moving away from older legacy mainframe systems. The option of a COTS ERP would position FDOT to use a platform that could address the future requirements needed to support and enhance the transportation finance lifecycle.

### **Option 2: Custom Development**

The department also has the option to develop a custom solution either internally or with a vendor. This option can meet specific, unique business needs but often comes at a high cost. There were several state DOTs that custom developed their own version of the transportation finance lifecycle processes. There are also a few state DOTs still performing custom development on their legacy mainframe systems. An alternative to this option is to procure a "Transfer Solution" or a system customer developed by another state that can be leveraged as a starting point for FDOT to enhance and maintain.

### **Option 3: Maintain Current System (Legacy Mainframe)**

As currently constructed, the four sub-systems supporting FDOT's Transportation Finance Lifecycle are performing as designed. The current systems have been customized and patched as needed over the years, which has created embedded inefficiencies that are very difficult to maintain. Maintaining the current system rather than replacing it with a newer custom solution or packaged COTS software is the last option to consider.

#### **1. Rationale for Selection**

The rationale for selection is dependent on alignment to goals, ability to meet identified requirements, cost, benefits and level of risk. Each option will be assessed against the vision statement and solutions goals as outlined below.



## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### Alignment to Goals

When the project originally kicked off, a Strategy Articulation Map was developed to communicate the project's vision, mission, guiding principle, risks, and solution goals. When evaluating the potential solutions, the right solution must ensure the below goals are met:

- Goal #1: Intuitive and easy to use system
- Goal #2: Flexible and adaptive
- Goal #3: Process driven
- Goal #4: Flexible reporting and open query
- Goal #5: Complete audit trail
- Goal #6: Well Documented
- Goal #7: Enforces transparent and collaborative business practices

### Ability to Meet Requirements

The ability to meet the FDOT requirements for the future solution will be a key factor for selection. The requirements will be finalized during this fiscal year. Solutions will be evaluated on the percentage of the requirements accomplished.

### Cost

Overall solution cost will be a key factor in the selection of the future solution. To determine the solution total cost of ownership, the following costs will be considered:

- **Implementation Cost:** Internal (employee time) and external (contractors/purchases) expenditures required to design and implement the solution to replace the existing Transportation Finance Lifecycle sub-system(s)
- **Hardware and Infrastructure Cost**
- **Maintenance & Operations Cost:** Expenses associated with supporting the new Transportation Finance replacement solution during and after its implementation

### Benefits

The three main categories of benefits identified are Risk Avoidance, Cost Avoidance and Operational Efficiencies. Benefits will be projected and adjusted using net present value for comparison.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### Level of Risk

Given the complexity and breadth of the potential solutions, many risks are shared between the options. Variability exists in the likelihood and severity of impact of each of the risks. The chart below highlights the common risks which may be encountered during the implementation regardless of the selected option:

RISK	POTENTIAL IMPACTS	MITIGATION STRATEGIES
<ul style="list-style-type: none"> <li>• Loss of political / executive sponsorship</li> </ul>	<ul style="list-style-type: none"> <li>• Failure to move forward on project plan or deliverables</li> <li>• Competing assignments or priorities</li> </ul>	<ul style="list-style-type: none"> <li>• Educate executive leadership on the current risks and challenges faced with current environment</li> <li>• Document go-forward direction and timeline in Statute</li> <li>• Structure implementation to achieve incremental successes</li> </ul>
<ul style="list-style-type: none"> <li>• Ineffective governance processes slow or prevent decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Higher support costs</li> <li>• Budget overruns</li> <li>• Failure to meet project deliverable timeline</li> </ul>	<ul style="list-style-type: none"> <li>• Define a governance structure denoting authority to make decisions and enforce policy across WPII Program</li> <li>• Establish clear definition of decisions which can be made within the project and what decisions need to be raised to a higher level</li> <li>• Clarify/modify Statutes to enforce process standardization</li> <li>• Communicate to FDOT at the beginning of the project the expectations related to process standardization and customizations – only customizations required to meet state or federal statutes will be completed</li> </ul>
<ul style="list-style-type: none"> <li>• Funding is slowed or not appropriated</li> </ul>	<ul style="list-style-type: none"> <li>• Failed implementation</li> <li>• Benefits not realized</li> </ul>	<ul style="list-style-type: none"> <li>• Establish funding mechanisms which are documented in statute</li> <li>• Complete the project in phases to lower fiscal commitments while still moving forward with wins and progress for FDOT</li> </ul>

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

RISK	POTENTIAL IMPACTS	MITIGATION STRATEGIES
<ul style="list-style-type: none"> <li>• Solution provider/systems integrator not able to deliver according to requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Failure to meet design requirements</li> <li>• Failure to meet project schedule, phase gates or deliverables</li> <li>• Failure to meet implementation timeline</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure adequate budget is available to acquire / retain the appropriate technical resources</li> <li>• Contract payments will occur based upon achievement of contract deliverables</li> <li>• A percent of payment will be held back pending performance</li> </ul>

**2. Recommended Technical Solution**

FDOT does not currently have a recommended technical solution. This information will be available once all the functional and technical requirements have been completed.

**D. Proposed Solution Description**

**1. Summary Description of Proposed System**

To be determined.

**2. Resource and Summary Level Funding Requirements for Proposed Solution (if known)**

To be determined.

**E. Capacity Planning**

The objective of Capacity Planning is to verify that any proposed solution will be able to both absorb the current data stores and transaction loads, and provide the capability to handle the future demands of the department. The specific capacity of the proposed solution will be defined after the detailed requirements are documented. Having completed an initial analysis of the internal department infrastructure and utilization, many of the FM suites systems that support the Work Program are custom, dated, and interface with a wide range of systems of varying size and complexities. It is expected that the number of users and transactions will significantly increase in future years as the department takes advantage of expanded functionality.

As mentioned in the Current Technology Environment Section, it is estimated that 4,500 employees/consultants use the various systems in this lifecycle. Of those, 2 percent (90) are administrative level users; 10 percent (450) are data entry users and 88 percent (3960) are read-only users. The systems in the lifecycle utilize both online and batch transactions. While the majority are online transactions, batch transactions are particularly important as they are utilized to download FDOT-specific data from FLAIR. In addition, batch transactions are also used to transmit data to many of the department’s system interfaces with external partners.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

The Work Program processes consume significant system resources and sometimes result in a lag-time in system performance, particularly during the development of the tentative Work Program. In fact, FDOT staff not involved in the development of the tentative Work Program are often asked to delay their mainframe processing, due to soft capping, to ensure availability of mainframe resources necessary to complete actions. Such limitations on system availability can directly result in lost productivity, capacity, and bandwidth issues, and delayed process completion.

The following sections highlight some of the historical capacity trends.

### 1. Manage Service Units and Soft Capping

Mainframe capacity and bandwidth usage is measured in terms of manage service units. For this mainframe capacity, a soft cap will occur for any four hour period that is greater than the average capacity of the system. This soft cap slows down the system and could require FDOT to limit user access when a four-hour period exceeds the average capacity, which is not ideal.

The Exhibits below detail how the four-hour average has been distributed, over 6,183 prime intervals from 08:00AM to 4:59PM from 01/01/2014 to 08/25/2016. The data shows that there is a probability of being capped of only 5.56 percent. This percentage should actually be slightly less because capping should not begin at 61, but rather just above that. If the cap were raised to 65, the probability would drop to 1.64 percent. The higher the soft cap, the less of the probability that the capping effect. If the cap is removed entirely, the probability drops to zero.

SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

Exhibit 8: Distribution of Prime Time 4-Hour Averages<sup>3</sup>

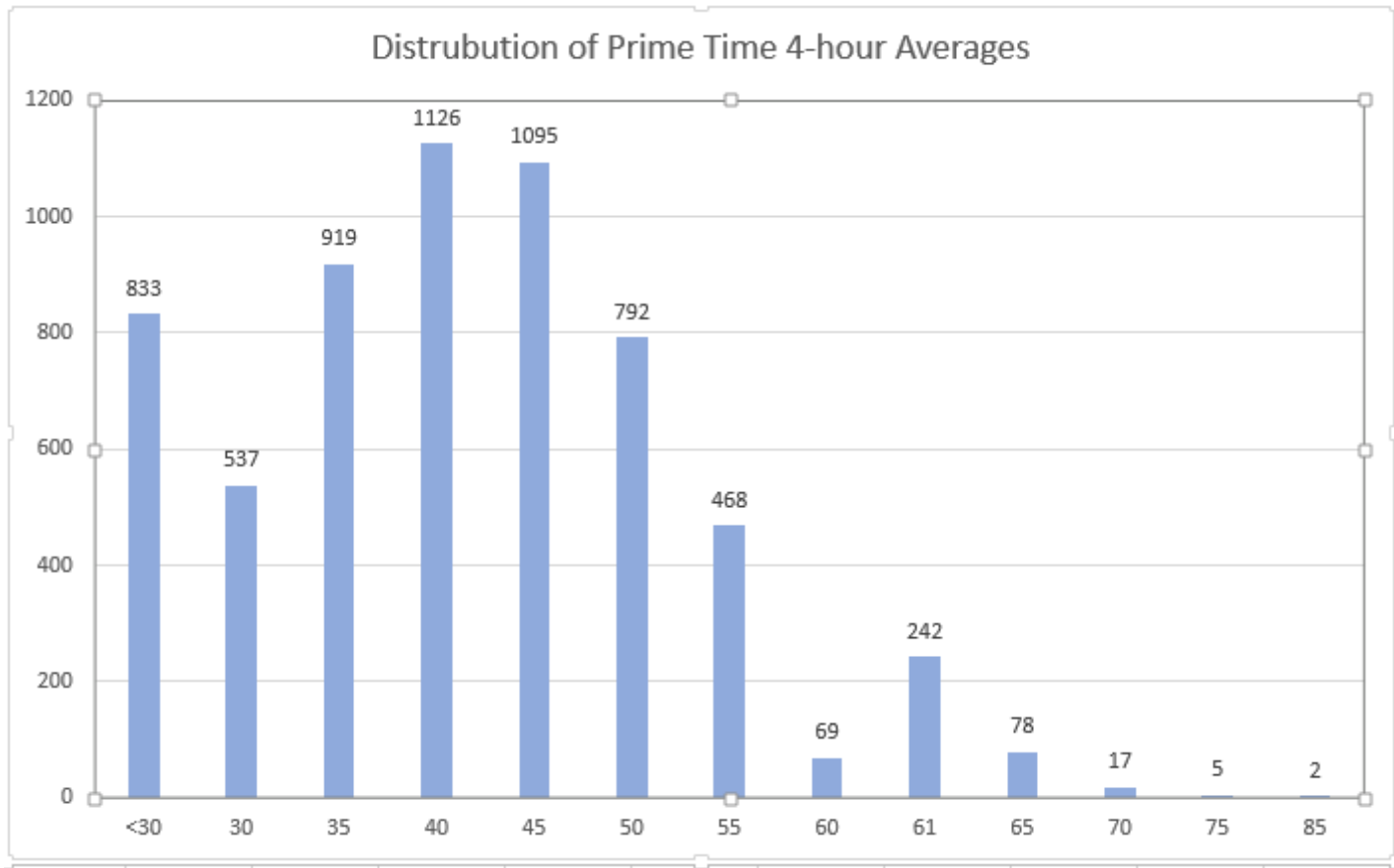
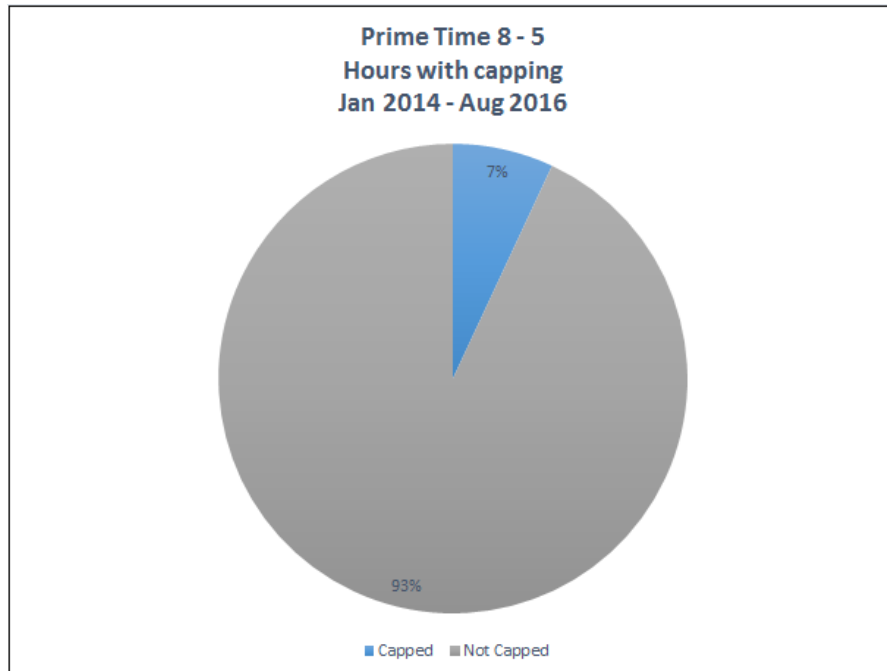


Exhibit 9 below shows that DOT has experienced capping in only seven percent (7%) of prime time hours over the last two and a half (2.5) years.

<sup>3</sup> Tim Hare, Hare Systems Support, personal communication, August 31, 2016.

**SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE**

**Exhibit 9: DOT Prime Time Capping Over Last Two and a Half Years<sup>4</sup>**



A requirement of the new solution would be to remove the concept of the cap provide the architecture and system resources necessary to perform the work required, thus improving overall system performance.

**2. Database Storage Requirements**

The following Table illustrates the current database application storage requirements and ratios for the FM Suite components.<sup>5</sup>

FM Suite Component	Space (MB)	Percentage (%) of Total FDOT Database Storage Space
FAMS	988 MB	0.2159%
FPM	2,176 MB	0.4755%
PCM	85,188 MB	18.6158%
WPA	22,359 MB	4.8860%

It is anticipated that the required database storage space for these FM components will likely increase given expanding system functionalities.

<sup>4</sup> Tim Hare, Hare Systems Support, personal communication, August 31, 2016.

<sup>5</sup> David C. Clark, Office of Information Technology, Florida Department of Transportation, personal communication, August 23, 2016.

## SCHEDULE IV-B FOR WORK PROGRAM INTEGRATION INITIATIVE

### VII. Schedule IV-B Project Management Planning

WPII uses a detailed Project Management Plan developed in accordance with standards of the Project Management Book of Knowledge. This plan addresses common project management topics including: Scope, Schedule, Project Organization, Deliverables Acceptance, Change Management, Risk Management and Status Reporting. (See Appendix G: WPII Project Management Plan)

### VIII. Appendices

Number and include all required spreadsheets along with any other tools, diagrams, charts, etc. chosen to accompany and support the narrative data provided by the agency within the Schedule IV-B.

- Appendix A: Cost Benefit Analysis
- Appendix B: Risk Assessment
- Appendix C: WPII Process Documents
- Appendix D: FHWA Reimbursements Process Documents
- Appendix E: FHWA Reimbursements Requirements
- Appendix F: Market Scan
- Appendix G: Project Management Plan
- Appendix H: Glossary of Terms

CBAForm 1 - Net Tangible Benefits

Agency	Department of Transportation	Project	Work Program Integration
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Net Tangible Benefits - Operational Cost Changes (Costs of Current Operations versus Proposed Operations as a Result of the Project) and Additional Tangible Benefits -- CBAForm 1A															
Agency <i>(Recurring Costs Only -- No Project Costs)</i>	FY 2017-18			FY 2018-19			FY 2019-20			FY 2020-21			FY 2021-22		
	(a) Existing Program Costs	(b) Operational Cost Change	(c) = (a)+(b) New Program Costs resulting from Proposed Project	(a) Existing Program Costs	(b) Operational Cost Change	(c) = (a) + (b) New Program Costs resulting from Proposed Project	(a) Existing Program Costs	(b) Operational Cost Change	(c) = (a) + (b) New Program Costs resulting from Proposed Project	(a) Existing Program Costs	(b) Cost Change Operational Cost Change	(c) = (a) + (b) New Program Costs resulting from Proposed Project	(a) Existing Program Costs	(b) Operational Cost Change	(c) = (a) + (b) New Program Costs resulting from Proposed Project
<b>A. Personnel Costs -- Agency-Managed Staff</b>	\$7,088,640	\$0	\$7,088,640	\$7,088,640	\$0	\$7,088,640	\$7,088,640	\$0	\$7,088,640	\$7,088,640	\$1,300,040	\$8,388,680	\$7,088,640	\$1,300,040	\$8,388,680
<b>A.b Total Staff</b>	120.00	0.00	120.00	120.00	0.00	120.00	120.00	0.00	120.00	120.00	22.00	142.00	120.00	22.00	142.00
<b>A-1.a. State FTEs (Salaries &amp; Benefits)</b>	\$7,088,640	\$0	\$7,088,640	\$7,088,640	\$0	\$7,088,640	\$7,088,640	\$0	\$7,088,640	\$7,088,640	\$1,300,040	\$8,388,680	\$7,088,640	\$1,300,040	\$8,388,680
<b>A-1.b. State FTEs (#)</b>	120.00	0.00	120.00	120.00	0.00	120.00	120.00	0.00	120.00	120.00	22.00	142.00	120.00	22.00	142.00
<b>A-2.a. OPS Staff (Salaries)</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>A-2.b. OPS (#)</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>A-3.a. Staff Augmentation (Contract Cost)</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>A-3.b. Staff Augmentation (# of Contractors)</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>B. Application Maintenance Costs</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B-1. Managed Services (Staffing)</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B-2. Hardware</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B-3. Software</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B-4. Other</b> Specify	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C. Data Center Provider Costs</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C-1. Managed Services (Staffing)</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C-2. Infrastructure</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C-3. Network / Hosting Services</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C-4. Disaster Recovery</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C-5. Other</b> Specify	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>D. Plant &amp; Facility Costs</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>E. Other Costs</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>E-1. Training</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>E-2. Travel</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>E-3. Other</b> Specify	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total of Recurring Operational Costs</b>	\$7,088,640	\$0	\$7,088,640	\$7,088,640	\$0	\$7,088,640	\$7,088,640	\$0	\$7,088,640	\$7,088,640	\$1,300,040	\$8,388,680	\$7,088,640	\$1,300,040	\$8,388,680
<b>F. Additional Tangible Benefits:</b>		\$0			\$0			\$105,000,000			\$0			\$200,000,000	
<b>F-1.</b> Work Program Efficiencies		\$0			\$0			\$105,000,000			\$0			\$180,000,000	
<b>F-2.</b> Reduce Risk of Federal Funding Loss		\$0			\$0			\$0			\$0			\$20,000,000	
<b>F-3.</b> Specify		\$0			\$0			\$0			\$0			\$0	
<b>Total Net Tangible Benefits:</b>		\$0			\$0			\$105,000,000			(\$1,300,040)			\$198,699,960	

CHARACTERIZATION OF PROJECT BENEFIT ESTIMATE -- CBAForm 1B		
Choose Type	Estimate Confidence	Enter % (+/-)
Detailed/Rigorous <input type="checkbox"/>	Confidence Level	
Order of Magnitude <input checked="" type="checkbox"/>	Confidence Level	20%
Placeholder <input type="checkbox"/>	Confidence Level	



A	B		C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T			
1	Department of Transportation	Work Program Integration																					
					CBA Form 2A Baseline Project Budget																		
					FY2017-18			FY2018-19			FY2019-20			FY2020-21			FY2021-22			TOTAL			
					\$ 6,261,660			\$ 15,356,391			\$ 45,356,391			\$ 2,856,391			\$ 2,856,391			\$ 2,500,000			\$ 75,187,224
4	Item Description <i>(remove guidelines and annotate entries here)</i>	Project Cost Element	Appropriation Category	Current & Previous Years Project-Related Cost	YR 1 #	YR 1 LBR	YR 1 Base Budget	YR 2 #	YR 2 LBR	YR 2 Base Budget	YR 3 #	YR 3 LBR	YR 3 Base Budget	YR 4 #	YR 4 LBR	YR 4 Base Budget	YR 5 #	YR 5 LBR	YR 5 Base Budget	TOTAL			
5	Costs for all state employees working on the project.	FTE	S&B	\$ 712,782	0.00	\$ -	\$ 356,391	0.00	\$ -	\$ 356,391	0.00	\$ -	\$ 356,391	0.00	\$ -	\$ 356,391	0.00	\$ -	\$ -	\$ -	\$ 2,138,346		
6	Costs for all OPS employees working on the project.	OPS	OPS	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ -		
7	Staffing costs for personnel using Time & Expense.	Staff Augmentation	Contracted Services	\$ 522,120	0.00	\$ 3,300,000	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ 3,822,120		
8	Project management personnel and related deliverables.	Project Management	Contracted Services	\$ 846,680	0.00	\$ 1,000,000	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ 1,846,680		
9	Project oversight to include Independent Verification & Validation (IV&V) personnel and related deliverables.	Project Oversight	Contracted Services	\$ 331,200	0.00	\$ 420,000	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ 751,200		
10	Staffing costs for all professional services not included in other categories.	Consultants/Contractors	Contracted Services	\$ 1,112,980	0.00	\$ 900,000	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	0.00	\$ -	\$ -	\$ -	\$ 2,012,980		
11	Separate requirements analysis and feasibility study procurements.	Project Planning/Analysis	Contracted Services	\$ 2,735,898		\$ 3,780,000	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ 6,515,898		
12	Hardware purchases not included in data center services.	Hardware	OCO	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
13	Commercial software purchases and licensing costs.	Commercial Software	Contracted Services	\$ -		\$ 3,000,000	\$ -		\$ 45,000,000	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ 48,000,000		
14	Professional services with fixed-price costs (i.e. software development, installation, project documentation)	Project Deliverables	Contracted Services	\$ -		\$ 100,000	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ 100,000		
15	All first-time training costs associated with the project.	Training	Contracted Services	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
16	Include the quote received from the data center provider for project equipment and services. Only include one-time project costs in this row. Recurring, project-related data center costs are included in CBA Form 1A.	Data Center Services - One Time Costs	Data Center Category	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
17	Other contracted services not included in other categories.	Other Services	Contracted Services	\$ -		\$ 2,500,000	\$ -		\$ -	\$ -		\$ 2,500,000	\$ -		\$ 2,500,000	\$ -		\$ 2,500,000	\$ -	\$ -	\$ 10,000,000		
18	Include costs for non-state data center equipment required by the project and the proposed solution (insert additional rows as needed for detail)	Equipment	Expense	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
19	Include costs associated with leasing space for project personnel.	Leased Space	Expense	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
20	Other project expenses not included in other categories.	Other Expenses	Expense	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
21		Total		\$ 6,261,660	0.00	\$ 15,000,000	\$ 356,391	0.00	\$ 45,000,000	\$ 356,391	0.00	\$ 2,500,000	\$ 356,391	0.00	\$ 2,500,000	\$ 356,391	0.00	\$ 2,500,000	\$ -	\$ -	\$ 75,187,224		

CBAForm 2 - Project Cost Analysis

Agency	<u>Department of Transportation</u>	Project	<u>Work Program Integration</u>
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PROJECT COST SUMMARY	PROJECT COST SUMMARY (from CBAForm 2A)					TOTAL
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	
TOTAL PROJECT COSTS (*)	\$15,356,391	\$45,356,391	\$2,856,391	\$2,856,391	\$2,500,000	\$75,187,224
CUMULATIVE PROJECT COSTS <i>(includes Current &amp; Previous Years' Project-Related Costs)</i>	\$21,618,051	\$66,974,442	\$69,830,833	\$72,687,224	\$75,187,224	

Total Costs are carried forward to CBAForm3 Project Investment Summary worksheet.

PROJECT FUNDING SOURCES	PROJECT FUNDING SOURCES - CBAForm 2B					TOTAL
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	
General Revenue	\$0	\$0	\$0	\$0	\$0	\$0
Trust Fund	\$15,000,000	\$45,000,000	\$2,500,000	\$2,500,000	\$2,500,000	\$67,500,000
Federal Match <input type="checkbox"/>	\$0	\$0	\$0	\$0	\$0	\$0
Grants <input type="checkbox"/>	\$0	\$0	\$0	\$0	\$0	\$0
Other <input type="checkbox"/> Specify	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL INVESTMENT</b>	\$15,000,000	\$45,000,000	\$2,500,000	\$2,500,000	\$2,500,000	\$67,500,000
<b>CUMULATIVE INVESTMENT</b>	\$15,000,000	\$60,000,000	\$62,500,000	\$65,000,000	\$67,500,000	

Characterization of Project Cost Estimate - CBAForm 2C		
Choose Type	Estimate Confidence	Enter % (+/-)
Detailed/Rigorous	Confidence Level	
Order of Magnitude <input checked="" type="checkbox"/>	Confidence Level	40%
Placeholder	Confidence Level	

CBAForm 3 - Project Investment Summary

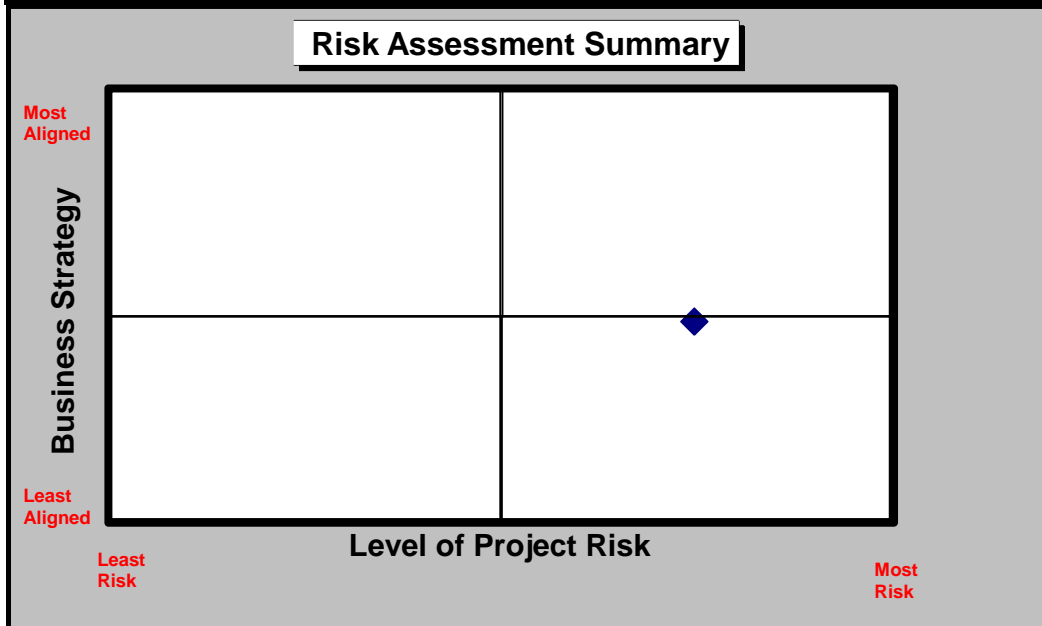
Agency	<u>Department of Transportation</u>	Project	<u>Work Program Integration</u>
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<i>COST BENEFIT ANALYSIS -- CBAForm 3A</i>						
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	TOTAL FOR ALL YEARS
Project Cost	\$15,356,391	\$45,356,391	\$2,856,391	\$2,856,391	\$2,500,000	\$75,187,224
Net Tangible Benefits	\$0	\$0	\$105,000,000	(\$1,300,040)	\$198,699,960	\$302,399,920
Return on Investment	(\$21,618,051)	(\$45,356,391)	\$102,143,609	(\$4,156,431)	\$196,199,960	\$227,212,696
Year to Year Change in Program Staffing	0	0	0	22	22	

<i>RETURN ON INVESTMENT ANALYSIS -- CBAForm 3B</i>		
Payback Period (years)	2 2/3	Payback Period is the time required to recover the investment costs of the project.
Breakeven Fiscal Year	2019-20	Fiscal Year during which the project's investment costs are recovered.
Net Present Value (NPV)	\$179,566,537	NPV is the present-day value of the project's benefits less costs over the project's lifecycle.
Internal Rate of Return (IRR)	84.64%	IRR is the project's rate of return.

<i>Investment Interest Earning Yield -- CBAForm 3C</i>					
Fiscal Year	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Cost of Capital	1.94%	2.07%	3.18%	4.32%	4.85%

<b>Project</b>	<i>Work Program Integration Initiative</i>	
<b>Agency</b>	<i>Transportation</i>	
<b>FY 2016-17 LBR Issue Code:</b>	<b>FY 2016-17 LBR Issue Title:</b>	
<i>Issue Code</i>	<i>Work Program Integration Initiative</i>	
<b>Risk Assessment Contact Info (Name, Phone #, and E-mail Address):</b>		
<b>Executive Sponsor</b>	<i>Rachel Cone</i>	
<b>Project Manager</b>	<i>Tom McCullion</i>	
<b>Prepared By</b>	<i>Jeremy Segers</i>	<i>9/23/2016</i>



<b>Project Risk Area Breakdown</b>	
Risk Assessment Areas	Risk Exposure
Strategic Assessment	MEDIUM
Technology Exposure Assessment	HIGH
Organizational Change Management Assessment	HIGH
Communication Assessment	MEDIUM
Fiscal Assessment	HIGH
Project Organization Assessment	MEDIUM
Project Management Assessment	MEDIUM
Project Complexity Assessment	HIGH
<b>Overall Project Risk</b>	
	<b>HIGH</b>

Agency: Transportation

Project: Work Program Integration Initiative

Section 1 -- Strategic Area			
#	Criteria	Values	Answer
1.01	Are project objectives clearly aligned with the agency's legal mission?	0% to 40% -- Few or no objectives aligned	81% to 100% -- All or nearly all objectives aligned
		41% to 80% -- Some objectives aligned	
		81% to 100% -- All or nearly all objectives aligned	
1.02	Are project objectives clearly documented and understood by all stakeholder groups?	Not documented or agreed to by stakeholders	Documented with sign-off by stakeholders
		Informal agreement by stakeholders	
		Documented with sign-off by stakeholders	
1.03	Are the project sponsor, senior management, and other executive stakeholders actively involved in meetings for the review and success of the project?	Not or rarely involved	Project charter signed by executive sponsor and executive team actively engaged in steering committee meetings
		Most regularly attend executive steering committee meetings	
		Project charter signed by executive sponsor and executive team actively engaged in steering committee meetings	
1.04	Has the agency documented its vision for how changes to the proposed technology will improve its business processes?	Vision is not documented	Vision is completely documented
		Vision is partially documented	
		Vision is completely documented	
1.05	Have all project business/program area requirements, assumptions, constraints, and priorities been defined and documented?	0% to 40% -- Few or none defined and documented	41% to 80% -- Some defined and documented
		41% to 80% -- Some defined and documented	
		81% to 100% -- All or nearly all defined and documented	
1.06	Are all needed changes in law, rule, or policy identified and documented?	No changes needed	Changes unknown
		Changes unknown	
		Changes are identified in concept only	
		Changes are identified and documented	
		Legislation or proposed rule change is drafted	
1.07	Are any project phase or milestone completion dates fixed by outside factors, e.g., state or federal law or funding restrictions?	Few or none	Few or none
		Some	
		All or nearly all	
1.08	What is the external (e.g. public) visibility of the proposed system or project?	Minimal or no external use or visibility	Minimal or no external use or visibility
		Moderate external use or visibility	
		Extensive external use or visibility	
1.09	What is the internal (e.g. state agency) visibility of the proposed system or project?	Multiple agency or state enterprise visibility	Single agency-wide use or visibility
		Single agency-wide use or visibility	
		Use or visibility at division and/or bureau level only	
1.10	Is this a multi-year project?	Greater than 5 years	Greater than 5 years
		Between 3 and 5 years	
		Between 1 and 3 years	
		1 year or less	

Section 2 -- Technology Area			
#	Criteria	Values	Answer
2.01	Does the agency have experience working with, operating, and supporting the proposed technology in a production environment?	Read about only or attended conference and/or vendor presentation	Read about only or attended conference and/or vendor presentation
		Supported prototype or production system less than 6 months	
		Supported production system 6 months to 12 months	
		Supported production system 1 year to 3 years	
		Installed and supported production system more than 3 years	
2.02	Does the agency's internal staff have sufficient knowledge of the proposed technology to implement and operate the new system?	External technical resources will be needed for implementation and operations	External technical resources will be needed for implementation and operations
		External technical resources will be needed through implementation only	
		Internal resources have sufficient knowledge for implementation and operations	
2.03	Have all relevant technology alternatives/ solution options been researched, documented and considered?	No technology alternatives researched	Some alternatives documented and considered
		Some alternatives documented and considered	
		All or nearly all alternatives documented and considered	
2.04	Does the proposed technology comply with all relevant agency, statewide, or industry technology standards?	No relevant standards have been identified or incorporated into proposed technology	No relevant standards have been identified or incorporated into proposed technology
		Some relevant standards have been incorporated into the proposed technology	
		Proposed technology solution is fully compliant with all relevant agency, statewide, or industry standards	
2.05	Does the proposed technology require significant change to the agency's existing technology infrastructure?	Minor or no infrastructure change required	Moderate infrastructure change required
		Moderate infrastructure change required	
		Extensive infrastructure change required	
		Complete infrastructure replacement	
2.06	Are detailed hardware and software capacity requirements defined and documented?	Capacity requirements are not understood or defined	Capacity requirements are defined only at a conceptual level
		Capacity requirements are defined only at a conceptual level	
		Capacity requirements are based on historical data and new system design specifications and performance requirements	

Section 3 -- Organizational Change Management Area			
#	Criteria	Values	Answer
3.01	What is the expected level of organizational change that will be imposed within the agency if the project is successfully implemented?	Extensive changes to organization structure, staff or business processes	Moderate changes to organization structure, staff or business processes
		Moderate changes to organization structure, staff or business processes	
		Minimal changes to organization structure, staff or business processes structure	
3.02	Will this project impact essential business processes?	Yes	Yes
		No	
3.03	Have all business process changes and process interactions been defined and documented?	0% to 40% -- Few or no process changes defined and documented	41% to 80% -- Some process changes defined and documented
		41% to 80% -- Some process changes defined and documented	
		81% to 100% -- All or nearly all processes defined and documented	
3.04	Has an Organizational Change Management Plan been approved for this project?	Yes	No
		No	
3.05	Will the agency's anticipated FTE count change as a result of implementing the project?	Over 10% FTE count change	Less than 1% FTE count change
		1% to 10% FTE count change	
		Less than 1% FTE count change	
3.06	Will the number of contractors change as a result of implementing the project?	Over 10% contractor count change	Less than 1% contractor count change
		1 to 10% contractor count change	
		Less than 1% contractor count change	
3.07	What is the expected level of change impact on the citizens of the State of Florida if the project is successfully implemented?	Extensive change or new way of providing/receiving services or information)	Minor or no changes
		Moderate changes	
		Minor or no changes	
3.08	What is the expected change impact on other state or local government agencies as a result of implementing the project?	Extensive change or new way of providing/receiving services or information	Moderate changes
		Moderate changes	
		Minor or no changes	
3.09	Has the agency successfully completed a project with similar organizational change requirements?	No experience/Not recently (>5 Years)	Recently completed project with fewer change requirements
		Recently completed project with fewer change requirements	
		Recently completed project with similar change requirements	
		Recently completed project with greater change requirements	

Agency: Agency Name

Project: Project Name

Section 4 -- Communication Area			
#	Criteria	Value Options	Answer
4.01	Has a documented Communication Plan been approved for this project?	Yes	Yes
		No	
4.02	Does the project Communication Plan promote the collection and use of feedback from management, project team, and business stakeholders (including end users)?	Negligible or no feedback in Plan	Routine feedback in Plan
		Routine feedback in Plan	
		Proactive use of feedback in Plan	
4.03	Have all required communication channels been identified and documented in the Communication Plan?	Yes	Yes
		No	
4.04	Are all affected stakeholders included in the Communication Plan?	Yes	Yes
		No	
4.05	Have all key messages been developed and documented in the Communication Plan?	Plan does not include key messages	All or nearly all messages are documented
		Some key messages have been developed	
		All or nearly all messages are documented	
4.06	Have desired message outcomes and success measures been identified in the Communication Plan?	Plan does not include desired messages outcomes and success measures	Plan does not include desired messages outcomes and success measures
		Success measures have been developed for some messages	
		All or nearly all messages have success measures	
4.07	Does the project Communication Plan identify and assign needed staff and resources?	Yes	Yes
		No	



Section 5 -- Fiscal Area			
#	Criteria	Values	Answer
5.01	Has a documented Spending Plan been approved for the entire project lifecycle?	Yes	No
		No	
5.02	Have all project expenditures been identified in the Spending Plan?	0% to 40% -- None or few defined and documented	0% to 40% -- None or few defined and documented
		41% to 80% -- Some defined and documented	
		81% to 100% -- All or nearly all defined and documented	
5.03	What is the estimated total cost of this project over its entire lifecycle?	Unknown	Greater than \$10 M
		Greater than \$10 M	
		Between \$2 M and \$10 M	
		Between \$500K and \$1,999,999	
		Less than \$500 K	
5.04	Is the cost estimate for this project based on quantitative analysis using a standards-based estimation model?	Yes	No
		No	
5.05	What is the character of the cost estimates for this project?	Detailed and rigorous (accurate within ±10%)	Order of magnitude – estimate could vary between 10-100%
		Order of magnitude – estimate could vary between 10-100%	
		Placeholder – actual cost may exceed estimate by more than 100%	
5.06	Are funds available within existing agency resources to complete this project?	Yes	No
		No	
5.07	Will/should multiple state or local agencies help fund this project or system?	Funding from single agency	Funding from single agency
		Funding from local government agencies	
		Funding from other state agencies	
5.08	If federal financial participation is anticipated as a source of funding, has federal approval been requested and received?	Neither requested nor received	Neither requested nor received
		Requested but not received	
		Requested and received	
		Not applicable	
5.09	Have all tangible and intangible benefits been identified and validated as reliable and achievable?	Project benefits have not been identified or validated	Project benefits have not been identified or validated
		Some project benefits have been identified but not validated	
		Most project benefits have been identified but not validated	
		All or nearly all project benefits have been identified and validated	
5.10	What is the benefit payback period that is defined and documented?	Within 1 year	No payback
		Within 3 years	
		Within 5 years	
		More than 5 years	
		No payback	
5.11	Has the project procurement strategy been clearly determined and agreed to by affected stakeholders?	Procurement strategy has not been identified and documented	Procurement strategy has not been identified and documented
		Stakeholders have not been consulted re: procurement strategy	
		Stakeholders have reviewed and approved the proposed procurement strategy	
5.12	What is the planned approach for acquiring necessary products and solution services to successfully complete the project?	Time and Expense (T&E)	Combination FFP and T&E
		Firm Fixed Price (FFP)	
		Combination FFP and T&E	
5.13	What is the planned approach for procuring hardware and software for the project?	Timing of major hardware and software purchases has not yet been determined	Timing of major hardware

Section 5 -- Fiscal Area			
#	Criteria	Values	Answer
		Purchase all hardware and software at start of project to take advantage of one-time discounts	and software purchases has not yet been determined
		Just-in-time purchasing of hardware and software is documented in the project schedule	
5.14	Has a contract manager been assigned to this project?	No contract manager assigned	Contract manager assigned is not the procurement manager or the project manager
		Contract manager is the procurement manager	
		Contract manager is the project manager	
		Contract manager assigned is not the procurement manager or the project manager	
5.15	Has equipment leasing been considered for the project's large-scale computing purchases?	Yes	No
		No	
5.16	Have all procurement selection criteria and outcomes been clearly identified?	No selection criteria or outcomes have been identified	No selection criteria or outcomes have been identified
		Some selection criteria and outcomes have been defined and documented	
		All or nearly all selection criteria and expected outcomes have been defined and documented	
5.17	Does the procurement strategy use a multi-stage evaluation process to progressively narrow the field of prospective vendors to the single, best qualified candidate?	Procurement strategy has not been developed	Procurement strategy has not been developed
		Multi-stage evaluation not planned/used for procurement	
		Multi-stage evaluation and proof of concept or prototype planned/used to select best qualified vendor	
5.18	For projects with total cost exceeding \$10 million, did/will the procurement strategy require a proof of concept or prototype as part of the bid response?	Procurement strategy has not been developed	Procurement strategy has not been developed
		No, bid response did/will not require proof of concept or prototype	
		Yes, bid response did/will include proof of concept or prototype	
		Not applicable	

Agency: Transportation

Project: Work Program Integration Initiative

Section 6 -- Project Organization Area			
#	Criteria	Values	Answer
6.01	Is the project organization and governance structure clearly defined and documented within an approved project plan?	Yes	Yes
		No	
6.02	Have all roles and responsibilities for the executive steering committee been clearly identified?	None or few have been defined and documented	All or nearly all have been defined and documented
		Some have been defined and documented	
		All or nearly all have been defined and documented	
6.03	Who is responsible for integrating project deliverables into the final solution?	Not yet determined	Not yet determined
		Agency	
		System Integrator (contractor)	
6.04	How many project managers and project directors will be responsible for managing the project?	3 or more	3 or more
		2	
		1	
6.05	Has a project staffing plan specifying the number of required resources (including project team, program staff, and contractors) and their corresponding roles, responsibilities and needed skill levels been developed?	Needed staff and skills have not been identified	Needed staff and skills have not been identified
		Some or most staff roles and responsibilities and needed skills have been identified	
		Staffing plan identifying all staff roles, responsibilities, and skill levels have been documented	
6.06	Is an experienced project manager dedicated fulltime to the project?	No experienced project manager assigned	Yes, experienced project manager dedicated full-time, 100% to project
		No, project manager is assigned 50% or less to project	
		No, project manager assigned more than half-time, but less than full-time to project	
		Yes, experienced project manager dedicated full-time, 100% to project	
6.07	Are qualified project management team members dedicated full-time to the project	None	Yes, business, functional or technical experts dedicated full-time, 100% to project
		No, business, functional or technical experts dedicated 50% or less to project	
		No, business, functional or technical experts dedicated more than half-time but less than full-time to project	
		Yes, business, functional or technical experts dedicated full-time, 100% to project	
6.08	Does the agency have the necessary knowledge, skills, and abilities to staff the project team with in-house resources?	Few or no staff from in-house resources	Mostly staffed from in-house resources
		Half of staff from in-house resources	
		Mostly staffed from in-house resources	
		Completely staffed from in-house resources	
6.09	Is agency IT personnel turnover expected to significantly impact this project?	Minimal or no impact	Minimal or no impact
		Moderate impact	
		Extensive impact	
6.10	Does the project governance structure establish a formal change review and control board to address proposed changes in project scope, schedule, or cost?	Yes	Yes
		No	
6.11	Are all affected stakeholders represented by functional manager on the change review and control board?	No board has been established	Yes, all stakeholders are represented by functional manager
		No, only IT staff are on change review and control board	
		No, all stakeholders are not represented on the board	
		Yes, all stakeholders are represented by functional manager	

Agency: Transportation

Project: Work Program Integration Initiative

Section 7 -- Project Management Area			
#	Criteria	Values	Answer
7.01	Does the project management team use a standard commercially available project management methodology to plan, implement, and control the project?	No	Yes
		Project Management team will use the methodology selected by the systems integrator	
		Yes	
7.02	For how many projects has the agency successfully used the selected project management methodology?	None	More than 3
		1-3	
		More than 3	
7.03	How many members of the project team are proficient in the use of the selected project management methodology?	None	All or nearly all
		Some	
		All or nearly all	
7.04	Have all requirements specifications been unambiguously defined and documented?	0% to 40% -- None or few have been defined and documented	0% to 40% -- None or few have been defined and documented
		41 to 80% -- Some have been defined and documented	
		81% to 100% -- All or nearly all have been defined and documented	
7.05	Have all design specifications been unambiguously defined and documented?	0% to 40% -- None or few have been defined and documented	0% to 40% -- None or few have been defined and documented
		41 to 80% -- Some have been defined and documented	
		81% to 100% -- All or nearly all have been defined and documented	
7.06	Are all requirements and design specifications traceable to specific business rules?	0% to 40% -- None or few are traceable	0% to 40% -- None or few are traceable
		41 to 80% -- Some are traceable	
		81% to 100% -- All or nearly all requirements and specifications are traceable	
7.07	Have all project deliverables/services and acceptance criteria been clearly defined and documented?	None or few have been defined and documented	All or nearly all deliverables and acceptance criteria have been defined and documented
		Some deliverables and acceptance criteria have been defined and documented	
		All or nearly all deliverables and acceptance criteria have been defined and documented	
7.08	Is written approval required from executive sponsor, business stakeholders, and project manager for review and sign-off of major project deliverables?	No sign-off required	Review and sign-off from the executive sponsor, business stakeholder, and project manager are required on all major project deliverables
		Only project manager signs-off	
		Review and sign-off from the executive sponsor, business stakeholder, and project manager are required on all major project deliverables	
7.09	Has the Work Breakdown Structure (WBS) been defined to the work package level for all project activities?	0% to 40% -- None or few have been defined to the work package level	81% to 100% -- All or nearly all have been defined to the work package level
		41 to 80% -- Some have been defined to the work package level	
		81% to 100% -- All or nearly all have been defined to the work package level	
7.10	Has a documented project schedule been approved for the entire project lifecycle?	Yes	No
		No	
7.11	Does the project schedule specify all project tasks, go/no-go decision points (checkpoints),	Yes	Yes

Agency: Transportation

Project: Work Program Integration Initiative

Section 7 -- Project Management Area			
#	Criteria	Values	Answer
	critical milestones, and resources?	No	Yes
7.12	Are formal project status reporting processes documented and in place to manage and control this project?	No or informal processes are used for status reporting	Project team and executive steering committee use formal status reporting processes
		Project team uses formal processes	
		Project team and executive steering committee use formal status reporting processes	
7.13	Are all necessary planning and reporting templates, e.g., work plans, status reports, issues and risk management, available?	No templates are available	All planning and reporting templates are available
		Some templates are available	
		All planning and reporting templates are available	
7.14	Has a documented Risk Management Plan been approved for this project?	Yes	Yes
		No	
7.15	Have all known project risks and corresponding mitigation strategies been identified?	None or few have been defined and documented	All known risks and mitigation strategies have been defined
		Some have been defined and documented	
		All known risks and mitigation strategies have been defined	
7.16	Are standard change request, review and approval processes documented and in place for this project?	Yes	Yes
		No	
7.17	Are issue reporting and management processes documented and in place for this project?	Yes	Yes
		No	

Section 8 -- Project Complexity Area			
#	Criteria	Values	Answer
8.01	How complex is the proposed solution compared to the current agency systems?	Unknown at this time	Unknown at this time
		More complex	
		Similar complexity	
		Less complex	
8.02	Are the business users or end users dispersed across multiple cities, counties, districts, or regions?	Single location	More than 3 sites
		3 sites or fewer	
		More than 3 sites	
8.03	Are the project team members dispersed across multiple cities, counties, districts, or regions?	Single location	More than 3 sites
		3 sites or fewer	
		More than 3 sites	
8.04	How many external contracting or consulting organizations will this project require?	No external organizations	1 to 3 external organizations
		1 to 3 external organizations	
		More than 3 external organizations	
8.05	What is the expected project team size?	Greater than 15	Greater than 15
		9 to 15	
		5 to 8	
		Less than 5	
8.06	How many external entities (e.g., other agencies, community service providers, or local government entities) will be impacted by this project or system?	More than 4	More than 4
		2 to 4	
		1	
		None	
8.07	What is the impact of the project on state operations?	Business process change in single division or bureau	Agency-wide business process change
		Agency-wide business process change	
		Statewide or multiple agency business process change	
8.08	Has the agency successfully completed a similarly-sized project when acting as Systems Integrator?	Yes	Yes
		No	
8.09	What type of project is this?	Infrastructure upgrade	Combination of the above
		Implementation requiring software development or purchasing commercial off the shelf (COTS) software	
		Business Process Reengineering	
		Combination of the above	
8.10	Has the project manager successfully managed similar projects to completion?	No recent experience	Lesser size and complexity
		Lesser size and complexity	
		Similar size and complexity	
		Greater size and complexity	
8.11	Does the agency management have experience governing projects of equal or similar size and complexity to successful completion?	No recent experience	Similar size and complexity
		Lesser size and complexity	
		Similar size and complexity	
		Greater size and complexity	



**FLORIDA DEPARTMENT OF TRANSPORTATION**

**FY2017/18 SCHEDULE IV-B**

**APPENDIX C**

***(WP11-BPA - DELIVERABLE 18A: TO-BE SUMMARY)***

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**Quality Review**

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## SECTION 1 TO-BE ANALYSIS PHASE

### 1.1 TO-BE PHASE SUMMARY

The Florida Department of Transportation's (FDOT) Work Program Integration Initiative (WPII) Business Process Analysis (BPA) Project consisted of two primary, initial phases: As-Is process analysis and To-Be process analysis. Following completion of the As-Is phase, the combined FDOT and North Highland team commenced the To-Be phase in August 2015. During the To-Be phase, the project team collaborated with FDOT business process owners and stakeholders at the Central Office, all seven districts, and the Turnpike Enterprise to develop future-state versions of core business processes which support the Department's finance transformation lifecycle. The latest draft copies of the To-Be business process narratives are available for review on the FDOT SharePoint website.

The project team employed a multistep approach to develop the To-Be business processes. For each in-scope process, FDOT and North Highland team members met to evaluate future-state process design needs and considerations. The As-Is business process narratives served as the critical starting point since many contained preliminary process improvement opportunities and provided a valuable basis to analyze, challenge, and enhance the core processes. Following the initial process interviews, the findings were integrated into the current business processes to derive the conceptual To-Be processes. For each process change identified, the team thoughtfully considered and documented the benefits, impacts, and realistic constraints to implementing the change. The draft To-Be process narratives were then iteratively validated and updated to reflect the FDOT process owners' and stakeholders' feedback.

### 1.2 DRAFT TO-BE PROCESS NARRATIVES

In accordance with the agreed upon WPII BPA project expectations and in support of the revised project scope and schedule, the draft To-Be business process narratives were provided to FDOT in varying stages of completion. As the To-Be phase progressed, it was determined a deeper level of process analysis and documentation were necessary to allow the team to adequately focus on a key area of the finance transformation lifecycle, that being FHWA billing and reimbursements. As a result of this change in project approach, the team ceased development of the draft To-Be process narratives and submitted the documentation for FDOT archival.

The draft narratives primarily reflect the feedback and revisions from the Central Office interviews and validation sessions. The process feedback gathered during the visits to the districts and Turnpike Enterprise are not reflected in the drafts. Additional review and confirmation of these proposed changes should be evaluated by the Central Office process owners and stakeholders before implementing them in the future-state process narratives. The project scope and schedule do not include these activities at this time. However, the process change ideas identified in the districts and Turnpike Enterprise were provided to FDOT for reference.

The draft To-Be narratives can be used as valuable inputs to support future project phases and process/ROI analysis as necessary, beginning with the FHWA-Billing initiative. In addition, the drafts may be revised or altogether reconfigured/combined with other narratives to develop pertinent documentation to meet future process analysis needs.

The exhibit below lists the draft To-Be business process narratives and their respective completion statuses. The completion statuses are defined as follows:

- **Initial Validation:** Process narrative was updated to reflect the latest recommendations and feedback from the initial validation session(s). The updates have not been reviewed by FDOT for final approval.
- **Pre-validation:** Process narrative was updated to reflect only the initial recommendations and feedback from the To-Be interview(s). No validations have occurred.

TO-BE PROCESS NAME	COMPLETION STATUS
<b>PLAN</b>	
Develop Program and Resource Plan	Initial Validation
Develop Report to the Transportation Commission	Initial Validation
Develop Schedule A – Federal Allocations	Initial Validation
Develop Schedule A – State Allocations	Initial Validation
Develop Schedule B – Program Targets	Initial Validation
Execute Program Planning Workshops	Initial Validation
Generate Relevant Revenue Estimates	Initial Validation
Maintain Resurfacing Monitor	Initial Validation
Develop Program and Resource Plan	Initial Validation
<b>PROGRAM</b>	
Administer State Planning and Research Program	Initial Validation
Authorize State Funded Projects	Initial Validation
Build Tentative Work Program (WP)*	Pre-validation
Conduct Statewide Annual Program Review	Initial Validation
Develop Florida Rail Enterprise Program	Initial Validation
Develop Lockdown Plan	Initial Validation
Develop Non-SIS 2-Year Plan - Modes: Rail (Central Office)	Initial Validation
Develop Non-SIS 5-Year Plan - Modes: Aviation and Spaceports	Initial Validation
Develop Non-SIS 5-Year Plan - Modes: Intermodal	Initial Validation
Develop Non-SIS 5-Year Plan - Modes: Rail (District)	Initial Validation
Develop Non-SIS 5-Year Plan - Modes: Seaport (Central Office)	Initial Validation
Develop Non-SIS 5-Year Plan - Modes: Seaport (District)	Initial Validation
Develop Non-SIS 5-Year Plan - Modes: Transit	Initial Validation
Develop SIS 10-Year Plan	Initial Validation
Develop SIS 5-Year Plan	Initial Validation
Develop State Maintenance Budget	Initial Validation

TO-BE PROCESS NAME	COMPLETION STATUS
Manage Roll Forward	Pre-validation
Process Amendments*	Pre-validation
Process STIP Amendments	Initial Validation
Process TIP Amendments	Initial Validation
Track Non-Budgeted Projects – Other Modes	Initial Validation
Validate Highway Landscape Installation	Initial Validation
<b>IMPLEMENT</b>	
Develop Package for Central Office Lettings	Initial Validation
Execute Contracts - Acquisition of Professional Services	Initial Validation
Execute Contracts - Road and Bridge Construction Contracts	Pre-validation
Execute Pavement Management	Pre-validation
Manage Current Year of Adopted WP*	Pre-validation
Manage Federal Funds Authorization	Pre-validation
Manage Project Overhead	Initial Validation
Manage Safety Engineering	Initial Validation
Perform Project Close Out – Federal Funds	Initial Validation
Project Costing	Initial Validation
Request Reimbursements – Federal Grant Programs (Non-FHWA)	Initial Validation
Request Reimbursements – FEMA	Initial Validation
Request Reimbursements – FHWA	Initial Validation
Request Reimbursements – Local Fund Agreements	Initial Validation
Request Reimbursements – Toll Authorities	Initial Validation
Support Distributions	Initial Validation
<b>MANAGE, MONITOR, and REPORT</b>	
Create Annual Obligation Authority Plan	Pre-validation
Develop and Evaluate Stability Reporting	Initial Validation
Develop Finance Plan – State Transportation Trust Fund	Initial Validation
Develop Finance Plan – Turnpike Enterprise Revenue and Bond Funds	Initial Validation
Develop Monthly Cash Forecasts	Initial Validation
Develop Program Objectives and Accomplishments Report	Initial Validation
Manage Advance Construction Program	Pre-validation
Manage Financially Inactive Projects	Pre-validation
Manage Monthly Performance Reporting	Initial Validation
<i>*Process has been further revised by FDOT staff, and the revisions are not reflected in the narrative.</i>	

**Exhibit 1: To-Be Narratives with Status**

### 1.3 OUTSTANDING AS-IS PROCESS NARRATIVES

In addition to the draft To-Be process narratives, a series of As-Is process narratives were developed with FDOT during the To-Be phase. These narratives remain in draft format and may be revisited to support future FDOT process analysis initiatives.

The exhibit below lists the draft As-Is business process narratives and their respective completion statuses. The completion statuses are defined as follows:

- Initial Validation: Process narrative was updated to reflect the latest recommendations and feedback from the initial validation session(s). The updates have not been reviewed by FDOT for final approval.
- Pre-validation: Process narrative was updated to reflect only the initial feedback from the As-Is interview(s). No validations have occurred.

AS-IS PROCESS NAME	COMPLETION STATUS
<b>IMPLEMENT</b>	
Support Central Office Advertisements – Funds Approval	Initial Validation
Support Central Office Awards – Funds Approval	Initial Validation
Support District Advertisements – Funds Approval	Initial Validation
Support District Awards – Funds Approval	Initial Validation
Support Funds Approval – Governor Declared Emergency Events	Initial Validation
Support Funds Approval – Secretary Declared Emergency Events	Initial Validation
Support Contract Execution – Status Change	Initial Validation
Support Reviewed Funds Approval	Initial Validation
Support Funds Approval – Settlement Agreements	Initial Validation
Support Funds Approval – Non Contractual Encumbrances	Initial Validation
Support Funds Approval – New Purchase Order	Initial Validation
Support Funds Approval – Edit Purchase Order	Initial Validation
Support Funds Approval – New Contracts	Initial Validation
Support Funds Approval – Edit Contracts	Initial Validation
Develop Right of Way Expenditure Plan	Initial Validation
Execute Contracts – Asset Maintenance Contracts	Pre-validation

**Exhibit 2: As-Is Narratives with Status**

## 1.4 ADDITIONAL PROCESSES IDENTIFIED

Over the course of the To-Be phase, additional FDOT business processes were identified as candidates for future As-Is and To-Be process analysis. FDOT team members conducted a series of working sessions to review, refine, and disposition these processes, and the exhibit below displays the output.

With the exception of the Funds Approval-related processes (referenced in Section 1.3 above) and the Create Billing to FHWA for Reimbursement of Federal Expenditures process (referenced in Section 1.5 below), these processes have not been analyzed or documented at any level for the WPII initiative. They should serve as inputs to shaping future project scope as applicable. FDOT maintains the comprehensive, master list of processes and their respective categorizations, descriptions, and disclaimers.

PROCESS NAME	DISPOSITION	PHASE TO ADDRESS
<b>PLAN</b>		
Determine Schedule A inputs from Resurfacing Model	In Scope	Detailed Requirements
Determine Schedule A inputs from T-Tables	TBD	Research Pending
Develop Long Range Revenue Forecast	In Scope	Detailed Requirements
Develop Schedule A – Obligating Authority Constraints - Primary Input to the Schedule A	In Scope	Detailed Requirements
<b>PROGRAM</b>		
Compilation of the Governor's Recommended Budget	In Scope	Business Process Analysis
Confirm Tentative Release Balances	In Scope	Detailed Requirements
Create/Maintain Project Scheduling	Not Reviewed	Business Process Analysis
Develop/Approve Conference Bill for General Appropriations	In Scope	Business Process Analysis
Develop/Pass General Appropriations Act	In Scope	No Action Required
Development of Operating and FCO Budgets	In Scope	Detailed Requirements
Financial Statement Closing	In Scope	Business Process Analysis
Interface with FLAIR for Certification	In Scope	Detailed Requirements
Legislative Budget Amendment Process	In Scope	Business Process Analysis
Manage Soft Match Toll Credits	In Scope	Business Process Analysis
Perform Balancing and Reconciliation of Certified Forward	In Scope	Detailed Requirements
Reconcile Certification Forward Spreadsheets with Encumbrance Balance Report	In Scope	Detailed Requirements
Review SAB	In Scope	Detailed Requirements
Track Non-Budgeted Projects - Highway Component	In Scope	Business Process Analysis

PROCESS NAME	DISPOSITION	PHASE TO ADDRESS
Year End - State Fiscal	In Scope	Business Process Analysis
IMPLEMENT		
Authorize Local and Bond Funded Projects	In Scope	Business Process Analysis
Authorize Other Federal Grant projects	In Scope	Business Process Analysis
Certain Exceptions to the Criteria for the Correlation Entries	In Scope	Detailed Requirements
Closer Program	In Scope	Detailed Requirements
Cost Transfer	In Scope	Business Process Analysis
Create Billing to FHWA for Reimbursement of Federal Expenditures	In Scope	Business Process Analysis
Create Monthly MEQ File	In Scope	Detailed Requirements
Create Monthly MSI File	In Scope	Detailed Requirements
Create Work Program Instructions	In Scope	Business Process Analysis
Create/Manage Crosswalks	In Scope	Business Process Analysis
Develop and Maintain Cost Allocation Rules and Allocation Basis	In Scope	Business Process Analysis
Develop Monthly & Final Estimates	In Scope	Business Process Analysis
Emergency & Disaster Programming	In Scope	Business Process Analysis
Execute Contract Close Out - Construction Contracts	In Scope	Business Process Analysis
Execute Contract Close Out - Contractual Services/Commodities Contracts	In Scope	Business Process Analysis
Execute Contract Close Out - Grant Disbursement Agreements (GDA)	In Scope	Business Process Analysis
Execute Contract Close Out - Joint Participation Agreements (JPA)	In Scope	Business Process Analysis
Execute Contract Close Out - Local Funds Agreements (LFA)	In Scope	Business Process Analysis
Execute Contract Close Out - Maintenance Contracts	In Scope	Business Process Analysis
Execute Contract Close Out - Professional Services Contracts	In Scope	Business Process Analysis
Execute Contracts - Contractual Services/Commodities	In Scope	Business Process Analysis
Execute Contracts - Grant Disbursement Agreements (GDA)	In Scope	Business Process Analysis
Execute Contracts - Joint Participation Agreements (JPA)	In Scope	Business Process Analysis
Execute Contracts - Local Funds Agreements (LFA)	In Scope	Business Process Analysis
Execute Federal Reconciliation Process – Primary input to the Schedule A	In Scope	Business Process Analysis

PROCESS NAME	DISPOSITION	PHASE TO ADDRESS
Freight Logistics & Passenger Operations	TBD	Research Pending
Maintain Federal Allocations	In Scope	Business Process Analysis
Maintain State Allocations	In Scope	Business Process Analysis
Maintain Targets	In Scope	Business Process Analysis
Manage Contracts - Construction	In Scope	Business Process Analysis
Manage Contracts - Contractual Services/Commodities	In Scope	Business Process Analysis
Manage Contracts - Grant Disbursement Agreements (GDA)	In Scope	Business Process Analysis
Manage Contracts - Joint Participation Agreements (JPA)	In Scope	Business Process Analysis
Manage Contracts - Local Funds Agreements (LFA)	In Scope	Business Process Analysis
Manage Contracts - Maintenance	In Scope	Business Process Analysis
Manage Contracts - Professional Services	In Scope	Business Process Analysis
Manage Deferred Reimbursement Agreements	In Scope	Business Process Analysis
Manage ITS Needs-Based Projects Not on the ITS CFP	TBD	Research Pending
Manage Maintenance Memorandums of Agreement (MOA)	In Scope	Business Process Analysis
Prepare Cash Management Improvement Act (CMIA) Clearance Pattern for DFS	In Scope	Business Process Analysis
Right of Way and Bridge Construction Trust Fund (Bond) Reimbursement	In Scope	Business Process Analysis
Support Contract Awards - Modify Funds Approval	In Scope	Business Process Analysis
Support Funds Approvals - Maintain Advertisements	In Scope	Business Process Analysis
Support Funds Approvals - Maintain Non Contractual Encumbrances	In Scope	Business Process Analysis
Support Funds Approvals - Maintain Purchase Orders	In Scope	Business Process Analysis
Toll Expenditures Redistribution	In Scope	Detailed Requirements
Tolls Data Center Consultant Charges Process	In Scope	Detailed Requirements
Year End - Federal Fiscal	In Scope	Business Process Analysis
<b>MANAGE, MONITOR, and REPORT</b>		
Bonding Program and Projection of Bonds Sales	In Scope	Business Process Analysis
Convert Advance Construction (AC) Projects	In Scope	Business Process Analysis
Create the Ten-Year STTF Debt Load Report	In Scope	Detailed Requirements
Derive Inputs to InpS and AdjustInpS	In Scope	Detailed Requirements
Derive Prior-year Encumbrances on the ExCommitments Tab	In Scope	Detailed Requirements



PROCESS NAME	DISPOSITION	PHASE TO ADDRESS
Develop Advance Construction Forecasting Models and AC Conversion Projections	In Scope	Business Process Analysis
Develop Cash Forecast Projected Flow Rates	In Scope	Detailed Requirements
Develop Cash Forecast Specialized Cash Flow Assumptions	In Scope	Detailed Requirements
Develop Monthly Cash Forecasts - Turnpike Enterprise	In Scope	Business Process Analysis
Develop Right of Way and Bridge Construction Trust Fund (Bond) Cash Forecast	In Scope	Business Process Analysis
Manage IT Infrastructure	In Scope	Business Process Analysis
OOB Support Tools	In Scope	Detailed Requirements
OWPB Support Tools	In Scope	Detailed Requirements
Reconciliation of Cash Forecasts and Finance Plan	In Scope	Detailed Requirements
Review Inactivity of All Projects	In Scope	Business Process Analysis

**Exhibit 3: Additional Processes Identified**

**1.5 FHWA-BILLING PROCESS ANALYSIS**

Following the To-Be phase, the project team refocused efforts to perform detailed As-Is and To-Be analysis for the FHWA-Billing processes. To determine the appropriate scope of analysis, the team evaluated the Create Billing to FHWA for Reimbursement of Federal Expenditures process listed in Exhibit 3 and identified eight discrete business processes to articulate the end-to-end billing and reimbursement cycle. Those processes are listed in the exhibit below.

FHWA-BILLING PROCESS NAME
IMPLEMENT
Apply Agreement
Classify Cost Allocations
Convert Advance Construction (AC) to Regular Federal Funds
Determine Reimbursement Eligibility
Determine Reimbursement Authorization
Generate Reimbursement Request
Report and Monitor the Expenditure of Federal Funds
Request Reimbursement for Emergency (ER) Expenditures

**Exhibit 4: FHWA-Billing Processes**

Beginning in April 2016, all WPII process analysis work aligned to the detailed documentation of these eight processes. The documentation will be used to perform comprehensive ROI analysis and define solution requirements in the future.



**FLORIDA DEPARTMENT OF TRANSPORTATION**

**FY2017/18 SCHEDULE IV-B**

**APPENDIX D**

***(WP11-BPA - DELIVERABLE 18B: DETAILED TO-BE  
BUSINESS PROCESS ANALYSIS - FHWA BILLING)***

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## SECTION 1 EXECUTIVE SUMMARY

Deliverable 18B represents the culmination of the Work Program Integration Initiative (WPII) project team's comprehensive As-Is and To-Be analysis of the business processes supporting the Florida Department of Transportation's (FDOT) Federal Highway Administration (FHWA) billing function. The detailed analysis sought to improve the FHWA billing processes while ensuring the processes and supporting technologies adhere to federal stipulations and guidelines for optimal and continuous reimbursements. In parallel to the process analysis, the project team completed a study of other states' technology solutions for federal aid billing; those findings are captured in WPII Deliverable 20: Market Scan.

The As-Is analysis activities resulted in the documentation of 626 activities, with 316 requiring manual intervention by FDOT personnel and 310 supported by current FDOT computer applications. During this effort, the project team also discovered 40 key findings and process improvement opportunities. Through a series of facilitated To-Be workshops, the project team leveraged the information from the As-Is phase and documented the future-state vision for the FHWA billing processes as evidenced by a streamlined set of 154 activities. While this 75% reduction in processing activities does not necessarily indicate an overall 75% reduction in time and resource expenditures, it undoubtedly represents significant process improvements and potential value for the Department.

The following sections summarize the primary elements of the As-Is and To-Be analysis. The comprehensive process analysis is captured in each of the detailed process narratives which collectively represent the vast majority of the content for this deliverable. They are available as separate electronic documents and are referenced in the sections to follow.

### 1.1 PURPOSE AND OBJECTIVES

FDOT relies heavily on the federal funding provided by the FHWA to successfully carry out its statutory and departmental obligations. FHWA funds represent a substantial source of project funding, without which, FDOT would be unable to complete the breadth and magnitude of projects to ensure the quality and safety of Florida's transportation system. In fact, each year, FDOT processes approximately \$2B in federal billings and reimbursements for the proportionate share of eligible project costs incurred subsequent to the date of FHWA's formal approval via federal authorization requests. The FHWA Billing processes represent the essential groupings of dependent activities which ensure uniform validations and controls are in place to demonstrate to FHWA the business processes and the billing system support the requirements for reimbursement as described in the federal transportation acts, federal regulations, and applicable Office of Management and Budget (OMB) circulars.

The FHWA Billing processes are a critical component of the integrated business processes and supporting technologies encompassed within the FDOT WPII effort. The complete scope of processes within the WPII is large and highly complex. Therefore, FDOT focused resources on this core functional area to move the project forward. Specifically, the primary objectives of the FHWA Billing business process analysis activities were to: consider more critically the relevant

level of detail for the process narratives, establish a reasonable basis of estimation for return on investment (ROI), analyze the business processes to a level sufficient for developing comprehensive requirements for future-state solutions, and facilitate a smooth transition to the "To-Be" process analysis efforts. To meet these objectives, the FHWA Billing processes were chosen for the following, but not limited to, reasons:

- *Data Duplication* – The current, or As-Is, FHWA Billing processes produce significant duplication of data between FDOT systems to perform the processing and reconciliation necessary to generate the federal bill. Opportunities existed to remove this data duplication from the processes by more effectively integrating the comprehensive data from systems such as the Work Program Administration System (WPA), Federal Aid Management System (FAMS), and Project Cost Management System (PCM).
- *Processing Inefficiencies* – Much of the FHWA Billing process activities are automated via nightly batch processing on the mainframe platform. However, the manner in which the processing occurs is inefficient and presented opportunities for restructuring and streamlining. For example, opportunities existed to transition from historical processing of summary data to processing data at a transactional level which provides FDOT with greater controls, insights, flexibility, and efficiency.
- *Manual Interventions* – FDOT staff spend substantial amounts of time each billing cycle manually extracting, assembling, and validating data during various phases of the reimbursement process. The business process analysis exercise enabled the team to identify these manually-intensive activities and design new methods for minimizing the need for manual steps and instead allow staff to focus their time on the most critical analytical and issue resolution activities.
- *Limited Relative Footprint* – In the context of WPPI and the Financial Management (FM) Suite of supporting applications, the FHWA Billing processes within the Federal Programs Management (FPM) application are managed by a small number of Central Office staff in the Office of Comptroller. Unlike other areas in WPPI which directly involve stakeholders and systems across multiple FDOT offices and the districts, the FHWA Billing processes were comprehensively analyzed by a core team of process owners and experts. This approach enabled the team to derive high value outputs in a shorter amount of time.
- *Potential for Broader Application* – This phase of analysis focused on the FHWA Billing activities since these represent the largest source of federal funding. However, FDOT manages multiple other types of reimbursements from the federal government and other funding partners in the form of non-FHWA funding and grants. One of the goals of redesigning the FHWA Billing processes is to ultimately implement a solution which could support, improve, and potentially standardize the management of all reimbursements.

Given the size, complexity, and importance of the overall WPPI business processes to FDOT's operations, it was necessary to take an incremental approach for the analysis. The FHWA Billing processes provided a highly valuable combination of business needs and opportunities with respect to improving FDOT's business processes and realizing a positive ROI. In addition, the

effort also provided the project team the opportunity to validate the "proof of concept" for the overall methodology approach and develop teamwork skills in business process analysis for the remainder of the WPII initiative.

## 1.2 SUMMARY OVERVIEW OF FHWA BILLING PROCESS

In April 2016, the combined FDOT and North Highland team commenced the FHWA Billing business process analysis initiative. The team employed a traditional approach to business process analysis in that the initiative was segmented into two parts: As-Is analysis and To-Be design.

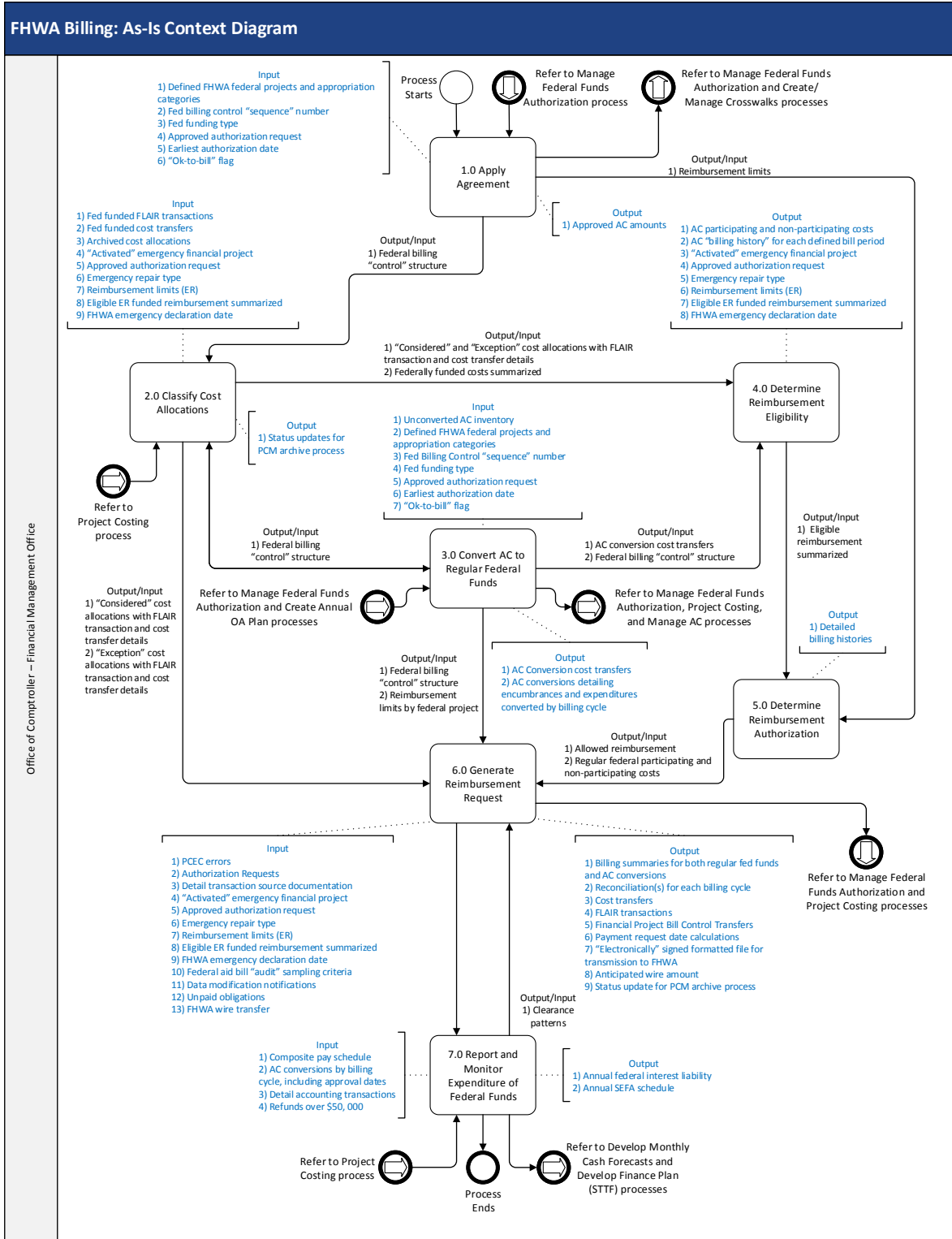
### 1.2.1 AS-IS PROCESS

The most effective method for identifying process issues and designing a future-state solution is to first understand the current operating environment, or As-Is state. To complete the As-Is process analysis for FHWA Billing, the project team evaluated the billing function at the highest level and derived a series of discrete, yet interrelated processes. These processes became the basis for the analysis exercise. Each of the original eight named FHWA Billing processes is listed below.

- Apply Agreement
- Classify Cost Allocations
- Convert Advance Construction (AC) to Regular Federal Funds
- Determine Reimbursement Eligibility
- Determine Reimbursement Authorization
- Generate Reimbursement Request
- Report and Monitor the Expenditure of Federal Funds
- Request Reimbursement for Emergency (ER) Expenditures

The eight original As-Is processes encompass the end-to-end activities FDOT, specifically the Office of Comptroller – Financial Management Office (FMO) staff, complete to prepare, produce, transmit and track the FHWA billings and subsequent reimbursements for each billing cycle. The processes also highlight the impact to other Central Office units and District offices by the resolution of outstanding processing issues and data exceptions.

Throughout the As-Is analysis phase, the project team utilized two artifacts to guide the discussion of each process: the Suppliers, Inputs, Process, Outputs, and Customers (SIPOC) chart, and the corresponding context diagram. The SIPOC served as an important tool in helping the team identify the primary inputs and outputs of each in-scope process, while the context diagram provided a high-level graphical representation of process sequencing and major interdependencies. The FHWA Billing As-Is Context Diagram is displayed for reference in the following exhibit.



**Exhibit 1 – FHWA Billing As-Is Context Diagram**



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The FHWA Billing As-Is SIPOC is included in Section 4, Appendix at the end of this document.

For reference, electronic copies of the following standalone documents are posted to FDOT's SharePoint site and can be accessed by clicking the hyperlink [HERE](#).

- FHWA Billing As-Is SIPOC
- FHWA Billing As-Is Context Diagram

The As-Is analysis phase concluded with the documentation of comprehensive process narratives for the in-scope processes. The narratives are discussed in more detail in Section 2 of this document.

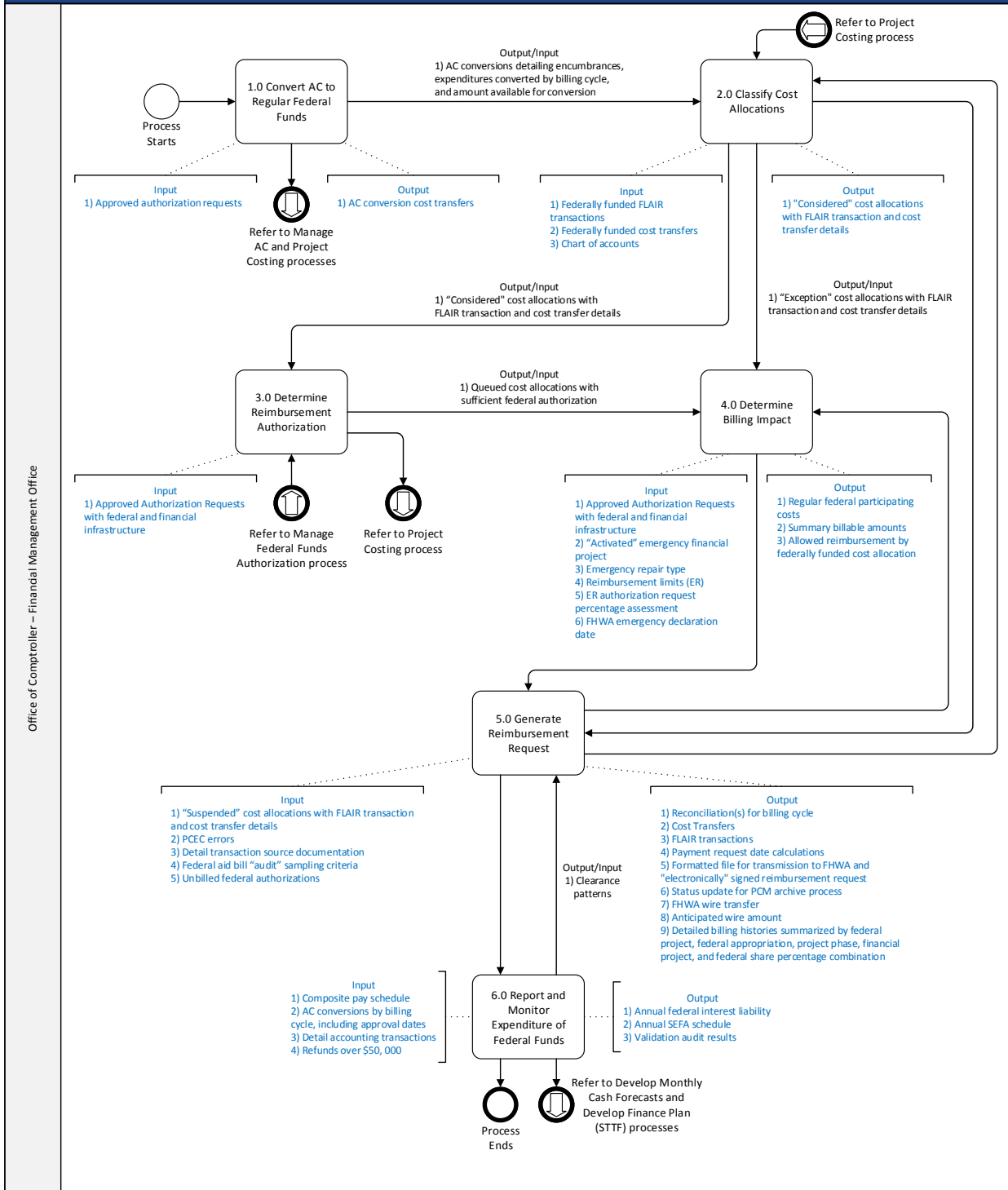
### ***1.2.2 TO-BE PROCESS***

A goal of any process analysis initiative is to identify process deficiencies and devise solutions for producing a process' outputs more effectively and efficiently. In part two of the FHWA Billing process analysis initiative, the project team leveraged the detailed findings from the As-Is phase to design the desired future processes, or To-Be state. Future-state designs were created for the processes listed below.

- Convert Advance Construction (AC) to Regular Federal Funds
- Classify Cost Allocations
- Determine Reimbursement Authorization
- Determine Billing Impact
- Generate Reimbursement Request
- Report and Monitor the Expenditure of Federal Funds

As with the As-Is phase, the project team created a SIPOC chart and corresponding context diagram to reflect the To-Be process designs. The FHWA Billing To-Be Context Diagram is displayed for reference in the following exhibit.

### FHWA Billing: To-Be Context Diagram



**Exhibit 2 – FHWA Billing To-Be Context Diagram**

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The FHWA Billing To-Be SIPOC is included in Section 4, Appendix at the end of this document.

For reference, electronic copies of the following standalone documents are posted to FDOT's SharePoint site and can be accessed by clicking the hyperlink [HERE](#).

- FHWA Billing To-Be SIPOC
- FHWA Billing To-Be Context Diagram

The To-Be analysis phase concluded with the documentation of comprehensive process narratives for the in-scope processes. The narratives are discussed in more detail in Section 3 of this document.

## **SECTION 2 AS-IS FHWA BILLING PROCESS DETAILS**

The FHWA Billing As-Is business process analysis exercise was conducted through a highly collaborative, iterative cycle of discussions, documentation, and validation amongst process owners and stakeholders. For each in-scope process, the FMO staff developed the comprehensive activity sequences, including key activity owners (i.e., "Actors"), inputs, and outputs. Then, process review discussions were conducted with the key stakeholders to validate the activities, evaluate the processes, identify deficiencies and improvement opportunities, and derive specific areas for potential future ROI. Next, the project team developed the graphical process maps to align with the activity narratives and consolidated all of the content into comprehensive process narrative documents. The team then validated the respective As-Is documents and incorporated the necessary revisions.

At the conclusion of the analysis, seven FHWA Billing As-Is process narratives were generated. During the analysis phase, the team determined a separate process narrative was unnecessary for the originally identified "Request Reimbursement for Emergency (ER) Expenditures" process as these activities were sufficiently captured in other As-Is narratives.

Each detailed As-Is process narrative includes the following common content elements:

- Statement of purpose and objectives
- Comprehensive process flow(s)
- Supporting process activity narratives
- Listing of key findings and process improvement opportunities, with ROI summaries
- Listing of related processes not addressed in the As-Is analysis

Given the significant size of the individual As-Is process narratives, and to increase the respective documents' usability, the documents are not embedded in this file. Instead, each narrative is posted to the FDOT SharePoint site for easy access. The following documents can be accessed by clicking the hyperlink [HERE](#).

- Apply Agreement
- Classify Cost Allocations
- Convert Advance Construction (AC) to Regular Federal Funds
- Determine Reimbursement Eligibility
- Determine Reimbursement Authorization
- Generate Reimbursement Request
- Report and Monitor the Expenditure of Federal Funds

## 2.1 SUMMARY OF KEY IMPROVEMENT OPPORTUNITIES AND ROI CLASSIFICATIONS

A critical output of the FHWA Billing As-Is process analysis was the identification and documentation of key findings and improvement opportunities. In addition to discussing and documenting the detailed activities required to execute the current billing-related functions, the project team spent significant time thoughtfully evaluating each activity and assessing its efficiency, resource burden, risk potential, and overall necessity. In doing so, the project team identified the major process improvement opportunities to be addressed in the future-state, or To-Be design phase. This information served as a critical starting point for the To-Be process design and helped accelerate the To-Be analysis since the team had, in advance, a deep understanding of the issues to be addressed and potential benefits to be achieved.

The analysis of the process improvement opportunities included a detailed estimation of the potential ROI benefits FDOT could realize if the respective improvement opportunities were operationalized in the FHWA Billing processes. For each finding, and its related individual process activities, the project team specified the type(s) of expected ROI benefits. ROI benefits were classified and articulated under the following three categories: cost avoidance, operational efficiency, or risk mitigation. The specification of potential ROI benefits served as a key input to the FDOT Budget Office staff's ability to assess and calculate a basis of ROI estimation for the FHWA Billing initiative, as well as create the necessary ROI multiplier to extrapolate against other modernization efforts within the WPPI framework. The calculation of specific ROI estimates was outside the scope of the FHWA Billing business process analysis initiative.

The analysis of key findings and process improvement opportunities during the As-Is phase yielded the documentation of 40 findings. The exhibits below articulate these findings and improvement opportunities which were subsequently considered during the To-Be design phase. This information is also included in the respective As-Is process narratives.

**Process 1: Apply Agreement**

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
1.0	<p>Currently, there are three disparate entry points to initiate the Apply Agreement process (reference activity steps 1.0, 3.0, and 4.0). The entry points require varying levels of manual intervention, and there are inconsistencies with the criteria used to evaluate the conditions resulting in “updated” or “transferred” authorization notifications.</p> <p>The process initiation could be standardized and executed more efficiently by optimizing the receipt and processing of the daily authorization notifications provided by the Financial Management Support staff. For example, the authorization notifications spreadsheet (or preferred data file type) should be enhanced so it is properly formatted and no longer requires manual manipulation in the form of applying macros (reference activity step 2.0).</p>	<p>OWPB – Financial Management Support</p> <p>OOC-FMO</p>	<p>OOC staff would save time and manual effort by leveraging the daily authorization notifications since this output represents the most comprehensive, timely, and reliable FHWA data. It also provides the greatest ability for data automation/integration.</p>	<p>Operational Efficiency: Standardize the method to initiate the Apply Agreements process using the daily authorization notifications since it represents the most comprehensive, timely, and reliable FHWA data from FAMS. It also provides the greatest ability for downstream processing automation/data integration.</p> <p>Reference activity steps: 1.0-4.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
2.0	<p>The interface from FMIS 5.0 to FAMS should include the Earliest Authorization Date data element. This data element should be included in the daily authorization notifications feed from the Financial Management Support staff to the OOC-FMO staff. Currently, OOC-FMO staff manually spend time looking up the date value in FMIS 5.0 to determine the Earliest Authorization Date (reference activity step 10.0). This data element represents one integration point, of potentially many, which could be leveraged to alleviate manual processing.</p> <p>Further analysis should be performed to identify additional, relevant data elements in FMIS 5.0 and/or FAMS which would be useful to include in the authorization notifications. For example, the Sequence Number could be used to automatically derive the related phase descriptions in WPA; manual entry would no longer be necessary.</p>	OOO-FMO	<p>OOO staff would save time by no longer manually looking up the date field stored in FMIS 5.0.</p> <p>Billing related risks would be reduced by minimizing the likelihood of manual mis-keys in FM, thus lowering the chances for over and/or under billings and subsequent reimbursement delays.</p>	<p><b>Operational Efficiency:</b> The manual exercise to determine the Earliest Authorization Date would no longer be necessary since the authorization notifications would include the Effective Authorization Date for the approved authorization requests; duplicative efforts would be alleviated.</p> <p><b>Risk Mitigation:</b> Billing related risks would be reduced since the Earliest Authorization Date would no longer be manually derived and/or keyed into the FM system.</p> <p>Reference activity steps: 10.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
3.0	<p>There are no validations in place to prevent duplicate Billing Controls for the same project and phase. When the duplicate Billing Controls are detected, the process to correct the error(s) takes approximately three billing cycles (reference activity step 9.0). An automated solution could be implemented which enforces the relevant Billing Control business rules and alleviates the need for the extended correction process.</p>	OOC-FMO	<p>OOC staff would save significant time by no longer investigating and correcting (i.e. issuing credits, rebilling, etc.) instances of duplicate Billing Controls.</p> <p>Automation would minimize short term impacts to cash flow by preventing over/understatements.</p>	<p><b>Operational Efficiency:</b> Assessment of the potential duplicate Billing Controls would no longer be necessary since the authorization notifications would include the necessary data from the approved authorization requests where such validations would have already been performed as part of the authorization process; duplicative efforts would be alleviated.</p> <p><b>Risk Mitigation:</b> Automated validations for multiple billing controls would minimize short term impacts to cash flow by preventing over/understatements.</p> <p>Reference activity steps: 9.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
4.0	<p>The Apply Agreement process includes a series of validation steps, both manual and systematic, to identify errors with the various required codes, crosswalks, status values, etc. (reference activity steps such as 15.0, 18.0, 21.0, and 24.0). The identification of errors in these validations suggests fundamental flaws with the controls in the predecessor processes and/or potentially data integrity issues within the supporting database(s).</p> <p>A thorough evaluation of the preceding or “upstream” processes and data sources would be valuable to identify root causes and potential solutions for avoiding data errors in the Apply Agreement and other related processes.</p>	<p>OOC-FMO</p> <p>OWPB-FAMO</p> <p>OWPB-FMS</p> <p>OWPB-Work Program Development Office</p>	<p>OOC and FAMO staff would save time if data errors identified in the validation steps, and the subsequent resolution exercises, could be systematically reduced.</p> <p>Undetected data errors (i.e. those which are not validated today) may also be reduced, thus improving the overall quality of the process inputs/outputs.</p>	<p>Operational Efficiency: The various validation exercises would no longer be necessary since the authorization notifications from FAMS would include the necessary data from the approved authorization requests where such validations would have already been performed as part of the authorization process; duplicative validation and subsequent resolution efforts would be alleviated.</p> <p>Reference activity steps: 10.0-12.0, 14.0-16.0, 17.0-19.0, 20.0-22.0, 23.0-25.0, 26.0-28.0, 33.0-35.0, 42.0-44.0.</p>
5.0	<p>A significant portion of the Apply Agreement process duplicates the authorization data and other related data elements maintained in the FAMS system. Specifically, the FPM system duplicates a substantial amount of the authorization data available through FAMS which subsequently must be validated. FDOT should directly integrate the data in FAMS and remove the data duplication to accelerate the Apply Agreements process and ultimately improve the overall FHWA-Billing sequence. The Department should pursue process and technology improvements to take advantage of the comprehensive FAMS data and eliminate redundant work.</p>	<p>OOC-FMO</p> <p>OWPB-FAMO</p> <p>OWPB-FMS</p> <p>OWPB-Work Program Development Office</p>	<p>OOC staff, and to a degree FAMS staff, would save substantial time in completing the Apply Agreement process if data and process duplication was removed.</p>	<p>Operational Efficiency: Substantial data duplication and validation activities in and related to FPM (and supporting systems) would no longer be necessary by directly integrating the data available in FAMS via the daily authorization notifications for approved authorization requests.</p> <p>Reference activity steps: 6.0-45.0.</p>

### Exhibit 3: Apply Agreement Key Findings and Improvement Opportunities



## Process 2: Classify Cost Allocations

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
1.0	<p>The overwhelming majority of the Classify Cost Allocations process is completed through automated, nightly processing in the FPM system. FDOT staff benefit greatly from this automation, but opportunity exists to improve the automation's efficiency. For example, unnecessary time and computing resources are expended performing excessive table scans, redundant look-ups, and inefficient data updates. The automated steps enforce the various business rules and validations accurately, however the process could be streamlined.</p> <p>The FPM automation could be optimized by employing technology which executes the required system activities faster and with greater efficiency.</p>	OOC-FPM (Federal Bill)	Solving the FPM nightly automation inefficiencies will not directly save FDOT staff time. Instead, there is a tangible cost savings/cost avoidance which could be realized if the process is tuned such that it requires less processing time. The processing time is relatively expensive, in the range of \$1,000 per CPU minute. By reducing a few minutes of processing time, FDOT could save tens of thousands of dollars annually in system usage fees.	<p>Cost Avoidance: In many instances, the automated cost allocation-related processing in FPM runs sub-optimally. This is not an error as the process produces accurate outputs. However more efficient processing would reduce system usage, thus resulting in material cost savings annually.</p> <p>Reference activity steps: 2.0, 5.0, 8.0-61.0.</p>
2.0	<p>Occasionally, the prior Federal Billing Cycle fails to complete successfully by the time the current Federal Billing Cycle needs to begin. As a result, the process cannot continue until the root cause(s) are manually identified and resolved. In most instances, failure of the prior Federal Billing Cycle to complete is due to lock contentions (i.e. conflicts in the automated processing) or other circumstances beyond FDOT's control.</p> <p>FDOT should investigate controls, and their potential value, which would help avoid the lock contentions and other common failure causes. Given the rarity of these issues however, it may not be worthwhile to pursue such controls.</p>	OOC-FMO	<p>OOC staff could save time by minimizing the need to perform manual interventions and use data one-shot mechanisms to resolve the source of the cycle completion errors.</p> <p>In addition to staff time savings, the risk of delayed billings to FHWA due principally to prior billing cycle failures may be reduced.</p>	<p>Operational Efficiency: Staff time could be saved if additional controls were implemented to avoid lock contentions in the processing which result in manual interventions and the use of data one-shots to resolve the source of the cycle completion errors.</p> <p>Risk Mitigation: The potential for delayed billings could be reduced by minimizing the occurrences, albeit rare, of lock contentions.</p> <p>Reference activity step: 4.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
3.0	<p>Throughout the year, the process scheduler is modified to accommodate unique circumstances such as holidays, snapshots, and end-of-year requirements. When this occurs, the automated processing sequence within the FM system can be disrupted, thus causing job completion failures for routines like the Project Costing Archive. As a result, the process cannot continue until the root cause(s) are manually identified and resolved.</p> <p>FDOT should investigate methods, and their potential value, which would help detect and resolve processing sequencing conflicts before they occur. Given the rarity of these issues however, it may not be worthwhile to pursue such methods.</p>	<p>OOC-FMO</p> <p>OIT-BSSO</p>	<p>OOC and BSSO staff could save time by minimizing the need to perform manual interventions to resolve the source of the process sequencing errors.</p> <p>In addition to staff time savings, the risk of delayed billings to FHWA due principally to processing errors may be reduced.</p>	<p>Operational Efficiency: Staff time could be saved if additional capabilities and controls were implemented to detect and resolve potential processing conflicts in the SSRC's scheduler, thus reducing the need for manual resolution.</p> <p>Risk Mitigation: The potential for delayed billings could be reduced by minimizing the occurrences, albeit rare, of identifiable scheduler conflicts.</p> <p>Reference activity step: 7.0.</p>

#### Exhibit 4: Classify Cost Allocations Key Findings and Improvement Opportunities

##### Process 3: Convert Advance Construction (AC) to Regular Federal Funds

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
1.0	<p>On a daily basis, the FMO staff review two primary reports from the FAMS and FMIS systems to guide the identification and processing of AC conversions to include in the weekly federal bill. The reports are manually generated by individual users. Instead, the Federal Authorization Report and FHWA Transaction Log Report could be auto-generated and distributed on the users' behalf.</p>	<p>OOC-FMO</p> <p>OWPB-Financial Management Support</p>	<p>FMO staff would save time daily by not individually generating these reports.</p>	<p>Operational Efficiency: The FA Report and FHWA Transaction Log Reports should be auto-generated and distributed daily to the primary stakeholders (via attachment, link, etc.) to save administrative time.</p> <p>Reference activity steps: 1.0 and 6.0.</p>
2.0	<p>FMO staff spend significant time each day of the weekly billing cycle, even up until Friday when the billing cycle ends, manually monitoring and evaluating the</p>	<p>OOC-FMO</p>	<p>FMO would save significant time during the weekly billing cycle by focusing monitoring efforts on the FA Report,</p>	<p>Operational Efficiency: OOC staff should evaluate the necessity of their involvement in the</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
	<p>authorization requests for the scheduled AC conversions. To do this, staff leverage the FA Report from FAMS, FHWA transaction logs, AR transmission emails from FAMO, and also coordinate directly with FAMO staff to track authorization statuses. In many cases however, it could be argued the validations and daily AR status tracking by FMO is not valuable either due to its redundancy or authorization timing constraints beyond their control (handled by FAMO).</p> <p>FMO should evaluate the necessity and value of validating and/or monitoring AR statuses to ensure the primary focus is on identifying the approved ARs and moving forward with the AC conversion activities. A key consideration to FMO optimizing its process is to set a formal cut-off date/time during the billing cycle in which FMO staff will only proceed with the AC conversions for approved ARs at that time; outstanding AR approvals would be evaluated in a subsequent billing cycle.</p>		<p>and potentially the FHWA transaction logs, to identify the approved ARs for which to pursue AC conversions. Setting an agreeable cut-off date/time during the week for confirming the approved ARs would further enhance the process by eliminating unnecessary activity “compression” at the end of the billing cycle.</p>	<p>various activities to monitor and validate ARs with respect to executing the AC conversion process. Valuable staff time could be saved by either reducing or eliminating participation in these activities and instead rely on direct information updates (i.e. daily FA Report) and employ a series of processing cut-off dates/times during the weekly billing cycle to streamline efforts considerably.</p> <p>Reference activity steps: 4.0-5.0, 7.0, 12.0-16.0, 18.0-25.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
3.0	<p>Throughout the process to convert AC on the approved authorization requests, a number of validations are performed to ensure data accuracy and proper classification(s). To perform these validations, FMO staff run various reports and spend significant time manipulating the data to structure it in a usable format for their respective needs. A series of business rules, exception criteria, and/or formatting guidelines could be implemented to develop on-demand reports which meet OOC's needs without excessive, manual data manipulation. The reports can then be used to address specific process and data exceptions where applicable.</p>	OOC-FMO	<p>OOC staff would save time daily by leveraging pre-defined reports which are tailored to support specific AC conversion validation needs, namely exception handling.</p>	<p>Operational Efficiency: Standard reports such as the FLAIR/FM Detail (i.e. Kitchen Sink) Report and other analytical reports should be pre-configured to enforce business rules, exception criteria, and/or formatting to minimize time spent re-classifying and customizing the report outputs after the fact to meet the actual business needs. In addition, the reports should be used primarily to manage process and data exceptions.</p> <p>Reference activity steps: 29.0-32.0, 39.0-40.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
4.0	<p>Significant manual time is spent by FMO and FAMO staff completing AC conversion related activities. However, many of these manual tasks could be expedited, or eliminated altogether, if the Automated AC program is reinstated. The Automated AC program has the ability to significantly reduce time spent generating and submitting Federal Authorization Requests (FAR), applying agreements, and performing cost transfers.</p> <p>At this time, the Automated AC program is being tested, however its timeline for full production deployment is unknown.</p>	<p>OOC-FMO OWPB-FAMO</p>	<p>The Automated AC program would yield significant staff time savings for FMO and FAMO staff in the processing of AC conversions and related tasks.</p> <p>In addition, the automation would reduce risks associated with manual AC conversion activities and minimize the likelihood of reimbursement-related processing errors and delays.</p>	<p>Operational Efficiency: FDOT's historical Automated AC program should be employed to significantly reduce FMO and FAMO staff time spent generating Federal Authorization Requests (FAR), applying agreements, and performing cost transfers.</p> <p>Risk Mitigation: By leveraging the Automated AC routines, the risks of manual data entry, submission, and/or validation errors are reduced, thus minimizing the likelihood of reimbursement-related processing errors and delays.</p> <p>Reference activity step 46.0. The Apply Agreement and Manage Federal Funds Authorization processes would also realize benefits.</p>

**Exhibit 5: Convert Advance Construction (AC) to Regular Federal Funds Key Findings and Improvement Opportunities**

**Process 4: Determine Reimbursement Eligibility**

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
1.0	<p>The Determine Reimbursement Eligibility process is completed on a weekly basis through automated, nightly processing in the FPM system. FDOT staff benefit from this automation, but opportunity exists to improve the automation’s efficiency.</p> <p>The current programming summarizes the various costs and then employs a series of routines to derive the billable amounts. The automation does not take full advantage of the existing transaction level data derived in the cost allocations processing in FPM, in fact it arguably duplicates much of the effort. This results in unnecessary processing time. Instead, the programming should be optimized to use the cost allocations-related data and manage each cost allocation against its respective authorized amount(s). In doing so, the process could still perform its primary functions such as identifying modification needs (step 9.0), assessing LTD participating costs (step 47.0), and determining maximum allowable agreements (step 55.0), more efficiently and timely.</p>	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	<p>There is a tangible cost savings/cost avoidance which could be realized if the reimbursement eligibility program is structured to utilize available cost allocation data inputs and transaction-level processing. The processing time is relatively expensive, in the range of \$1,000 per CPU minute. By reducing a few minutes of processing time over the course of the week, FDOT could save tens of thousands of dollars annually in system usage fees. In addition, an optimized program may require less system storage and maintenance costs annually.</p> <p>From a risk management perspective, the reimbursement data may achieve a higher level of integrity for reporting purposes, thus lowering the risk of non-routine audits. In addition, staff could minimize the need to perform manual interventions via the data one-shot mechanisms to resolve data errors.</p>	<p>Cost Avoidance: The automated reimbursement eligibility-related processing in FPM runs sub-optimally. This is not an error per se, however more efficient processing of transactional costs and a greater usage of existing cost allocation classification data would reduce system usage (i.e., eliminate processing and storage, and minimize maintenance), thus resulting in material cost savings.</p> <p>Risk Mitigation: By processing transactions more efficiently, overall financial reporting integrity would improve, thus lowering non-routine audit risks and the need for manual intervention in the form of data one-shots.</p> <p>Reference activity steps: 1.0-67.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
2.0	<p>On most occasions, the Determine Reimbursement Eligibility process is run weekly to support the generation of the federal bill. However, FMO staff would benefit by instead running the program on a nightly basis.</p>	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	<p>By doing so, FMO staff would have the opportunity to resolve data issues more timely which directly impacts the ability to close out projects faster, increase the number of cost allocations included in each bill, and even optimize adherence to the CMIA clearance patterns for reimbursement.</p> <p>From a computing perspective, nightly processing would shorten the amount of nightly bandwidth consumption, thus lowering contributions to data “soft cap” occurrences which degrade user performance, leading to lower productivity.</p> <p>Also, from a risk management perspective, the reimbursement data may achieve a higher level of integrity for reporting purposes, thus lowering the risk of non-routine audits. In addition, staff could minimize the need to perform manual interventions via the data one-shot mechanisms to resolve data errors.</p>	<p>Operational Efficiency: The process is run weekly, however nightly processing could improve FDOT’s ability to resolve data issues, minimize user computing impacts due to “soft cap” threshold violations, maximize the number of cost allocations in the weekly bill, shorten the reimbursement cycle to adhere to CMIA clearance patterns, and support faster project close-outs.</p> <p>Risk Mitigation: By processing transactions on a nightly basis, overall financial reporting integrity would improve, thus lowering non-routine audit risks and the need for manual intervention in the form of data one-shots. Also, the possibility of a soft cap situation attributable to this process exists. When this occurs, there is an efficiency loss to the Department that could be removed with better data use and scheduling of the process.</p> <p>Reference activity steps: 1.0-67.0.</p>

**Exhibit 6: Determine Reimbursement Eligibility Key Findings and Improvement Opportunities**

**Process 5: Determine Reimbursement Authorization**

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
1.0	<p>The Determine Reimbursement Authorization process is completed on a weekly basis through automated, nightly processing in the FPM system. FDOT staff benefit from this automation, but opportunity exists to improve the automation's efficiency.</p> <p>The current programming summarizes the various costs and then employs a series of routines to derive the billable amounts. The automation does not take full advantage of the existing data derived in the cost allocations processing in FPM, in fact it arguably duplicates much of the effort. This results in unnecessary processing time. Instead, the programming should be optimized to use the cost allocations-related data and manage each cost allocation against its respective authorized amount(s). In doing so, the process could achieve its core objectives more efficiently and timely, including the ability to produce a complete audit trail of an accounting transaction's activity and link the transaction to the specific billing request in which it was included.</p>	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	<p>There is a tangible cost savings/cost avoidance which could be realized if the reimbursement authorization program is structured to utilize available cost allocation data inputs and transaction-level processing. The processing time is relatively expensive, in the range of \$1,000 per CPU minute. By reducing a few minutes of processing time over the course of the week, FDOT could save tens of thousands of dollars annually in system usage fees. In addition, an optimized program may require less system storage and maintenance costs annually.</p> <p>From a risk management perspective, the reimbursement data may achieve a higher level of integrity for reporting purposes, thus lowering the risk of non-routine audits. In addition, staff could minimize the need to perform manual interventions via the data one-shot mechanisms to resolve data errors.</p>	<p>Cost Avoidance: The automated reimbursement authorization-related processing in FPM runs sub-optimally. This is not an error per se, however more efficient processing of transactional costs and a greater usage of existing cost allocation classification data would reduce system usage (i.e. eliminate processing and storage, and minimize maintenance) thus resulting in material cost savings.</p> <p>Risk Mitigation: By processing cost allocations more efficiently, overall financial reporting integrity would improve, thus lowering non-routine audit risks and the need for manual intervention in the form of data one-shots.</p> <p>Reference activity steps: 1.0-29.0.</p>



ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
2.0	<p>On most occasions, the Determine Reimbursement Authorization process is run weekly to support the generation of the federal bill. However, FMO staff would benefit by instead running the program on a nightly basis.</p>	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	<p>By doing so, FMO staff would have the opportunity to resolve data issues more timely which directly impacts the ability to close out projects faster, increase the number of cost allocations included in each bill, and even optimize adherence to the CMIA clearance patterns for reimbursement.</p> <p>From a computing perspective, nightly processing would shorten the amount of nightly bandwidth consumption, thus lowering contributions to data “soft cap” occurrences which degrade user performance, leading to lower productivity.</p> <p>Also, from a risk management perspective, the reimbursement data may achieve a higher level of integrity for reporting purposes, thus lowering the risk of non-routine audits. In addition, staff could minimize the need to perform manual interventions via the data one-shot mechanisms to resolve data errors.</p>	<p>Operational Efficiency: The process is run weekly, however nightly processing could improve FDOT’s ability to resolve data issues, minimize user computing impacts due to “soft cap” threshold violations, maximize the number of cost allocations in the weekly bill, shorten the reimbursement cycle to adhere to CMIA clearance patterns, and support faster project close-outs.</p> <p>Risk Mitigation: By processing cost allocations on a nightly basis, overall financial reporting integrity would improve, thus lowering non-routine audit risks and the need for manual intervention in the form of data one-shots. Also, the possibility of a soft cap situation attributable to this process exists. When this occurs, there is an efficiency loss to the Department that could be removed with better data use and scheduling of the process.</p> <p>Reference activity steps: 1.0-29.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
3.0	<p>The Determine Reimbursement Authorization programming includes functionality to identify and process eligible AC costs. However, this processing is unnecessary since the costs for AC funded projects are available in the cost tables and within the authorizations data in FAMS.</p> <p>The Department should pursue process and technology improvements to take advantage of the existing AC-related costs data and eliminate redundant, nightly FPM processing.</p>	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	<p>There is a tangible cost savings/cost avoidance which could be realized if the processing of AC costs were removed from the federal bill authorization programming. The processing time is relatively expensive, in the range of \$1,000 per CPU minute. By reducing a few minutes of processing time over the course of the week, FDOT could save tens of thousands of dollars annually in system usage fees. In addition, an optimized program may require less system storage and maintenance costs annually.</p>	<p>Cost Avoidance: Activities within the program pertaining to the accumulation of eligible AC costs represent duplicate processing and could be removed from the program. The costs for AC funded projects are captured in the cost tables and available with the authorizations data in FAMS. The reduction of processing steps would reduce system usage (i.e. eliminate processing and storage, and minimize maintenance) thus resulting in material cost savings.</p> <p>Reference activity steps: 4.0-8.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
4.0	Currently, significant manual and systematic effort is allocated to manage indirect costs, and even then, the Department is challenged to optimize the consumption of specific funds on indirect project phases and subsequently reconcile and audit the use of these funds on indirect project phases. As a result, opportunity exists for FDOT to improve its overall ability to maximize the use of federal funds on indirect project phases and appropriately allocate state funds to phases where federal funding is not available.	OOC-FPM (Federal Bill)  OOC-FMO	By implementing the enhanced transactional costing methodology described in Key Finding item 1.0 and managing indirect phases like all other phase types/groups, FDOT would have greater insight into the estimating, programming, and overall management of costs associated with indirect project phases. This would allow the Department the ability to maximize the use of federal funding and simplify the manual reconciliation and audit functions associated with indirect costs.	Operational Efficiency: Significant effort is expended, both systematically and manually, to process indirect costs. The programming should be enhanced to take advantage of the transaction-level cost processing to manage indirect costs in the same manner as other phase types and phase groups. This would allow FDOT to optimally consume fund types (i.e. federal vs. state) on indirect project phases and simplify the manual intervention needed to manage, reconcile, and audit the use of funds on indirect phases.  Reference activity steps: 9.0-10.0, 15.0-17.0, 19.0-25.0.

**Exhibit 7: Determine Reimbursement Authorization Key Findings and Improvement Opportunities**

**Process 6: Generate Reimbursement Request**

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
1.0	<p>Significant portions of the review and reconciliation activities in this process rely upon the duplicated approved authorization data and other related data elements in FM which are also maintained in the FAMS system. Specifically, the FPM system duplicates a substantial amount of the authorization data available through FAMS which subsequently must be validated. As noted in the Apply Agreements process, the Department should pursue process and technology improvements to integrate the comprehensive FAMS data and eliminate redundant work, particularly with respect to the Billing Controls and Authorization Request validations performed using the Pending Report, Needs Modification Report, and Billing Flag Exception Report.</p>	<p>OOC-FMO            OOC-PCM            OWPB-FAMO            District Federal Aid Coord.            OWPB-Financial Mgmt Support</p>	<p>OOC staff, and multiple FDOT stakeholder groups, would save substantial time in completing the review and reconciliation activities if data and process duplications were removed.</p>	<p>Operational Efficiency: As it pertains to the Pending Report, Needs Modification Report, and Billing Flag Exception Report, the assessment of the Billing Controls and the related Authorization Requests would no longer be necessary since the daily authorization notifications would include the necessary data from the approved authorization requests where such validations would have already been performed as part of the authorization process; duplicative efforts would be alleviated.</p> <p>Reference activity steps: 1.0-33.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
2.0	<p>OOO staff use the Non-Participating Report to ensure costs are classified correctly for the weekly bill. However, to do so, it is necessary to extract data from multiple systems and data sources to derive the set(s) of comparable data elements and valid exceptions. In addition, staff must directly communicate with district staff to review and resolve the cost-related issues.</p> <p>The Department could take advantage of automation to systematically extract the comparison data from the various sources to produce only the necessary cost exceptions to be addressed. Similarly, auto-notifications could be developed to notify the districts of corrective actions to be taken.</p>	<p>OOO-FMO OWPB-FAMO  District Federal Aid Coord.</p>	<p>The introduction of automated exception reporting and auto-notifications would save significant staff time in the review and reconciliation cycle.</p>	<p>Operational Efficiency: The analysis and resolution activities required to ensure costs are accurately classified could be streamlined via automation to take advantage of greater exceptions reporting and auto-notifications to impacted stakeholders, thus saving significant resource time.</p> <p>Reference activity steps: 34.0-39.0.</p>
3.0	<p>As part of the billing cycle, the OOO staff spend time correcting project cost errors in the FM/FLAIR interface. The errors are corrected after the data has passed to FLAIR. Ideally, however, FDOT could benefit by having the ability to apply the cost edits before the transactions pass to FLAIR. New technology will be necessary to enable these types of front-end edits.</p>	<p>OOO-FMO  District Federal Aid Coord.</p>	<p>The ability to apply the cost edits prior to the transactions passing to FLAIR would minimize the corrective steps currently required on the backend, post-FLAIR processing.</p>	<p>Operational Efficiency: The analysis and resolution activities required to resolve PCEC errors could be reduced if staff had the ability to apply the necessary edits prior to the transactions being processed in FLAIR. This ability would reduce the amount of staff time spent addressing the errors on the backend, post-FLAIR processing.</p> <p>Reference activity steps: 50.0-61.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
4.0	<p>Today, Preview Bills are used typically Tuesday through Thursday to provide OOC an advance view of the FLAIR transactions, cost transfers, etc. and enable the ability to make corrections. The process to generate the Preview Bills requires a significant duplication of data which is already duplicated in its own right, and the output as an Excel file is limited in its usability.</p> <p>FDOT should instead move towards an integrated billing solution which leverages cost allocations data at the transaction level and maximizes exception reporting and resolution capabilities. The tool would provide users a complete perspective of the cumulative bill as it evolves throughout the billing cycle.</p>	<p>OOC-FMO OWPB-FAMO  District Federal Aid Coord.</p>	<p>By moving towards a single, comprehensive view of the weekly bill which can be updated in near real-time, FDOT will no longer need to spend the time and resources generating and reviewing the Preview Bills.</p> <p>In addition, tangible cost savings/cost avoidance could be realized if the processing and storage required to generate the preview bills are minimized. The processing time is relatively expensive, in the range of \$1,000 per CPU minute. By reducing preview bill processing and storage, FDOT could save thousands of dollars annually in system usage fees.</p>	<p>Operational Efficiency: The concept and practice of managing the Preview Bills could be rendered unnecessary by implementing a billing solution which leverages cost allocations data at the transaction level and maximizes exception reporting and resolution capabilities. Staff would save time by instead managing a comprehensive weekly Preliminary Bill which is updated near real-time to reflect the transaction-level changes over the course of the billing cycle.</p> <p>Cost Avoidance: Eliminating the preview bill processes would reduce system usage (i.e. eliminate processing and storage and minimize maintenance) thus resulting in material cost savings.</p> <p>Reference activity steps: 62.0-69.0, 153.0-155.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
5.0	<p>A critical requirement FDOT must meet to maintain the federal reimbursements is the ability to prove the audit trail for all financial projects. To do so, staff analyze various data samples from the bill to validate the audit trail. This effort requires significant time manually comparing data from multiple sources and increases the risk of potentially overlooking inaccurate projects.</p> <p>FDOT should instead move towards an integrated billing solution which leverages cost allocations data at the transaction level and maximizes exception reporting and resolution capabilities.</p>	<p>OOC-FMO  District Federal Aid Coord.</p>	<p>The solution could provide greater ability to set reporting and exceptions thresholds, modify data sampling criteria, and provide the ability to suspend cost allocations more efficiently. Each of these capabilities would allow FDOT to improve its audit functions.</p> <p>From a risk and cost perspective, the improved audit capabilities would help defend against the deferral or loss of federal reimbursement and a subsequent consumption of state funds as a result.</p>	<p>Operational Efficiency: FDOT could save staff time and improve its ability to produce the requisite audit trail by employing a billing solution which leverages cost allocations data at the transaction level and maximizes exception reporting and resolution capabilities. The solution could provide greater ability to set reporting and exceptions thresholds, modify data sampling criteria, and provide the ability to suspend cost allocations more efficiently.</p> <p>Risk Mitigation: The improved audit trail capabilities would reduce the risk of deferring or losing federal funding receipts, which totals approximately \$2B/yr.</p> <p>Cost Avoidance: By maintaining the audit trail, FDOT would maximize the use and timely reimbursement of federal funding, thus avoiding the costs of using valuable state funds.</p> <p>Reference activity steps: 70.0-88.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
6.0	<p>A significant portion of the reconciliation activities for the weekly billing cycle is the comparison of the prior week's bill and the current week's bill to derive and investigate variances. The investigation requires the review of multiple data sources, including emails and data one-shots. This exercise is inefficient and time consuming.</p> <p>FDOT should instead move towards an integrated billing solution which leverages cost allocations data at the transaction level and maximizes exception reporting and resolution capabilities.</p>	OOC-FMO	The solution would save staff time by providing the ability to manage and track individual cost allocations and alleviate the need to tie out the summary totals between last week's and the current week's bills.	<p>Operational Efficiency: FDOT could save staff time and reduce reconciliation efforts by employing a billing solution which leverages cost allocations data at the transaction level and maximizes exception reporting and resolution capabilities. In effect, there would no longer be a need to manage the variances between the previous billing cycle and the current billing cycle (including data one-shots).</p> <p>Reference activity steps: 90.0-104.0.</p>



ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
7.0	<p>OOC staff must maintain the ability to validate the outputs from the FMIS interface. Specifically, staff must be able to verify what FDOT sent to FMIS and what FMIS actually received from FDOT. To do so, staff spend time manually extracting data from the various systems and reports to generate comparisons and resolve exceptions.</p> <p>FDOT should leverage the modernized FMIS 5.0 platform and various departmental technologies to automate the comparison exercises where possible.</p>	OOO-FMO	The automated comparison tools and reports would allow FDOT staff to more efficiently identify and resolve exceptions and variances. In addition, the automation may be able to help reduce reporting issues caused by the different processing schedules between FM and FMIS.	<p>Operational Efficiency: FDOT staff must maintain the ability to verify the billing details sent to FMIS and what was actually received by FMIS. As a result, significant time is spent pulling data from the source systems and generating comparisons. FDOT could save time by automating the generation of comparison files/reports to look at specific exceptions and variances. In addition, the automation could help alleviate the issues caused by processing timing differences between FM and FMIS.</p> <p>Reference activity steps: 105.0-129.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
8.0	<p>The process to generate a Preliminary Bill requires the comprehensive reversal of the current Preliminary Bill, a process which must be performed multiple times per day in some cases. This is highly system-intensive and inefficient. The consumption of computing resources is costly and could impact the productivity of other Work Program users/routines (i.e. Cost Allocations) if the Soft Cap thresholds are exceeded.</p> <p>FDOT should move towards an integrated billing solution which no longer requires the reversal of the Preliminary Bill. Instead, the system would maintain a single, comprehensive weekly bill that accumulates billable cost allocations throughout the week and can be refreshed to display data changes and corrections in near real-time.</p>	<p>OOC-FMO OOO-FP73_Batch</p>	<p>Computing resource consumption and staff productivity could be improved by eliminating the need for Preliminary Bill reversals and instead maintaining a “rolling,” active bill throughout the weekly billing lifecycle.</p> <p>From a cost avoidance perspective, there is a tangible cost savings/cost avoidance which could be realized. The system processing time is relatively expensive, in the range of \$1,000 per CPU minute. By reducing a few minutes of processing time over the course of the week, FDOT could save tens of thousands of dollars annually in system usage fees. In addition, an optimized program may require less system storage and maintenance costs annually.</p>	<p>Operational Efficiency: The process to reverse the Preliminary Bill to reflect the latest reconciliation changes is highly inefficient and requires staff to manually initiate the process and await its completion which can impact OOC staff and WP staff alike. A new solution should be implemented which eliminates the need to perform the reversals and instead maintains an active version of the weekly bill that can be refreshed to reflect the latest data changes.</p> <p>Cost Avoidance: By no longer performing the bill reversal routine, FDOT could avoid system processing costs.</p> <p>Reference activity steps: 130.0-144.0, 155.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
9.0	Currently, OOC staff must manually download the finalized bill from FPM and then upload it to the FHWA's FMIS 5.0 system for approval and processing. This process could be improved by developing an interface to systematically pass the file directly from FPM to FMIS 5.0.	OOO-FMO	Staff time could be saved, and the file integrity maintained, by directly passing the file from FPM to FMIS 5.0 without manual intervention and/or the use of free open-source tools to support the process.	<p>Operational Efficiency: The process to download and upload the bill file is manual. Staff time could be saved if the bill file could be automatically passed via integration from FPM to FMIS.</p> <p>Risk Mitigation: The risk associated with using free open-source tools to download the file would also be eliminated.</p> <p>Reference activity steps: 158.0-159.0.</p>
10.0	The process to record and track the actual reimbursement amount and cash receipt date for each weekly billing cycle is manual. Automation should be leveraged to systematically capture and report these details on an ad-hoc basis (i.e. weekly, monthly, yearly) and produce the annual file for DFS.	OOO-FMO	OOO staff would save time by no longer manually tracking the reimbursement amount and cash receipt date for each weekly billing cycle, nor manually producing the requisite reporting.	<p>Operational Efficiency: The process to record and track the actual reimbursement amounts and cash receipt data could be automated such that the billing solution systematically captures the details and produces the necessary extract for DFS. Staff would no longer have to manually perform this function.</p> <p>Reference activity step: 170.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
11.0	<p>The overwhelming majority of the Classify Unconsidered Federal Costs process is completed through automated, nightly processing in the FPM system. FDOT staff benefit greatly from this automation, but opportunity exists to improve the automation's efficiency. For example, unnecessary time and computing resources are expended performing excessive table scans, redundant look-ups, and inefficient data updates. The automated steps enforce the various business rules and validations accurately, however the process could be streamlined.</p> <p>The FPM automation could be optimized by employing technology which executes the required system activities faster and with greater efficiency.</p>	OOC-FPM (FPMOC012)	Solving the FPM nightly automation inefficiencies will not directly save FDOT staff time. Instead, there is a tangible cost savings /cost avoidance which could be realized if the process is tuned such that it requires less processing time. The processing time is relatively expensive, in the range of \$1,000 per CPU minute. By reducing a few minutes of processing time, FDOT could save tens of thousands of dollars annually in system usage fees.	<p>Cost Avoidance: In many instances, the automated cost classification-related processing in FPM runs sub-optimally. This is not an error as the process produces accurate outputs. However more efficient processing would reduce system usage, thus resulting in material cost savings annually.</p> <p>Reference activity steps: 64.01-64.51</p> <p>To-Be Workshop I: Removed all activities for this sub-process.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
12.0	<p>The Preview Reimbursement Eligibility process is completed on a weekly basis through automated, nightly processing in the FPM system. FDOT staff benefit from this automation, but opportunity exists to improve the automation's efficiency.</p> <p>The current programming summarizes the various costs and then employs a series of routines to derive the billable amounts. The automation does not take full advantage of the existing data derived in the cost allocations processing in FPM, in fact it arguably duplicates much of the effort. This results in unnecessary processing time. Instead, the programming should be optimized to use the cost allocations-related data and manage each cost allocation against its respective authorized amount(s). In doing so, the process could still perform its primary functions such as identifying modification needs (step 65.09), assessing LTD participating costs (step 65.47), and determining maximum agreement allowed (step 65.55), more efficiently and timely.</p>	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	<p>There is a tangible cost savings/cost avoidance which could be realized if the reimbursement eligibility program is structured to utilize available cost allocation data inputs and transaction-level processing. The processing time is relatively expensive, in the range of \$1,000 per CPU minute. By reducing a few minutes of processing time over the course of the week, FDOT could save tens of thousands of dollars annually in system usage fees. In addition, an optimized program may require less system storage and maintenance costs annually.</p> <p>From a risk management perspective, the reimbursement data may achieve a higher level of integrity for reporting purposes, thus lowering the risk of non-routine audits. In addition, staff could minimize the need to perform manual interventions via the data one-shot mechanisms to resolve data errors.</p>	<p>Cost Avoidance: The automated reimbursement eligibility-related processing in FPM runs sub-optimally. This is not an error per se, however more efficient processing of transactional costs and a greater usage of existing cost allocation classification data would reduce system usage (i.e. eliminate processing and storage, and minimize maintenance) thus resulting in material cost savings.</p> <p>Risk Mitigation: By processing cost allocations more efficiently, overall financial reporting integrity would improve, thus lowering non-routine audit risks and the need for manual intervention in the form of data one-shots.</p> <p>Reference activity steps: 65.01-65.67.</p>
13.0	<p>On most occasions, the Preview Reimbursement Eligibility process is run weekly to support the generation of the federal bill. However, FMO staff would benefit by instead running the program on a nightly basis.</p>	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	<p>By doing so, FMO staff would have the opportunity to resolve data issues more timely which directly impacts the ability to close out projects faster, increase the number of cost allocations included in each bill, and even optimize adherence to the CMIA clearance patterns for reimbursement.</p>	<p>Operational Efficiency: The process is run weekly, however nightly processing could improve FDOT's ability to resolve data issues, minimize user computing impacts due to "soft cap" threshold violations, maximize the number of cost allocations in</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
			<p>From a computing perspective, nightly processing would shorten the amount of nightly bandwidth consumption, thus lowering contributions to data “soft cap” occurrences which degrade user performance, leading to lower productivity.</p> <p>Also, from a risk management perspective, the reimbursement data may achieve a higher level of integrity for reporting purposes, thus lowering the risk of non-routine audits. In addition, staff could minimize the need to perform manual interventions via the data one-shot mechanisms to resolve data errors.</p>	<p>the weekly bill, shorten the reimbursement cycle to adhere to CMIA clearance patterns, and support faster project close-outs.</p> <p>Risk Mitigation: By processing cost allocations on a nightly basis, overall financial reporting integrity would improve, thus lowering non-routine audit risks and the need for manual intervention in the form of data one-shots. Also, the possibility of a soft cap situation attributable to this process exists. When this occurs, there is an efficiency loss to the Department that could be removed with better data use and scheduling of the process.</p> <p>Reference activity steps: 65.01-65.67.</p>
14.0	<p>The Preview Reimbursement Authorization process is completed on a weekly basis through automated, nightly processing in the FPM system. FDOT staff benefit from this automation, but opportunity exists to improve the automation’s efficiency.</p> <p>The current programming summarizes the various costs and then employs a series of routines to derive the billable amounts. The automation does not take full advantage of the existing data derived in the cost allocations</p>	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	<p>There is a tangible cost savings/cost avoidance which could be realized if the reimbursement authorization program is structured to utilize available cost allocation data inputs and transaction-level processing. The processing time is relatively expensive, in the range of \$1,000 per CPU minute. By reducing a few minutes of processing time over the course of the week, FDOT</p>	<p>Cost Avoidance: The automated reimbursement authorization-related processing in FPM runs sub-optimally. This is not an error per se, however more efficient processing of transactional costs and a greater usage of existing cost allocation classification data would reduce system usage (i.e. eliminate processing and</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
	<p>processing in FPM, in fact it arguably duplicates much of the effort. This results in unnecessary processing time. Instead, the programming should be optimized to use the cost allocations-related data and manage each cost allocation against its respective authorized amount(s). In doing so, the process could achieve more efficiency and timeliness for its core objectives, including the ability to produce a complete audit trail of an accounting transaction's activity and link the transaction to the specific billing request in which it was included.</p>		<p>could save tens of thousands of dollars annually in system usage fees. In addition, an optimized program may require less system storage and maintenance costs annually.</p> <p>From a risk management perspective, the reimbursement data may achieve a higher level of integrity for reporting purposes, thus lowering the risk of non-routine audits. In addition, staff could minimize the need to perform manual interventions via the data one-shot mechanisms to resolve data errors.</p>	<p>storage, and minimize maintenance) thus resulting in material cost savings.</p> <p>Risk Mitigation: By processing cost allocations more efficiently, overall financial reporting integrity would improve, thus lowering non-routine audit risks and the need for manual intervention in the form of data one-shots.</p> <p>Reference activity steps: 66.01-66.20.</p>
15.0	<p>On most occasions, the Preview Reimbursement Authorization process is run weekly to support the generation of the federal bill. However, FMO staff would benefit by instead running the program on a nightly basis.</p>	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	<p>By doing so, FMO staff would have the opportunity to resolve data issues more timely which directly impacts the ability to close out projects faster, increase the number of cost allocations included in each bill, and even optimize adherence to the CMIA clearance patterns for reimbursement.</p> <p>From a computing perspective, nightly processing would shorten the amount of nightly bandwidth consumption, thus lowering contributions to data "soft cap" occurrences which degrade user performance, leading to lower productivity.</p> <p>Also, from a risk management perspective, the reimbursement data may achieve a higher</p>	<p>Operational Efficiency: The process is run weekly, however nightly processing could improve FDOT's ability to resolve data issues, minimize user computing impacts due to "soft cap" threshold violations, maximize the number of cost allocations in the weekly bill, shorten the reimbursement cycle to adhere to CMIA clearance patterns, and support faster project close-outs.</p> <p>Risk Mitigation: By processing billable cost allocations on a nightly basis, overall financial reporting integrity would improve, thus lowering non-routine audit risks and the</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
			level of integrity for reporting purposes, thus lowering the risk of non-routine audits. In addition, staff could minimize the need to perform manual interventions via the data one-shot mechanisms to resolve data errors.	need for manual intervention in the form of data one-shots. Also, the possibility of a soft cap situation attributable to this process exists. When this occurs, there is an efficiency loss to the Department that could be removed with better data use and scheduling of the process.  Reference activity steps: 66.01-66.20.
16.0	<p>The Preview Reimbursement Authorization programming includes functionality to identify and process eligible AC costs. However, this processing is unnecessary since the costs for AC funded projects are available in the cost tables and within the authorizations data in FAMS.</p> <p>The Department should pursue process and technology improvements to take advantage of the existing AC-related costs data and eliminate redundant, nightly FPM processing.</p>	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	<p>There is a tangible cost savings/cost avoidance which could be realized if the processing of AC costs were removed from the federal billing authorization programming. The processing time is relatively expensive, in the range of \$1,000 per CPU minute. By reducing a few minutes of processing time over the course of the week, FDOT could save tens of thousands of dollars annually in system usage fees. In addition, an optimized program may require less system storage and maintenance costs annually.</p>	<p>Cost Avoidance: Activities within the program pertaining to the accumulation of eligible AC costs represent duplicate processing and could be removed from the program. The costs for AC funded projects are captured on the cost tables and available with the authorizations data in FAMS. The reduction of processing steps would reduce system usage (i.e. eliminate processing and storage, and minimize maintenance) thus resulting in material cost savings.</p> <p>Reference activity steps: 66.01-66.03.</p>



ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
17.0	Currently, significant manual and systematic effort is allocated to manage indirect costs, and even then, the Department is challenged to optimize the consumption of specific funds on indirect project phases and subsequently reconcile and audit the use of these funds on indirect project phases. As a result, opportunity exists for FDOT to improve its overall ability to maximize the use of federal funds on indirect project phases and appropriately allocate state funds to phases where federal funding is not available.	<p>OOC-FPM (Federal Bill)</p> <p>OOC-FMO</p>	By implementing the enhanced transactional costing methodology described in Key Finding item 1.0 and managing indirect phases like all other phase types/groups, FDOT would have greater insight into the estimating, programming, and overall management of costs associated with indirect project phases. This would allow the Department the ability to maximize the use of federal funding and simplify the manual reconciliation and audit functions associated with indirect costs.	<p>Operational Efficiency: Significant effort is expended, both systematically and manually, to process indirect costs. The programming should be enhanced to take advantage of the transaction-level cost processing to manage indirect costs in the same manner as other phase types and phase groups. This would allow FDOT to optimally consume fund types (i.e. federal vs. state) on indirect project phases and simplify the manual intervention needed to manage, reconcile, and audit the use of funds on indirect phases.</p> <p>Reference activity steps: 66.04-66.05, 66.10-66.18.</p>

**Exhibit 8: Generate Reimbursement Request Key Findings and Improvement Opportunities**

**Process 7: Report and Monitor Expenditure of Federal Funds**

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
1.0	<p>Each year, typically during the July-August timeframe, FMO staff coordinate with DFS to determine the clearance pattern for the fiscal year. The clearance pattern directly informs the Payment Request Date (PRD) used in the weekly federal bill. Currently, FMO staff compile the information necessary to submit to DFS for review. However, most, if not all, of the data used by FMO is available in FLAIR.</p> <p>FDOT should investigate options for allowing/requesting DFS to calculate the clearance patterns directly and minimize the reliance and burden on FDOT. This option should be pursued with DFS during the requirements gathering efforts for the PALM initiative.</p>	<p>OOC-FMO</p> <p>DFS</p>	<p>FMO staff would save time by no longer deriving the proposed clearance patterns. Instead, DFS should be able to leverage the data in FLAIR to derive the clearance patterns and communicate them to FMO accordingly.</p>	<p>Operational Efficiency: The determination of the clearance patterns is largely performed using historical FLAIR expenditure data which DFS already has. Staff time could be saved if DFS determined the annual clearance patterns directly and alleviated all or most of the need for FDOT staff intervention.</p> <p>Reference activity steps: 2.0-10.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
2.0	<p>FMO staff submit to DFS quarterly the consolidated AC conversion spreadsheet(s) which presents the conversion details for each weekly billing cycle. The source AC conversions data is provided by FHWA in summary format, therefore the details must be derived. The process to derive and compile the AC data is manual and requires the consolidation of data from multiple FDOT sources.</p> <p>Assuming the AC conversion data will continue to be provided to FDOT in summary format, automated solutions for consolidating the AC-related data from the various FDOT sources should be pursued.</p>	OOC-FMO	FMO staff would save time if the manual data manipulation and consolidation efforts were minimized in the creation of the required AC conversion spreadsheets. Automated data extraction and reporting would also reduce the reliance on open-source, third-party tools such as FileZilla.	<p>Operational Efficiency: Manual effort is required each billing cycle to append various data elements to the mainframe report outputs and derive the AC conversion spreadsheet submitted quarterly to DFS. Staff time could be saved if the various data elements were systematically extracted from the various FDOT data sources to automatically derive the AC conversion outputs for DFS.</p> <p>Risk Mitigation: Eliminate the use of open-source, third-party tools such as FileZilla.</p> <p>Reference activity steps: 11.0-13.0.</p>
3.0	<p>Annually, FMO staff submit to DFS the RECAP Spreadsheet which DFS uses to determine interest liabilities attributable to federal reimbursements. The information is manually tracked on a weekly basis and essentially compares what was requested in the federal bill and what was actually received for each billing cycle. Significant manual effort is required to derive the appropriate project and transaction level detail by which to perform the comparisons and subsequent variance analysis for regular billing, indirect billing, AC conversions, etc.</p> <p>The activities to consolidate data from multiple sources and derive the required detail information</p>	OOC-FMO	FMO staff would save time each week if the RECAP reporting were more automated. Staff could instead focus time on managing exceptions and resolving variance-related issues.	Operational Efficiency: Significant FDOT time and manual effort is spent weekly reconciling the federal reimbursement amounts requested versus the actual amounts received. This is mainly attributable to the summary nature of the data received from FHWA via FLAIR and the subsequent need to derive the corresponding detailed data by which to compare "sent vs. received." FDOT staff would save time if

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
	could in many instances be automated.			<p>greater automation and tracking were available to minimize the time spent deriving the details for comparison and instead focus on analyzing the results and addressing variances on an exceptions basis.</p> <p>Reference activity steps: 14.0-39.0.</p>
4.0	<p>Quarterly, FMO staff submit to DFS the Quarterly Refund Report which is a spreadsheet that summarizes applicable federal refund "liabilities." The process to develop the report relies on data extracts, manual data analysis, and numerous manual reconciliation and eligibility assessments.</p> <p>Many of the activities to develop the quarterly submission could be automated to improve the quality of the data extracts and apply various business rules and thresholds using data already contained in the FDOT systems.</p>	OOC-FMO	By automating much of the data management efforts associated with the Quarterly Refund Report, FMO staff would be able to identify and manage the refunds on an exceptions basis. This would save staff time and allow efforts to focus on performing the necessary manual interventions.	<p>Operational Efficiency: The process to identify and resolve qualifying refunds could be accelerated by enabling automated reporting which more comprehensively analyzes the cost allocations against various thresholds and business rules to identify the exceptional refunds which require further manual intervention.</p> <p>Reference activity steps: 40.0-61.0.</p>

ITEM	KEY FINDING/OPPORTUNITY DESCRIPTION	ACTOR(S)	IMPACT (BENEFIT)	ROI SUMMARY
5.0	<p>Each August, FMO staff submit to the FDOT General Accounting Office (GAO), the SEFA spreadsheets to account for all federal expenditures incurred within the fiscal year according to CFDA Number. FMO staff manually consolidate the required data from FLAIR and other FDOT sources to generate the expenditure details and calculate the variances for reconciliation.</p> <p>Many of the expenditure data extraction and calculation details could be automated for this annual exercise.</p>	<p>OOC-FMO</p> <p>OOC-GAO</p>	<p>Automating many of the SEFA-related data extractions and calculations would save staff time and allow efforts to focus on addressing exceptions and accelerate the file submission process.</p> <p>Other FDOT reimbursements areas (i.e. non-FHWA federal grants) must also submit SEFA spreadsheets and could benefit from this functionality and the subsequent staff time savings.</p>	<p>Operational Efficiency: To save FDOT staff time, additional automation could be leveraged to consolidate the required data from FLAIR and other FDOT sources to generate expenditure details and calculate the variances for reconciliation. Staff could then focus efforts on addressing exceptions and preparing the final template(s) for submission to GAO.</p> <p>Reference activity steps: 62.0-72.0.</p>

**Exhibit 9: Report and Monitor Expenditure of Federal Funds Key Findings and Improvement Opportunities**

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## SECTION 3 TO-BE FHWA BILLING PROCESS DETAILS

As with the As-Is phase, the FHWA Billing To-Be business process design exercise was conducted through a highly collaborative, iterative cycle of discussions, documentation, and validation amongst process owners and stakeholders. The team conducted a series of tactical workshops and validation activities to create the optimal future-state billing designs. The workshop structure is summarized below in Section 3.1.

At the conclusion of the analysis, six FHWA Billing To-Be process narratives were generated. As expected during the To-Be analysis, the original set of As-Is processes were considerably restructured and reordered to reflect the preferred, future-state federal aid billing processes.

Each detailed To-Be process narrative includes the following common content elements:

- Statement of purpose and objectives
- Comprehensive process flow(s)
- Supporting process activity narratives
- Listing of process assumptions and dependencies to realize the process benefits

Given the significant size of the individual To-Be process narratives, and to increase the respective documents' usability, the documents are not embedded in this file. Instead, each narrative is posted to the FDOT SharePoint site for easy access. The following documents can be accessed by clicking the hyperlink [HERE](#).

- Convert Advance Construction (AC) to Regular Federal Funds
- Classify Cost Allocations
- Determine Reimbursement Authorization
- Determine Billing Impact
- Generate Reimbursement Request
- Report and Monitor the Expenditure of Federal Funds

### 3.1 SUMMARY OF TO-BE PROCESS WORKSHOPS

The project team conducted a series of targeted process workshops to design the future FHWA Billing processes. The To-Be analysis phase was initiated by a formal Kick Off session followed by a series of three specialized workshops. As with the As-Is process analysis sessions, the To-Be design sessions were well attended by representative members of the Office of Comptroller and Office of Work Program and Budget. A summary of each session is provided below.

- *Kick Off Session* – As the name implies, the Kick Off session served as the official initiation of the To-Be design activities. For this session, North Highland employed a number of

creative techniques to engage attendees and collaboratively develop the key tenets by which to design the future FHWA Billing processes. Attendees participated in a series of ice-breaker and idea generation activities using elements from the “Innovation in a Box” methodology and Mind Mapping to define the challenges to be addressed and organize thoughts around reimbursements. The team then worked through a series of interactive exercises to develop the To-Be phase’s goals, objectives, constraints, and approach. Following the successful session, the team’s output was synthesized into the “FHWA Billing To-Be Analysis Guide” which served as an important scope and alignment reference throughout the subsequent workshops. The guide is displayed in the exhibit below.

FDOT: FHWA Billing To-Be Analysis Guide				
<b>Problems and Challenges to Address</b>		<ul style="list-style-type: none"> <li>Processes lack simplification and optimal efficiency.</li> <li>Processes place a heavy burden on FDOT resources.</li> <li>Processes must continue to ensure compliance with federal transportation acts, federal regulations, and OMB circulars.</li> </ul>		
<b>Solution Goals</b>	<i>Goal 1: Implement a solution to optimize resource efficiency - across people and technology dimensions.</i>		<i>Goal 2: Implement a process-driven solution which integrates multiple business processes - internal and external to FDOT.</i>	
	<i>Goal 3: Provide full auditability and traceability of expenditures and reimbursements.</i>			
<b>Objectives</b>	<ul style="list-style-type: none"> <li>Remove/reduce data duplication</li> <li>Optimize data processing routines</li> <li>Automate processes to the maximum extent possible</li> <li>Provide simple reporting mechanisms</li> <li>Utilize resources efficiently; fewer human dependencies</li> <li>Complete RACI chart for processes</li> <li>Employ effective staff training/adoption strategies</li> </ul>		<ul style="list-style-type: none"> <li>Identify and accommodate process intersections with other subject areas</li> <li>Define process “touch point” characteristics</li> </ul>	
			<ul style="list-style-type: none"> <li>Obtain 100% reimbursement of eligible expenditures in the next business cycle</li> <li>Ensure FHWA approval of business processes and supporting technology solutions</li> <li>Provide full accounting of each reimbursement from expenditure through revenue at the project level</li> </ul>	
<b>Key Constraints</b>	<i>Inputs and Outputs</i>		<i>Technology and Work Program</i>	
	<ul style="list-style-type: none"> <li>External inputs - fund codes, FAC, etc.</li> <li>External FL statutes</li> <li>Approved federal authorizations</li> <li>AC conversion plan</li> <li>Billing request to FHWA</li> <li>Cash receipt transactions to DFS</li> <li>Cash deposit to STTF</li> <li>Federally-funded Cost Allocations</li> </ul>		<ul style="list-style-type: none"> <li>Other system interfaces</li> <li>ITSP/FM database alignment</li> <li>General technology:                             <ul style="list-style-type: none"> <li>Funding</li> <li>Expertise</li> <li>Flexibility</li> <li>Maintainability</li> <li>Governance</li> </ul> </li> </ul>	
		<i>ROI and Value</i>		<i>Stakeholder Concerns</i>
		<ul style="list-style-type: none"> <li>Total cost of ownership</li> <li>Method of measuring return</li> <li>Performance measurements</li> <li>Expected life of project</li> </ul>		<ul style="list-style-type: none"> <li>External/FHWA constraints</li> <li>CMA requirements</li> <li>Year end closing (state/FHWA)</li> <li>Authorization process - approval in FMIS (real time)</li> <li>FLAIR/PALM</li> <li>Required external, regular process updating</li> </ul>
<b>Boundaries</b>	<ul style="list-style-type: none"> <li>Reimbursements is the priority</li> <li>Inform the ROI, do not calculate it in-session</li> <li>Don't get hung up - parking lot it, and come back</li> </ul>		<ul style="list-style-type: none"> <li>Focus on process, not requirements</li> <li>Emphasize the possibilities, not the limitations</li> <li>Respect all voices and perspectives – everyone has a seat at the table; please speak</li> </ul>	

**Exhibit 10: To-Be Analysis Guide**

- Workshop I: Remove the Noise** – The objective of Workshop I was to review the detailed As-Is process narratives and SIPOC chart and remove all process activities and related elements which the team collectively agreed would no longer apply in the future-state solution. The basis for removal was centered on key assumptions pertaining to, but not limited to, the removal of data duplication practices, the use of a transaction-based billing system, the optimal usage of available project costing and federal funding authorization data, automation/reassignment of certain manual activities, and the

performance of reconciliations based on exception reporting (e.g., managing the three types of cost allocation exceptions with originating offices). As a result, large portions of the current processing activities were removed from the future design.

- *Workshop II: Design the Future-State* – After “removing the noise” from each process in Workshop I, the revised FHWA Billing processes, along with the updated SIPOC chart and list of process improvement opportunities, were used as a reference in Workshop II to complete an FHWA Billing future-state storyboarding exercise. For the storyboarding, attendees collaborated to identify and logically sequence the primary groups of activities required to complete the end-to-end federal billing process. This resulted in a significant reordering of the current federal billing sequence. Then, the team reassessed the relevant inputs and outputs for each activity “bucket” and associated them accordingly on the storyboard. The resulting workshop output provided the first tangible insight into the future FHWA Billing processes and the potential efficiency gains they offer.
- *Workshop III: Create the Desired Reconciliation State* – Workshop III applied the information from Workshops I and II, and the team focused the discussion on designing the future-state federal bill reconciliation activities. In numerous instances, reconciliation activities in the As-Is processes were simply deemed unnecessary in the To-Be processes based on the transaction level approach to determine billing impact and the exception-based reporting of processing issues. This enabled the team to further streamline the future-state designs without compromising process integrity or introducing material risks.
- *Validation Session* – Following the formal workshops, FMO and North Highland staff collaborated informally to apply the To-Be principles against the revised processes to ensure the activity-level details aligned consistently and reflected the known assumptions and dependencies. The To-Be process flows were developed, and the information was validated with the collective project team. The process flows and assumptions and dependencies ultimately served as the foundation for the To-Be process narrative documents referenced above in Section 3.

The workshop-based approach proved to be an effective and efficient method for designing the To-Be FHWA Billing processes. The team consistently validated its progress and direction against the “FHWA Billing To-Be Analysis Guide” to ensure the future-state solution addressed the billing-related challenges and met the stated goals and objectives for an improved design. Consequently, the team produced a valuable, comprehensive suite of FHWA Billing To-Be process narrative documents.

### **3.2 EXPECTED PROCESS IMPROVEMENTS AND BENEFITS**

FDOT should realize significant operational benefits by implementing the FHWA Billing To-Be processes. Generally speaking, benefits should be expected in the form of potential cost savings through the reduction and acceleration of system processing, the reduction of manual steps required to prepare, reconcile, and generate the federal bill, and the mitigation of audit and reimbursement disruption risks due to greater billing flexibility, transactional data traceability, and exception basis reporting. Together, these activities preserve the receipt of critical federal



funds to protect the projects in the Work Program. The basis for these benefits is specified in Section 2.1, Summary of Key Improvement Opportunities and ROI Classifications. The relevant, detailed improvement opportunities informed the To-Be designs which, if implemented, would operationalize the valuable process changes identified during the As-Is phase.

Following the FHWA Billing To-Be design exercise, the FDOT Budget Office will further assess the potential To-Be process benefits to the Office of Comptroller and to FDOT as a whole. The Budget Office will evaluate the approximate time, labor, cost, and risk reductions which will then be used to calculate the basis of ROI estimation.

### 3.3 ASSUMPTIONS AND DEPENDENCIES – THE KEYS TO FUTURE SUCCESS

Unlike the As-Is process analysis phase which focused on understanding and documenting actual processes in place today, the To-Be analysis is far more conceptual and inherently aspirational. It is a vision for the future, and therefore, is contingent upon key assumptions and dependencies to be met in order to achieve the expected process improvement benefits and ROI targets. Conversely, invalid assumptions and/or unsatisfied dependencies pose risks to the future process design and should be managed as such.

For each To-Be process narrative, the team recorded a list of key assumptions and dependencies which can be found at the end of each document. These items also inform the success criteria, benefits realization, and risks elements described later in this document. The exhibits below articulate the assumptions and dependencies captured in each To-Be narrative.

#### *Process 1: Convert Advance Construction (AC) to Regular Federal Funds*

ITEM	ASSUMPTION/DEPENDENCY
1.0	The Federal Authorization (FA) Report can be systematically generated on a daily basis and posted/distributed for the OOC-FMO staff; it no longer has to be manually retrieved.
2.0	OOO-FMO staff and FAMO staff support business practices whereby the OOC-FMO staff rely primarily on the FA Report to identify the authorizations for which to convert AC within each billing cycle. Each authorization data record includes the Total Programmed Amount, Encumbrance Amount, Expenditure Amount, and Full or Partial Amount.
3.0	The AC projects scheduled for conversion are fully approved by the Federal Aid Management Office and Federal Highway Administration. In addition, conversions are validated against AC expenditure inventory and outstanding encumbrance balances prior to being sent to OOC-FMO staff.
4.0	OOO-FMO staff and FAMO staff support business practices whereby the OOC-FMO staff will set a time certain each week (e.g., noon each Thursday) to “cutoff” the approved AC authorization requests to be included in the current billing cycle. Outstanding, unapproved AC authorizations will be considered for conversion in subsequent billing cycles.
5.0	The Automated AC program is reinstated and working properly to expedite the generation and submission of Federal Authorization Requests, cost transfers, etc.

ITEM	ASSUMPTION/DEPENDENCY
6.0	The converted cost allocations specify the Amount Available for Conversion and Converted Amount data elements.
7.0	Cost Allocations used to support AC conversions are sufficiently unique and accommodate fund-to-fund transfer management.

**Exhibit 11: Convert Advance Construction (AC) to Regular Federal Funds Assumptions and Dependencies**

**Process 2: Classify Cost Allocations**

ITEM	ASSUMPTION/DEPENDENCY
1.0	The systematic processing takes full advantage of the existing data derived in the cost allocations processing and manages each cost allocation against its respective authorized amount(s) to optimize the processing sequences.
2.0	The systematic processing to execute the Classify Cost Allocations process continues to be executed on a nightly basis at a minimum.
3.0	The processing sequence only evaluates FHWA federally funded transactions.
4.0	The reimbursement solution enforces rules whereby approved cost allocations are automatically “suspended” if the system determines the cost allocation(s) lacks the acceptable billing conditions. Staff in the offices that create the originating FLAIR transaction(s) may be notified to investigate and resolve. Once the resolution is complete, the cost allocations will be “tagged” as available for subsequent billing consideration,
5.0	Specific FDOT departmental staff are assigned, trained, and accountable for resolving "suspended" cost allocations and supporting FLAIR transactions which are systematically suspended from the billing process. This promotes timely and accurate resolution.

**Exhibit 12: Classify Cost Allocations Assumptions and Dependencies**

**Process 3: Determine Reimbursement Authorization**

ITEM	ASSUMPTION/DEPENDENCY
1.0	The systematic processing takes full advantage of the existing data derived in the cost allocations processing and manages each cost allocation against its respective authorized amount(s) to optimize the processing sequences. In doing so, the process supports the requirement to produce a complete audit trail of an accounting transaction’s activity and link the transaction to its respective billing request.
2.0	The systematic processing to execute the Determine Reimbursement Authorization process is executed on a nightly basis at a minimum; historically this process was executed weekly.

ITEM	ASSUMPTION/DEPENDENCY
3.0	The systematic processing no longer expends resources identifying and processing eligible Advance Construction (AC) costs since this information is readily accessible in the cost tables within PCM and available with the authorizations data in FAMS.
4.0	Indirect project costs are managed in the same manner as other phase types and phase groups and will be included with all other cost allocations for consideration for billing. The reimbursement solution provides the necessary crosswalk capability between the direct financial project and a single indirect financial project.
5.0	The reimbursement solution enforces rules whereby approved cost allocations are automatically “suspended” if the system determines the cost allocation(s) exceeds the total value of pending changes to authorizations. Staff are notified to investigate and resolve.
6.0	On a daily basis, the reimbursement solution has the capability to systemically identify and notify staff of instances where incurred costs exceed estimates.
7.0	The reimbursement solution enforces rules whereby negative cost allocations which were never billed to FHWA in that amount initially are automatically “suspended” for staff in the offices that created the originating FLAIR transaction(s) to investigate and resolve.
8.0	Specific FDOT departmental staff are assigned, trained, and accountable for resolving cost items which are systematically suspended from the billing process. This promotes timely and accurate resolution.
9.0	Timing issues pertaining to the reduction of accounts receivable and billings are systematically managed to reduce exceptions.

**Exhibit 13: Determine Reimbursement Authorization Assumptions and Dependencies**

**Process 4: Determine Billing Impact**

ITEM	ASSUMPTION/DEPENDENCY
1.0	The systematic processing takes full advantage of the existing data derived in the cost allocations processing and manages each cost allocation against its respective authorized amount(s) to optimize the processing sequences. In doing so, the process identifies authorization request modification needs, calculates Current Billing Cycle/year-to-date (YTD)/life-to-date (LTD) participating costs, and determines the maximum allowable billable amounts most effectively and efficiently.
2.0	The systematic processing to execute the Determine Billing Impact process is executed on a nightly basis at a minimum; historically this process was executed weekly.
3.0	The systematic processing no longer expends resources identifying and processing eligible Advance Construction (AC) costs since this information is readily accessible in the cost tables within PCM and available with the authorizations data in FAMS.

ITEM	ASSUMPTION/DEPENDENCY
4.0	The reimbursement solution allows FDOT staff to evaluate daily and on-demand the potential impacts to the federal bill. The frequency with which the billing reimbursement requests are assessed can vary from the frequency with which bills are submitted to FHWA.

**Exhibit 14: Determine Billing Impact Assumptions and Dependencies**

**Process 5: Generate Reimbursement Request**

ITEM	ASSUMPTION/DEPENDENCY
1.0	The systematic processing takes full advantage of the existing data derived in the cost allocations processing and manages each cost allocation against its respective authorized amount(s). This enables greater usage of exceptions reporting and the generation and management of on-demand detail and bill overview features. Reconciliation efforts are also significantly reduced.
2.0	The process utilizes the full, relevant breadth of the data in FAMS and PCM to alleviate the need for data duplication and redundant reconciliations.
3.0	The solution affords FDOT the ability to extract and analyze various data samples to prove the audit trail from the detail FLAIR transaction level through the summary billing information generated by the Reimbursement System.
4.0	The reimbursement solution allows FDOT staff to evaluate daily and on-demand the potential impacts to the federal bill. The frequency with which the billing reimbursement requests are assessed can vary from the frequency with which bills are submitted to FHWA.
5.0	The reimbursement solution enforces rules which prevent the reduction of authorizations below what is needed to satisfy any pending billable cost allocations.
6.0	The reimbursement solution has the capability to identify cost allocations related to federal lands and validate the correct region setting is applied. If the region is incorrect, the system automatically sets the region value (e.g., 15) and allows the cost allocation to be included in the federal bill as applicable.

**Exhibit 15: Generate Reimbursement Request Assumptions and Dependencies**

**Process 6: Report and Monitor Expenditure of Federal Funds**

ITEM	ASSUMPTION/DEPENDENCY
1.0	The systematic processing takes full advantage of the existing data derived in the cost allocations processing and manages each cost allocation against its respective authorized amount(s).
2.0	DFS agrees to calculate the annual clearance pattern using historical FLAIR expenditure data without reliance on FDOT for input.

ITEM	ASSUMPTION/DEPENDENCY
3.0	The reimbursement solution has the capability to track the transaction details from each billing cycle to be used in the RECAP, Quarterly Refund Report, and SEFA submissions, including the ability to generate exceptions reports.
4.0	The reimbursement solution systematically tracks the following cost allocations, including those on the suspended list, and offers the necessary “roll-up” reporting capabilities: <ul style="list-style-type: none"> <li>▪ Expenditures of federal funds in the reporting year and prior years</li> <li>▪ Billed expenditures of federal funds in the reporting year and prior years</li> <li>▪ AC conversions in the reporting year and prior years</li> <li>▪ Billed AC conversions in the reporting year and prior years</li> </ul>
5.0	The reimbursement solution systematically assigns the appropriate CFDA Number to each Program Fund Structure (i.e., Program Number and Work Program Fund Code combination).
6.0	For all sub-grantee relationships, as determined based on the contract type, the respective CFDA Number is designated on all related transactions which interface to FLAIR.

**Exhibit 16: Report and Monitor Expenditure of Federal Funds Assumptions and Dependencies**

**3.4 SUCCESS CRITERIA**

The expected benefits of implementing the FHWA Billing To-Be processes are well known as evidenced by the content in the prior sections of this document and in the individual process narratives. In addition, FDOT must evaluate the specific outcomes of the future-state design to determine the ultimate success of the FHWA Billing process improvement initiative. The table below presents sample success criteria which may be used to support the creation and submission of FDOT legislative budget requests pertinent to the WPPI initiative.

ITEM	SUCCESS FACTOR	MEASUREMENT METHOD	BENEFICIARY
1.0	FHWA Billing processes and supporting technologies support the requirements for reimbursement as described in the federal transportation acts, federal regulations, and applicable Office of Management and Budget (OMB) circulars.	<ul style="list-style-type: none"> <li>▪ FDOT continues to maximize federal apportionments and the opportunity to participate fully in subsequent redistributions.</li> <li>▪ FHWA certifies FDOT’s federal aid reimbursement business processes and supporting technologies.</li> <li>▪ FDOT suffers no lapses or disruptions in federal reimbursements due to process and/or system compliance deficiencies.</li> <li>▪ Data from current applications are successfully converted to populate the new structures within the final systems solution. Successful data conversion strategies are developed and implemented to achieve this measure.</li> </ul>	FDOT
2.0	FDOT markedly reduces the manual time and system resources required to prepare, generate, and process the federal aid bill accurately and timely.	<ul style="list-style-type: none"> <li>▪ FDOT staff measure the time and resource expenditures (for staff and systems) and compares to the historical time and resource expenditures to calculate applicable, cumulative savings.</li> </ul>	Office of Comptroller  Office of Work Program and Budget
3.0	FDOT is able to leverage the FHWA Billing processes and supporting technologies to improve and standardize the other types of reimbursements FDOT manages (e.g., non-FHWA grants, local fund agreements, turnpike and toll authorities).	<ul style="list-style-type: none"> <li>▪ FDOT staff confirm the successful processing of non-FHWA reimbursements using the modernized processes and technology platform.</li> <li>▪ FDOT systems and tools used to historically process other types of reimbursements are discontinued.</li> </ul>	Office of Comptroller

**Exhibit 17 – FHWA Billing Success Criteria**

### 3.5 BENEFITS REALIZATION

In addition to measuring the solution’s success, FDOT must evaluate the realization of expected benefits of the FHWA Billing To-Be processes. The table below presents a sample of aggregate, tangible benefits and their measures which may be used to support the creation and submission of FDOT legislative budget requests pertinent to the WPII initiative.

ITEM	EXPECTED BENEFIT	REALIZATION METHOD	BENEFICIARY
1.0	FDOT staff, namely Office of Comptroller-Financial Management Office staff, spend less time each billing cycle preparing, generating, and processing the federal aid bill.	<ul style="list-style-type: none"> <li>▪ FDOT staff measure time executing revised processes and reconciliation with the time required for previous processes to calculate applicable, cumulative savings.</li> <li>▪ Staff demonstrably focus time on analysis and issues resolution vs. data processing and report generation activities.</li> </ul>	Office of Comptroller
2.0	FDOT Billing technology systems eliminate duplicative data entry, perform transaction-level processing, and enable exceptions management to streamline the billing processes.	<ul style="list-style-type: none"> <li>▪ Data duplication between FDOT systems is eliminated, thus eliminating the risk of error due to duplicate data entry and subsequent reconciliation efforts.</li> <li>▪ Comprehensive cost allocation and federal authorizations data is applied at the transactional level.</li> <li>▪ Cost allocations are systematically “suspended” and supported by systematic workflows to enable more efficient resolution processing.</li> </ul>	Office of Comptroller  Office of Work Program and Budget

ITEM	EXPECTED BENEFIT	REALIZATION METHOD	BENEFICIARY
3.0	FDOT Billing technology systems process FHWA billing data on a nightly, and perhaps intraday basis, to allow for real-time billing impact reviews and bill generation.	<ul style="list-style-type: none"> <li>Automated processes are executed at least every 24 hours.</li> <li>Staff have the ability to generate ad-hoc exceptions reports and billing impact reviews.</li> <li>The federal aid bill can be generated as often as daily and/or as frequently as FDOT deems necessary.</li> <li>Annual soft-capping attributable to the federal bill processing is reduced.</li> </ul>	Office of Comptroller
4.0	FDOT Billing technology systems track the necessary data and produce a significant portion of the required CMIA and SEFA reporting.	<ul style="list-style-type: none"> <li>FDOT staff generate the required CMIA and SEFA reporting artifacts for all federal related funding from the Reimbursement System with minimal manual effort to manipulate data prior to submission.</li> </ul>	Office of Comptroller

**Exhibit 18 – FHWA Billing Benefits Realization Measures**

**3.6 RISKS**

Process modernization initiatives such as the FHWA Billing effort impact people, business processes, and technology. As a result, risks threaten the realization of the expected process benefits. Fortunately, these risks can be minimized or altogether eliminated through diligent management and effective mitigation techniques. The table below lists some of the potential risks to the FHWA Billing initiative as a whole. As applicable, these risks may be used to support the creation and submission of FDOT legislative budget requests pertinent to the WPPI initiative.

ITEM	RISK DESCRIPTION	IMPACT	PROBABILITY
1.0	The technology solution FDOT implements to support the future-state FHWA Billing functions may not be compatible with a modernized FM Suite of tools or other integrated platforms such as Florida’s Planning, Accounting, and Ledger Management (PALM) system. Therefore, the solution may need to be modified or replaced before the end of its useful life.	High	Medium



ITEM	RISK DESCRIPTION	IMPACT	PROBABILITY
2.0	The To-Be business processes and technology solution FDOT implements to support the future-state FHWA Billing functions must maintain the ability to support the requirements for reimbursement as described in the federal transportation acts, federal regulations, and applicable Office of Management and Budget (OMB) circulars. Otherwise, federal reimbursements could be negatively impacted (i.e., reduced and/or delayed).	High	Low
3.0	The To-Be processes require changes to some longstanding FDOT business practices and the shift of certain process responsibilities from the FMO staff to other stakeholders both internal and external to FDOT (e.g., Federal Aid Management Office (FAMO), Work Program Development Office, Department of Financial Services (DFS), etc.). The inability to adapt these changes and/or transition these responsibilities would impact the ability to execute the FHWA Billing processes as designed.	Medium	Medium
4.0	The To-Be processes necessitate the development of specific service level requirements and personal performance measurements relative to addressing “suspended” billing exceptions accurately and in a timely manner. These requirements would have to be actively managed by FDOT leadership, otherwise the processes’ efficiency could be compromised.	Medium	Medium

**Exhibit 19 – FHWA Billing Risks**

## SECTION 4 APPENDIX

### FHWA Billing As-Is SIPOC

SUPPLIERS - Person or organization that provides Inputs to a Process	INPUTS - Resource that is added to a Process by a Supplier	PROCESS - Series of steps where an Input converts to an Output	OUTPUTS - Resource that is the result of a Process	CUSTOMERS - Persons or organizations (Internal or External) that receive products or services produced in the Process
1) District Federal Aid Coordinators and OWPB - FAMO 2) OOC – FMO 3) OOC – FMO 4) FHWA 5) OOC – FMO 6) OOC – FMO	1) Defined FHWA federal projects and appropriation categories (a.k.a. federal billing projects) 2) Federal Billing Control "sequence" number (typically represents the phase of a specific project) 3) Federal funding type 4) Approved authorization request 5) Earliest authorization date 6) "Ok-to-bill" flag	<b>Apply Agreement:</b> Defines the control "structure" for billing federally funded project costs to FHWA. Includes defining categorizations for the lowest level of costs to be billed for a FWHA-defined federal project and appropriations and supporting crosswalks to FDOT financial projects and funding definitions. Also included in the process is the determination of the monetary limit allowed for the billings as well as the maintenance of this limit throughout the life of the project.	1) Federal billing "control" structure (a.k.a. federal billing control and financial project bill controls) 2) Reimbursement limits by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination 3) Approved advance construction amounts by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination	1) FHWA 2) OOC – Federal Billing function 3) OOC – Federal Billing function
1) OOC – Federal Billing function 2) OOC – Project Costing function 3) OOC – Project Costing function 4) OOC – Project Costing function 5) District Work Program Managers and OWPB – Work Program Development	1) Federal billing "control" structure (a.k.a. federal billing control and financial project bill controls) 2) Federally funded FLAIR transactions 3) Federally funded cost transfers 4) Archived cost allocations 5) "Activated" emergency financial project	<b>Classify Cost Allocations:</b> Processes both FLAIR transactions and FDOT cost transfers that have been designated as federally funded by FDOT's project costing process. This process summarizes the costs by FDOT financial project and funding definitions as well as provides information for FDOT's project costing archive process.	1) "Considered" cost allocations with FLAIR transaction and cost transfer details 2) "Exception" cost allocations with FLAIR transaction and cost transfer details 3) Federally funded costs summarized by FDOT financial projects and funding definitions (a.k.a. Project Cost Levels) 4) Status update for PCM archive process	1) OOC – Federal Billing function 2) OOC – Federal Bill function 3) OOC – Federal Billing function and FHWA – soft match calculations 4) OOC – Project Costing function

SUPPLIERS - Person or organization that provides Inputs to a Process	INPUTS - Resource that is added to a Process by a Supplier	PROCESS - Series of steps where an Input converts to an Output	OUTPUTS - Resource that is the result of a Process	CUSTOMERS - Persons or organizations (Internal or External) that receive products or services produced in the Process
6) FHWA 7) FHWA 8) FHWA 9) OOC – Federal Billing function 10) OOC – Federal Billing function	6) Approved authorization request 7) Emergency repair type 8) FHWA emergency declaration date 9) Reimbursement limits by federal project, federal emergency appropriation, project phase (bill control sequence number), financial project and federal share percentage combination 10) Eligible ER funded reimbursement summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project and federal share percentage combination			
1) OWPB – FAMO 2) District Federal Aid Coordinators and OWPB – FAMO 3) OOC – FMO 4) OOC – FMO 5) FHWA 6) OOC – FMO 7) OOC – FMO	1) Unconverted AC inventory by federal and financial project 2) Defined FHWA federal projects and appropriation categories (a.k.a. federal billing projects) 3) Federal Billing Control "sequence" number (typically represents the phase of a specific project) 4) Federal funding type 5) Approved authorization request 6) Earliest authorization date 7) "Ok-to-bill" flag	<b>Convert Advance Construction (AC) to Regular Federal Funds:</b> Process represents the final step in seeking federal reimbursement for FDOT projects that were initially financed with state funds to begin the project. This process includes the billing eligibility review of potential AC conversions and the cost transfer requirements that allow the conversions of state funds to federal funds for billing to FHWA for prior costs.	1) AC conversion cost transfers 2) Federal billing "control" structure (a.k.a. federal billing control and financial project bill controls) 3) Reimbursement limits by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination 4) AC conversions detailing encumbrances and expenditures converted by billing cycle	1) OOC, OWPB and FHWA – soft match calculations 2) FHWA 3) OOC – Federal Billing function 4) OOC – FMO and OWPB – FPRA

SUPPLIERS - Person or organization that provides Inputs to a Process	INPUTS - Resource that is added to a Process by a Supplier	PROCESS - Series of steps where an Input converts to an Output	OUTPUTS - Resource that is the result of a Process	CUSTOMERS - Persons or organizations (Internal or External) that receive products or services produced in the Process
1) OOC – Federal Billing function  2) OOC – Project Costing function  3) OOC – Federal Billing function  4) OOC – FMO 5) District Work Program Managers and OWPB – Work Program Development 6) FHWA  7) FHWA 8) FHWA  9) OOC – Federal Billing function          10) OOC – Federal Billing function	1) Federal billing "control" structure (a.k.a. federal billing control and financial project bill controls) 2) "Considered" cost allocations with FLAIR transaction and cost transfer details  3) Federally funded costs summarized by FDOT financial projects and funding definitions (a.k.a. Project Cost Levels) 4) AC conversion cost transfers 5) "Activated" emergency financial project  6) Approved authorization request 7) Emergency repair type 8) FHWA emergency declaration date  9) Reimbursement limits by federal project, federal emergency appropriation, project phase (bill control sequence number), financial project and federal share percentage combination  10) Eligible ER funded reimbursement summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project and federal share percentage combination	<b>Determine Reimbursement Eligibility:</b> Calculates the portion of a project eligible for reimbursement from FHWA based on the total "participating" costs allocated to federal funds. Includes accumulating participating, nonparticipating, and billable costs for AC funded projects as well as associated "billing history" for each defined billing period. Also included in the process are the handling of adjusting transactions for federal projects in the closing process and the "highlighting" of cost exceptions as compared to the authorization timeline.	1) Eligible reimbursement summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination  2) AC participating and non-participating costs summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination  3) AC "billing history" for each defined billed period	1) OOC – Federal Billing function          2) OOC – Federal Billing function          3) OOC – Federal Billing function

SUPPLIERS - Person or organization that provides Inputs to a Process	INPUTS - Resource that is added to a Process by a Supplier	PROCESS - Series of steps where an Input converts to an Output	OUTPUTS - Resource that is the result of a Process	CUSTOMERS - Persons or organizations (Internal or External) that receive products or services produced in the Process
1) OOC – Federal Billing function  2) OOC – Federal Billing function	1) Reimbursement limits by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination  2) Eligible reimbursement summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination	<b>Determine Reimbursement Authorization:</b> Calculates the amount of eligible costs that can be reimbursed as compared to the monetary limit previously approved by FHWA. The process also tracks amounts available for reimbursement by billing cycle, indirect costs available for billing, and addresses "credit" adjustments to correct previously billed amounts from past billing cycles. Detail billing history by billing cycle is maintained as well.	1) Allowed reimbursement summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination  2) Regular federal participating and non-participating costs summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination  3) Detailed billing histories summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination	1) OOC – Federal Billing function  2) OOC – Federal Billing function  3) OOC, FHWA, and AG
1) OOC – Federal Billing function  2) OOC – Federal Billing function	1) Allowed reimbursement summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination  2) Regular federal participating and non-participating costs summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project, and federal share percentage combination	<b>Generate Reimbursement Request:</b> Creates and transmits the reimbursement request for a specific billing cycle to FHWA based on the available billing amounts by federal project and appropriation. The extensive reconciliations and validations to ensure internal controls are in place to demonstrate the adherence to transportation acts, federal regulations, and OMB circulars are a significant part of this process. The activities required to transfer	1) Billing summaries for both regular federal funds and AC conversions 2) Reconciliation(s) for each billing cycle 3) Cost Transfers 4) FLAIR transactions 5) Financial Project Bill Control transfers 6) Payment request date calculations 7) Formatted file for transmission to FHWA and "electronically" signed reimbursement request	1) OOC, OWPB, and FHWA  2) OOC – FMO and AG 3) OOC – FMO 4) OOC – FMO 5) OOC – FMO and FHWA 6) OOC – FMO and FHWA 7) FHWA

SUPPLIERS - Person or organization that provides Inputs to a Process	INPUTS - Resource that is added to a Process by a Supplier	PROCESS - Series of steps where an Input converts to an Output	OUTPUTS - Resource that is the result of a Process	CUSTOMERS - Persons or organizations (Internal or External) that receive products or services produced in the Process
3) OOC – Federal Billing function  4) OOC-Federal Billing function  5) OOC – Project Costing function 6) District Federal Aid Coordinators and OWPB - FAMO  7) OOC – FMO   8) OWPB – FAMO 9) District Federal Aid Coordinators and Central Office Program Managers 10) OOC – Federal Billing function 11) FM User Group and OIT  12) FHWA – FMIS 5.0 13) FHWA 14) District Work Program Managers and OWPB – Work Program Development 15) FHWA  16) FHWA 17) FHWA	3) "Considered" cost allocations with FLAIR transaction and cost transfer details 4) "Exception" cost allocations with FLAIR transaction and cost transfer details 5) Project Cost Error Correction (PCEC) errors 6) Federal billing "control" structure (a.k.a. federal billing control and financial project bill controls) 7) Reimbursement limits by federal project, federal appropriation, project phase (bill control sequence number), financial project and federal share percentage combination 8) Authorization Requests 9) Detail transaction source documentation  10) Federal aid bill "audit" sampling criteria 11) Data modification notifications 12) Unpaid obligations 13) FHWA wire transfer 14) "Activated" emergency financial project 15) Approved authorization request 16) Emergency repair type 17) FHWA emergency declaration date	costs between federal projects with different federal share percentages for proper billing is included in this process. In addition, the managing of the multitude of information requests and "touch points" for the actual reimbursement activity are included in this process.	8) Anticipated wire amount 9) Status update for PCM archive process	8) OOC – GAO 9) OOC – Project Costing function

SUPPLIERS - Person or organization that provides Inputs to a Process	INPUTS - Resource that is added to a Process by a Supplier	PROCESS - Series of steps where an Input converts to an Output	OUTPUTS - Resource that is the result of a Process	CUSTOMERS - Persons or organizations (Internal or External) that receive products or services produced in the Process
18) OOC – Federal Billing function  19) OOC – Federal Billing function	18) Reimbursement limits by federal project, federal emergency appropriation, project phase (bill control sequence number), financial project and federal share percentage combination  19) Eligible ER funded reimbursement summarized by federal project, federal appropriation, project phase (bill control sequence number), financial project and federal share percentage combination			
1) DFS (warrant file) 2) OOC – Federal Billing function  3) OOC – Project Costing function  4) OOC – Project Costing function	1) Composite pay schedule 2) AC conversions by billing cycle, including approval dates 3) Detail accounting transaction, including “credit” billings, by billing cycle 4) Refunds over \$50,000	<b>Report and Monitor the Expenditure of Federal Funds:</b> The activities required to prove adherence to federal regulations and reporting requirements for the expenditures of federal funds. Includes Cash Management Improvement Act (CMIA) calculations to monitor the reimbursement of federal in comparison to the approved funds clearance pattern. The process also calculates the annual federal interest liability. In addition, the Schedule of Expenditure of Federal Awards (SEFA) requirements to report all federal expenditures within a specific year is included.	1) Clearance patterns 2) Annual federal interest liability 3) Annual SEFA schedule	1) DFS 2) DFS  3) OOC – GAO and AG

**Exhibit 20 – FHWA Billing As-Is SIPOC**

**FHWA Billing To-Be SIPOC**

SUPPLIERS - Person or organization that provides Inputs to a Process	INPUTS - Resource that is added to a Process by a Supplier	PROCESS - Series of steps where an Input converts to an Output	OUTPUTS - Resource that is the result of a Process	CUSTOMERS - Persons or organizations (Internal or External) that receive products or services produced in the Process
1) FHWA	1) Approved authorization requests	<b>Convert Advance Construction (AC) to Regular Federal Funds:</b> Process represents the final step in seeking federal reimbursement for FDOT projects that were initially financed with state funds to begin the project. This process includes the billing eligibility review of potential AC conversions and the cost transfer requirements that allow the conversions of state funds to federal funds for billing to FHWA for prior costs.	1) AC conversion cost transfers  2) AC conversions detailing encumbrances, expenditures converted by billing cycle, and amount available for conversion	1) OOC, OWPB, and FHWA – soft match calculations 2) OOC – FMO and OWPB – FPRA
1) OOC – Project Costing function 2) OOC – Project Costing function 3) OOC – FMO  4) OOC – GAO	1) Federally funded FLAIR transactions 2) Federally funded cost transfers 3) AC conversions detailing encumbrances, expenditures converted by billing cycle, and amount available for conversion 4) Chart of accounts	<b>Classify Cost Allocations:</b> Processes both FLAIR transactions and FDOT cost transfers that have been designated as federally funded by FDOT’s project costing process. This process designates the federally funded costs which have the necessary billing conditions as well as provides information for FDOT’s project costing archive process.	1) "Considered" cost allocations with FLAIR transaction and cost transfer details 2) "Exception" cost allocations with FLAIR transaction and cost transfer details	1) OOC – Federal Billing function  2) OOC – Federal Billing function
1) OWPB – FAMO  2) OOC – Federal Billing function	1) Approved Authorization Requests with federal and financial infrastructure 2) "Considered" cost allocations with FLAIR transaction and cost transfer details	<b>Determine Reimbursement Authorization:</b> Process determines the cost allocations which have sufficient federal authorization to be assessed for reimbursement in the current billing cycle. Cost allocations	1) Queued cost allocations with sufficient federal authorization	1) OOC – Federal Billing function



SUPPLIERS - Person or organization that provides Inputs to a Process	INPUTS - Resource that is added to a Process by a Supplier	PROCESS - Series of steps where an Input converts to an Output	OUTPUTS - Resource that is the result of a Process	CUSTOMERS - Persons or organizations (Internal or External) that receive products or services produced in the Process
		which lack sufficient authorization or corresponding commitments are systematically suspended and removed from consideration in the billing cycle.		
1) OOC – Project Costing function 2) OWPB – FAMO 3) OOC – FMO 4) FHWA 5) FHWA 6) FHWA 7) OOC – Federal Billing function	1) Queued cost allocations with sufficient federal authorization 2) Approved Authorization Requests with federal and financial infrastructure 3) “Activated” emergency financial project 4) Emergency repair type 5) FHWA emergency declaration date 6) Reimbursement limits by federal project, federal emergency appropriation, project phase, financial project and federal share percentage combination 7) ER authorization request percentage assessment	<b>Determine Billing Impact:</b> Process determines the portion of the costs eligible for reimbursement from FHWA. Included are the calculations of the federal share amount of “participating” costs allocated to federally funded projects. The process derives the billed amounts and the amounts which can be billed for the current billing cycle, year-to-date, and life-to-date based on FHWA and FDOT project definitions in accordance with FHWA federal funding. The process also includes the assessment of the overall impact of the costs on the federal aid bill in the current billing cycle.	1) Regular federal participating costs summarized by federal project, federal appropriation, project phase(financial project, and federal share percentage combination 2) Summary billable amounts 3) Allowed reimbursement by federally funded cost allocation	1) OOC – Federal Billing function 2) OOC – Federal Billing function 3) OOC – Federal Billing function
1) OOC-Federal Billing function 2) OOC – Project Costing function 3) District Federal Aid Coordinators and Central Office Program Managers 4) OOC – Federal Billing function	1) “Suspended” cost allocations with FLAIR transaction and cost transfer details 2) Project Cost Error Correction (PCEC) errors 3) Detail transaction source documentation 4) Federal aid bill “audit” sampling criteria	<b>Generate Reimbursement Request:</b> Creates and transmits the reimbursement request for a specific billing cycle to FHWA based on the available billing amounts by federal project and appropriation. The reconciliations and validations ensure internal controls are in place to demonstrate the adherence to transportation	1) Reconciliation(s) for billing cycle 2) Cost Transfers 3) FLAIR transactions 4) Payment request date calculations 5) Formatted file for transmission to FHWA and “electronically” signed reimbursement request	1) OOC – FMO and AG 2) OOC – FMO 3) OOC – FMO 4) OOC – FMO and FHWA 5) FHWA

SUPPLIERS - Person or organization that provides Inputs to a Process	INPUTS - Resource that is added to a Process by a Supplier	PROCESS - Series of steps where an Input converts to an Output	OUTPUTS - Resource that is the result of a Process	CUSTOMERS - Persons or organizations (Internal or External) that receive products or services produced in the Process
5) FHWA – FMIS 5.0  6) DFS	5) Unbilled federal authorizations 6) Clearance patterns	acts, federal regulations, and OMB circulars. The activities required to transfer costs between federal projects with different federal share percentages for proper billing is included in this process. Also, the managing of the multitude of information requests and "touch points" for the actual reimbursement activity are included in this process.	6) Status update for PCM archive process 7) FHWA wire transfer 8) Anticipated wire amount 9) Detailed billing histories summarized by federal project, federal appropriation, project phase, financial project, and federal share percentage combination	6) OOC – Project Costing function  7) OOC – GAO 8) OOC – GAO 9) OOC, FHWA, and AG
1) DFS (warrant file) 2) OOC – Federal Billing function  3) OOC – Project Costing function  4) OOC – Project Costing function	1) Composite pay schedule 2) AC conversions by billing cycle, including approval dates 3) Detail accounting transactions, including "credit" billings, by billing cycle 4) Refunds over \$50,000	<b>Report and Monitor the Expenditure of Federal Funds:</b> The activities required to prove adherence to federal regulations and reporting requirements for the expenditures of federal funds. Includes Cash Management Improvement Act (CMIA) calculations to monitor the reimbursement of federal in comparison to the approved funds clearance pattern. The process also calculates the annual federal interest liability. In addition, the Schedule of Expenditure of Federal Awards (SEFA) requirements to report all federal expenditures within a specific year is included.	1) Clearance patterns 2) Annual federal interest liability 3) Annual SEFA Schedule 4) Validation audit results	1) DFS 2) DFS  3) OOC – GAO and AG 4) FHWA

**Exhibit 21 – FHWA Billing To-Be SIPOC.cv**

## Functional Requirements

Requirement Number	Functional Requirement Description	Process	Functional Group
FR001	The system shall take full advantage of the existing data derived in the cost allocations processing and manage each cost transaction against its respective authorized amount(s).	All	FHWA Billing
FR002	The system shall maintain uniform validations and internal controls are in place for the proper classification and billing of federal related costs.	All	FHWA Billing
FR003	The system shall determine the monetary limit allowed for billings to FHWA based on prior authorizations and provide the capability to maintain this limit throughout the life of the project.	Apply Agreement	FHWA Billing
FR004	The system shall enforce the internal control structure for billing federally funded project costs to FHWA based on imported data from the Federal Aid Management System.	Apply Agreement	FHWA Billing
FR005	The system shall maintain transaction-level costs to be billed for a FHWA-defined project and its related federal authorizations.	Apply Agreement	FHWA Billing
FR006	The system shall allow the summarization of financial results and address audit trail requirements from source detail transaction.	Apply Agreement	FHWA Billing
FR007	The system shall provide the interface to the Department's project cost estimate definitions to allow the further detailing of costs by participating, non-participating, eligible, and allowable categories.	Apply Agreement	FHWA Billing
FR008	The system shall use a standard method to import daily, comprehensive authorization notifications from the Federal Aid Management System since this represents the most comprehensive, timely, and reliable FHWA data.	Apply Agreement	FHWA Billing
FR009	The system shall provide a method to determine the cost allocations that qualify for consideration in seeking reimbursement from FHWA.	Classify Cost Allocations	FHWA Billing
FR010	The system shall track costs for federally funded projects by life-to-date, budget year, accounting year, and billing cycle time periods. Classify these costs by participating, non-participating, eligible, allowable, etc. categories to distinguish costs that do and do not qualify for billing to FHWA.	Classify Cost Allocations	FHWA Billing
FR011	The system shall distinguish those transactions that are created to facilitate the federal project closing process and allow their inclusion in the appropriate billing cycles.	Classify Cost Allocations	FHWA Billing
FR012	The system shall support the ability to make adjustments to modify prior requests for reimbursement if the federal share percentage changes over the life of the project.	Classify Cost Allocations	FHWA Billing
FR013	The system shall employ technologies which executes the required cost allocations' activities accurately and efficiently to reduce system usage.	Classify Cost Allocations	FHWA Billing
FR014	The system shall help avoid the lock contentions and other common failure causes by having additional controls implemented.	Classify Cost Allocations	FHWA Billing
FR015	The system shall help detect and resolve processing sequencing conflicts before they occur by implementing additional controls and capabilities.	Classify Cost Allocations	FHWA Billing
FR016	The system shall execute the classification of cost allocations routines on a nightly basis at a minimum.	Classify Cost Allocations	FHWA Billing
FR017	The system's classification of cost allocations processing should evaluate only federally funded transactions.	Classify Cost Allocations	FHWA Billing
FR018	The system enforces rules whereby approved cost transactions are automatically "suspended" if the system determines the transaction(s) lacks the acceptable billing conditions. Staff should be notified to investigate and resolve.	Classify Cost Allocations	FHWA Billing
FR019	The system shall process corrections for AC funded costs incurred prior to FHWA's formal authorization process.	Convert Advance Construction (AC) to Regular Federal Funds	FHWA Billing
FR020	The system shall monitor conversion activity for defined billing cycles and ensure OA consumption goals are met and cash management needs addressed.	Convert Advance Construction (AC) to Regular Federal Funds	FHWA Billing
FR021	The system shall provide summarized totals for the Soft Match calculations for FDOT's use of toll credits.	Convert Advance Construction (AC) to Regular Federal Funds	FHWA Billing
FR022	The system shall import daily the data from the Federal Authorization Report to identify the authorizations for which to convert AC. Each authorization data record will indicate the desired AC conversion amount and include the Total Programmed Amount, Encumbrance Amount, and Expenditure Amount.	Convert Advance Construction (AC) to Regular Federal Funds	FHWA Billing
FR023	The system shall create standard reports to identify pertinent detail transaction data elements and other analytical reports. The reports will be pre-configured to enforce business rules, exception criteria, and/or formatting and to minimize time spent manipulating and customizing the report outputs after the fact to meet the actual business needs. In addition, the reports will be used primarily to manage process and data exceptions.	Convert Advance Construction (AC) to Regular Federal Funds	FHWA Billing

Functional Requirements

Requirement Number	Functional Requirement Description	Process	Functional Group
FR024	The system shall determine the federal share portion of federal project "participating" costs eligible for reimbursement by specific billing cycle.	Determine Reimbursement Eligibility - Determine Billing Impact	FHWA Billing
FR025	The system shall Accumulate AC eligible costs to indicate future reimbursement amounts which will be available upon the successful completion of the AC Conversion process.	Determine Reimbursement Eligibility - Determine Billing Impact	FHWA Billing
FR026	The system shall allow the calculation of the federal share portion of federal projects for multiple federal share percent values authorized by FHWA throughout the life of the project.	Determine Reimbursement Eligibility - Determine Billing Impact	FHWA Billing
FR027	The system shall accumulate life-to-date, year-to-date, and current billing cycle costs which have been billed and are yet to be billed based on FHWA and FDOT project definitions for Advance Construction (AC) and federal funds.	Determine Reimbursement Eligibility - Determine Billing Impact	FHWA Billing
FR028	The system shall provide a method to adjust federal project costs billed during a previous billing cycle and allow the distribution of these "credit" adjustments to federal projects based on the amount of additional authorization requests needed (a.k.a. "needs mod") and life-to-date participating costs incurred.	Determine Reimbursement Eligibility - Determine Billing Impact	FHWA Billing
FR029	The system shall provide a method to distribute additional billable costs to federal projects with multiple federal share percent values based on unconsumed authorization amounts.	Determine Reimbursement Eligibility - Determine Billing Impact	FHWA Billing
FR030	The system shall execute the determination of eligibility and billing impact processes on a nightly basis at a minimum.	Determine Reimbursement Eligibility - Determine Billing Impact	FHWA Billing
FR031	The system allows FDOT staff to evaluate, daily and on-demand, the potential impacts to the federal bill. The frequency with which the billing impacts are assessed can vary from the frequency with which bills are submitted to FHWA.	Determine Reimbursement Eligibility - Determine Billing Impact	FHWA Billing
FR032	The system shall determine the reimbursement request by federal appropriation and federal project definition for a specific billing cycle.	Determine Reimbursement Authorization	FHWA Billing
FR033	The system processes indirect project costs in the same manner as other phase types and phase groups. The system provides the necessary crosswalk capability between the direct financial project and its singular indirect financial project.	Determine Reimbursement Authorization	FHWA Billing
FR034	The system enforces rules whereby approved cost transactions are automatically "suspended" if the system determines the transaction(s) exceeds the total value of pending changes to authorizations. Staff are notified to investigate and resolve.	Determine Reimbursement Authorization	FHWA Billing
FR035	The system identifies and notifies staff of instances where incurred costs exceed estimates. Such transactions are automatically "suspended" for resolution.	Determine Reimbursement Authorization	FHWA Billing
FR036	The system enforces rules whereby negative transactions which were never billed to FHWA in that amount initially are automatically "suspended" for staff to investigate and resolve.	Determine Reimbursement Authorization	FHWA Billing
FR037	The system shall provide billing histories by both federal and financial project for each billing cycle and identify federal project costs incurred after the completion of the federal project closing process.	Determine Reimbursement Authorization	FHWA Billing
FR038	The system shall have the ability to run and/or schedule reports at a desired frequency (daily, weekly, nightly, ad hoc, etc.) to provide "interim" billing results prior to the formal billing cycle to FHWA.	Determine Reimbursement Authorization	FHWA Billing
FR039	The system should have the ability to automate the generation of comparison files/reports to review specific exceptions and variances between billing cycles.	Generate Reimbursement Request	FHWA Billing
FR040	The system should maintain a single, comprehensive master bill that accumulates billable transactions throughout the billing cycle and can be refreshed to display data changes and corrections in near real-time.	Generate Reimbursement Request	FHWA Billing
FR041	The system should handle an interface to systematically pass the federal bill file directly to FMIS and be able to track reimbursement approvals in order to direct the reimbursement deposits to the State Transportation Trust Fund and reconcile reimbursement receipts.	Generate Reimbursement Request	FHWA Billing
FR042	The system should have automation to systematically capture and report actual reimbursement amount and receipt date details on an ad-hoc basis (i.e. daily, weekly, monthly, yearly) and produce the annual file for DFS.	Generate Reimbursement Request	FHWA Billing
FR043	The system should confirm eligibility of expenditure transactions for each reimbursement request.	Generate Reimbursement Request	FHWA Billing

## Functional Requirements

Requirement Number	Functional Requirement Description	Process	Functional Group
FR044	The system shall provide a method to sample federal project billings and validate all components of the audit trail are in place from accounting transaction source documentation to the calculation of the reimbursement request.	Generate Reimbursement Request	FHWA Billing
FR045	The system enforces rules which prevent the reduction of authorizations below what is needed to satisfy any pending billable transactions.	Generate Reimbursement Request	FHWA Billing
FR046	The system has the capability to identify transactions related to federal lands and validate the correct region setting is applied. If the region is incorrect, the system automatically sets the region value (e.g., 15) and allows the transaction to be included in the federal bill as applicable.	Generate Reimbursement Request	FHWA Billing
FR047	The system shall provide comprehensive data and required reporting related to the expenditure of federal funds in accordance with Cash Management Improvement Act (CMIA) guidelines and Schedule of Expenditure of Federal Awards (SEFA) requirements.	Generate Reimbursement Request	FHWA Billing
FR048	The system should produce a full suite of transaction level exception reporting which analyzes the transactions against various thresholds and business rules.	Report and Monitor Expenditure of Federal Funds	FHWA Billing
FR049	The system should have automation to consolidate and interface the required data from FLAIR and other FDOT sources to generate expenditure details and calculate the variances for reconciliation.	Report and Monitor Expenditure of Federal Funds	FHWA Billing
FR050	The system should provide the necessary components to assess an interest liability to the federal government and/or the State of Florida to compensate for delayed reimbursements or the lost value of funds and allow collaboration with the Department of Financial Services to determine federal accounting transaction clearance patterns. For Example, the system should identify interest liability calculation exceptions (i.e. AC Conversions) for resolution .	Report and Monitor Expenditure of Federal Funds	FHWA Billing
FR051	The system should produce Advance Construction (AC) Conversion reimbursement results for submission to various stakeholders.	Report and Monitor Expenditure of Federal Funds	FHWA Billing
FR052	The system should collect and summarize federal funded transactions and reimbursement detail to satisfy federal grant reporting requirements. For example, assign the appropriate CFDA# to each Program Fund Structure (i.e., Program Code and Work Program Fund Code combination) and designate the respective CFDA# on all related transactions which interface to FLAIR.	Report and Monitor Expenditure of Federal Funds	FHWA Billing
FR053	The system should provide the basis for the major program audits in accordance with federal transportation acts, federal regulations, and applicable OMB Circulars.	Report and Monitor Expenditure of Federal Funds	FHWA Billing
FR054	The system shall allow the reimbursement solution to systematically track transactions, including those on the suspended list, and offers the necessary "roll-up" reporting capabilities. For example: <ul style="list-style-type: none"> <li>- Expenditures of federal funds in the reporting year and prior years</li> <li>- Billed expenditures of federal funds in the reporting year and prior years</li> <li>- AC conversions in the reporting year and prior years</li> <li>- Billed AC conversions in the reporting year and prior years</li> </ul>	Report and Monitor Expenditure of Federal Funds	FHWA Billing
FR055	The system shall provide a system audit of information for changes within the system by user id and date.	Federal Accounting	General
FR056	The system shall allow users to add comments to specific transactions.	Federal Accounting	General
FR057	The system shall allow users to perform Quick Searches for transaction records.	Federal Accounting	General
FR058	The system shall provide an advanced search for various entities (Funding source, User ID, Cost Transfer, etc.) based on specified search criteria and provide a means to navigate to a specific entity.	Federal Accounting	General
FR059	The system shall perform an advanced search to navigate to the details of a specific transaction interface with FLAIR/PALM transaction data warehouses.	Federal Accounting	General
FR060	The system shall allow an authorized user to define and manage administrative configuration properties (codes tables, drop down lists, etc.) and their associated values.	Federal Accounting	General
FR061	The system shall allow users to navigate to the various screens and reports within the system in a logical manner to mimic the business process flow.	Federal Accounting	General
FR062	The system shall be architected to allow configuration of static business rules and workflow by an authorized Admin end-user (versus requiring extensive programming) to support quickly changing business rules to accommodate any federal or state regulation changes.	Federal Accounting	General
FR063	The system shall allow agency-level Admin users to add, edit, and delete administrative properties based on departmental security policies. These capabilities also include the Administrative part of the system.	Federal Accounting	Security

**Appendix E**

**Functional Requirements**

Requirement Number	Functional Requirement Description	Process	Functional Group
FR064	The system shall provide an archive of transactions for future audit requirements, potential public record requests, etc.	Federal Accounting	Security
FR065	The system shall manage workflow and the associated statuses based on the actions taken by the user or the system.	Federal Accounting	Federal Authorizations
FR066	The system shall prevent multiple users from making simultaneous updates to the same transaction.	Federal Accounting	Federal Authorizations
FR067	The system shall distinguish what can be updated in the reimbursement system and what needs to be corrected in FLAIR/PALM.	Federal Accounting	Federal Authorizations
FR068	The system shall perform pre-validation of fields required for FMIS acceptance.	Federal Accounting	Federal Authorizations
FR069	The system shall provide for recording of FMIS signature and approval actions.	Federal Accounting	Federal Authorizations
FR070	The system shall support the automatic updating of federal fund balances based upon the status of an authorization request (to include, at a minimum, both an "in-transit" and "completed" status).	Federal Accounting	Federal Authorizations
FR071	The system shall provide the necessary validations to ensure that none of the actions performed within the application violate any of the Fund's attributes or business rules (Ex. Demo ID Specific Funds).	Federal Accounting	Funds Management
FR072	The system shall allow for Fund billing transactions with varying required fields based on the type of transaction being created.	Federal Accounting	Funds Management
FR073	The system shall track the expiration dates associated with the different categories tied to the funds and appropriations.	Federal Accounting	Funds Management
FR074	The system shall validate the sent, receipt, and content of data submitted to external systems.	Federal Accounting	Funds Management

## Technical Requirements

Requirement Number	Functional Requirement Description	Process	Category
TR1	The system shall provide a batch upload capability for revenue transactions to FLAIR.	All	Interfaces
TR2	The system shall provide the capability to validate account receivable payments to FLAIR.	All	Interfaces
TR3	The system shall support export of data within the application to Microsoft Excel and other reporting/information management tools.	All	General
TR4	The system shall provide the ability to import accounting entries in a standard format.	All	General
TR5	The system shall provide the ability to execute queries based upon user parameters.	All	General
TR6	The system shall provide role-based security for add, update, delete, and read-only functionality. For example, Update users cannot add, edit, or delete anything within the Administrative part of the system (Admin Properties).	All	Security
TR7	The system shall provide the ability to interface with FHWA's FMIS system.	All	Interfaces
TR8	The system shall provide the ability for multiple users to access the system simultaneously.	All	Usage
TR9	The system shall maintain XX% uptime 24x7.	All	Performance
TR10	The system shall maintain XX% uptime during business hours.	All	Performance
TR11	The system shall be compatible with the Department software standards and hardware governance requirements.	All	General
TR12	The system shall adhere to all State of Florida and FDOT security requirements.	All	Security

**Survey Results  
& Analysis**

for

**AASHTO 2015 Fall IT Survey**



**Monday, December 28, 2015**

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## **Executive Summary**

This report contains a detailed statistical analysis of the results to the survey titled *AASHTO 2015 Fall IT Survey*. The results analysis includes answers from all respondents who took the survey in the 67 day period from Friday, October 02, 2015 to Monday, December 07, 2015. 31 completed responses were received to the survey during this time.

# Survey Results & Analysis


**Survey:** AASHTO 2015 Fall IT Survey

**Author:** Jim Ramsey

**Filter:**

**Responses Received:** 31

## 1) State or Province:

Shaded  denotes response received.

Alabama	Kentucky	North Dakota	Alberta
Alaska	Louisiana	Ohio	British Columbia
Arizona	Maine	Oklahoma	Manitoba
Arkansas	Maryland	Oregon	New Brunswick
California	Massachusetts	Pennsylvania	Newfoundland, Labrador
Colorado	Michigan	Rhode Island	Northwest Territories
Connecticut	Minnesota	South Carolina	Nova Scotia
Delaware	Mississippi	South Dakota	Ontario
D.C.	Missouri	Tennessee	Quebec
Florida	Montana	Texas	Saskatchewan
Georgia	Nebraska	Utah	Other
Hawaii	Nevada	Vermont	
Idaho	New Hampshire	Virginia	
Illinois	New Jersey	Washington	
Indiana	New Mexico	West Virginia	
Iowa	New York	Wisconsin	
Kansas	North Carolina	Wyoming	

**2) Contact Information (Agency Name, and Contact Name must be provided as a minimum):**

Agency contact information has been removed from this version of the report.

**3) Please list the top three IT application development or implementation projects your agency plans to undertake.**

	<b>Project 1 Description</b>	<b>Project 2 Description</b>	<b>Project 3 Description</b>
AK	IRIS-Accounting software using Advantage	AASHTOWare Project: SiteManager is in production in one region and testing in other regions. Preconstruction and BAMS/DSS to begin testing in the next month or two.	GIS
AL	Construction and Materials Management System, (CAMMS)	AASHTO Project Preconstruction implementation upgrade	Alabama Department of Transportation Permit Administration Software System (ALPASS) implementation upgrade
AR	Human Resources Learning Management System, Performance Management System and Compensation Management System	e-Construction program.	Transportation Asset Management Plan (TAMP).
AZ	Motor Vehicle Systems Modernization	Transportation Asset Management	Business Intelligence
CO	CRL	Construction & Materials	Cash Management
DE	Enterprise Social Media Outreach	Enterprise Content Management	Enterprise Mobile Workforce
FL	Work Program Integration Initiative	Materials acceptance Certification System	Geospatial Roadway Data Strategic Framework
IA	Enterprise Architecture	PPMO	Data Warehousing
ID	Motor Vehicle System - Developing new system replace legacy mainframe system	Project Resource Planning Tool - Resource loaded project development schedule and unit bid price report for design consultants	Project Safety Analysis tool
KS	Replacing our Construction Management System.	Replacing our CANSYS application. This application is the roadway geometric database used by several of our systems.	Refreshing our road conditions website to one that is more mobile friendly.
KY	KAVIS... Vehicle Titling and Registration	SYP... Develop a new KYTC Six Year Plan project programming application.	eConstruction. Develop and implement a paperless/digital construction administration delivery process with workflow.
LA	AASHTO Estimation 3.01	PERBA Oversize Trucking Permits System Upgrade and replacement	ATMS.Now 511 Systems replacement
MB	Highway Inventory System - total replacement of an existing system	Flood Forecasting - improved operational forecasting, as well as increased inputs to the existing flood forecasting system	Routing and Permitting system replacement for oversize/overweight truck permits
ME	Crew Payroll Conversion	Asset Management - Data Warehouse	Project Management - Location/Resources/Financials/Schedules

MI	SIGMA – Enterprise wide ERP deployment The SIGMA project will replace the state-wide accounting system and several other financial systems. MDOT's portion of this project will include the enhancement/replacement/interfacing of various MDOT financial systems and share data with SIGMA.	JOBNET - This project is to modernize the current MPINS PowerBuilder application to a web based application with updated functionality to manage projects (job) scope, schedule and budget. This modernization will maintain essential project information for MDOT and will be used by personnel across all of MDOTs bureaus and regions to collect data about transportation projects.	TAMS - This project is to incrementally implement a Transportation Asset Management System (TAMS) at MDOT and will improve the business processes and supporting information systems that will enable management of transportation assets across all levels of the Department's organization, locations, and facilities.
MN	Transportation Asset Management	Contract and Audit Management	To build and maintain a comprehensive capital highway project financial tracking system that accompanied with additional modal data supports the production of the Minnesota's Capital Surface Transportation program and federally required STIP.
MO	Transportation Management Systems modernization --rewrite system that manages all travelway and bridge information from CASE tool (CA Advantage Gen) to .NET.	Implement a new Maintenance Management System.	Oversize-Overweight (OSOW) system upgrade. OSOW is a current function of our Motor Carrier Express system. This is a project to upgrade that function.
MS	Field data collection, using HTML 5 for cross platform capabilities.	Business intelligence and data warehousing. Using DevExpress tools to create dashboards for executive level.	3D Open roads design in Microstation and integration with ProjectWise.
MT	New Maintenance Management system	New Linear Referencing system	Enterprise Architecture Project
NC	Next Gen DMV system. Replace mainframe DMV applications	TOPS - Project to implement an ongoing Project Prioritization System for Transportation Improvement Projects	3C - Collaboration, Communication and Content Management system. SharePoint system enhancement to manage Data Governance, external project collaboration and delegated administration for Identity Access Management
ND	Maintenance Management System	Expanding E-Construction	Expanding ITS
NE	Implementation of KRONOS for tracking time and leave.	Continued implementation of OnBase for records management and workflow.	Modernization of mainframe applications, beginning with our Financial Systems.
NJ	Electronic Forms and Workflow - Provide an easy to use tool to create electronic forms with intelligence, and if needed to attached forms to a workflow.	Legal Hold/Content Management - provide a single solution to search for information in structured, and unstructured data, required for OPRA, Litigation Holds and/or Subpoenas. The software should provide additional tools to address legal requirements once information is found/identified.	Records/Docuement Management - Provide solution assisting custodian of records to identify and when in accordance with file retention schedules, delete documentation or information.
NV	Enterprise Asset and Maintenance Management	Enterprise Human Resource Application	Business Intelligence
OH	OAKSenterprise. A PeopleSoft ERP implementation as well as capital program management and project delivery.	Esri Roads and Highways. Replacement and improvement of our base transportation roadway system.	State of Ohio IT Optimization. Consolidation of IT across the entire state.

SD	Re-write Contractor Prequalification System: Enhance Contractor Prequalification system to allow electronic submission of contractor applications and streamline the prequalification approval process.	Create HR50 Lighting & Signals Inventory app: Create a new application to replace the Access database currently used to manage the Lighting Inventory. New Inventory information will be collected at a much more detailed level and, as time passes, multiple sets of Inspection information will be collected for each Lighting element. The Access database works well for the limited information that is currently collected, and for the single user that works with it. It's more practical to create a new application that can better handle the increased data load and increased number of users that to try to expand on the existing database.	HR61The DOT needs cross asset analysis to best apply limited funding to the over-all roadway transportation needs of the state. DOT also needs the ability to prove compliance with the Asset Management requirements in the MAP-21 Federal Highway funding bill. This includes a listing of assets, life cycle cost, risk management analysis, and performance gap analysis. Asset Management Dashboard:
TX	Modernize Portfolio Project Management	Data Lake / Enterprise Service Bus	Enterprise Content Management
UT	Implementation of Masterworks	Implementation of a Saas BI environment	Enhancement of UDOT's Data Warehouse
VA	A new technical solution to upgrade and modernize our six year programming systems. This system will provide financial programming services for our maintenance, engineering, construction, operations and support services functions	A new highway maintenance management system will be implemented to support agency maintenance functions and field organizations	Several technology obsolescence initiatives to modernize technical platforms and applications
VT	Business Intelligence - Completing pilot project for project delivery related data. Scope include implementation of an Enterprise Data Hub for data integration, master data and data quality services; functionally specific data marts and new tools for querying, reporting, dashboards and mapping.	Asset Management - Developing the tools, data and processes in the spirit of MAP-21 to provide comprehensive asset management and informed program development for Vermont's transportation infrastructure.	Enhanced 511 System - tri-state effort with Maine and New Hampshire for blended traveler information and traffic management. A related effort has led to all three states sharing data with Waze.
WA	Labor System Replacement	Highway Activity Tracking (HATS) Mobile application for Maintenance. iPad/IOS application. (in deployment phase now)	Windows 10 and Office 2016 Planning and Migration.

#### 4) What new or emerging technologies do you foresee occurring or implementing in the near future?

	What new or emerging technologies do you foresee occurring or implementing in the near future?
AK	eConstruction and more mobile apps/devices. Online bidding. GPS tracking through the life of roads/airports/etc.
AL	Continuation of the migration of various systems to the web environment. Initiation of the utilization of mobile devices such as tablets and smart phones in various applications already developed plus new systems tailored exclusively for mobile devices. Movement toward electronic documentation and use of electronic signatures in various applications. Use of cloud storage to supplement infrastructure already in place.
AR	Further growth and use of <b>cloud services</b> .
AZ	Mobile Apps, Social Networking, Connected Vehicles, Autonomous Vehicles, Cloud Computing, Workflow Automation & eSignature, GIS
CO	<b>Cloud computing</b>
DE	Centralized Data Warehouse
FL	<b>Cloud computing</b> , Azure SQL, Content Management System, Inventory collection devices
ID	Data Loss Prevention, Hyber converged Infrastructure, Mobile Data Asset Mgmt collection,
KS	We will be seeking more mobile ready and <b>cloud hosted applications</b> .
KY	Production Hadoop now available. ArcGIS GeoEvent processor with Hadoop. Riverbed Steel Fusion Biztalk
LA	Google at Work / <b>Cloud</b>
MB	GIS/mapping products, as well a 3D design. More mobile functionality
ME	HTML5; Smartphones; microtablets; Windows 10; Office 365; Drones; Electronic lab
MI	LIDAR 3d CADD Further deployment of E-construction Enterprise Single Sign On and Enterprise Digital signature GIS
MN	Mobile/Field Devices, SaaS, Web Services
MS	MDOT is exploring the use of HTML 5 driven sites for data collection in the field. Drone technology is another interest, and how it can be used in surveying, data collection as well as solve safety concerns during inspections.
MT	Windows 10/O365 Mobile approach for endpoints collaboration and content Management tools
NC	Automatic Identity Access (AIS) for Ferry Division, Mobile devices for Highway Maintenance, Ramp Metering management, Roadway Weather Information System Management/monitoring, general mobile technology for the field.
ND	Testing the use of drones for inspections and site surveys (job sites)
NE	Drones and I can see a number of people wanting to use 3D printers
NJ	Mobile
NV	Mobile data collection for maintenance and asset management.
OH	ODOT will be expanding our use of Oracle PeopleSoft with the implementation of OAKSenterprise.
SD	Investigate voice recognition in place of data entry in some cases.
TX	Data Lake, Hadoop
UT	Snow Plow GPS real time tracking and routing optimization
VA	Continue expanding spatially enabled mobile solutions for field organizations.
VT	In the process of implementing Microsoft Office 365. Migration of key systems to either AWS or Azure.
WA	*Increased implementation of <b>Cloud Services</b> *Increased development and use of dashboards to provide information for decision support and performance measurement *Increased reporting through interactive and integrated maps, charts, graphs, and tabular reports *Increased emphasis on the provision of open data offerings *Increased use of sensor-based data *Hybrid virtualization utilizing Windows Application Containers (i.e. Docker) *Use of drones for inspection purposes *3D Printing *Wearable computing devices for field work and inspection.

**5) Please identify the top three transportation agency business processes that could be improved through the use of technology.**

	<b>Business Process 1</b>	<b>Business Process 2</b>	<b>Business Process 3</b>
AK	Construction bidding	Cradle to grave tracking of road system	Integration of business systems through technology
AL	Construction and Materials and Testing Management	Preconstruction plans development, bidding, letting of construction projects	Maintenance management processes
AR	e-construction	Maintenance Management	Document Management
AZ	Value-chain collaboration (with public agencies and private-sector consultants/contractors)	Citizen engagement, for drivers and motor vehicle licensing/registration	Data collection & dissemination partnerships
CO	getting rid of all of the paper on the field (e-construction)	Understanding traffic patterns	Using big data for safety concerns
DE	Construction Inspection	Federal/State Reporting	Transportation sensors
FL	Financial Management System (including FHWA)	Transportation Emergency Operations Center	Roadway/Intermodal Characteristics Inventory
IA			
ID	Analyzing the benefits of safety projects	Data collection frequencies by the use of mobile devices	Improved cyber security
KS	Field data collection and processing.	Providing the public traveler information.	Improved design through the use of 3d modeling.
KY	Transportation System Construction.	Transportation System Maintenance and operations.	Revenue Collection.
MB	Automated oversize/overweight routing and permitting	Crowd sourcing for highway information, as well as cameras	Mobile applications for data input and retrieval - GIS related
ME	Work Prioritization for asset management	Field Work support	Traffic/AADT/Network flowing
MI	Signature/approval process	Construction in the Field day to day processes	
MN	Financial and Asset Management	Construction and Engineering Services	Contracting and auditing
MO	Maintenance Management	Procurement	Performance Management
MS	Mobile data collection to provide efficiencies in e-construction, inspection and maintenance activities. Reduce overhead costs on our employees. This could include the use of e-forms, workflows and digital signatures.	Business Intelligence is being explored to break down the silos of information to surface transportation data to help make better business decisions.	Modernization of our AASHTOWare products.
MT	Document Management	Data Integration and analytics	Data Collection
NC	Maintenance Management	Highway Project Prioritization	Material and construction inspection and management
ND	Web enabled	Government / Private Sector Collaboration	Drones for Inspections, etc...
NE	Project Delivery from inception to letting.	Agreement process including digital signatures	Any process that is currently utilizing paper to transfer information or data.



NJ	Several manual paper dependent workflows should be migrated and addressed by the electronic form & workflow effort outlined above	improving the method to pay vendors who are hired by the Department to address snow and other related activities.	Supporting the NJ Dept. of Treasury's effort to replace the State procurement system.
NV	Maintenance Management	Document and Records Management	Project programming status and financial management processes
OH	Budget and Funding assignment process.	Procurement to payment processes.	Project management and consultant contract administration process.
SD	Field inventory of various assets.		
TX	Construction Design	Construction Project Management	Letting
UT	Improving our Business Intelligence Environment abilities	Expansion and improved End User simplified accessibility to information	Improved enterprise data collation, data conflict reduction, and improved data quality
VA	Situation awareness dashboards to provide near real time updates on incidences, road conditions, weather impacts, etc. to our field crews, executive management, and travelling public	A new technical solution to manage budgeting and allocation for engineering and construction projects, aligning appropriate state and federal funding sources with eligible projects to maximize utilization of available resources	A robust streamlined work flow management service that offers open connectivity between agency employees, local governments, and the contracting/consulting industry for document management, e-commerce activities, etc.
VT	Asset Management related processes - we are developing as we go.	Contracting and Grants Management - the creation and execution of all types of contracts.	Project Development - utilizing a new in-house developed application VTrans Project Information and Navigation System (VPINS) for project development management. Additional process refinement and technologies will bring even more efficiencies to this area.
WA	Communications	Planning	Maintenance and Operations (Construction Field Inspections, Roadway Asset Management, Incident Response Communication and tracking etc.)

## 6) What significant changes in the agency's business processes will affect your agency's technology needs?

	<b>What significant changes in the agency's business processes will affect your agency's technology needs?</b>
AK	Newer Windows software, more GPS software/hardware, tablets and mobile devices to be purchased, training plans, HTML5, cross browser compatibility.
AL	External requirements such as FHWA or State Comptroller's Office sometime drive modifications that require internal systems to be modified, as well as the multiple interface activities associated to those systems
AR	e-construction activities
AZ	Transportation asset management lifecycle (investment prioritization, planning, design, construction, maintenance, etc.). Also titling and registration. The underlying theme is digitalization of business processes that facilitate engagement and collaboration.
CO	Consolidation of IT
DE	Funding sources and priorities
FL	FDOT has entered the implementation phase of the Information Technology Strategic Plan (ITSP)/Data Governance project. One aspect of the project will be identifying IT tools requirements to be used as part of the information technology architecture. These tools will reduce risk and allow for information assets to be readily available to decision makers across the Department. Oracle to MS SQL Server migration The need to have mobile devices to collect data in the field.
ID	Federal rule changes will require more traffic counts off system. We need to be able to collect their data
KS	Our primary challenge is the reduced investment in our IT infrastructure.
KY	We are totally business driven and are allowing business unit to drive project selection. Technology will become fully immersed in business and technology will be evaluated on business successes.
MB	For this year, data use for asset management
ME	E-construction; Lidar usage; Field Reviews
MI	Asset management in the field True mobile workforce emerging Bandwidth needs
MN	Agency budgeting by product and services, continued IT Service Consolidation
MO	Procurement changes (electronic invoicing) will require significant integration with other existing systems.
MS	The use of tablets in the field. The possible use of Drones. Also, the move to a paperless environment.
MT	Expectations for quicker delivery of IT services, Political changes to continue to centralize IT functions, increased mobility demands
NC	Outsourcing to external contractors, use of mobile devices for construction, inspection, communication etc.
ND	use of mobile devices and increase in storage costs
NE	The more people want to eliminate paper and automate processes will require more resources to get these done in a timely matter.
NJ	As mobile solutions become available, business units will increasingly request/demand the ability to provide tablets and/or mobile phone applications.
NV	GIS duties were recently moved to IT. I expect this to greatly impact our ability to provide this service to the
OH	All 3 of the identified processes in our answer to number 5 are addressed in our OAKSenterprise initiative.
SD	We're pretty much a Microsoft shop. Creating and supports apps for iPads could present challenges.
TX	Business needs are driving mobility, automation and the need to be paperless, which drives the concept of any data on any device at any time and the need for cloud infrastructure to support it.

UT	The desire to have real or near real time access to accurate and timely data for the public and State sponsors (e.g. legislature, Governor etc.)
VA	Virginia has many high volume roads that have significant congestion issues, expanding capacity alone is not sufficient, use of technology to improve throughput without sacrificing safety is very important. VDOT is continuously exploring options for greater use of technology to solve congestion, operations, and maintenance issues.
VT	All of them. No process does not have a technology component and all changes (big and small) have implications to the tools used to deliver the product. Efforts using Appian BPMS have the potential to be the most impactful especially as it relates to data integration.
WA	The increasing need for transparency in decision making and the increasing use of sensor-based data for performance and demand monitoring will affect the agency's technology needs. Need for mobility options and faster turn-around times on technology migrations. Outfitting roadway maintenance workers with mobile tablets, as well as provisioning construction inspectors with mobile tablets requires WSDOT IT to become more nimble and forward looking with technology options. We must continue to transform our approach and expertise to enable us to add value to the business. Expansion of Tolling program as the agency moves to a Use Based collection model to fund new projects and maintenance of roadways and bridges. Multi-Model requirements. Where the various transportation modes desire to work together/integrate to provide singular decision point for the traveler. Mobile computing will also have an impact moving forward.

**7) Please list/describe any applications that your transportation agency uses that you believe would be useful to other agencies. Please indicate if the application is free, purchased, or developed in-house.**

	<b>Please list/describe any applications that your transportation agency uses that you believe would be useful to other agencies. Please indicate if the application is free, purchased, or developed in-house.</b>
AK	SiteManager, IRIS/Advantage, AASHTOWare (Bridge, Preconstruction, BAMS/DSS). All are purchased.
AL	AASHTO Project Preconstruction; Expedite/Bid Express; Estimator (all purchased)
AR	Network Fleet - Fleet Management cloud based system by Verizon.
AZ	Features Inventory (custom-built), Roadway Maintenance (custom-built), field inspection of construction sites (custom-built)
DE	None at the moment
FL	Materials Acceptance Certification System (in-house) OpenText eDOCS DM (purchased) Roadway Characteristics Inventory (in-house) FDOTracker (in-house)
ID	WARS - Winter Automated Reporting System will report the location and quantity of sand and salt applications. It is a custom build application
KS	Truck Routing and Permitting System (K-Trips).
KY	KURTS, Kentucky Utilities and Rails Tracking System, developed in house.
ME	Map Viewer; Dashboards
MN	IRIS/Traffic Management, RCA/Resource Consumption
MO	Transportation Management System --in house developed. Free.
MS	MDOT builds several in-house applications, including maintenance permits, HTML 5 data collection apps, DevExpress applications such as Parcel Tracking, Fleet Management, Proposal assembly generator. We could certainly share some information related to these.
MT	ADA data collection IOS App OS/OW permitting tool
NC	Bentley MicroStation (purchased), Esri ArcGIS OnLine (purchased),
ND	Sign Calculator Program (DEC 15)
NJ	The MT-89 process reduced the length of time to provide payment to vendors who participated in snow or other event activities. This process also favorably impacted the cash flow/accounting.
NV	Electronic Discovery for legal cases and public records requests- purchased
TX	Fleet Navigator: A purchased software package used to track vehicles and a variety of vehicle related items such as location, fuel, maintenance, utilization and key distribution. Stockpile Reports: A purchased software package that involves a three step process that calculates and aggregates stockpile tonnage, volume and location using an iPhone. ProjectWise: A purchased software package that is a streamlined file management system with advanced file storage and sharing capabilities. TxDOT plans to use this primarily for 3D design. Microstation 3D Design: A purchased software package that has 3D tools and design-time visualization to enable clash detection, facilitate review of design alternatives, and streamline cross-functional communications. Prestressed Girder Superstructure Design and Analysis: An open source application, that TxDOT contributed to the development of. It is used for design, analysis, and load rating of multi-span precast-prestressed bridge beams/girders. Statewide Traffic Analysis and Reporting System: Purchased and developed specifically for TxDOT to meet the federal requirement to develop, establish, implement, and continue operation of a traffic monitoring system. Texas Railroad Information Management System: Purchased and developed specially for TxDOT for railroad crossing information that expands access to inventory information, increases the accuracy of data, facilitates coordination among TxDOT, the public and stakeholders, and improves safety at railroad crossings through improved information and decision-making tools.

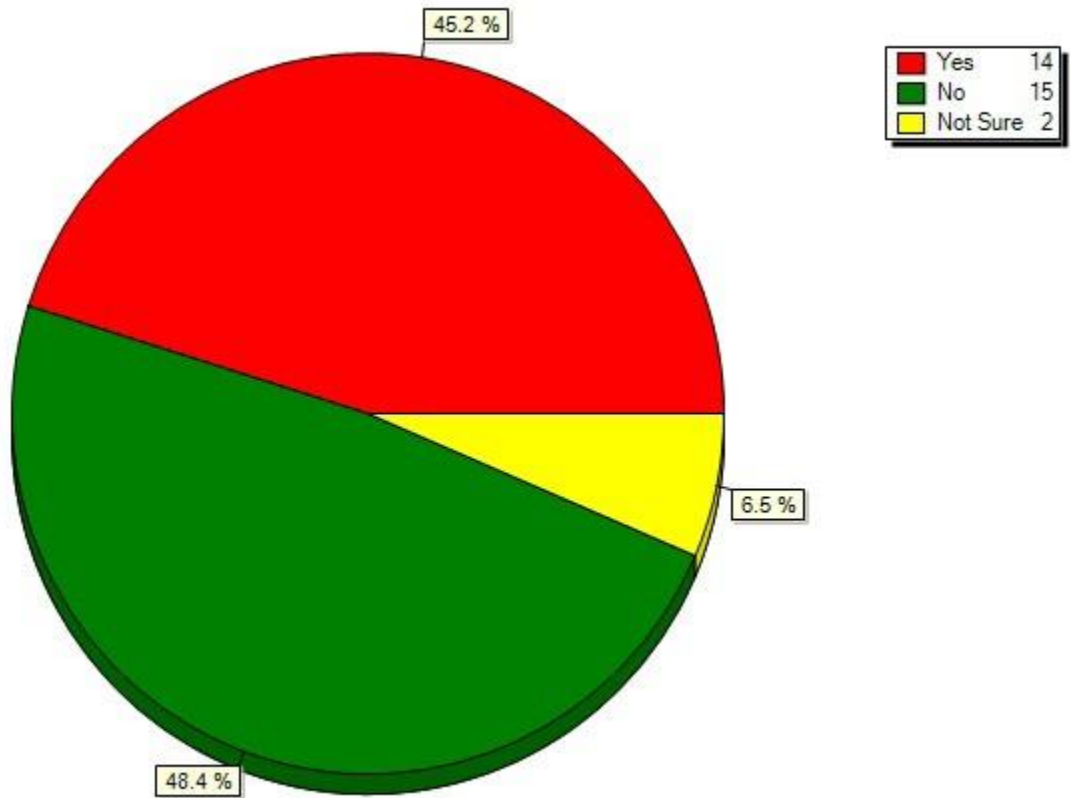
UT	UDOT Ugate-Single Data Source Portal (customer developed)
VA	-VirginiaRoads is an online GIS portal with agency data and services for public use - developed in-house
VT	VPINS (see above) for tracking core information related to the project delivery process.
WA	System Center Configuration Manager (purchased from Microsoft) System Center Endpoint Protection (purchased from Microsoft) Meraki Mobile Device Management (purchased from Cisco)

**8) Please propose 2 questions and/or topics for a round table session at the next ASIS meeting.**

	<b>Round Table Question 1</b>	<b>Round Table Question 2</b>
AK	How can an agency coordinate their applications and databases best in order to create a cohesive system that communicates clearly across the divisions to transfer info/data accurately and regularly?	What applications do you think save your agency the most money versus using paper systems?
AL	Establishing a data warehouse for related application systems common data	Implementation of mobile device technology
AR	What are best practices for cloud storage?	How is GPS data used in your agency for maintenance and construction activities?
AZ	How specifically do connected & autonomous vehicles impact long-range planning?	What's the current state of best practices for Transportation Asset Management? Are there effective tools being used?
CO		
DE	What systems or applications are being leveraged by other Transportation agencies that is truly universal for project managers?	
FL	How will current performance issues in AASHTOWare Project applications be addressed, and when?	How will current Critical TMRs for resolving data transfer issues between PrP and SiteManager and BAMS/DSS client/server be addressed, and when?
IA		
ID	What systems are being used to analyze safety benefits?	
KS	How are you managing the move from custom to COTS applications?	What is your state doing regarding consolidation? How have you leveraged economies of scale or developed cross agency platforms.
KY	Software clearing house for non aashtoware applications.	Hadoop/Data Analytics use in Transportation Agencies
LA	What is your state doing with IT Consolidation? And if doing how is it going?	Who is doing Desktop Leasing and / or Managed Printer services/leasing?
MB		
ME	To Host or Not to Host (Risk/Benefits/lessons learned)	TAMP & MAP21 - what automation practices are being utilized to support this
MI	How can we as tech professionals use this group more than once a year for a meeting?? Example MDOT has been struggling to hit the sweet spot for bandwidth in our district offices and TSC, would love to poll the group to understand what standards you've set. Sharepoint site???	With the emerging of powerful GIS tool how are you partnering/setting strategy for the business now that they can do light to mid-level development without you. Design standards, policy etc?
MO	Staff Retention --how do you address it?	Management education --How do you educate DOT Sr. Management on the importance of IT and the implications of lower IT investment?
MS	How are DOTs becoming efficient in mobile data collection in the field?	Are DOTs exploring Drone technology, and the types of applications?
MT	Asset and infrastructure inventory management	IT governance
NC	How do you deal with external Vendors on application development contracts	How are you addressing the move to Mobile devices?

ND	IT Consolidation - trending away or moving to.	How to increase state involvement and bringing in new innovations.
NE	What are some ways agencies are planning to use drones?	Is "going paperless" possible?
NJ	Given most Transportation agencies work with FHWA, does it make sense to develop and support a FMIS solution in much the same way AASHTOWare supports construction? It seems each state must struggle re-inventing the application when 90% of the business deliverables are the same for each state.	
NV	Document and Records Management	GIS
OH	Does the move to 3rd-party software really save money?	Cloud solutions can be very beneficial. But when should you really avoid cloud solutions?
SD	What devices are being used to collect various asset inventories; iOS, Android, or Windows devices?	What process is used to submit and prioritize IT related projects?
TX	Incorporation of AASHTOWare products into Big Data and how are DOTs approaching Big Data	Security - vulnerabilities
UT	What is the rate of growth (if any) is there of the implementation of COTS software at DOTs.	What challenges are being experienced at the various DOTs of recruiting, retaining and competing for IT staff?
VA	How are CIO's involved in connected vehicle and autonomous vehicle research activities?	Bringing industry best practices in technology to improve agency operations
VT	Process management efforts and their effects.	The trends in mobile for DOTs.
WA	How have you integrated support of mobility devices (tablets, handhelds, etc) into traditional support of legacy devices such as desktops and laptops? How does this change the makeup of "workstation support" technicians so that they add value to the multiple different customer support groups?	How is your agency leveraging 3D printing for project office or equipment maintenance? If not doing anything currently, what possibilities do you foresee?

**9) Does your transportation agency or state enterprise have a documented data governance plan? Please provide any additional information - such as what stage of implementation you are in - in Additional comments.**



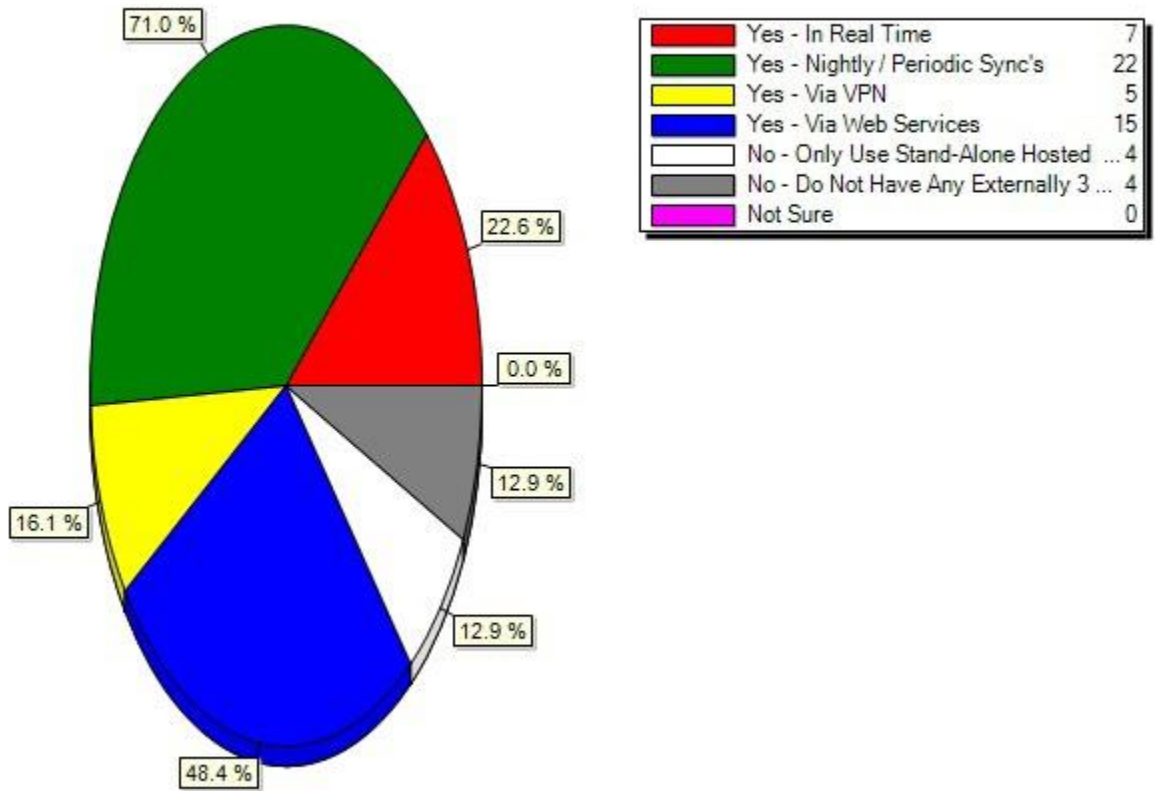
**Comment Responses:**

AZ	In early stages
DE	Initial Phase
FL	We are in the early stages and currently identifying/training Data Stewards and Custodians for IT assets Department wide. We have a Data Governance Framework.
IA	Beginning the process
KY	In process.



MB	In progress
ME	We are proactive - managed on the verge of governed
MI	Just emerging and struggling
MN	Policy, implementing data domains
MO	I'm assuming data governance means what's a record and how and how long do you retain it.
NC	Very early creation stage
ND	Implemented
NE	We are currently establishing a plan.
NJ	Being Developed
OH	We have instituted an asset management governance process that is a start to true data governance. Establishing true data governance is in our plans for 2016-2017.
SD	Records Retention Manual
TX	We plan to implement data governance standards with the roll out of our Enterprise Content Management plan.
UT	It is parts of a plan evolving to a comprehensive plan.
VA	In a scale of 1 (low) - 10 (high) we are probably at 4
WA	Guiding principles. The group is reviewing existing data and information related executive orders and policies to ensure consistency and to identify gaps. The IT area has set up documented criteria for enterprise data resources that includes data s

**10) Does your transportation agency integrate externally hosted application data with internal applications or databases? If so, please explain the basic technologies and approach in Additional comments.**

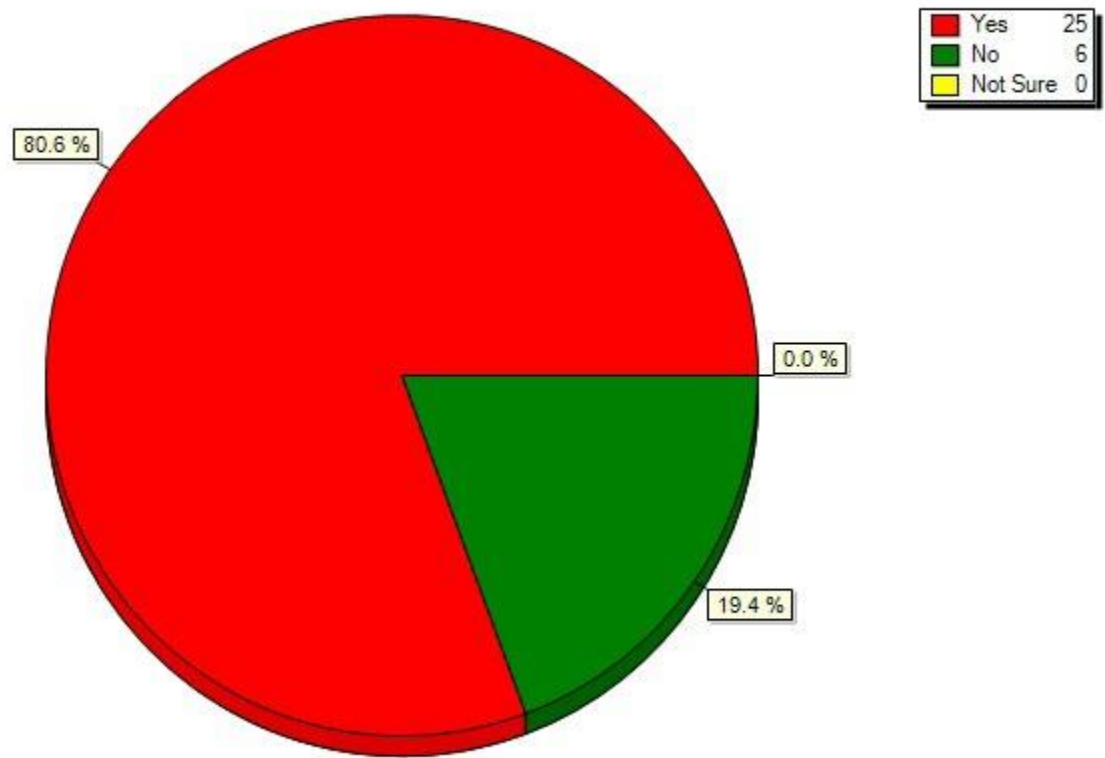


**Comment Responses:**

FL	Real time integration consist of interaction with Department of Management Services (DMS) databases directly via BDLINK.
KY	Waze, NOAA, Imagery
LA	Sync with SAP
ME	file transfer, ArcGIS Online, NAPA - fleet parts
MI	Very limited at this time, mostly internally hosted and externals are standalone but being asked to look at.

MO	SaaS based Project Management system is updated nightly with financial data
OH	OAKS Cognos & OAKS EPM data sent via FTP; FHWA data sent via FTP; Speed data for Traffic Management – near real time – receive this data every 1-2 minutes
TX	GIS data syncs with external databases to bring in external data. TxDOT's Federal Aid Funding Obligation system, which is used to meet new federal requirements to efficiently transfer financial data between TxDOT and Federal Highway Administration
UT	We are in the initial planning stages
VA	VDOT is starting a project that requires near-real time data exchange between internal systems and external/mobile solutions
WA	Our agency integrates data provided by services to provide lookup information both in real time, via web services and via periodic syncs.

**11) Other than office productivity suites (email, word processing, etc.), is there a trend within your transportation agency to utilize software as a service (SaaS)? If so, please list/describe the software and/or service procured as SaaS.**

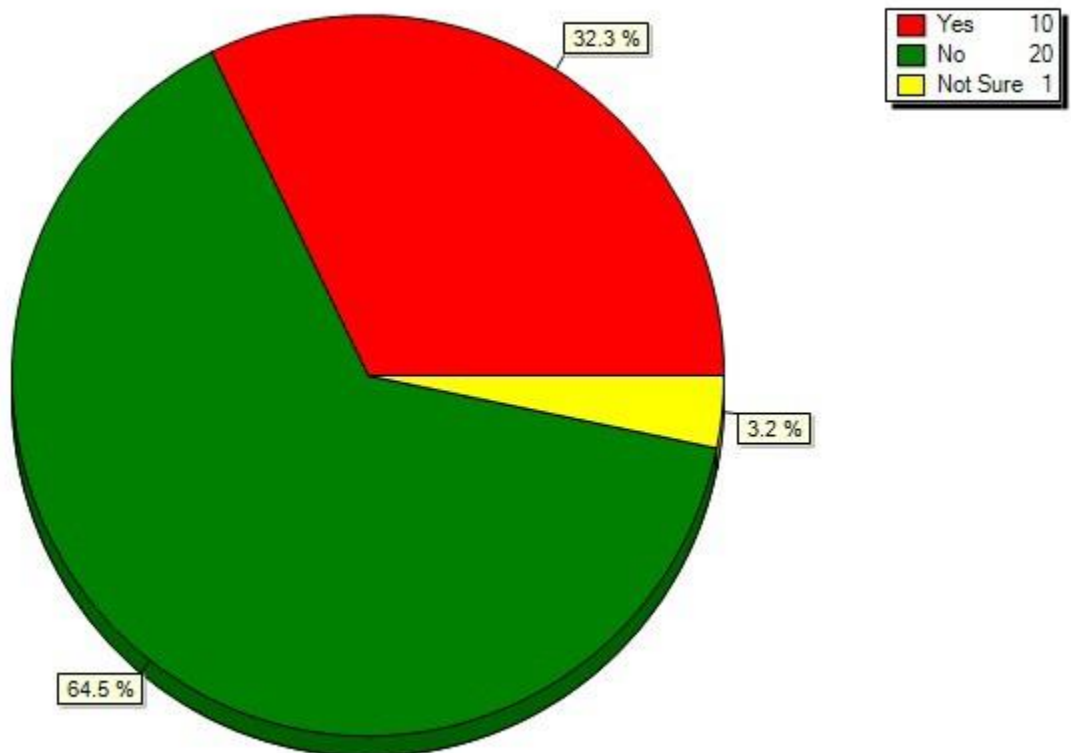


**Comment Responses:**

AR	Talent Acquisition, Learning Management, Performance Management, Compensation Management, and Fleet Management.
AZ	Sales Force, Encroachment Permits, etc.
FL	Cloud infrastructure with various hosted applications as a service. (i.e. Innotas, etc.)
IA	I see us beginning to explore them and we are implementing one thus far.
KS	We have outsourced our Learning Management System.

KY	Trying.. Agile Assets OMS application Use Meeting Room Manager for Conference Center
LA	Looking at a pilot using Google at work.
ME	InspectTech Bridge inspections; WIM processing; Elation - contractor payroll compliance; MSDS; Informa (training)
MI	ERP, ITS, Automatic Vehicle Locating
MO	EPMLive IT Project management; Bid Xpress bid letting; Learnsoft Learning Mgmt Sys
MT	ARC GIS online and Traffic Data
ND	Transit Software (Panther) and B2G Now (Civil Rights)
NE	KRONOS and Rail Inventory System
NJ	AASHTO TransPort, AGATE System for Administrating Grants Electronically (SAGE)
NV	STIP, bridge inspection, GIS
OH	ODOT uses ServiceNow for Employee Onboarding and IT Service Desk
TX	As part of our enterprise architecture, we try to procure SaaS wherever possible to replace legacy technology. Our current applications include: B2GNow, Origami, Salesforce, Exevison, ServiceNow, Webex, TRIMS, Pavement Analyst
UT	There seems to be a consistent move in this direction.
VA	ITS solutions, document management services for large construction projects, annual pavement condition video logs, etc.
VT	BPMS and TDMS
WA	Traffic Analysis, Tolling, HR application including Employee Performance monitoring and Training, Credit Card Processing.

**12) Does your transportation agency use any crowd-sourcing applications/data? If yes, please describe the applications/data and how are they used in Additional comments. Crowd-sourcing in this context is loosely defined as obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community. Please list those crowd-sourcing applications (Twitter, Waze, etc.) and the degree to which it is being used in Additional comments.**

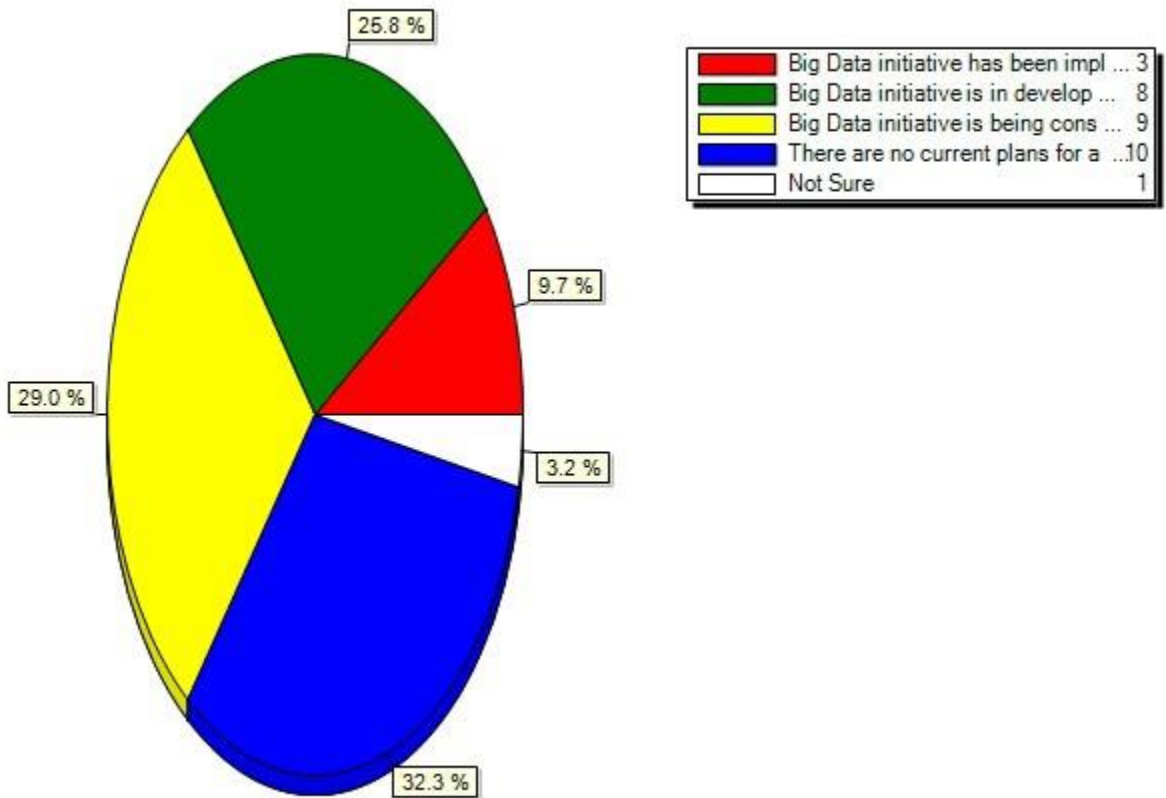


**Comment Responses:**

AZ	Drupal
FL	FDOT has a data sharing agreement with WAZE. Information from WAZE is used within our TMCs and 511 system

KY	KYTC has a formal agreement with Google (WAZE) for data sharing, weather reporting Twitter.
LA	Beginning to look at Waze as a replacement to a 3rd party traffic reporting app.
ME	Bluefax - for traffic counting; Waze (new ATMS system)
MI	Looking at WAZE integration,
N	Twitter for two-way communication of issues and agency information
NC	Not yet
ND	WAZE (sharing)
TX	Crowd sourcing is used via Bluetooth devices imbedded along some highways. That information is used to track congestion.
UT	There is some move in this direction at a State level.
VA	VDOT is interested but not yet started any projects to use crowd sourcing
VT	Waze
WA	Twitter and we are looking at WAZE. Our agency has been using crowd-sourced data to help map bike paths.

**13) Has your transportation agency implemented, or is considering implementing, or is planning a "big data" initiative? Please describe how you are planning on handling "big data" efforts in your agency in Additional comments. Big data is broadly defined as extremely large data sets that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions. They are typically so large or complex that traditional data processing applications are inadequate.**

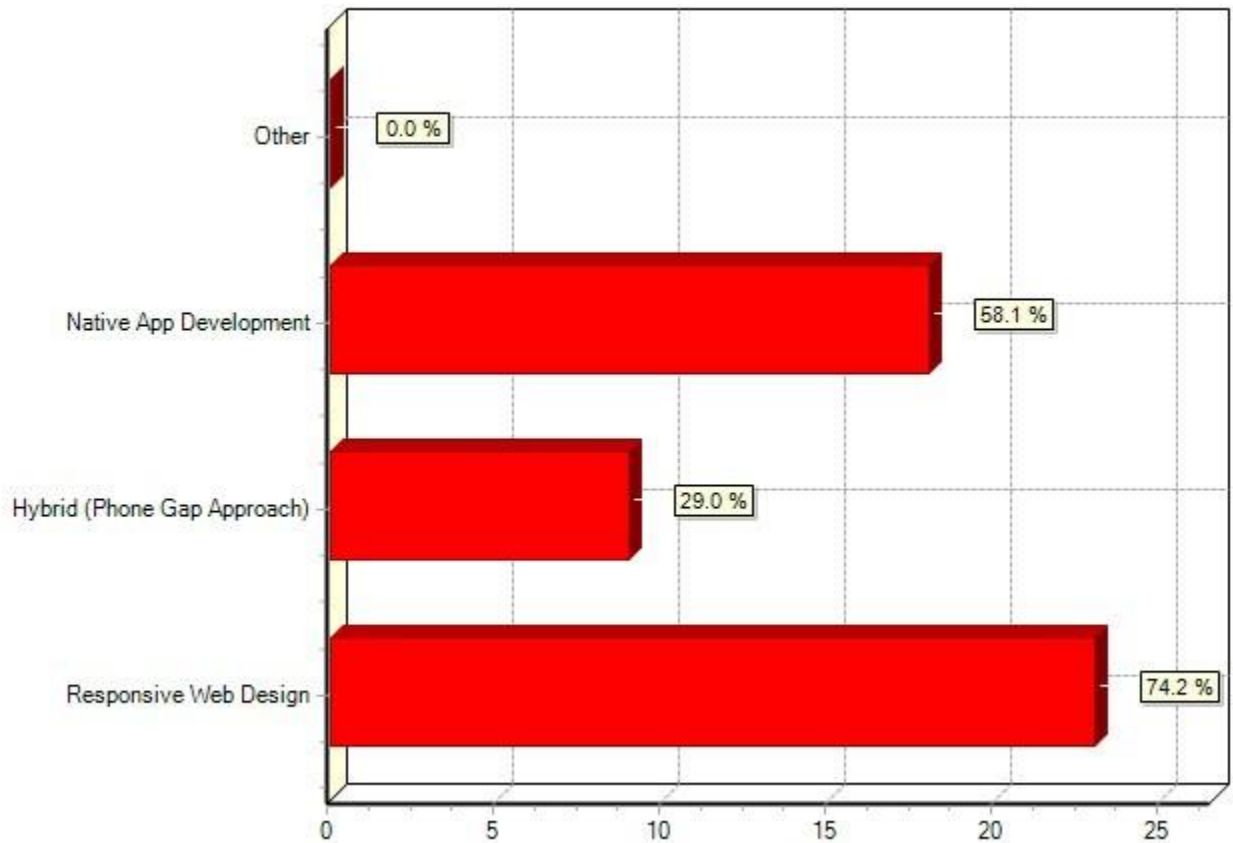




Comment Responses:

KY	Hadoop now in production. Integrated with GeoEvent Processor. Will hold data for snow and ice removal, pavement data, video logging and many more big data systems.
ID	We are using flash storage very successfully in this areas
AK	BAMS/DSS
FL	Big data initiatives are being considered which is a driving force behind the current ITSP project.
MT	The business is already collecting or proposing to collect very large data sets
WA	The University of Washington is working on a research project called Drive Net. The agency is in the process of evaluating the next steps for this work if it is to continue.
TX	We are currently implementing the infrastructure to utilize big data.
VT	Future phase of BI project.
NC	Statewide Travel Demand Model
UT	There is some move in this direction at a State level.

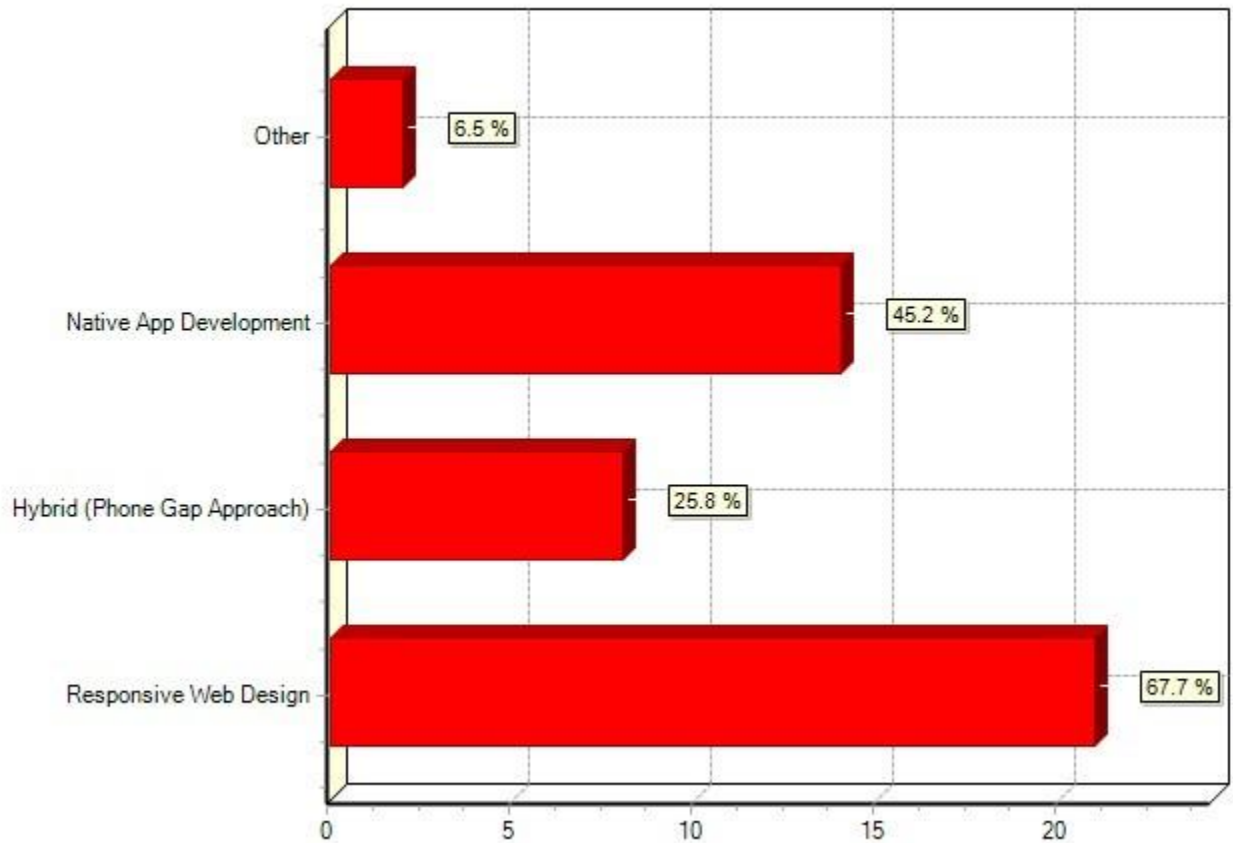
### 14.1) Mobile devices anticipated for support for external use (by the public) in FY2015



#### Comment Responses:

ND Carcass App

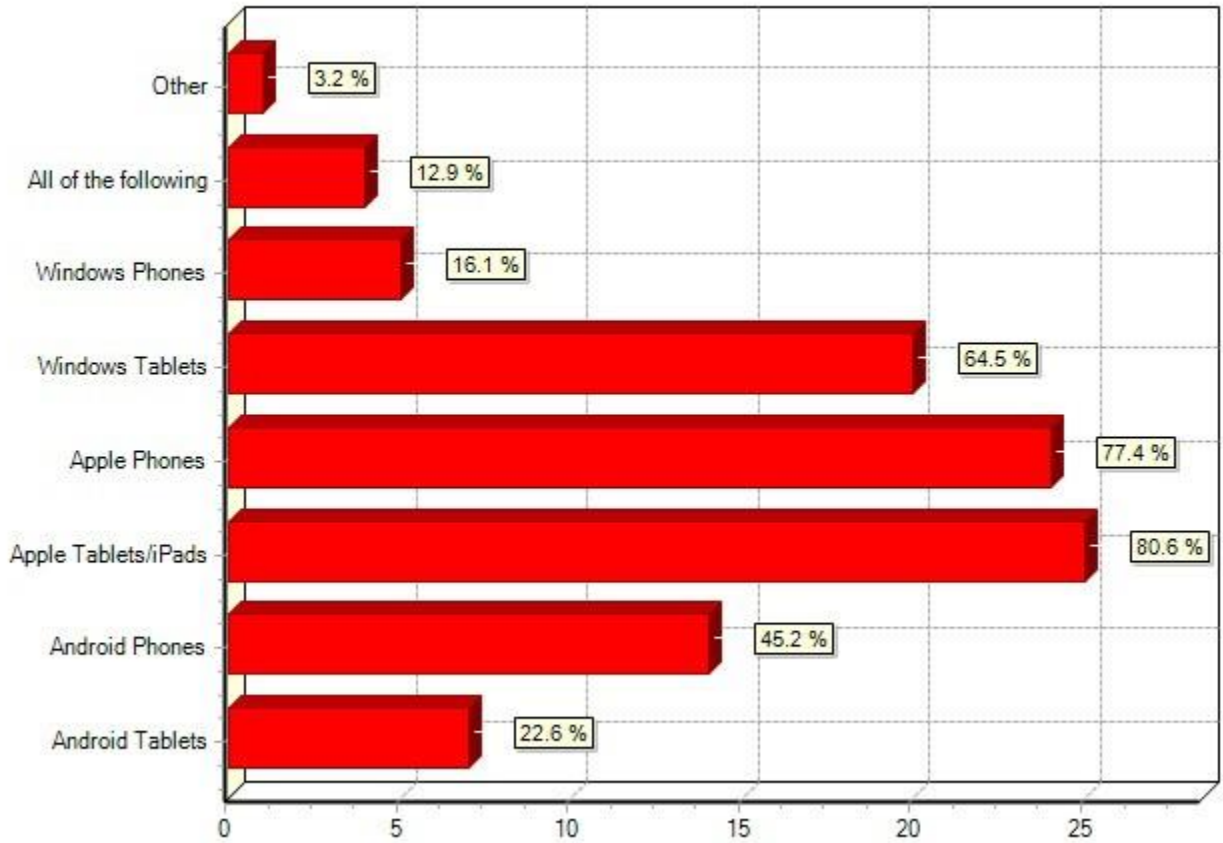
### 14.2) Mobile devices anticipated for support for external use (by the public) in FY2016



#### Comment Responses:

ND	Apps : ND Renewals and NDRoads
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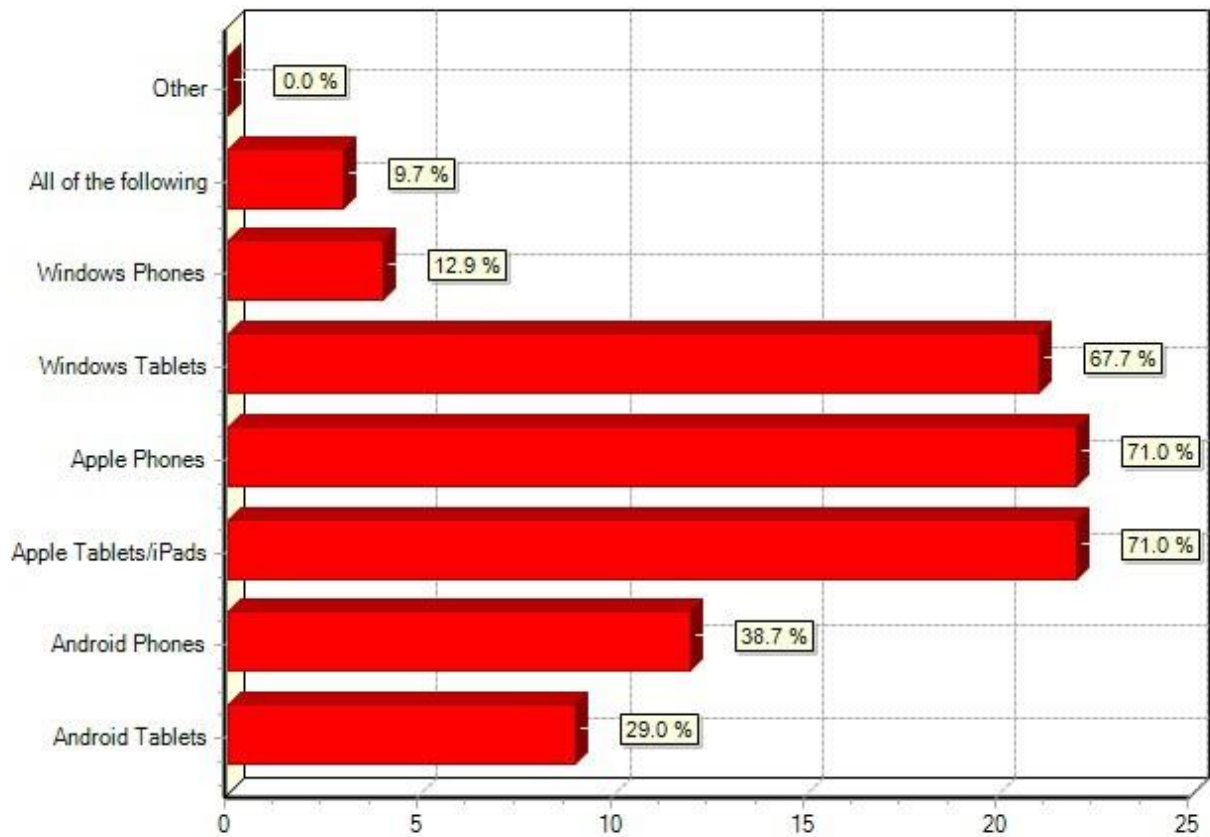
**15.1) Mobile devices anticipated for internal use and/or support in FY2016**



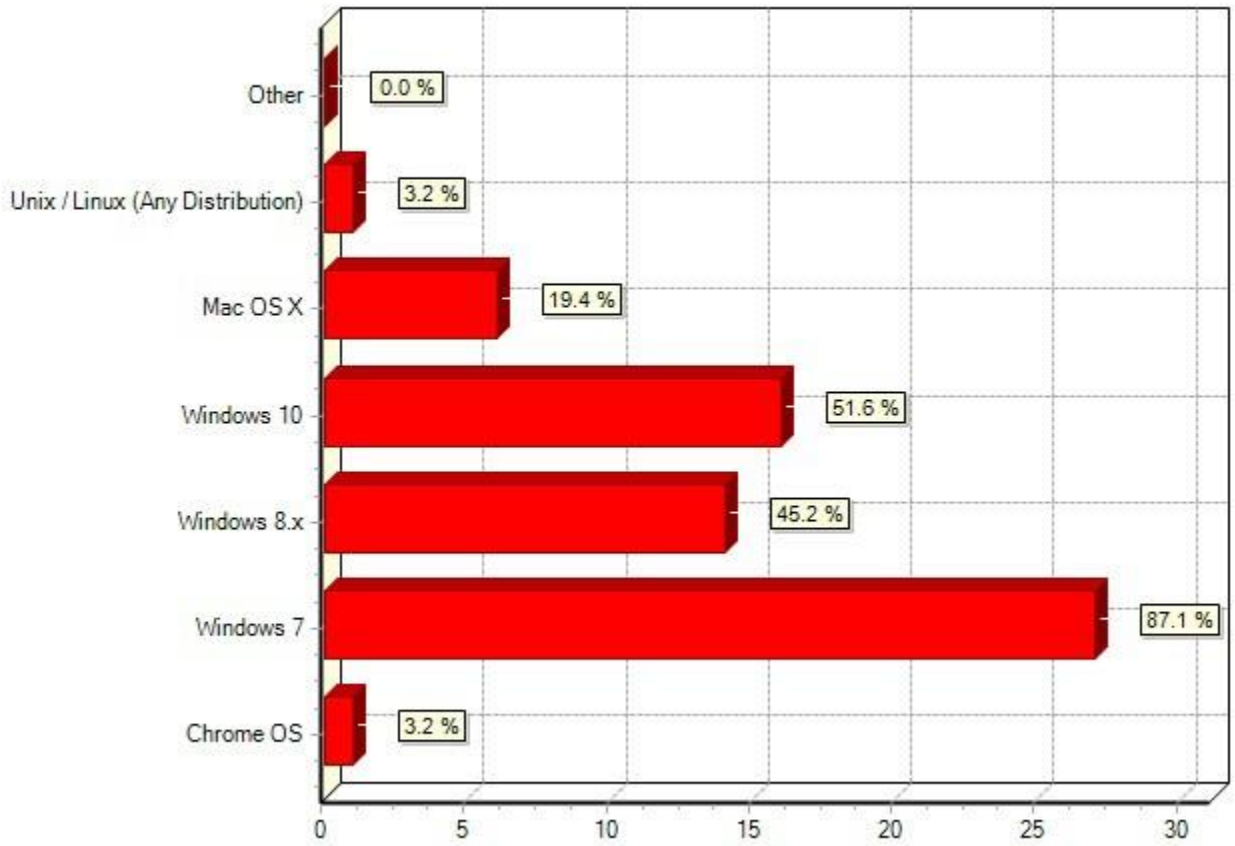
Comment Responses:

MB	Blackberry
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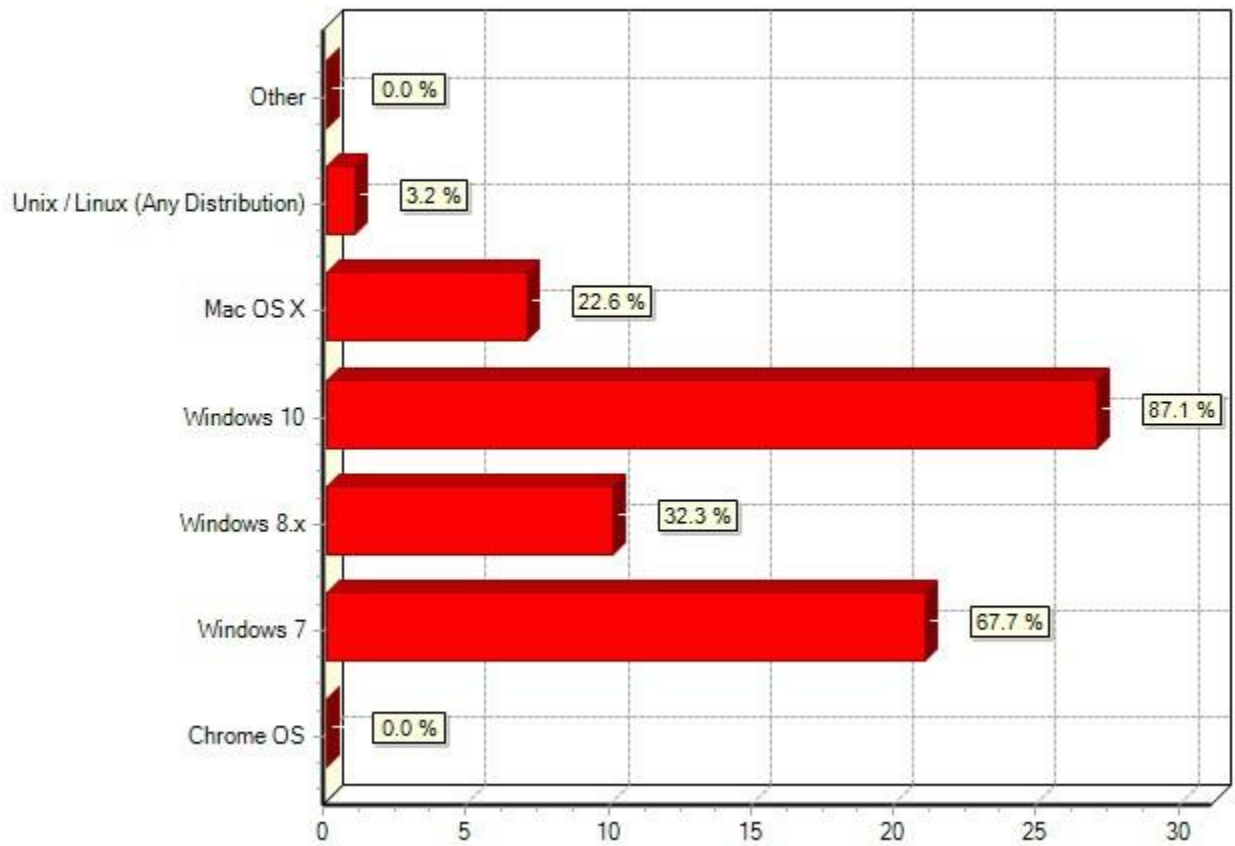
**15.2) Mobile devices anticipated for internal use and/or support in FY2017**



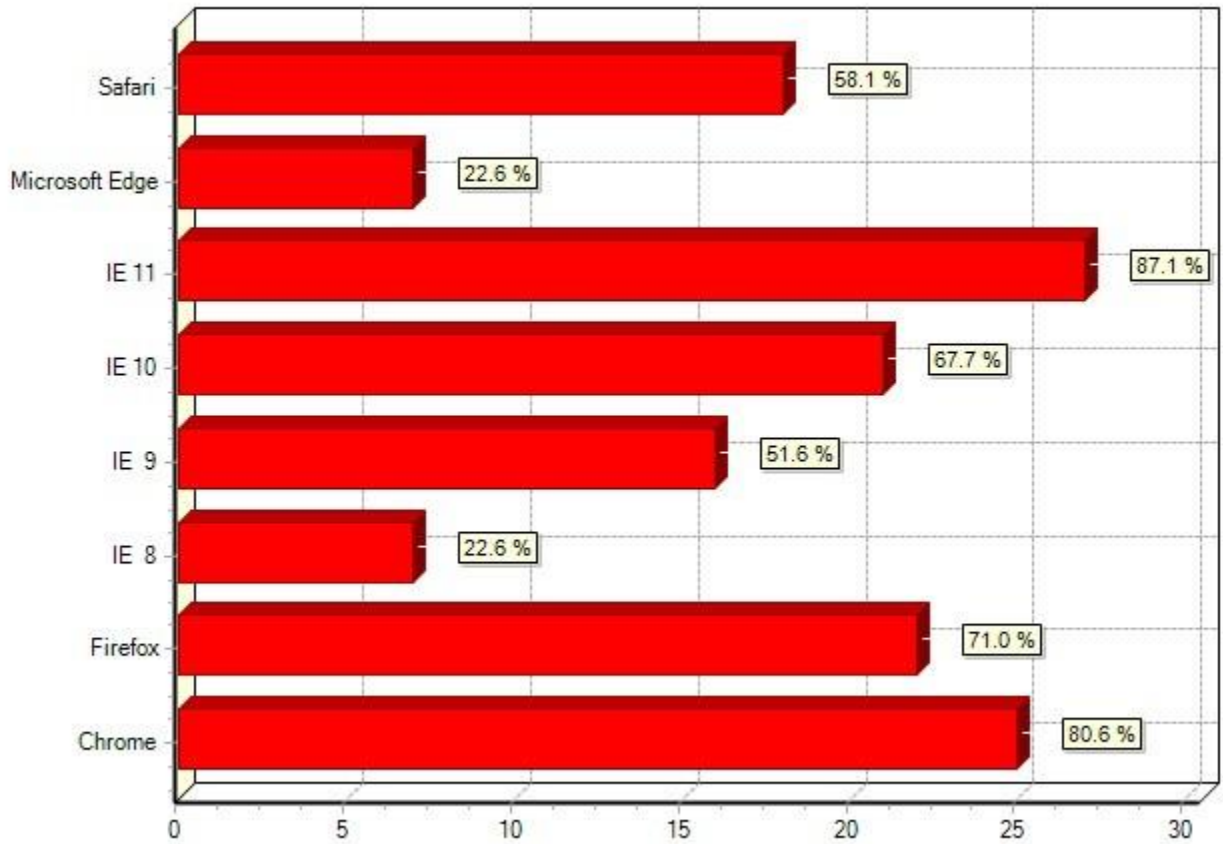
**16.1) Desktop operating systems projected for use and/or support in FY2016**



**16.2) Desktop operating systems projected for use and/or support in FY2017**



**17.1) Browsers projected for external (by the public) use and/or support in FY2016**

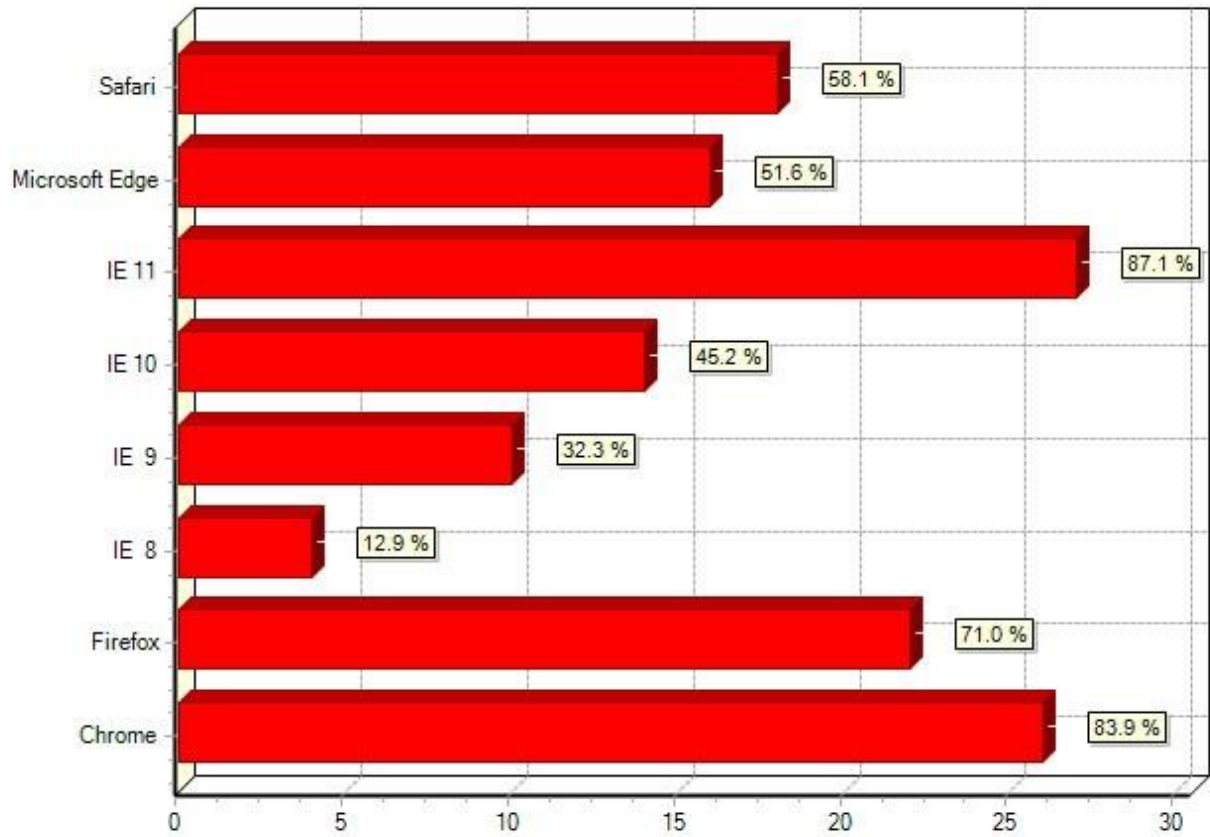


**Comment Responses:**

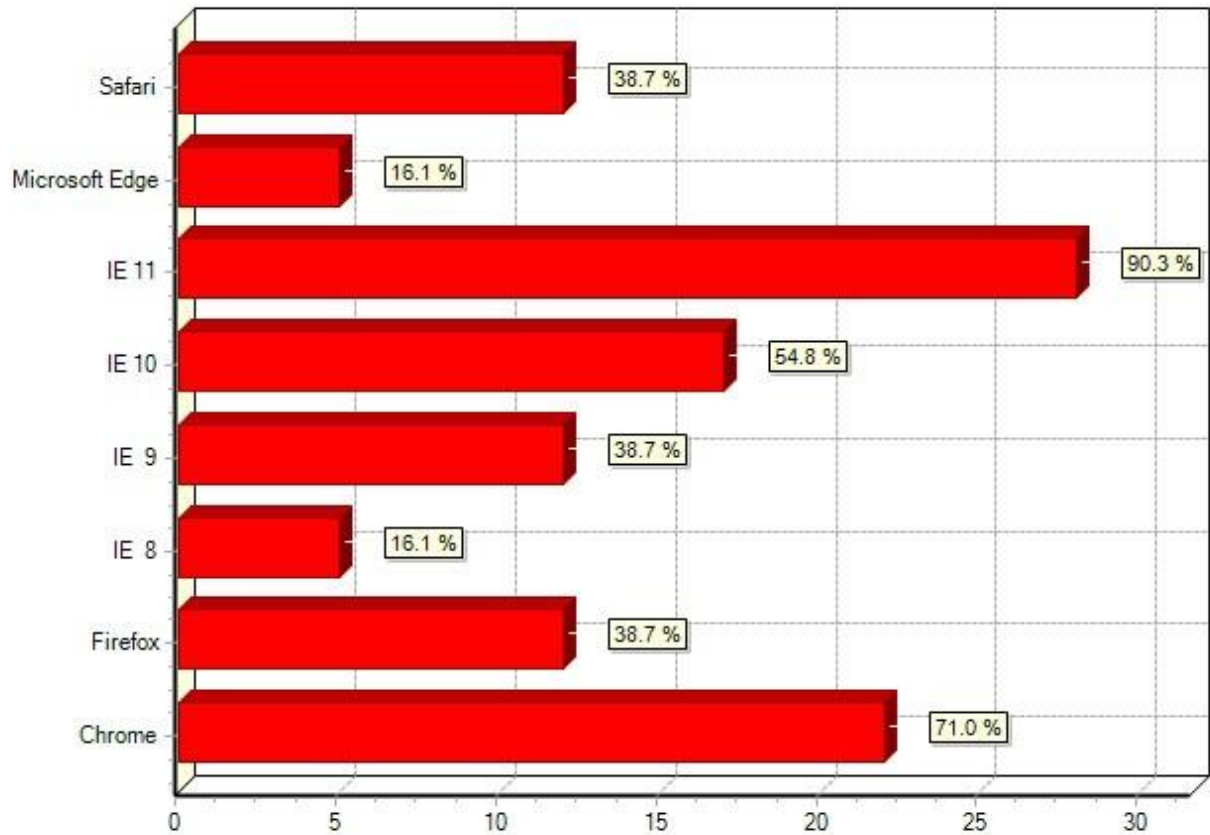
MB	Depends on site
MS	We try to provide support for all recent versions.



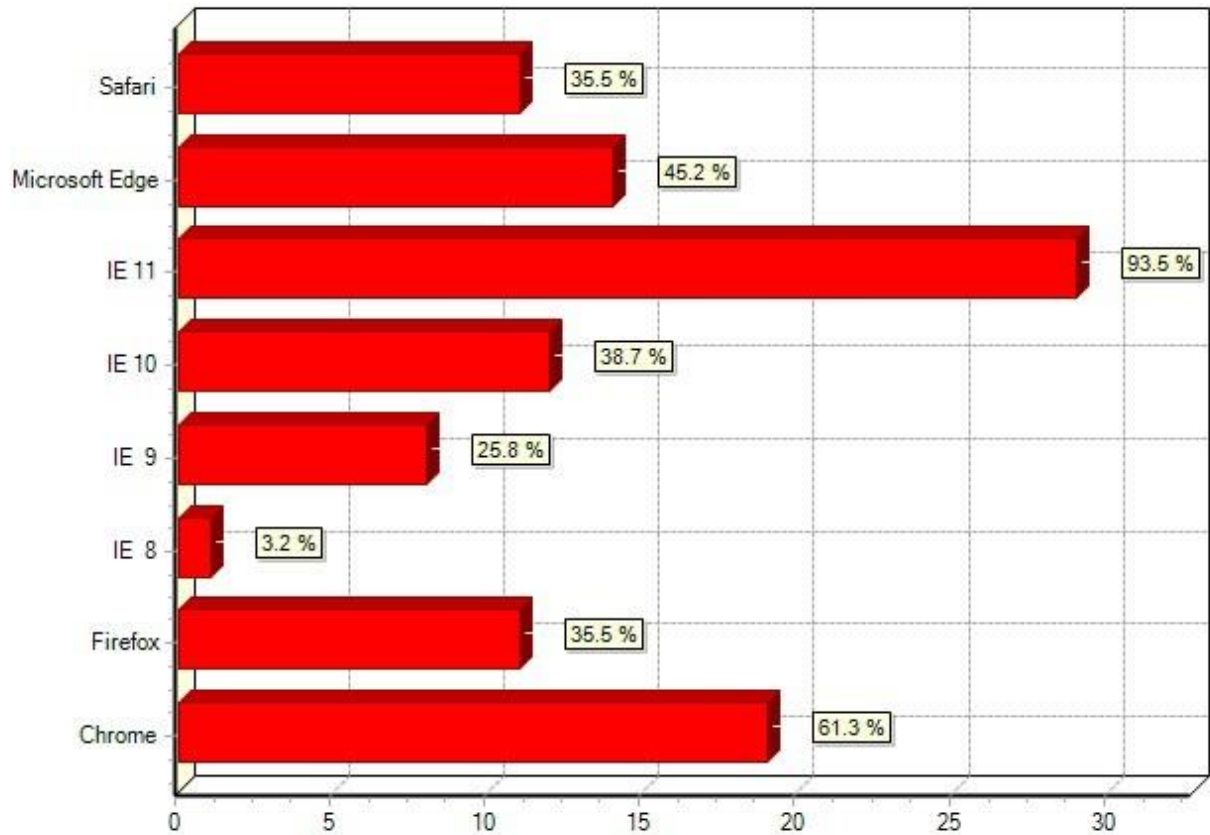
**17.2) Browsers projected for external (by the public) use and/or support in FY2017**



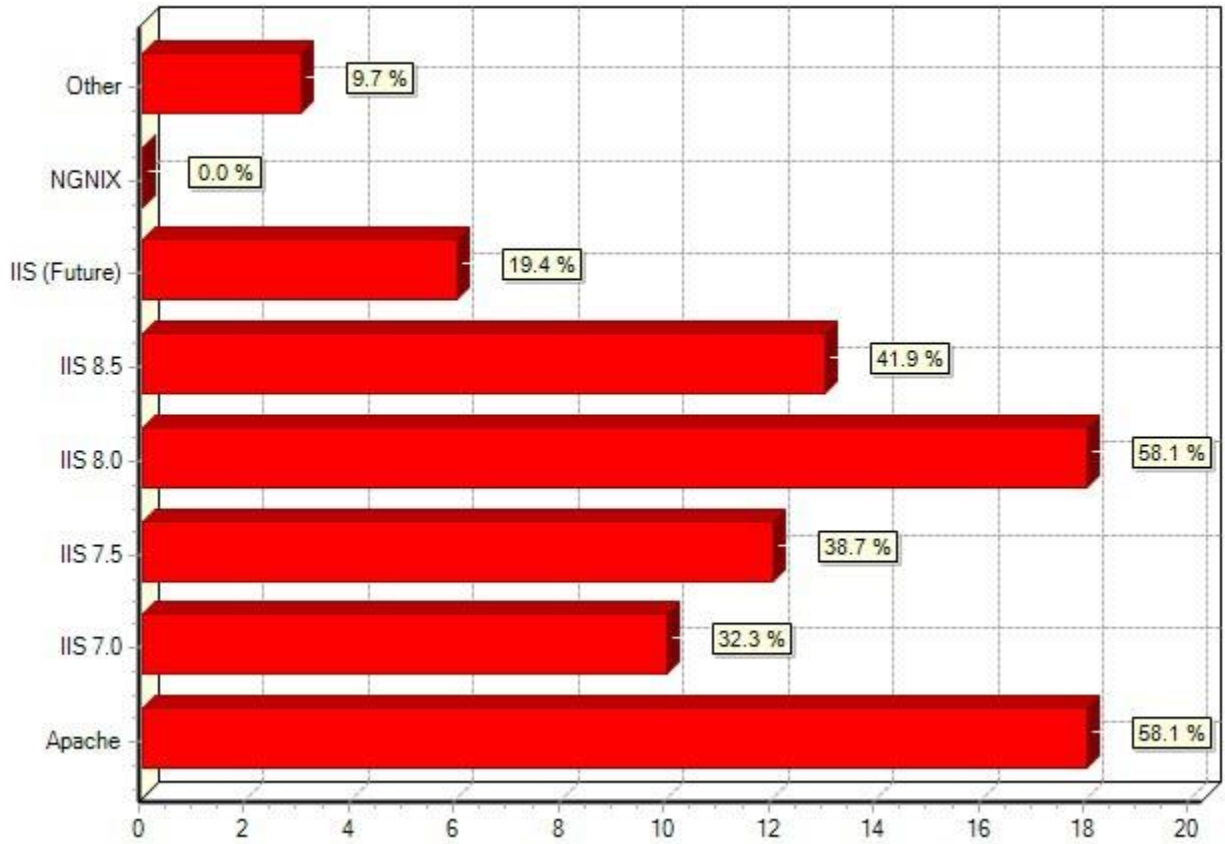
### 18.1) Browsers projected for internal use and/or support in FY2016



## 18.2) Browsers projected for internal use and/or support in FY2017



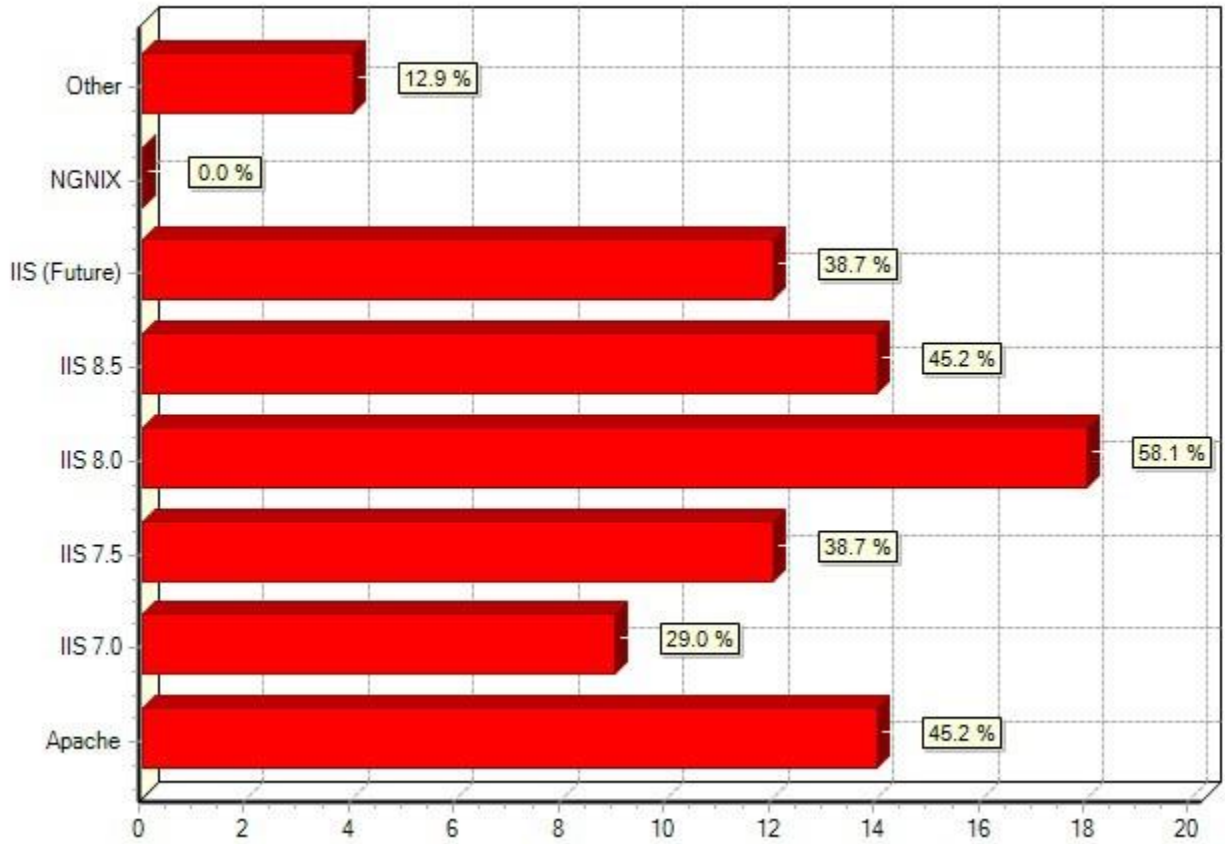
### 19.1) Web servers projected for use and/or support in FY2016



#### Comment Responses:

AK	Oracle Sun iPlanet
AL	IBM HTTP Server
ID	Windows
KY	No infrastructure. consolidated environment
MB	unsure

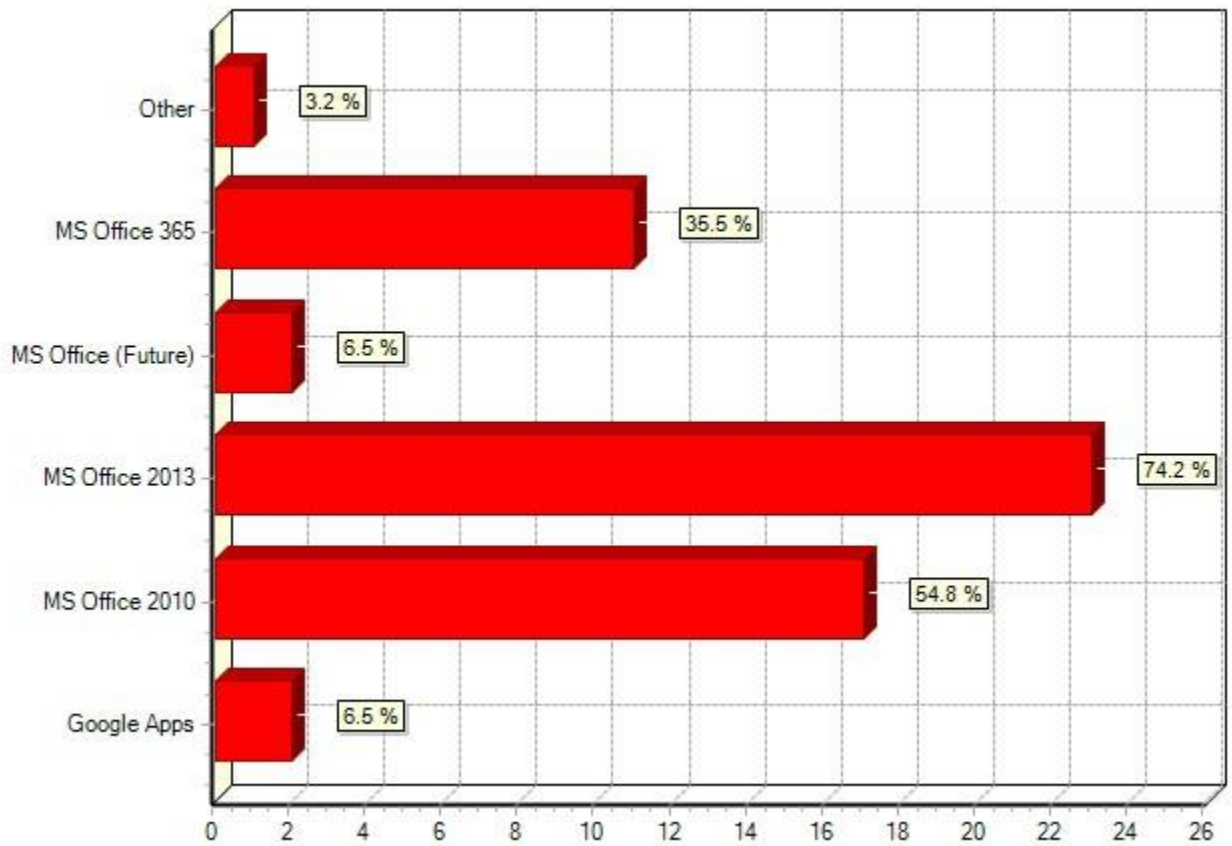
## 19.2) Web servers projected for use and/or support in FY2017



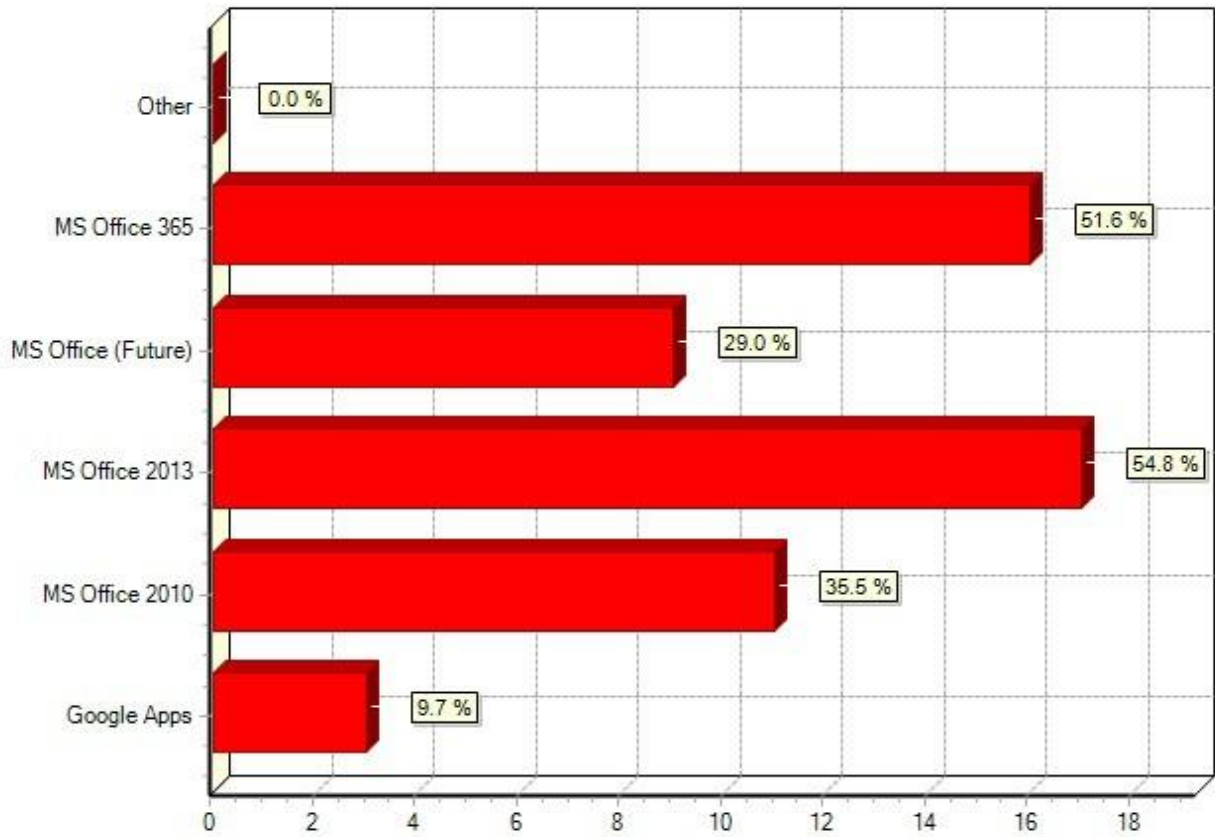
### Comment Responses:

AK	Oracle Sun iPlanet
AL	IBM HTTP Server
ID	Windows
KY	No infrastructure...consolidated environment
MT	Tomcat

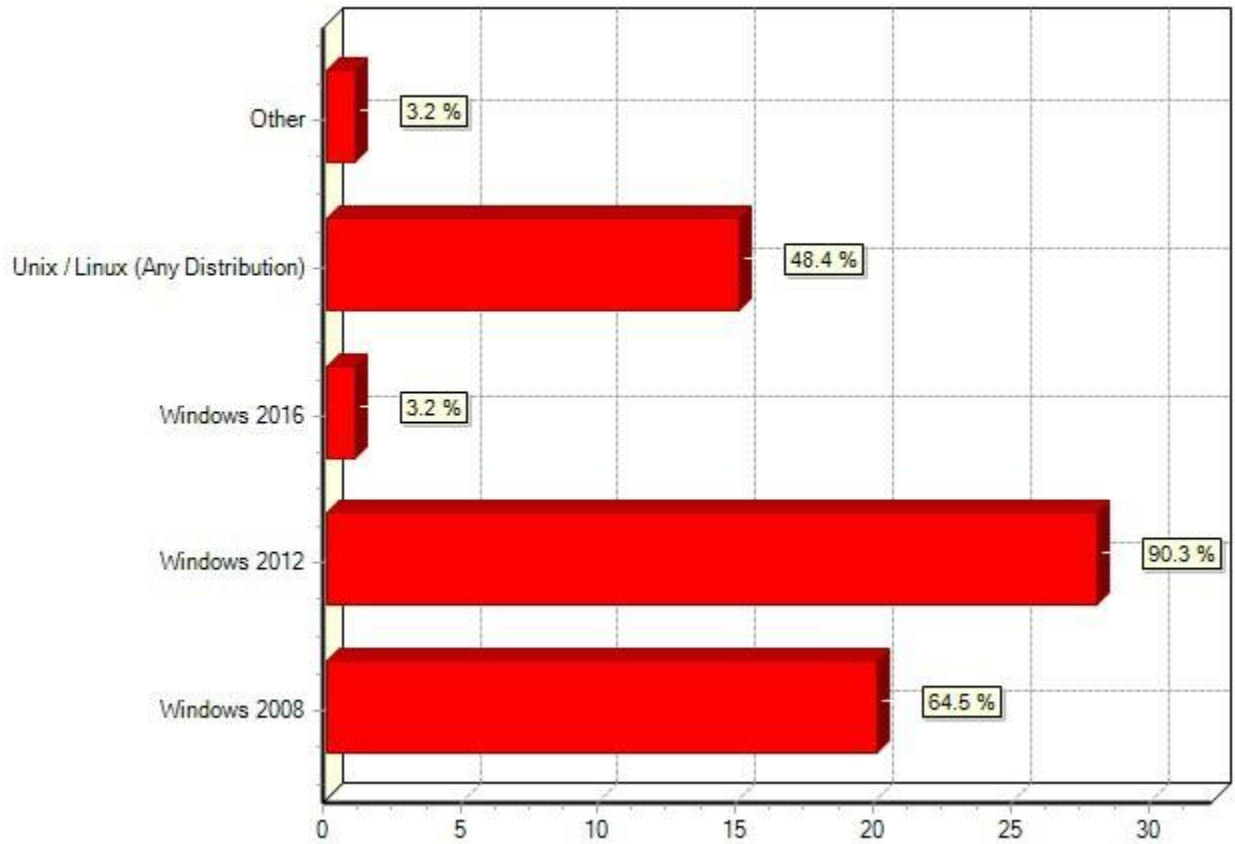
### 20.1) Office productivity suite/products projected for use and/or support in FY2016



**20.2) Office productivity suite/products projected for use and/or support in FY2017**



**21.1) Server operating systems projected for use and/or support in FY2016**

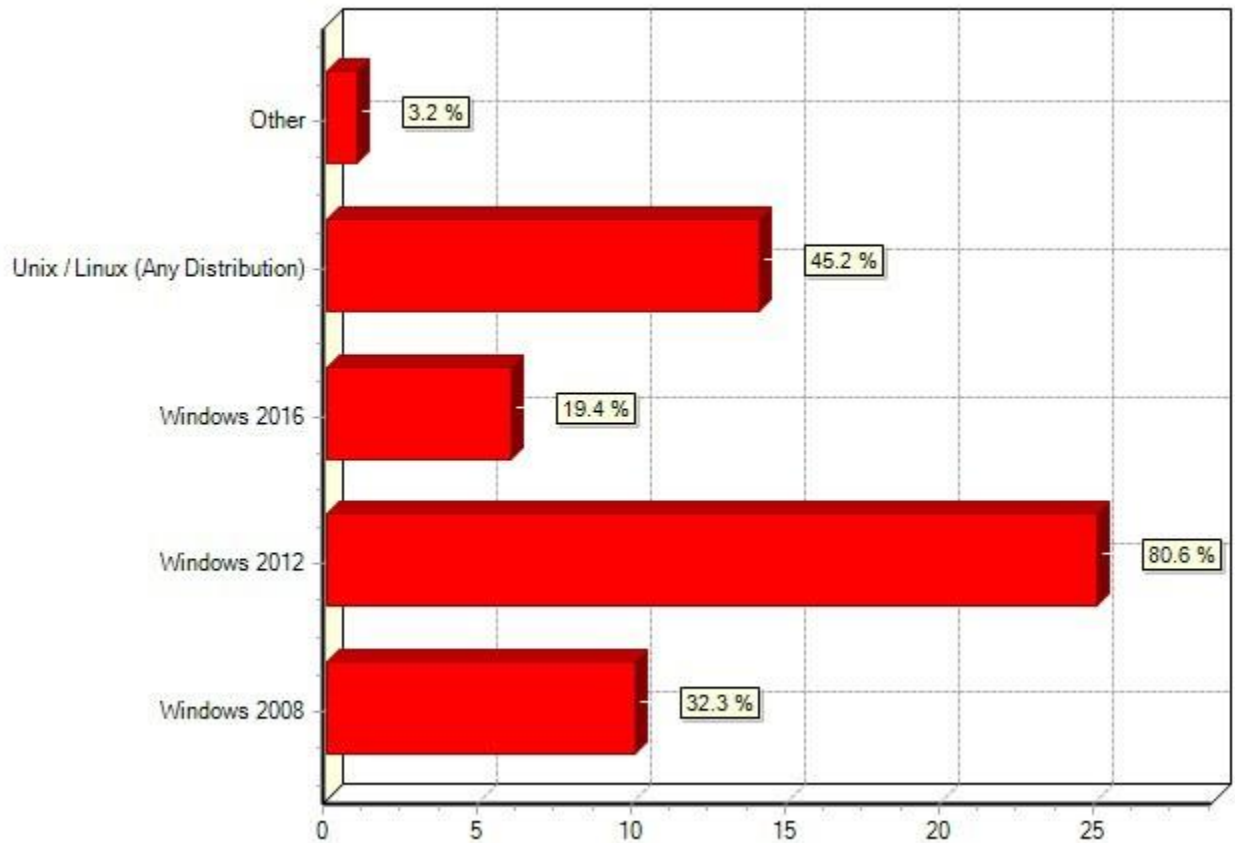


**Comment Responses:**

AK	Oracle Sun Solaris (10.x/11.x), Oracle Linux
KY	No servers.. consolidated environment



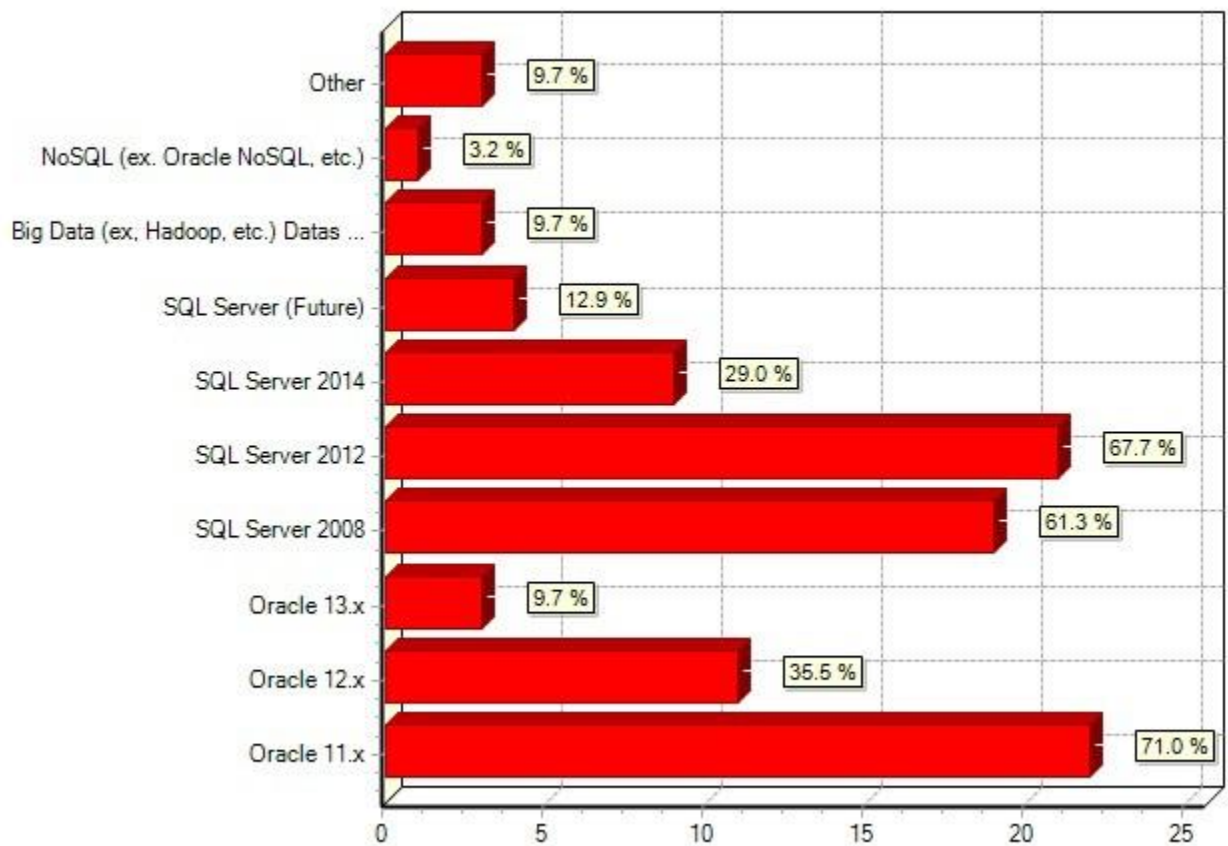
**21.2) Server operating systems projected for use and/or support in FY2017**



Comment Responses:

AK	Oracle Sun Solaris (10.x/11.x), Oracle Linux
KY	No servers. consolidated environment

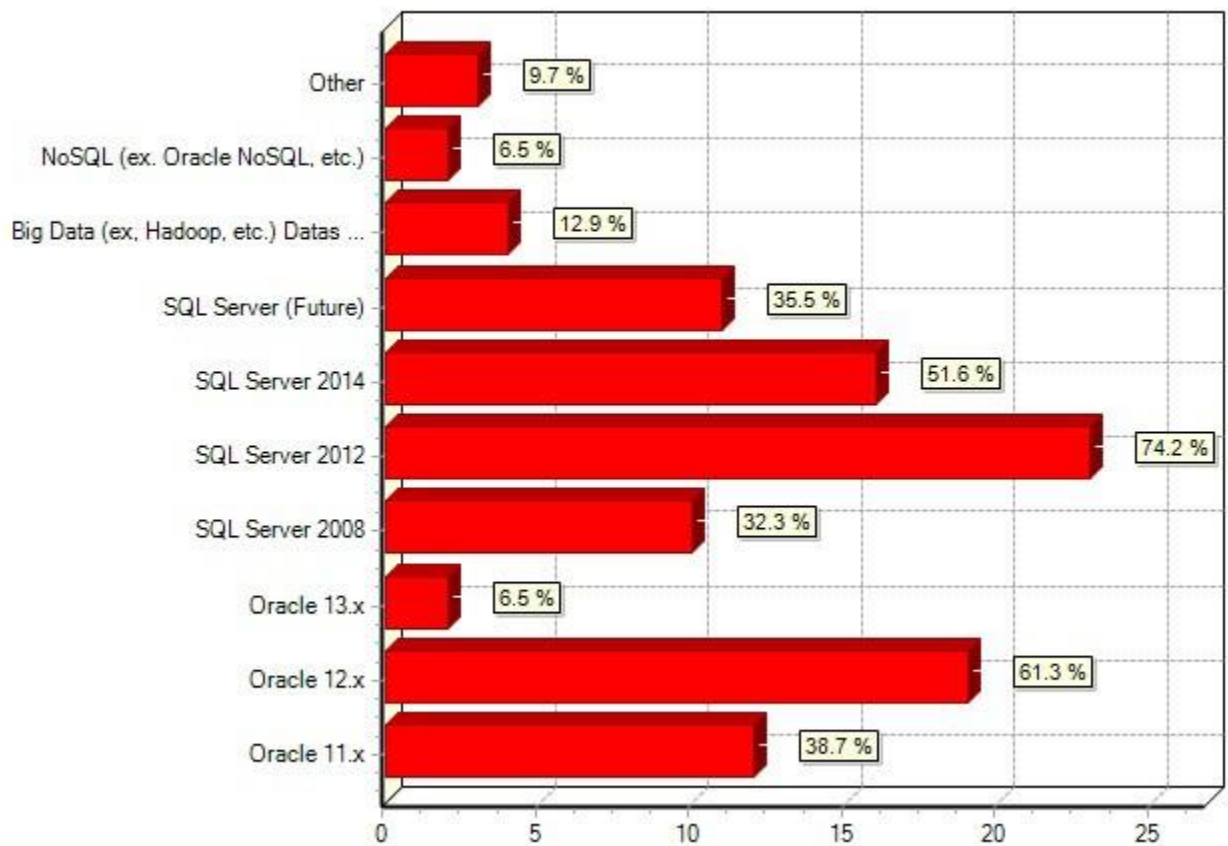
## 22.1) Server databases projected for use and/or support in FY2016



### Comment Responses:

AL	DB/2
NC	Sybase
OH	Sybase ASE, Sybase IQ

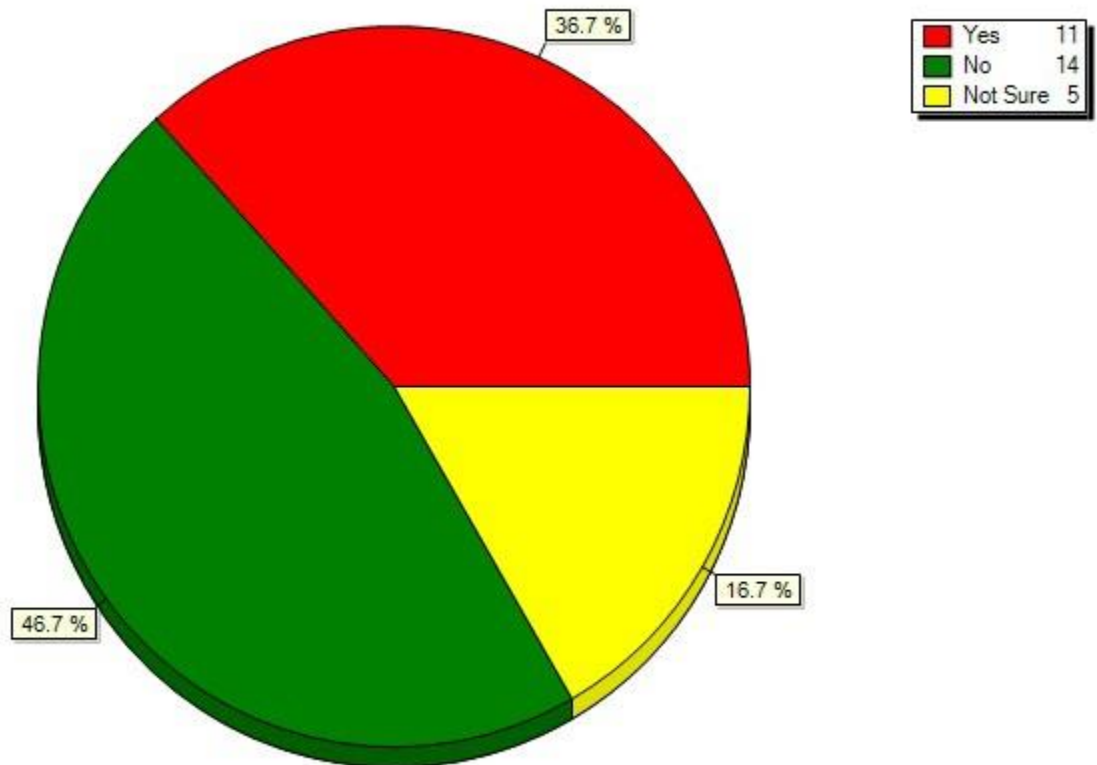
## 22.2) Server databases projected for use and/or support in FY2017



### Comment Responses:

AL	DB/2
NC	Sybase
OH	Sybase ASE, Sybase IQ
UT	Possibly Hadoop at a State level

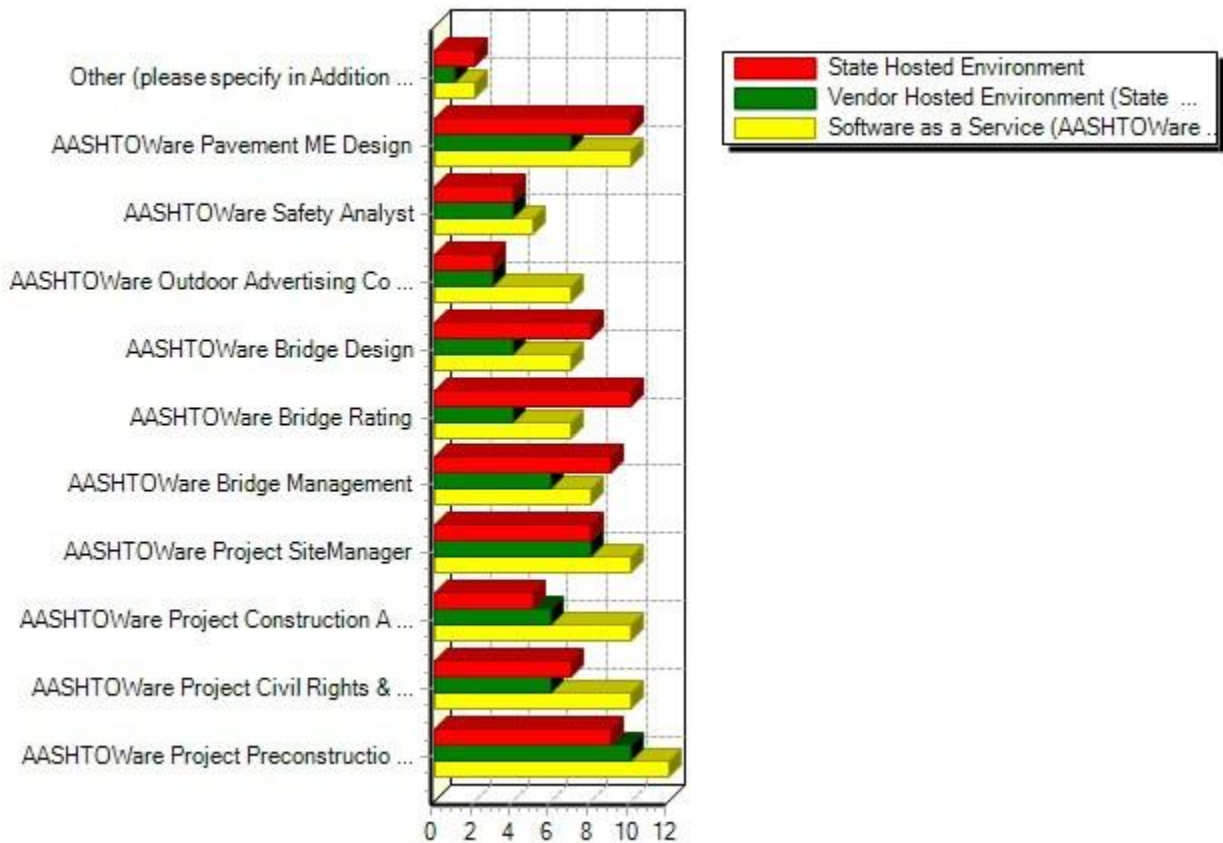
**23) Is your agency linking AASHTOWare product information with your agency's GIS? If so, please include the product name and/or a brief description of the data in Additional comments.**



**Comment Responses:**

FL	Bridge Location data
KY	BrM
MT	Custom Oracle spatial app, ESRI, ArcGIS
NC	Pavement Management System
ND	Bridge Data (display and analysis)
UT	Custom developed
VT	Trns*Port data being mapped with AGO out of new data environment
WA	Safety Analyst

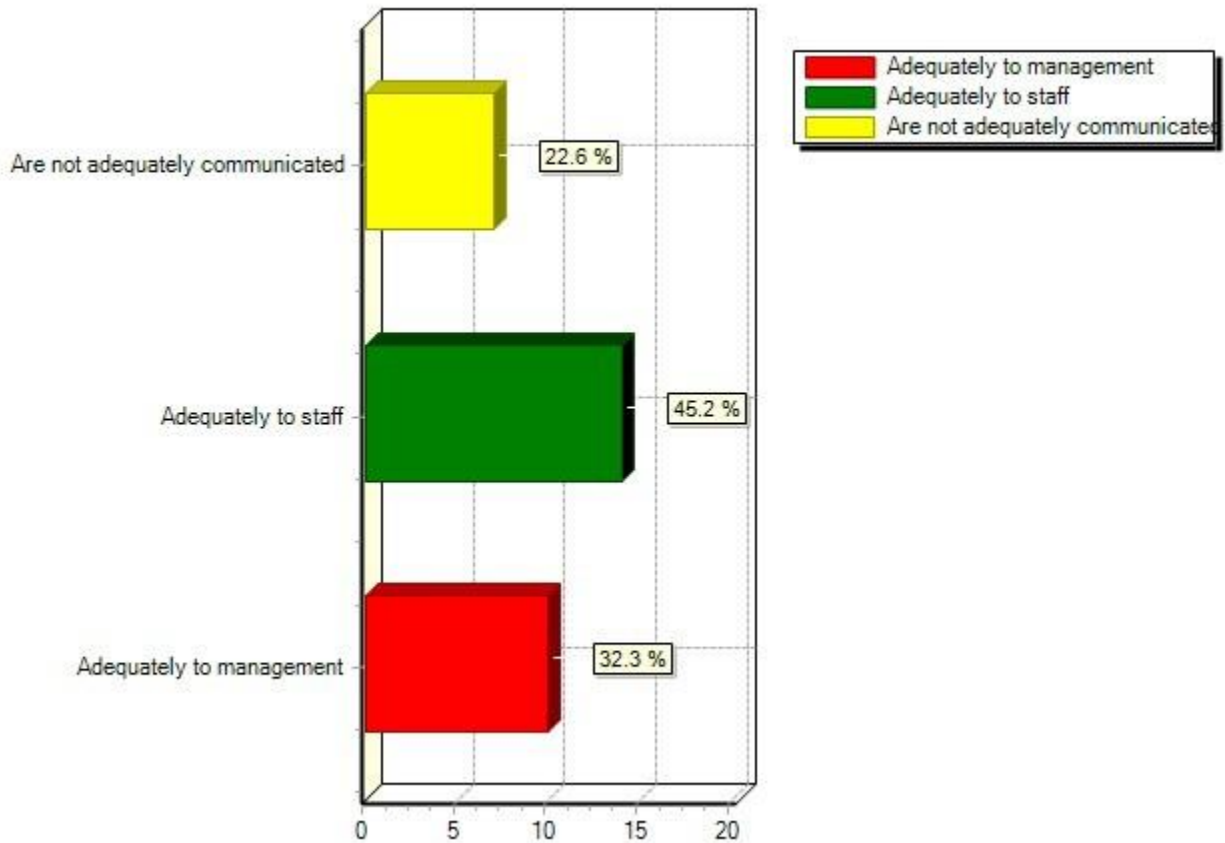
**24) Which of the following products would your transportation agency be interested in using in an externally hosted environment operated by a separate state agency, or an industry vendor/provider, or via a Software as a Service as a licensing option through AASHTOWare?**



**Comment Responses:**

AL	None at this time.
KY	Not at this point in time but have interest
LA	Might be interested in having AASHTOWare Project BAMS / DSS
ND	Expedite - bid express
UT	UTAH's server are centralized, UDOT would consider looking at AASHTOWare SaaS if competitive
WA	In general WSDOT is taking a "cloud first" approach. But each business need and use case varies.

**25) How well does the AASHTOWare organization communicate its products capabilities?**



**Comment Responses:**

FL	Infrastructure technical support is not adequately communicated. Agency technical resources often have to provide their own solution or reach out to other states for help.
KY	Better management outreach
MN	No in communications as contact
NE	I'd like to see more promotion of these products.
NV	I'm not sure the appropriate business units are aware of the capabilities of AASHTOWare products, changes, updates, etc.
OH	Safety analyst is communicated to management staff; all others are communicated to both management and staff

TX	We do not receive any active communication from ASHTO regarding products. If we were to seek information, we would go to the website.
UT	Exposure primarily occurs via the various annual AASHTO meetings
WA	We can do a better job of communicating the opportunity and benefit of AASHTOWare products.

## 26) What distinguishes AASHTOWare products from market competitors?

	<b>What distinguishes AASHTOWare products from market competitors?</b>
AK	Relationship between the software across different steps of project development. The backing power of multiple states to develop new software.
AL	Joint Design/Development by the agency end-users, not what a market competitor thinks that you need.
CO	Nothing. AASHTOWare products tend to be risk adverse and behind the curve.
FL	Vendors contracted by AASHTO (Infotech) adequate staff resources and improvements in response time to call tickets, questions and assistance. The fact that AASHTO is behind these products.
IA	Specific to state DOT's is very advantageous
ID	Lower cost to develop
KS	The relationships with customer agencies.
KY	Agency involvement in setting priorities, designing and testing the applications.
LA	AASHTOWare has a mechanism to allow users to request enhancements and short turnaround time on break fixes.
MB	don't know if there are competitors
ME	Unique relationship with states and transportation specific. Prices seem competitive.
MI	Purpose built for Transportation work
MO	Poor Quality; bugs
MS	Software written BY DOTs for DOTs.
MT	Collaborative development environment and cost efficiency
NC	Input from multiple Transportation entities
ND	input, direction - is completed by multiple internal (State DOT) resources
NV	My experience and the feedback I get from business is that they don't seem to be as robust or configurable as market competitor solutions.
OH	It promotes consistency in processes and procedures among the States. They take users' input and pool expertise in joint development. Pricing model and development are based on a State's need.
TX	We have not done research into how the products compare overall. In general, several market competitors have faster time to market.
UT	AASHTOWare seems to have a good understanding of DOT processes and needs
VT	DOT centric solutions.
WA	DOT focus and FHWA reporting/requirement focused.



**27) From a transportation agency perspective, what specific areas would your agency like to see improved in AASHTOWare product delivery?**

	<b>From a transportation agency perspective, what specific areas would your agency like to see improved in AASHTOWare product delivery?</b>
AK	The process to respond to TMRs is very slow, so the response to agency needs can be difficult. Often times agencies either create business workarounds due to the wait time, or pay to create their own customizations, which then may or may not be available for the entire AASHTO community.
AL	none
CO	Mobility
FL	Products that install and work without a lot of troubleshooting and technical manipulation. Too many installation issues and stability/performance issues. Additionally, some utilities to help migrate from one database to another would be desirable such as a utility to help us move from ORACLE to SQL server. The vendor of BrM is a SQL server shop and admittedly only tests ORACLE after the fact. The performance of the BrM software is notably better on SQL server than on ORACLE, even though the majority of states using BrM use ORACLE. Transitioning from ORACLE to SQL server was time consuming and should have been a provided via a utility by the vendor. AASHTOWare modules and software that transfer data between systems need to work when disparate DBMS' are used (Oracle, SQL Server, DB2). Agency technical resources should not have to do manual workarounds. For example; With AASHTOWare Project Preconstruction in SQL Server and BAMS/DSS in Oracle, "data pull" cannot be used to schedule it automatically, instead we must use the flat file extract and load which cannot be scheduled to run automatically. Performance is very poor for the PrP product. Products are released with too many known defects. Backwards compatibility is lacking; For example, if an agency implements a new product in a different platform, this makes certain processes not work for the other modules. DSS specifically has enormous issues since we implemented PrP.
IA	Needs to be more customization specifically to our processes.
ID	More Web based products
KY	End to end integration- would like to not have to re-enter data. IE. Projects to build or maintain bridges don't update BrM.
LA	AASHTOWare needs to work closer with FHWA on any policy changes, incorporating those changes into the software in a more timely manner.
ME	Reliable and consistent upgrade paths (ie Pontis) that are proven and executable.
MN	Project Delivery
MO	On time delivery; increased quality
MS	Modernized software platforms/interfaces with mobility in mind.
MT	Speed of delivery Web/responsive design Agile Development methodology
NC	Better product documentation (install, use and training)
ND	web-based time to market
NV	More configurable to match business processes for different states.
OH	More mobile apps Integration with GIS capabilities Integration among all AASHTO products An improved reporting and analytics data structure Rapid issue resolution Improved system performance Improved technical installation procedures and documentation
TX	Upgrades need to be performed more quickly.
UT	Consistency in product naming and branding. Emphasis on security protection.
VT	A quicker product life cycle; less time from idea to availability.
WA	With all software...; flexibility and speed of delivery for new functionality.

**28) How can AASHTOWare products evolve to better meet the business and technology needs of the transportation agency?**

	<b>How can AASHTOWare products evolve to better meet the business and technology needs of the transportation agency?</b>
AK	Mobile applications are a rapidly developing area, with many users requesting mobile apps and access to mobile sites. AASHTO has been working in this area, but more work here could really benefit the transportation agencies.
AL	Continue to stay current with the latest trends in technology.
CO	Do more research products
FL	The transition to WEB based products has been painful at best. Since the announcement of moving to web based products from the older client server versions ten years ago, FDOT is still waiting for a useable product to replace PONTIS. In releases to date, either the product didn't contain all necessary features, or the stability and performance were so bad, it made the product unusable. Web Transport has been problematic as well with installation and performance issues. AASHTOWare needs to hold the vendors they hire accountable for poor performing applications. Additionally, the AASHTO Task Force appears to pressure vendors to push out products to meet deadlines when the product is not ready. More thorough testing processes are needed by the vendors prior to product release.
IA	Help up to become more paperless and electronic.
ID	quicker development time, web based etc.
KY	Mobile capabilities need to be expanded. Time to delivery remains a challenge. Testing, particularly regression testing is currently inadequate on many of the modules.
LA	Look at more mobility for the field personnel. AASHTOWare needs to look at other possible areas such as engineering contracts (tracking and rating).
MB	More selection
ME	Reliable and consistent upgrade paths. Continue movement from client to web based architecture. Improve ADA compliance. A pre-built materials testing module to AASHTO standards.
MI	Keeping up with current IT platform and design standards, lagging now please lead.
MS	Maintenance management and asset management software systems.
NC	Work towards mobile enabled applications
ND	Anticipate upcoming (future) trends and use innovative dollars to design, build, and implement to market faster, don't let certain states hold up the progress.
NV	Become a more highly configurable integrated suite of services.
OH	Adhering to standardized processing using best practices of all states Continued joint development Rapid deployment Keep up with technology to provide the best in class programs that in turn will allow us to retain quality resources State the goals you're trying to achieve as you evolve Place emphasis on reporting and analytics Integrate products with LRS for MAP 21 requirements
TX	Need products that are browser and platform agnostic, use modern components, and are easily upgradable to the next version.
UT	Continue to increase making applications accessible via mobile devices and continue to improve security/hacking protection
VT	See above.

**29) Please provide any additional information or comments on this survey, or for a future survey.**

<b>Please provide any additional information or comments on this survey, or for a future survey.</b>	
FL	An accurate description for the complexity of the, less-than-seamless, data transfer procedure is needed. Particularly between AASHTOWare Project PreConstruction in Microsoft SQL to SiteManager Client/Server and BAMS/DSS Client/Server in Oracle. This should be provided to any agency that is planning to utilize this new infrastructure design. BAMS/DSS Data pulls from the PrP CAS Views is now a three step process, requiring extensive manual involvement.
ME	We have an awareness that we have now purchased a product from a vendor who has been selected for Bridge management support. The vendor sells a competing product for bridge inspections.
OH	Thank you!
SD	Shorter would be better

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**FLORIDA DEPARTMENT OF TRANSPORTATION**

**FY2017/18 SCHEDULE IV-B**

**APPENDIX F**

***(WP11-BPA - DELIVERABLE 20 - MARKET SCAN)***

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## SECTION 1 EXECUTIVE SUMMARY

This Market Scan focuses primarily on Federal Billing Reimbursements, included questions on broader Reimbursements (Local, Other Federal, Toll, Grants, and FEMA), and gathered enough broad finance transportation lifecycle related information to set proper context. North Highland used both a survey and interviews to collect and analyze the technology solutions used by Transportation Agencies from other representative states.

### 1.1 MARKET SCAN OBJECTIVES

Market scanning is the acquisition and use of information about events, trends, and relationships in an organization's external environment, the knowledge of which would assist management in planning the organization's future course of action. Organizations scan the environment in order to understand how comparable organizations are currently operating so that they may develop effective responses which secure or improve their position in the future. In the public sector, the market scan is used to understand the particular operating environments, such as technology systems, of comparable government agencies to identify trends and experiences that can improve long-term and short-term planning. The information provided by the market scan can provide insights into potential options and level of effort (resources, cost, etc.) associated with making the required changes to particular aspects of its operating environment such as new application systems.

The particular objectives for FDOT's Reimbursement Market Scan were:

1. Identify the overall technical architecture and application systems that other State DOTs are using to support the Transportation Finance Lifecycle processes;
2. Determine what software systems other State DOTs are using to support Transportation Finance Lifecycle processes and in particular the Federal Reimbursement (such as the FHWA's Federal -Aid Highway Program) process;
3. Conduct market scan survey in conjunction with the American Association of State Highway and Transportation Officials (AASHTO) of member State DOTs to collect general information on their Finance Lifecycle and in particular their federal reimbursement processes and systems.
4. Identify a subset of other State DOTs with particular characteristics (e.g. types of technology solutions, implementation experiences, similar state DOT demographics, etc.) for detailed follow-up based on market scan survey results.
5. Present the market scan findings and trends based on the data collected and analyzed from the other State DOT and in particular their experiences in selecting, implementing, and maintaining their Reimbursement systems for Federal Billing.
6. Where available based on the market scan results, support the development of the Schedule IV-B elements for Federal Reimbursements.



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## 1.2 FLORIDA AND FEDERAL STATUTES & POLICIES PERTAINING TO FEDERAL BILLING REQUIREMENTS

Florida Statutes reference the FDOT Work Program that supports the federal (FHWA) reimbursement process. FDOT's Work Program is a five-year fiscally constrained program of projects. FDOT is responsible for the annual development of the five-year Work Program to meet the mission, goals, and objectives of the Department and the Florida Transportation Plan. A project must be in the Adopted Work Program in order for the department to be able to work on the project. The Florida Statutes that pertain to FDOT's Work Program are 339.135, 334.046 and 339.155. Additional details are provided in the Appendix, Section 6.2.1

There are a number of federal regulations dealing with FHWA's reimbursements to State DOTs. These regulations cover different aspects (i.e. documentation and approvals) from a State DOT receiving authorization for funds and the associated apportionment to processing payments for incurred expenditures. These federal regulations are covered in the United State Code (USC), Federal Authorization Statue, OMB guidelines based on Congressional Appropriations Acts or Continuing Resolution Acts, Public Law, Code of Federal Regulations (CFR) and certain Federal Acts. The particular federal regulations and how they are applied are reflected in the Appendix Section 6.2.2

### 1.2.1 FDOT PROCESSES & POLICIES FOR REIMBURSEMENT (FHWA)

The following are the current FDOT business processes for FHWA reimbursements:

- **Apply Agreement:** Defines the control "structure" for billing federally funded project costs to FHWA. Includes defining categorizations for the lowest level of costs to be billed for a FHWA defined federal project and appropriations and the supporting crosswalks to FDOT financial projects and funding definitions. Also included in the process is the determination of the monetary limit allowed for the billings as well as the maintenance of this limit throughout the life of the project.
- **Classify Cost Allocations:** Processes both FLAIR transactions and FDOT cost transfers that have been designated as federally funded by FDOT's project costing process. This process summarizes the costs by FDOT financial project and funding definitions as well as provides information for FDOT's project costing archive process.
- **Convert Advance Construction (AC) to Regular Federal Funds:** The final step in seeking federal reimbursement for FDOT projects that were initially financed with state funds to begin the project. This process includes the billing eligibility review of potential AC conversions as well as the cost transfer requirements that allows the conversions of state funds to federal funds for billing to FHWA for prior costs.
- **Determine Reimbursement Eligibility:** Calculates the portion of a project eligible for reimbursement from FHWA based on the total "participating" costs allocated to federal funds. Includes accumulating participating, non-participating and billable costs for AC funded projects as well as associated "billing history" for each defined billing period. Also included in the process are the handling of adjusting transactions for federal

projects in the closing process and the "highlighting" of cost exceptions as compared to the authorization timeline.

- **Determine Reimbursement Authorization:** Calculates the amount of eligible costs that can be reimbursed as compared to the monetary limit previously approved by FHWA. The process also tracks amounts available for reimbursement by billing cycle, indirect costs available for billing and addresses "credit" adjustments to correct previously billed amounts from past billing cycles.
- **Generate Reimbursement Request:** Collects the available billing amounts by federal project and appropriation category and produces the request for reimbursement for a specific billing cycle. Detail billing history by billing cycle is maintained, transfer of costs between funds, and billing adjustments based on different federal share percentages for proper billing is included in this process. In addition, the validation and reconciliation for the reimbursement requests and subsequent receipts are included as well as managing the multitude of information requirements and "touch points" for the actual reimbursement activity cycle is maintained.
- **Report and Monitor the expenditure of federal funds:** The activities required to prove adherence to federal regulations and reporting requirements for the expenditures of federal funds. Includes Cash Management Improvement Act (CMIA) calculations to monitor the reimbursement of federal funds in comparison to the approved funds clearance pattern. The process also calculates the annual federal interest liability. In addition, the Schedule of Expenditure of Federal Awards (SEFA) requirements to report all federal expenditures within a specific year is included.

### 1.3 KEY FINDINGS & TRENDS FROM MARKET SCAN

**Use of COTS Solutions:** State DOTs are adopting and implementing COTS solutions to support core financial management (Transportation Finance Lifecycle) including reimbursement processes and functions. 80% of State DOTs (including Texas) use a COTS solution either directly or in conjunction with custom development.

**Business Process Standardization:** State DOTs are adopting consistent business processes that are integrated within COTS solutions and being developed as part of custom developed solutions.

**Limit the Need for Customizations:** A best practice is using the COTS functionality as designed and keep customizations for core financial and operational transactions to a minimum. Utilize the vendor-supplied configuration tools within the COTS package as much as possible, vs. developing custom code to address specific business needs. This may also require a change to the Department's business process.

**Develop Comprehensive Business Requirements:** In general, for both COTS as well as Custom developed solutions, developing and leveraging a comprehensive set of business requirements was key to a successful implementation and adoption of the new system.

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**Focus on Organizational Change Management (OCM):** In nearly every case, OCM played a key role in ensuring a successful implementation.

**Consult with Federal Agencies (i.e. FHWA Resource Center):** To ensure success, several State DOTs chose to consult and work with federal agencies, such as FHWA's Resource Center, as a part of the implementation process especially for federal reimbursements.

**Leveraging Statewide Accounting Systems:** A number of State DOTs are either currently using or will be using the statewide accounting system for certain financial transactions, including the reimbursement process. In these cases, usually the State DOT has been the first agency to be implemented due to the degree of complexity.

**Focus on Data Management and Quality:** The majority of State DOTs are using the implementation of either a COTS and / or Custom solution to enhance the management and quality of their financial data.

---

## SECTION 2 BACKGROUND & APPROACH

### 2.1 MARKET SCAN APPROACH

The following approach was used in conducting the Market Scan for Transportation Finance Lifecycle including Federal Reimbursement System(s):

#### 2.1.1 DEFINE MARKET SCAN FINAL REPORT - DELIVERABLE EXPECTATION DOCUMENT (DED)

Developed the outline for the Market Scan Report and associated content through the WP11-BPA Deliverable Expectation Document (DED) – Deliverable 20 Market Scan. There were several iterations on the DED content which cover general topics on the system environments used by the market (other state DOTs) to support Transportation Finance Lifecycle functions and processes. In addition, there were more detailed topics around the Federal Billings/ Reimbursement process that is part of the Transportation Finance Lifecycle to support potential elements of the Schedule IV-B for the Federal Reimbursement application system replacement.

#### 2.1.2 MARKET RESEARCH – STATE DOT’S REIMBURSEMENT SYSTEMS

Conducted independent market research on general technology trends in the public sector and in particular State DOTs. Sources that were used for research and analysis were:

- General Technology Trends: *Research Sources Gartner and Forrester*
- State DOTs System Environments For Transportation Finance Lifecycle and Federal Reimbursement processes and functions: *Research Sources Federal Highway Administration, American Association of State Highway and Transportation Officials (AASHTO), FDOT’s past studies/research and State DOTs websites*

#### 2.1.3 MARKET SCAN SURVEY – AASHTO SUBCOMMITTEE ON FISCAL MANAGEMENT AND ACCOUNTING

Planned, prepared, and launched the market scan survey through AASHTO using the Subcommittee on Fiscal Management and Accounting as the survey audience. There were several collaborative sessions between the North Highland and FDOT’s core project team on developing the survey background and questions. The vast majority of the questions were structured (i.e. multiple choice) and a few were unstructured (free form written answers). The Market Scan Survey was active from June 15, 2016 and was closed on July 5, 2016 (End of Day), with the following results:

- Members represented 44 State DOTs (including Florida) and other government parties (i.e. FHWA). There may be multiple members per State DOTs (i.e. Mississippi has four members).

- State DOTs not represented on the Subcommittee were Indiana, New York, New Jersey, Oregon, Pennsylvania, and Rhode Island.
- The key audience for the survey were the 43 State DOTs excluding Florida with the following summary results:

SURVEY SUMMARY METRICS	RESULTS
Overall Response Rate (25 State DOT Responses out of 43 State DOTs)	58.1%
Completed Survey Rate (24 out of 25)	96.0%
Effective Response Rate (24 complete surveys out of 43 State DOTs)	55.8%

### Exhibit 2-1: Market Scan Survey Summary

#### 2.1.4 MARKET SCAN SURVEY FOLLOW-UP INTERVIEWS

Based on market research, past FDOT experiences, and survey results, a subset of State DOTs were selected for detailed interviews based on particular characteristics of their Finance Lifecycle/Reimbursement solutions or their experiences in implementing/maintaining their solutions. FDOT will use the information collected during these interviews in exploring the potential technology options in pursuing a replacement of its existing Federal Reimbursement systems. The rationale for these selections were based on the following criteria:

- Comparable demographics (size and level of funding - especially federal)
- Successful use of different technology options (COTS, Custom, and use of state-wide system) to support State DOT operations
- Similar technology environmental challenges (e.g. old mainframe legacy systems) and currently addressing the challenges with newer technology platforms

The following eight State DOTs were selected for follow-up detailed interviews based on the criteria described above, with five State DOTs participating in follow-up interviews (***Interviewed state DOTs are bolded and italicized***):

**Connecticut DOT (CTDOT):** COTS (PeopleSoft with customization), implemented in stages, leverage statewide accounting system (PeopleSoft) and very satisfied with reimbursement solution. **Interview could not be scheduled due to timing conflicts with other projects.**

**Georgia DOT (GDOT):** COTS (PeopleSoft) and Custom (Team Works) solution, extensive integration with statewide system for implementation and maintenance (monthly fee). **Interview could not be scheduled due to year-end financial closing.**

**Illinois DOT (IDOT):** Custom Development (.NET) for transition from mainframe to web based custom applications, implementing new statewide system (similar to DFS' PALM project). **Interview was conducted on July 20, 2016.**

**Kansas DOT (KSDOT):** Custom (WinCPMS) and “very satisfied” with both Finance Lifecycle / Reimbursement solutions. **Interview could not be scheduled due to lack of response from agency.**

**North Carolina DOT (NCDOT):** COTS (SAP) with all Finance Lifecycle/Reimbursement processes and functions done on just one platform system (SAP) with the agency being “very satisfied” with both the Finance Lifecycle and Reimbursement solutions. **Interview was conducted on July 15, 2016.**

**Ohio DOT (ODOT):** Transitioning from multiple mainframe custom applications to a new Finance Lifecycle/Reimbursement COTS (PeopleSoft) solution, with formal RFP process and statewide coordination (similar to PALM). **Interview was conducted on July 22, 2016.**

**Texas DOT (TxDOT):** TxDOT did not complete a market survey and was selected as its considered to have comparable demographics (especially funding) and its Finance Lifecycle/Reimbursement solution are coordinated with the state. **Interview was conducted on July 19, 2016,**

**Virginia DOT (VDOT):** Combination of COTS (PeopleSoft) and Custom (iSYP - .NET) for Finance Lifecycle and only COTS for reimbursement. Agency was focused on minimizing customizations and coordination with state of leveraging statewide system. **Interview was conducted on July 25, 2016.**

Using the survey questions for both the Finance Lifecycle and Reimbursement as a general guide, the follow-up interviews focused on the following areas:

- Transportation Finance Lifecycle:
  - Technology architectures and landscape
  - General Total Cost of Ownership (TCO) for application system platform
  - Level of effort to maintain and extend application system platform
  - Lessons learned from both the implementation and maintenance experiences
- Reimbursement Systems (with emphasis on Federal Reimbursement):
  - Application systems & platform
  - Approach used for implementation
  - Detailed cost breakdown for implementation including software, hardware, and services
  - Approach used for maintenance and enhancements
  - Detailed cost breakdown for maintenance and enhancements including software, hardware, and services
  - Potential fit to FDOT’s general Federal Reimbursement requirements

### **2.1.5 ANALYZE AND DOCUMENT MARKET SCAN RESULTS**

The Market Scan research team:

- Performed analysis of collective results from online market research, survey, and interviews to determine key findings, insights, and trends. Also determined potential next steps for FDOT in the replacement of its application systems that support the Federal Reimbursement process.
- Created a Market Scan Report in accordance with the WPPII-BPA Deliverable Expectation Document (DED) – Deliverable 20 Market Scan using market research, market survey results, and selected State DOT follow-up interview sessions.
- Conducted review sessions with FDOT to finalize the Market Scan report.

## 2.2 CURRENT SITUATION

FDOT is an executive branch agency with primary statutory responsibility to coordinate the planning and development of a safe, viable, and balanced state transportation system serving all regions of the state, and to assure the compatibility of all components, including multimodal facilities. Florida's transportation system includes roadway, air, rail, sea, spaceports, bus transit, and bicycle and pedestrian facilities.

Pursuant to Florida Statute 339.135, the Department is authorized to develop the State's Transportation Adopted Five-Year Work Program. Transportation improvements and activities are planned and built to meet the objectives and priorities of the 2060 Florida Transportation Plan (FTP). The Work Program contains the specific transportation projects and services to be undertaken during each of the next five fiscal years.

The Five-Year Work Program is financed primarily through dedicated transportation revenues. The Legislature approves the Work Program each year, authorizing a commitment budget for the upcoming fiscal year through the General Appropriations Act, and oversees amendments throughout the fiscal year. All transportation projects administered by the Department must be incorporated into the FDOT Work Program. The purpose of the Work Program is to effectively and efficiently administer, on a project-specific basis, Florida's long-term strategic transportation needs.

FDOT is entering into a perfect storm scenario with its Financial Management systems and related business functions due to the combination of increasing system and process complexities, lack of succession planning, and impending external and internal changes which will impact FDOT operations.

For nearly 20 years, the Department expanded its core IT applications to support the \$40B Work Program without adequate enterprise governance and standards. As a result, the systems continued to grow in complexity as new functionality and disparate, oftentimes redundant systems were added. Secondly, few FDOT staff understand the full transportation lifecycle, and those who do, gained this understanding over long, multi-decade careers. Many of these resources are nearing retirement, and the Department is at risk of losing that rich, institutional knowledge which to this point has buoyed FDOT's operations and compensated for the system



deficiencies/inefficiencies. This is true on the business and IT sides of the transportation lifecycle. Finally, the effects of impending external and internal initiatives, such as those presented by the Florida Planning Accounting and Ledger Management (PALM) and FDOT's Reliable, Organized, Accessible Data Sharing (ROADS) initiatives could put the FDOT Work Program at risk.

FDOT is able to operate today because of the talented people who understand the processes and legacy technologies. Soon, the systems and processes will be too complex for staff to effectively manage. This is compounded by the fact that FDOT systems and processes are not conducive for training the next generation of FDOT staff due to the antiquated technology, system work-arounds and lack of standardized training. When key resources leave, it will be too late. The potential for a negative impact and the cost of doing nothing will be high.

Given the complexity and diversity of FDOT's operations, there is no single functional deficiency or technical shortcoming which FDOT can address to resolve all issues. Contrarily, and as expected, there are numerous areas for proactive planning and incremental improvement, like Federal Reimbursements.

### **2.2.1 TRANSPORTATION FINANCE LIFECYCLE**

The Florida Department of Transportation (FDOT) is exploring the possibility of re-engineering existing processes and/or replacing its application system which supports the Transportation Finance Lifecycle. For the purposes of this market scan, the Transportation Finance Lifecycle includes:

- The policy, planning, programming, and implementation of a multi-year work plan and its supporting activities such as funding allocations, project selection and prioritization, project phasing, project budgets, federal and state compliance reporting, production performance, and revenue and expenditure forecasts
- Federal authorization of funding for specific projects with the Federal Highway Administration (FHWA) and other federal partners on behalf of state and local partners
- Management, implementation, and monitoring of the work plan. This may include implementation of individual programs, adjustments to the planned projects and associated contracts (funding mix, schedule or budget), and reporting on monthly/annual performance
- Monitoring of the actual financial commitments of the work plan
- Implementation and management of project cost accounting function
- Coordination of reimbursement activities with the Department's funding partners

The following is a summary overview of the systems that FDOT uses to support the Transportation Finance Lifecycle. Four major subsystems, multiple system interfaces, and ancillary systems making up the environment are as follows: Work Program Administration (WPA), Federal Authorization Management System (FAMS), Project Cost Management (PCM), and Federal Program Management (FPM).

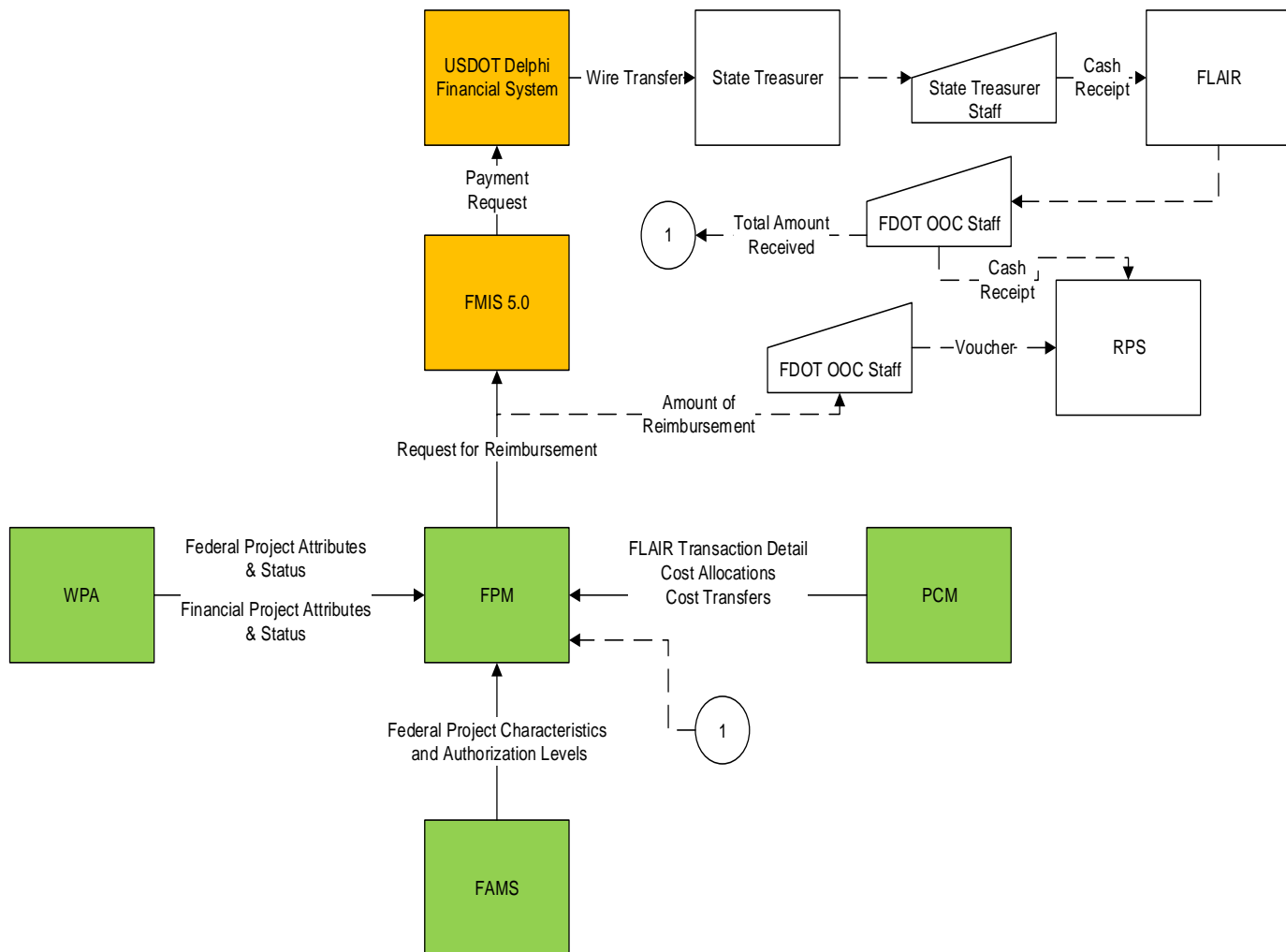


- The WPA subsystem assists in the planning, fund allocation, preparation, scheduling, management, implementation, and tracking of projects making up the five-year work plan. It also supports monitoring adherence to state and federal funding and budgetary constraints, establishing a performance baseline and measuring production performance, and aiding in cash flow and finance plan projections.
- The FAMS subsystem supports electronic transmission of project specific Federal Authorization Requests to FHWA's Fiscal Management Information System (FMIS 5.0) to obtain federal approvals.
- The PCM subsystem supports cost accumulation at the project level, relates expenditures to WPA financial projects and funds, and is the primary interface with the state's accounting system, known as Florida Accounting Information Resource (FLAIR). It enables reconciliations between state accounts and departmental accounts, edits and corrections to transaction data, exception reports, and financial reporting.
- The FPM subsystem supports validation and verification of financial project information for preparation and submission of federal billings related to FHWA through an interface with FMIS 5.0.

### ***2.2.2 FEDERAL PROGRAM MANAGEMENT (FPM) – FEDERAL REIMBURSEMENT***

FDOT is interested in modernizing the Reimbursement process first with a particular focus on the Federal Reimbursement.

The FPM subsystem supports Federal billing, vouchering, mandatory reporting requirements related to the use of federal funds, and generating of the periodic billing for Federal reimbursement from FHWA. FPM also supports management of FDOT's Federal Appropriation Categories (Program Codes in FHWA vernacular) and FDOT's Obligation Authority Categories (Obligation Limitation in FHWA vernacular). FPM also supports the establishment of Federal route IDs and types, and relates Federal Aid Projects to WPA Item Segments. The following is the context diagram of FPM:



**Exhibit 2-2: FPM Context Diagram**

Business functions supported by FPM include:

- Provide code table maintenance for Federal program codes
- Manage Federal Appropriation Categories (Program Codes)
- Manage Obligation Authority Categories (Obligation Limitation)
- Tracks the available balances (obligation balances) that FDOT has in terms of each type of FHWA funding
- Review Federal Authorizations and establish reimbursement limitations
- Manage Federal route IDs
- Relate Federal Aid Projects (Federal project number) to WPA Financial Projects
- Accumulate allocated FLAIR transactions and internal cost transfers
- Review required Advanced Construction (AC) conversions

- Review federal regulations and related guidance to validate costs eligible for reimbursement (i.e. participating vs. non-participating)
- Compare eligible costs to approved federal authorizations
- Generate billing request for federal reimbursement
- Monitor adherence to the Cash Management Improvement Act (CMIA) and provides the basis for mandatory Schedule of Federal Expenditure (SEFA) reporting

The following is a list of system features and functions that are missing from the existing FPM subsystem that should be addressed in the new Reimbursement system:

- It is difficult to determine when a particular transaction actually billed versus when it was considered for billing
- Challenges related to billing control flags on in-house projects
- Controlling billing by specific financial project phases is difficult
- FDOT bills in cents but authorizes in whole dollars. Significant manual processes are necessary to close federal projects and “match” the authorization level
- Difficult to process correcting ‘Revenue’ transactions
- Potential duplication in terms of indirect rates that are “loaded” in FPM and stored in PCM
- Frequent requests for “one shots” complicates billing process including Emergency Relief (ER) projects and for projects with data inconsistencies
- Functionality between screens for obtaining information – due to timing of PCM cost information updates versus the generation of the preliminary and final Federal Bills
- Ability to generate the CMIA Reports from FPM
- The current notification process to FHWA of the completion of federal transportation projects (a.k.a. final voucher process) requires manual intervention to examine those projects that cannot be closed with current system transactions
- Unexpected program results complicate the weekly reconciliation of billing results with source expenditure transactions. Data correction requests are routinely forwarded to our Office of Information Systems (OIS), resulting in required federal project and billing information being corrected without the benefit of existing system controls
- Sequencing of updates of current billable amounts versus life to date billable amounts. In select instances, this causes the processing of “data one-shots”
- Select funding sources (i.e. federal lands) during ER activation require “data one shots” to be properly billed
- Updating of federal project statuses with current billing activity forces the reimbursement of costs in the subsequent billing period and delays the closing of the federal project
- A change in the Federal share percentage during the life of a federal project (for the same federal appropriation category) causes billing issues, subsequent federal project closing issues and “data one shots”
- Disconnect between timing of “closing” Authorization Requests in FAMS and the billing of “closing” transactions in the Federal Bill

- Duplication of data structures maintained in FAMS (i.e. authorization request information) and and summary costing information in PCM
- Numerous manual reconciliation activities required based on detail transaction data not readily available

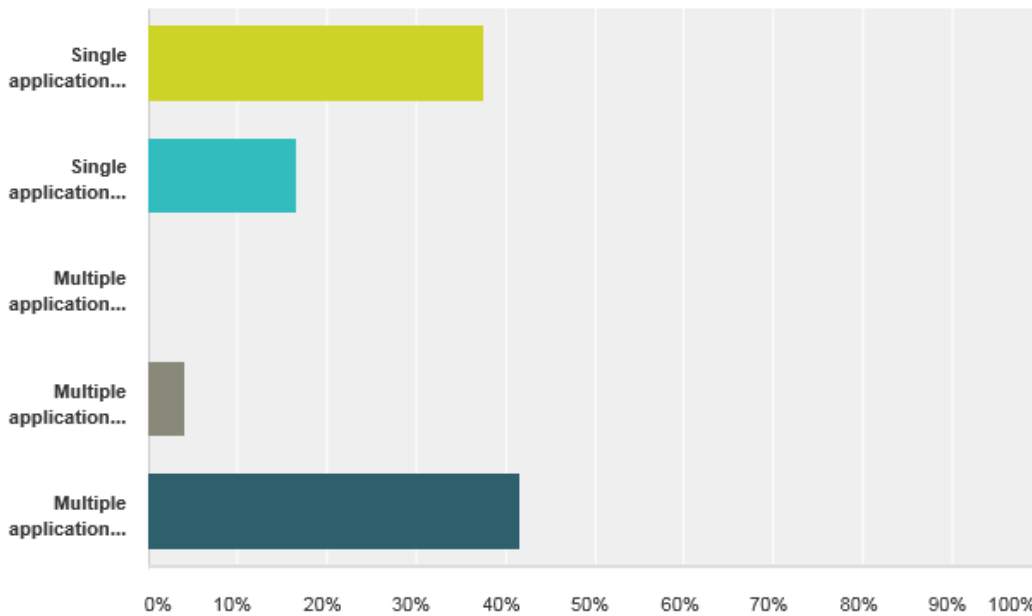
## SECTION 3 MARKET TRENDS & FINDINGS

### 3.1 SUMMARY OF OTHER STATE DOTs INTERACTIONS WITH FEDERAL REIMBURSEMENTS

The data from the Market Scan Survey and follow-up interviews indicated that State DOTs do not use stand-alone systems to support the Reimbursement process including FHWA reimbursements. The Reimbursement process is integrated as part of a larger, integrated Finance Lifecycle system(s) which was based on either COTS or Custom solution or a combination of both.

#### 3.1.1 TYPES OF SYSTEMS THAT SUPPORT FEDERAL REIMBURSEMENT FUNCTION AND PROCESSES

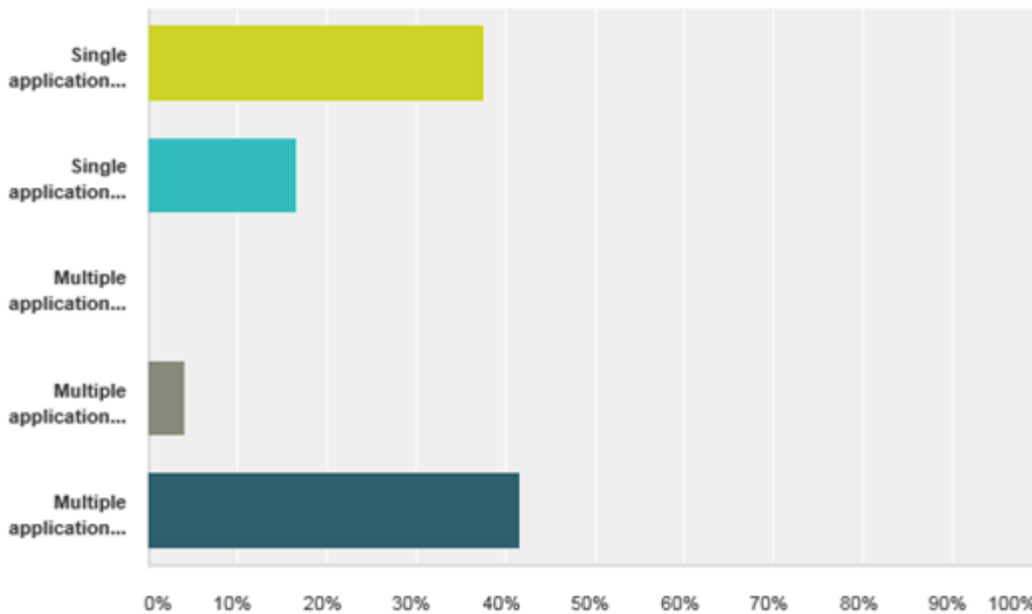
Based on the FDOT Market Scan Survey results as reflected in the chart below, the vast majority of State DOTs (79.16%, 80% if Texas is included) use either a single COTS system (37.50%, 40% if Texas is included) or a combination of COTS and Custom systems (41.67%, 40% if Texas is included) to support their overall reimbursement processes and associated functions. The technical platforms that were mentioned to support the reimbursement process ranged from legacy mainframe custom systems, major ERP systems (SAP, Oracle/PeopleSoft and CGI – Advantage), and newer web-based technologies. The implementation and maintenance costs for reimbursement systems was a challenge to discern as most of the reimbursement functions were embedded in the COTS (i.e. ERP) solution which covered additional business processes beyond just reimbursements.



ANSWER CHOICES	RESPONSES
Single application system - COTS	37.50% 9
Single application system - Custom	16.67% 4
Multiple application systems - COTS	0.00% 0
Multiple application systems - Custom	4.17% 1
Multiple application systems - Combination of COTS & Custom	41.67% 10
<b>Total</b>	<b>24</b>

**Exhibit 3-1: Market Scan Survey Summary: Type of Reimbursement Systems**

As expected, the majority of State DOTs using COTS required customization (70%), as reflected in the chart below, to align the COTS solution to their reimbursement processes. The customizations varied from extensive for reporting and certain agency needs to minimal customizations for data changes like FMIS 5.0.



ANSWER CHOICES	RESPONSES	
Yes	70.00%	14
No	20.00%	4
Unsure	10.00%	2
<b>Total</b>		<b>20</b>

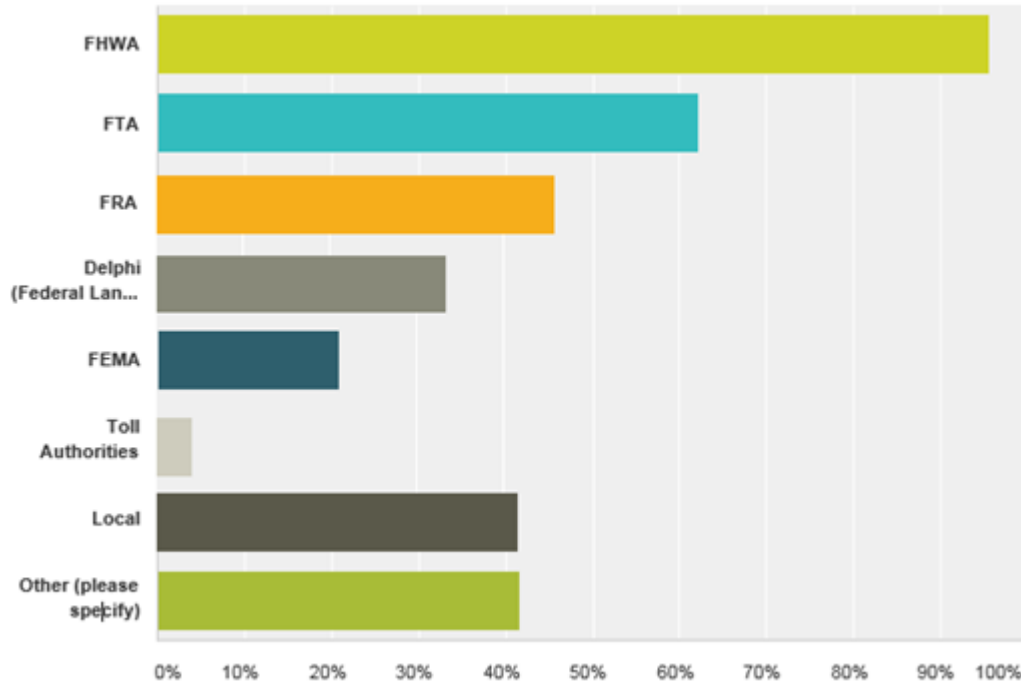
**Exhibit 3-2: Market Scan Survey Summary: COTS Reimbursement Systems Customization**

### 3.1.2 STATE DOT'S HANDLING DIFFERENT FEDERAL REIMBURSEMENT FUNDING SOURCES

Results for the Market Scan Survey indicate that the majority of State DOT reimbursement systems (66.87%) handle all reimbursements (federal, local, and others) from the appropriate funding partners. In addition, the FDOT Market Scan Survey also reflected that almost all State DOTs reimbursement systems (95.83%) accommodated Federal Highway Administration (FHWA) reimbursements as noted below. In addition, certain State DOT reimbursement systems address the following federal reimbursement sources:

- Federal Transit Administration – FTA (62.50%)
- Federal Railroad Administration – FRA (45.83%)
- Federal Emergency Management Agency – FEMA (20.83%)
- Federal Aviation Administration (in “Other” Responses) – FAA (20.83%)

- National Highway Traffic Safety Administration (in “Other” Responses) – NHTSA (8.33%)



ANSWER CHOICES	RESPONSES	
FHWA	95.83%	23
FTA	62.50%	15
FRA	45.83%	11
Delphi (Federal Land Reimbursements)	33.33%	8
FEMA	20.83%	5
Toll Authorities	4.17%	1
Local	41.67%	10
Other (please specify)	41.67%	10
<b>Total</b>		<b>24*</b>

\*Respondents could select multiple answers for this question

### Exhibit 3-3: Market Scan Survey Summary: Reimbursement Funding Sources

The State DOTs reimbursement systems noted in the survey range from just addressing FHWA reimbursements (5 of 24 = 20.83%) to handling all major federal reimbursements that FDOT is interested in (FHWA, FTA, FRA & FEMA ) which were four State DOTs (4 of 24 = 16.66%). The number of State DOTs that were able to handle Delphi (US Department of Transportation e-invoicing system) transactions were eight (8 of 24 = 33.33%). The number of State DOT reimbursement systems that handled both the major federal reimbursements and Delphi transaction were two (2 of 24 = 8.33%).

### 3.1.3 STATE DOTs SATISFACTION WITH SYSTEMS FOR FEDERAL REIMBURSEMENTS

The majority of State DOT (58.33%) are either “Very Satisfied” (25.00%) or “Satisfied” (33.33%) with their reimbursement systems as noted in the survey results below.

VERY UNSATISFIED	UNSATISFIED	SOMEWHAT UNSATISFIED	SOMEWHAT SATISFIED	SATISFIED	VERY SATISFIED	WEIGHTED AVERAGE
0.00%	4.17%	12.50%	25.00%	33.33%	25.00%	--
0	1	3	6	8	6	4.57

**Exhibit 3-4: Market Scan Survey Summary: Quality of System(s) For Federal Reimbursement**

VERY SATISFIED	SATISFIED
Connecticut DOT (COTS - PeopleSoft)	California DOT (COTS – CGI Advantage)
Kansas DOT (Custom)	Georgia DOT (COTS – Team Works / PeopleSoft)
Louisiana DOT (COTS - SAP)	Maine DOT (Custom)
Maryland DOT (Custom)	Michigan DOT (Custom)*
Mississippi DOT (COTS – Not Disclosed)	<b>Ohio DOT (Custom)*</b>
<b>North Carolina DOT (COTS - SAP)</b>	South Dakota DOT (COTS – Great Plains)
	Vermont DOT (COTS - PeopleSoft)
	<b>Virginia DOT (COTS – PeopleSoft)</b>

\*Transitioning to COTS

**Exhibit 3-5: Market Scan Survey Summary: State DOTs “Very Satisfied” or “Satisfied” with Reimbursement System(s)**

It should be noted that **Texas DOT (COTS - PeopleSoft)** which did not complete a Market Scan Survey, indicated in the Market Scan Interview that they were “Very Satisfied” with its Reimbursement system(s).

These numbers, including Texas DOT, reflected that the majority of these survey respondents (10 of 15 = 66.67%) had a COTS reimbursement solution, with the remaining State DOTs having a Custom reimbursement solution (5 of 15 = 33.33%). The COTS reimbursement system solution was usually part of a larger ERP implementation for an agency-wide or statewide system. It should also be noted that the COTS solutions were also used to support the broader Transportation Finance Lifecycle processes as well which included a number of business processes outside of just the reimbursement process. There also appears to be a trend of the larger State DOTs (based on demographics) towards the COTS solution. The breakdown of COTS reimbursement solutions from the State DOTs respondents were:

- Oracle / PeopleSoft (5 of 10 = 50.00%)



- SAP (2 of 10 = 20.00%)
- CGI – Advantage (1 of 10 = 10.00%)
- Great Plains (1 of 10 = 10.00%)
- Not Disclosed (1 of 10 = 10.00%)

The Custom reimbursement solutions were a combination of older legacy mainframe systems and newer custom development technology platforms. Also as noted above, two State DOTs (Michigan & Ohio) currently have legacy mainframe systems and plan to transition to a COTS solution over the next few years.

### **3.1.4 STATE DOT'S ABILITY TO ACCOMMODATE FEDERAL REIMBURSEMENT REQUIREMENTS**

The Market Scan Survey requested feedback from the State DOTs on how well their reimbursement systems addressed certain Federal Reimbursement requirements as defined by FDOT. The Federal Reimbursement requirements used for the Market Scan Survey as questions were:

- **R1:** Does the Reimbursement system(s) manage Obligation Authority Categories (Obligation Limitation) at the Program Level?
- **R2:** Does the Reimbursement system(s) support the review of Federal Authorizations and establish reimbursement limitations at the Project Level?
- **R3:** Does the Reimbursement system(s) support Advanced Construction (AC) conversions?
- **R4:** Does the Reimbursement system(s) support classification of costs eligible for reimbursement (i.e. participating vs. non- participating)?
- **R5:** Does the Reimbursement system(s) determine maximum amount to be billed based on approved federal authorizations?
- **R6:** Does the Reimbursement system(s) interface with FHWA to generate billing requests for federal reimbursement?
- **R7:** Does the Reimbursement system(s) provide information to monitor adherence to the Cash Management Improvement Act (CMIA) and generate CMIA Reports?
- **R8:** Does the Reimbursement system(s) support the ability to define billing cycle frequency (daily vs weekly)?
- **R9:** Does the Reimbursement system(s) provide flexibility to manage multiple Federal share percentages during the life of a federal project?
- **R10:** Does the Reimbursement system(s) provide ability to tie expenditures to reimbursements by projects?

The survey results as noted in the chart below indicate that there were two State DOTs (2 of 24 = 8.33%) where their reimbursement systems met all the stated Federal Reimbursement

requirements and five State DOTs (6 of 24 = 25.00%) reimbursement systems that met 9 out of 10 Federal Reimbursement requirements.

It should be noted that **Texas DOT** met 9 out of 10 Federal Reimbursement requirements.

<b>STATE DOT - # OF REQUIREMENTS MET</b>	<b>R1</b>	<b>R2</b>	<b>R3</b>	<b>R4</b>	<b>R5</b>	<b>R6</b>	<b>R7</b>	<b>R8</b>	<b>R9</b>	<b>R10</b>
<b>Alaska DOT - No Response</b>										
<b>Arizona DOT (ADOT) - 8</b>		X	X	X	X	X	X	X		X
<b>California DOT (Caltrans) - 7</b>			X		X	X	X	X	X	X
<b>Connecticut DOT (CTDOT) - 9</b>		X	X	X	X	X	X	X	X	X
<b>Delaware DOT (DelDOT) - 7</b>			X	X	X	X		X	X	X
<b>Georgia DOT (GDOT) - 7</b>		X	X		X	X		X	X	X
<b>Illinois DOT (IDOT) - 7</b>		X	X	X	X	X		X		X
<b>Iowa DOT - 9</b>		X	X	X	X	X	X	X	X	X
<b>Kansas DOT (KSDOT) - 9</b>	X	X	X	X	X		X	X	X	X
<b>Kentucky Transportation Cabinet (KYTC) - 9</b>		X	X	X	X	X	X	X	X	X
<b>Louisiana DOT (LA DOT) - 10</b>	X	X	X	X	X	X	X	X	X	X
<b>Maine DOT - 8</b>		X	X	X	X	X		X	X	X
<b>Maryland DOT (MDOT) - 9</b>		X	X	X	X	X	X	X	X	X
<b>Michigan DOT (MDOT) - 3</b>			X			X		X		
<b>Mississippi DOT (MDOT) - 8</b>	X	X	X	X	X	X		X	X	
<b>Missouri DOT (MoDOT) - 7</b>			X	X	X	X	X	X		X
<b>Montana DOT (MDT) - 4</b>			X	X	X	X				
<b>Nevada DOT (NDOT) - 8</b>		X	X	X	X	X		X	X	X
<b>North Carolina DOT (NC DOT) - 10</b>	X	X	X	X	X	X	X	X	X	X
<b>Ohio DOT (ODOT) - 8</b>	X	X	X	X	X	X		X	X	
<b>Oklahoma DOT (ODOT) - 6</b>		X	X	X	X	X			X	
<b>South Dakota DOT (SD DOT) - 8</b>	X	X	X	X	X		X		X	X
<b>Vermont Agency of Transportation (VTrans) - 8</b>	X	X	X	X	X			X	X	X
<b>Virginia DOT (VDOT) - 9</b>		X	X	X	X	X	X	X	X	X

**Exhibit 3-6: Market Scan Survey Summary: Scoring on Federal Reimbursement Requirements**

The two State DOTs that met all the stated Federal Reimbursement requirements both use a COTS solution (SAP) and that the six State DOTs that met 9 out of 10 requirements were evenly split between COTS (PeopleSoft) and Custom reimbursement solution. There is one of the Custom State DOTs (Iowa) which is planning to go to a COTS solution in the near future.

## 3.2 COMPARABLE STATE DOTs TECHNOLOGY ENVIRONMENTS

### 3.2.1 MARKET SCAN SURVEY

The Market Scan Survey contained a question regarding the technical platform of the systems supporting the Transportation Finance Lifecycle processes and functions. From the 24 survey responses and the Texas DOT interview, there were 21 State DOT's responding to this question with the following results in the table below.

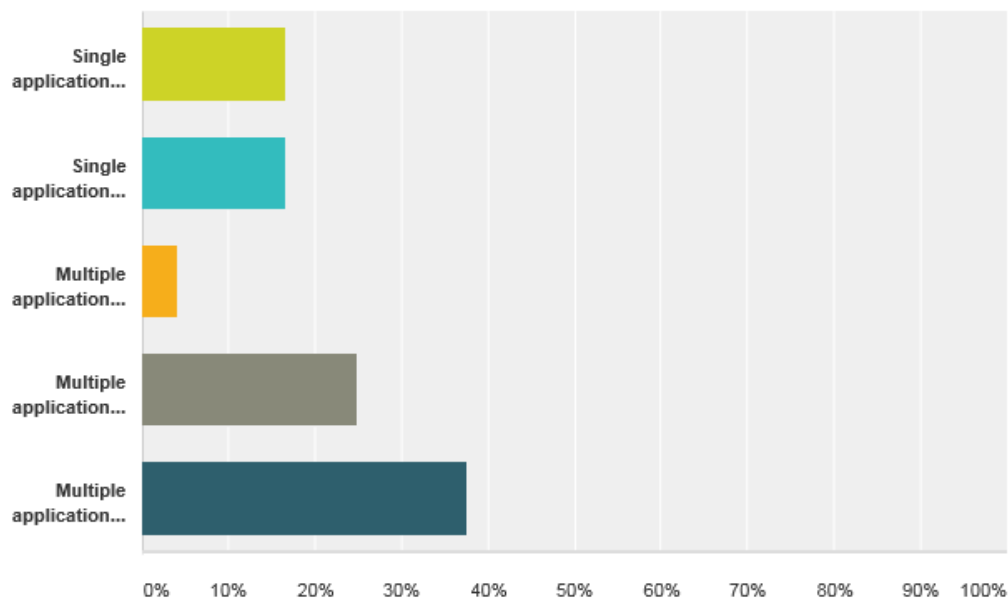
STATE DOT/TRANSPORTATION AGENCY	TECHNICAL PLATFORM
Alaska - DOT	CGI- VMWare, Windows Server, Oracle DB
California DOT	Oracle
Connecticut DOT	Oracle/PeopleSoft +++
<b>Illinois DOT</b>	Transitioning from mainframe to web based (Currently on an old mainframe system going to a web-based system (.NET). IDOT is developing .NET internally.)
Iowa DOT	IDMS
Kansas DOT	SQL Server
Kentucky Transportation Cabinet	AMS packed system
Louisiana DOT	SAP ERP with customizations
Maine DOT	Oracle / PL-SQL, JQuery, Twitter Bootstrap
Maryland DOT	COBOL / DB2
Michigan DOT	Java / Oracle
Mississippi DOT	Oracle Database, Sun OS for C++ posting engine, and Sybase PowerBuilder Front-end
Missouri DOT	Don't Know
<b>North Carolina DOT</b>	SAP ERP (ECC 6 version): NCDOT is in the process of transitioning some its technical operating components such as Databases (Oracle to DB2) and Operating System (Sun Solaris to IBM-AIX) which should be completed by September, 2016.
Nevada DOT	Advantage / FS
<b>Ohio DOT</b>	Java / Sybase (Current Systems: Oracle / Windows 2008 r2 & Future System: PeopleSoft 9.2: OS - Oracle Enterprise Linux x86-64 & Database - Oracle 12c)
Oklahoma DOT	Multiple platforms
South Dakota DOT	Windows Server, Citrix & .NET
<b>Texas DOT</b>	Database (Oracle), Operating System (Windows servers/Lynx servers), PeopleSoft 9.2 (TxDOT has its own instance)
Vermont Agency of Transportation	Unsure
<b>Virginia DOT</b>	The iSYP suite is run on a SQLServer Database that utilizes Microsoft Web Platform, ASP, and .NET technologies. Planning to move more functionality to state-wide PeopleSoft accounting system (Cardinal)

**Exhibit 3-7: Market Scan Survey Summary: State DOTs Technical Platform**

As reflected in preceding responses, there are a variety of technical platforms from COTS platforms (SAP, PeopleSoft, CGI – AMS Advantage, Great Plains, etc.), legacy mainframe environments (COBOL, DB2, IDMS, etc.) to newer development platforms with Oracle, Sybase or SQLServer databases, and development technologies such as Java and .Net.

Due to the expanding challenges of trying to maintain and modify legacy mainframe environments, there is a definite trend by State DOTs to transition to either a COTS solution for larger State DOTs or to newer development technology platforms for Custom solution by smaller State DOTs.

The following chart and table provides the breakdown of the type of system(s) (e.g. Custom or Commercial off the Shelf - COTS) that State DOTs use to perform the Transportation Finance Lifecycle functions and processes.



ANSWER CHOICES	RESPONSES
Single application system - COTS	16.67% 4
Single application system - Custom	16.67% 4
Multiple application systems - COTS	4.17% 1
Multiple application systems - Custom	25.00% 6
Multiple application systems - Combination of COTS & Custom	37.50% 9
<b>Total</b>	<b>24</b>

**Exhibit 3-8: Market Scan Survey: Types of State DOTs Finance Lifecycle System(s)**

The Market Scan Survey also highlighted if the State DOT was satisfied with the system(s) that support the Transportation Finance Lifecycle as illustrated in the table (Exhibit x-x) below:

VERY UNSATISFIED	UNSATISFIED	SOMEWHAT UNSATISFIED	SOMEWHAT SATISFIED	SATISFIED	VERY SATISFIED	WEIGHTED AVERAGE
0.00%	8.33%	12.50%	29.17%	20.83%	29.17%	--
0	2	3	7	5	7	4.5

VERY SATISFIED	SATISFIED
Kansas DOT	Arizona DOT
Kentucky DOT	Michigan DOT
Louisiana DOT	<b>Ohio DOT</b>
Maine DOT	South Dakota DOT
Maryland DOT	Vermont DOT
Mississippi DOT	
<b>North Carolina DOT</b>	
<b>Texas DOT*</b>	

**Exhibit 3-9: Market Scan Survey: State DOTs Satisfaction with Finance Lifecycle System(s)**

\* It should be noted that **Texas DOT** did not complete a Market Scan Survey and they indicated in the Market Scan Interview that they were “Very Satisfied” with its Finance Lifecycle system(s).

**3.2.2 MARKET SCAN INTERVIEW**

The following State DOTs were selected for follow-up interviews:

- **Illinois (IDOT):** In a similar situation to FDOT as the agency is transitioning from a legacy mainframe system to web based technologies for custom development to support Transportation Finance Lifecycle processes. The state is in the process of transitioning to a new statewide accounting system which needs to interface with the IDOT system(s), which is similar to DFS’ PALM initiative.
- **North Carolina (NCDOT):** Agency is very satisfied with its COTS (SAP) system in supporting the Transportation Finance Lifecycle processes and the reimbursement process. The agency also has high scores in its responses in supporting the reimbursement process and meeting federal reimbursement requirements.
- **Ohio (ODOT):** In a similar situation to FDOT as the agency is transitioning from a legacy mainframe system to a new technology solution to support the Transportation Finance Lifecycle processes.

- **Texas (TxDOT):** Did not participate in the Market Scan Survey and was selected based on similar demographics to Florida and has worked well with FDOT in the past on similar efforts.
- **Virginia (VDOT):** Using combination of COTS (PeopleSoft) and Custom developed applications (iSYP) in a cost effective manner (Implementation: \$800,000 & Maintenance: \$585,000). The agency attempts to minimize customizations which FDOT is interested in as well.

#### ILLINOIS (IDOT) – MARKET SCAN INTERVIEWS

IDOT has four systems for Lifecycle systems originally built in 70s & 80s. Planning system, Project Cost (not replacing that now), Federal Aid Management System, and FPM that produces the federal bill are being combined into a new system. Only FPM, the tracking and billing system is being replaced, not the project costing or financial system.

Illinois has a statewide accounting system (AIS) that all state agencies interface with, including IDOT. The state of Illinois is in the process of implementing a new SAP accounting system and deploying it for all state agencies. IDOT will continue to use FOA IDOT's custom internal accounting system, known as FOA, until the state fully implements SAP. FOA currently interfaces with AIS. The new custom FPM systems will go live before the statewide SAP system goes live.

The current FPM system is an old mainframe system and IDOT will be going to a web-based system (.NET). The intended go live for the new system is 2017-2018. IDOT is developing the new system internally with a .NET web-based front end and a SQL Sever backend database.

Planning and requirements gathering for 2.5 years and currently in the development stage. Performed an RFI to see what is out there and decided to do a custom solution in house. A year's worth of meetings with anyone who would be involved with the new system/process, looking for ways to improve manual process, documented which systems are being integrated, etc. Engage the FHWA resource center for the project which provided IDOT with many documents including requirements.

Number of users for all of the modules: Roughly 100 actual input uses, several more have read-only rights. Number of members on the resources team: ECM, ELM (systems for bids and awards) rewrite (10 staff), billing system (10 staff), planning system (6 staff). Teams are resourced from Business Information Processing. Using a staged approach in the replacement of the mainframe systems (i.e. Project Costing). Data Conversion will be part of their go live. Elimination of duplication of information. Trying to come up with a single source of information.

The new custom (.NET) FPM system will handle all federal reimbursements except FEMA which is done manually.

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## NORTH CAROLINA – MARKET SCAN INTERVIEW

NCDOT has used a COTS solution (SAP Enterprise Wide System) for the past 15 years for all of its Finance Lifecycle functions except for Cash Forecasting with approximately 4,000 internal users and 5,000 external users. NCDOT utilizes multiple systems to track projects through the “planning stages”. Once a project is approved to be on their STIP, it is entered into the SAP application. At this point, the project includes high-level funding and schedule information. They track projects at the lowest level using Work Breakdown Structure. Once the funding is established on the WBS, a project is released for expenditure. When they start spending the funds, it can be tracked back to the project. NCDOT has the largest WBS structure on SAP.

- Funds Management Module - Tracks funding at three levels. Funds are transferred down (allocated) from the high-level (Legislative defined level), the middle-level was tied to the budget, and the detailed-level which is connected to WBS and billed to FHWA at this level.
- Federal Authorization Management – NCDOT Project Funding Control Data (Project Execution Date, Agreement Date, Agreement ID, Project Type). This module was customized during the original implementation and is still maintained today.

NCDOT has upgraded SAP over the years to the most current release (ECC 6) and use Business Warehouse for most of their reporting needs. SAP Services supported the implementation (Design, Development, and Deployment) for three years and worked closely with NCDOT to develop their public sector offering. There was six months of on-site support following implementation. SAP continues to work very closely with NCDOT on maintaining their systems. NCDOT is in the process of transitioning some its technical operating components such as Databases (Oracle to DB2) and Operating System (Sun Solaris to IBM-AIX) which should be completed by September 2016. There are 63 FTEs (mix of internal staff and contactors) who support all aspects of the Finance Lifecycle systems including SAP and all other systems.

NCDOT conducted both an RFI and RFP in the selection of SAP in 2000 which also included all the major COTS vendors (Oracle, PeopleSoft, etc.). SAP addressed most of their stated business requirements (NCDOT indicated that they would be willing to share the requirements document from the selection). They currently use the following SAP modules: Financial Accounting, Grants Management, Federal Aid, Fund Accounting, Project Accounting, Procurement, Maintenance, Contract Management, Time Entry, FHWA Reimbursement, and Business Warehouse.

NCDOT’s reimbursements handled through Finance Lifecycle system (reimbursements are part of the integrated SAP platform) include the following federal reimbursement sources: FHWA, FTA, FRA, FEMA, FAA, and NHTSA and also Local reimbursements. NCDOT runs a nightly batch process, similar to FDOTs cost allocation, called the splitting process. This allows them to apply actual cost back to projects based on the funding percentages. NCDOT’s system allows them to track billing to the invoice level. NCDOT uses an SAP Customer Relationship Management (CRM) system to manage pass through funding like FTA, Rail, etc. This system integrates with their other SAP platforms.



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## OHIO (ODOT) – MARKET SCAN INTERVIEW

The Ohio Department of Transportation (ODOT) is the lead State-level agency for planning and executing the transportation program for the State of Ohio, including highways, public transit, and aviation. ODOT is one of the State of Ohio's largest agencies, with a capital budget of \$2.3 billion and an operating budget on the order of \$700 million. It is divided into 12 district offices throughout the State with numerous county-level offices within each district. ODOT currently has approximately 5,000 employees and has undergone significant down-sizing since the mid-1990s.

It was the conclusion of the State of Ohio that ODOT will implement an enhanced operating environment that leverages the State's existing investments in the OAKS system (PeopleSoft) which includes implementing additional PeopleSoft modules and interfaces to existing modules as well as other software enhancements to address ODOT's business requirements. OAKS, at a minimum, will require an expansion of functionality to support ODOT in the areas of project management, grant management, contract management, and Federal Highway Administration (FHWA) billing. ODOT concluded that utilizing an enhanced OAKS system, hereinafter called OAKSenterprise, to support ODOT could potentially provide significant benefits to ODOT.

The current OAKS integration capability must be enhanced or extended as required to provide the aforementioned FHWA linkages, as well as grants management, project accounting, inventory management, and inventory integration with ODOT's AgileAssets Equipment and Inventory Management (EIMS) application and contracts management, vendor portals and other requirements as described in this Supplement and as identified during the discovery and design phases of this Project.

ODOT will either upgrade or replace the existing Capital Program Management System (CPMS) components which support planning for, managing, and monitoring of the execution of the overall ODOT capital program and a new Capital Project Delivery System (CPDS) component which provides tools for managing the individual projects within the program and the selection, management, oversight, and administration of engineering, planning, and research consultants performing work on specific projects within the ODOT capital program. In terms of CPMS, the goal is to evaluate alternatives for either upgrading or fully replacing the functionality currently provided by ODOT's existing capital program management system known as Ellis.

ODOT is doing this project internally. ODOT worked with the state to select IBM as the implementer. The state selected PeopleSoft, with a 17 month implementation timeline. eVision Partners helped ODOT get the RFP out with 3700 business requirements. The cost of \$32.9M included HR, facility, capital program requirements, etc. Because the cost only includes labor, as ODOT has pPeoplesoft modules already in place, the cost of implementation is potentially low.

To satisfy the ODOT requirements for Federal Billing, the current OAKS billing functionality must be extended to include the implementation of functionality already in Current Billing and

to enable ODOT to collect reimbursement costs associated with projects that receive federal aid, including:

- Aggregation of project related expenditures from OAKS FIN;
- Aggregation of PID-related labor charges from ODOT's AgileAssets (EIMS);
- Establishment of an overhead rate to be applied to labor charges based upon phase of work;
- Establishment of a priority structure for billing federal funds (billing most restrictive funds first);
- Manage and process Emergency Projects including reporting and analysis separately
- Integration with federal authorization functionality to auto-generate the control ledger structure (i.e. phase authorizations for billing charges) and update the fund code limits (i.e. advance construction, amounts obligated by fund code).

ODOT will evaluate potential capabilities within OAKS utilizing both current and potential PeopleSoft modules and the ODOT Federal Program Management application under development and recommend the most appropriate approach to enable ODOT to manage Federal Authorizations. Required capabilities of Federal Authorizations include: Workflow that allows for an authorization to be initiated within the federal program management system, electronically communicated to FMIS, and routed back to the federal program management system once approved within FMIS workflow that allows for an authorization to be initiated within the federal program management system, electronically communicated to FMIS, and routed back to the federal program management system once approved within FMIS.

ODOT can perform daily billing to FHWA, but it could be every other day based on staff availability.

#### TEXAS (TXDOT) – MARKET SCAN INTERVIEW

TxDOT uses statewide account structure and has its own instance of PeopleSoft with TxDOT's customizations which also interfaces with the state accounting system. The state system uses a legacy mainframe system USAS to handle treasury information. There is a nightly data batch to the state system. The annual work program is estimated at 6,000 to 7,000 projects. Before a project can be set up, finance sends over information from FMIS 5.0, flows to FAFOS (Federal Authorization System), and then it gets updated into Designed Construction Information System (DCIS). Letting approval process gets authorized in DCIS over to project costing. The project is then activated. After that, the project can accumulate expenditures. Costs come from Accounts Payable (site manager. capital construction cost, field module (PeopleSoft), payroll, etc.).

Costs are distributed through distribution process based on how project is set up, and then interfaced into billing module. PeopleSoft Pricing Module sends contract limits from the Contract Module and will only allow reimbursement to the authorized amount otherwise the module flags it as an override. Ideally, contract limits would agree to the penny to FMIS 5.0 and the limits that also exist in FAFOS.

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Accounts Payable interfaces with the statewide system USAS (statewide Treasury) systems, however deposits are dual entered into USAS and Account Receivable because an interface does not exist.

DCIS is the system where a project starts all the way up into lettings. At the point of lettings, it goes into the PeopleSoft system.

All of the financial components are within PeopleSoft. Tried to use base PeopleSoft solution but had to make customizations for certain statewide and DOT requirements:

- TXDOT is using all modules in PeopleSoft.
- The project costing module is the most customized at about 40% customized. PeopleSoft doesn't have reporting for Project Costing.
- The other financial modules within PeopleSoft have 10% or less in customizations.

TXDOT does not handle Federal Authorizations in PeopleSoft. FAFOS handles communication with FMIS and all project authorizations. FAFOS is outside of the PeopleSoft application.

Designed Construction information System (DCIS) – determines the funding, legacy system under review to be revamped. All projects start in this system.

TxDOT technical platform is Database (Oracle), Operating System (Windows servers/Lynx servers), and PeopleSoft 9.2. Haven't gone through an upgrade yet. PeopleSoft doesn't anticipate any upgrades, just patch updates. TXDOT licenses the PeopleSoft from the Comptroller's office. Infrastructure is housed in a statewide data center. FHWA resource center was on board with the implementation to make sure they stayed on track with compliance. Key milestone was to meet FHWA compliance. Important to work with FHWA, they were very helpful.

TxDOT's reimbursements handled through the Finance Lifecycle system (reimbursements are part of the PeopleSoft platform) include the following federal reimbursement sources: FHWA, FTA, FRA, FAA, NHTSA, and also Local reimbursements. Only FEMA is handled manually. TxDOT consulted with FHWA Resource Center during the course of the PeopleSoft implementation for reimbursement compliance and received FHWA's certification for its PeopleSoft reimbursement processes and functions. TxDOT's answer "yes" to 9 of the 10 federal reimbursement requirement questions on the survey. TxDOT advise that federal billing should be done one agency at a time and not concurrently. Example, Generate the FHWA bill one day, then FTA the next.

Overall cost for PeopleSoft implementation was \$45M including license cost, developing the infrastructure, Independent Verification & Validation (IV&V), and project management setup. Accenture was the system integrator (SI) for implementation. They kicked off project in 2010, originally trying to use the statewide system. TXDOT is unique compared to the statewide system and would require a lot of customization. Eventually decided to create their own instance of PeopleSoft based on their customization. The total implementation was done in 18 months,

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but TxDOT recommended taking more time if you had it available. Went live with all PeopleSoft modules at the same time (HR, payroll, time and labor, etc.).

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## VIRGINIA (VDOT) – MARKET SCAN INTERVIEW

iSYP Suite: six year improvement plan, (iSYP - six year improvement plan is not the same as their STIP). Shows allocations on construction projects and reflects project data housed in Project Pool (project detail).

- Maintenance Projects handled as annual budget
- Construction projects handled and managed over 6 year period

The statewide PeopleSoft financial system is called Cardinal. VDOT was the first state agency to implement Cardinal and it handles VDOT's expenditure data and budget data. VDOT is using project module for billing on daily basis (can do billing twice a day). System that performs billing to FHWA, similar to FPM system. The system was implemented in Dec 2011, taking four years including requirements gathering and another two for implementation.

Every Project has a unique number (UPC) assigned by the Cardinal System and then entered in Project Pool. Allocations and budgets are posted to those projects according to the UPC.

For FHWA Authorizations and Billing:

- There is a duplication of data entry between the FMIS and VDOT Systems
- Authorizations in are done in FMIS and Billing in Cardinal
- Pull data from FMIS and upload into other VDOT systems
- Federal number associated with UPC per project. Maps to UPC phase.

VDOT assigns the fund on the front-end before the expenditure is made:

- Program funds on the front-end over a 6 year period based on anticipated cash flow
- Keep cash flow in line with the allocations (400 different allocation types)

VDOT has very strict state rules on how their money can be spent/allocated. Adds complexity to the system. The system allows the flexibility of changing how frequently they can bill FHWA.

The system interfaces directly to FHWA for billing. Cardinal handles obligation authority through the budget (against Obligation Authority) to keep them from exceeding Obligation Authority and has capability that allows them to maximize it. All reimbursements are handled through the Cardinal system, including FEMA billing (Eastern federal lands is an exception).

The project module does billing and identifies phases, activities, and project number as expenditures come in. Module pulls in expenditures and determines what should be billed to FHWA. VDOT's FHWA reimbursement is approximately \$500M - \$1B annually and they can handle AC Conversions. The rest of the technical infrastructure includes:

- Back end of the iSYP suite

- SQL Server, .NET
- Currently upgrading from SQL Server 2000 to 2014
- Few modules still running ASP
- System developed in 2004 (All built in house)
  - PeopleSoft was about \$50M. Started with VDOT and rolled out to other agencies.
  - The \$50M included all of the modules that were rolled out to other agencies.
  - Used Accenture for the rollout

### 3.3 REIMBURSEMENT TECHNOLOGY ENVIRONMENTS

#### 3.3.1 SUMMARY OF STATE DOTs TECHNOLOGY ENVIRONMENTS

Based on the Market Scan survey and follow-up interviews it appears that all of the State DOTs have their reimbursement functions tightly integrated with their Financial Management/Transportation Finance Lifecycle system(s) for both COTS and Custom applications. In several cases, the statewide accounting system was used to handle all the reimbursement process and functions. Based on the 24 State DOT survey respondents and Texas DOT (did not complete survey) there was no indication of a stand-alone reimbursement system solution either for COTS or Custom development. The Market Scan survey indicated the following results regarding the type of State DOT reimbursement system solution:

TYPES OF SYSTEMS	RESPONSES
Single application system - COTS	37.50% 9
Single application system - Custom	16.67% 4
Multiple application systems - COTS	0.00% 0
Multiple application systems - Custom	4.17% 1
Multiple application systems - Combination of COTS & Custom	41.67% 10
<b>Total</b>	<b>24</b>

**Exhibit 3-10: Market Scan Survey: Type of State DOTs Reimbursement System(s)**

The further breakdown of the type of reimbursement system by State DOT was:

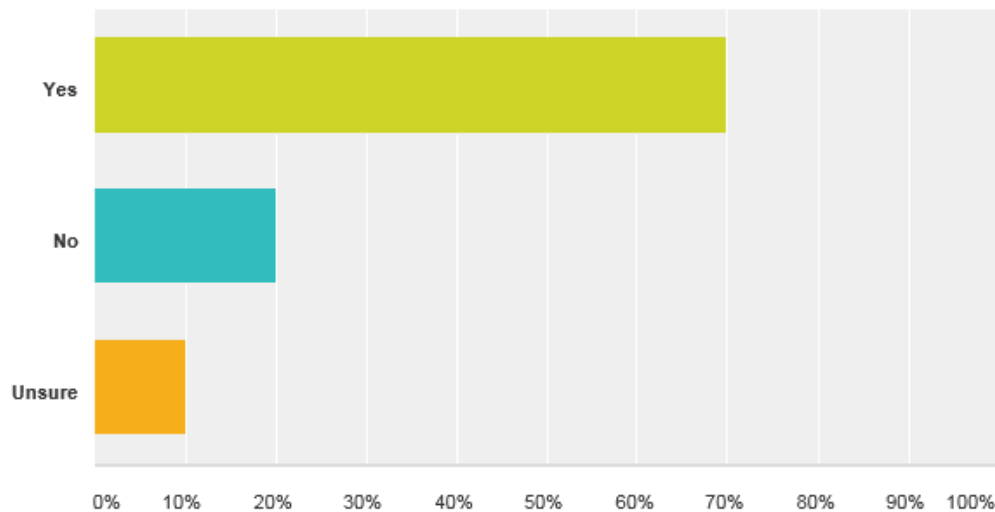
STATE DOT/TRANSPORTATION AGENCY	TYPE OF REIMBURSEMENT SYSTEM	VENDOR
Alaska DOT	No Answer	
Arizona DOT (ADOT)	COTS	CGI - Advantage
California DOT (Caltrans)	COTS	CGI - Advantage
Connecticut DOT (CTDOT)	COTS	PeopleSoft
Delaware DOT (DelDOT)	COTS (State Wide System)	PeopleSoft
Georgia DOT (GDOT)	COTS (State-Wide System)	Team Works / PeopleSoft
<b>Illinois DOT (IDOT)</b>	Custom	Mainframe & .NET
Iowa DOT	Custom	Mainframe / IDMS

STATE DOT/TRANSPORTATION AGENCY	TYPE OF REIMBURSEMENT SYSTEM	VENDOR
Kansas DOT (KSDOT)	Custom	WinCPMS
Kentucky Transportation Cabinet (KYTC)	COTS (State-Wide System)	CGI - Advantage
Louisiana DOT (LA DOT)	COTS (State-Wide System)	SAP
Maine DOT	Custom	Not Disclosed
Maryland DOT (MDOT)	Custom	Mainframe
Michigan DOT (MDOT)	Custom	Mainframe
Mississippi DOT (MDOT)	COTS	Not Disclosed
Missouri DOT (MoDOT)	Custom & COTS	Not Disclosed
Montana DOT (MDT)	Custom	Not Disclosed
Nevada DOT (NDOT)	COTS	CGI - Advantage
<b>North Carolina DOT (NC DOT)</b>	COTS	SAP
<b>Ohio DOT (ODOT)</b>	Custom & COTS	Mainframe/PeopleSoft
Oklahoma DOT (ODOT)	Custom & COTS	Mainframe
South Dakota DOT (SD DOT)	Custom & COTS	Great Plains
<b>Texas DOT (TxDOT) - Interview Only</b>	COTS	PeopleSoft
Vermont Agency of Transportation (VTrans)	Custom & COTS	PeopleSoft
<b>Virginia DOT (VDOT)</b>	COTS	PeopleSoft

\*States in Bold and Italics were interviewed

**Exhibit 3-11: Market Scan Survey & Interviews: Type of State DOTs Reimbursement System(s)**

The following chart and table reflects the State DOTs that used COTS reimbursement system solution where customizations were required:



CUSTOMIZATION REQUIRED FOR REIMBURSEMENT SYSTEM	RESPONSES	
Yes	70.00%	14
No	20.00%	4
Unsure	10.00%	2
<b>Total</b>		<b>20</b>

**Exhibit 3-12: Market Scan Survey: Customizations Required For COTS Reimbursement System(s)**

### 3.3.2 LESSONS LEARNED

#### TRANSPORTATION FINANCE LIFECYCLE SYSTEM(S) – SURVEY RESULTS

STATE DOT/TRANSPORTATION AGENCY	LESSONS LEARNED
<b>Illinois DOT</b>	<p>Test system with all parties involved; reduces modifications after implementation; Get buy-in from top management; encourage all parties to participate in design/testing</p> <p>Manage scope for FPM custom project, as it seemed to expand over time and Use your best people for this type of project.</p>
Kansas DOT	Spend the time and effort on requirements, spend the money to do this as much as possible
Louisiana DOT	With LaGov at LA DOTD, training was provided early, perhaps too early, and education was provided later, perhaps much later. Identification and cultivation of LA DOTD "Super Users" for the LaGov modules implemented at LA DOTD
Maryland DOT	Always have a knowledgeable, adequate support staff to maintain the systems, the requirements are always changing
Mississippi DOT	You need a vendor that understand public sector finance practices and a solution that is flexible. Large ERP implementations are expensive and the software is geared for several different types of industries. This leads to complex and confusing workflows throughout the system and typically requires clients to adopt the software's functionality changing many business processes
<b>North Carolina DOT</b>	Based on their experiences, NCDOT recommended taking the approach of looking at the entire Finance Lifecycle as opposed to a particular process such as reimbursements. They felt it was more effective to develop the end to end processes instead of stand-alone applications that may require temporary (throw-away) interfaces or development efforts
<b>Ohio DOT</b>	Try to identify a platform that does end-to-end processing and focus on very detailed requirements.



STATE DOT/TRANSPORTATION AGENCY	LESSONS LEARNED
	<p>Held session with vendor community before release of the RFP so they knew the content. Had a detailed approach on how to evaluate the proposals</p> <p>Three step process: identified high level what they wanted to get out of a future system (brainstorming sessions), those ideas were evaluated and limited or expanded that list, developed the narrative around each bullet, then detailed requirements (granular level)</p>
South Dakota DOT	<p>Brainstorm and flesh out system upgrades thoroughly. You may even go as far as to record the sessions to ensure all ideas are documented. Involve end users from the beginning to the end of the project. Keep the scope in check. As much as you think a certain action doesn't occur very often and you can manually manipulate the system, I would strongly suggest planning to automate those actions. Also, knowing that federal funding ebbs and flows, something that may be true now, may not be down the road</p>
<i>Texas DOT</i>	<p>Have more than one SME within the different modules would help with the testing. Wants to make sure DOT staff is able to handle the PeopleSoft software prior to implementation.</p> <p>Put brightest people on the implementation and backfill those positions. They need to be there to make the decisions needed.</p> <p>Allocate enough time to data conversion, start the conversation about data conversion at the beginning of the project.</p> <p>Performed 5 mock conversions for all of the modules. Also, clean up data (use standard Chatfield values and eliminated any custom fields).</p> <p>Asked vendor or SI to provide example requirements. FHWA resource center also provided requirements.</p> <p>Start on the business process changes early and allocate enough time with emphasis on change management, testing, and training. Also need to make training mandatory</p>
Vermont Agency of Transportation	<p>Be very specific on your needs analysis assessment in writing your RFP</p>
<i>Virginia DOT</i>	<p>Thorough research should be given whenever implementing a Transportation Finance Lifecycle system. The frequency of upgrades and impacts to other integrated systems must be considered as well as the agency's capability to keep up with the necessary upgrades</p>

**Exhibit 3-13: Market Scan Survey Summary: Transportation Finance Lifecycle Lessons Learned**

## REIMBURSEMENT SYSTEM(S) – SURVEY RESULTS

STATE DOT/TRANSPORTATION AGENCY	LESSONS LEARNED
Connecticut DOT	Cannot underestimate the paradigm shift from the old way to the new way required by business process changes. Be very conscious of the system impact when turning on pricing and billing. We had a few month delay and many transactions waiting. Activated contracts each day and things went smoothly.
<i>Ohio DOT</i>	Make sure the Reimbursement system is integrated with the financial system(s).
<i>Virginia DOT</i>	From experiences with prior systems, it is best not to customize. Better to use configuration to meet your needs. We were not able to upgrade with our previous system due to too much customization, so had to go to a brand new system, which has low customization.

### Exhibit 3-14: Market Scan Survey Summary: Reimbursement Systems Lessons Learned

## GENERAL FEEDBACK AND COMMENTS

STATE DOT/TRANSPORTATION AGENCY	LESSONS LEARNED
Connecticut DOT	As you are probably aware, most outside entities, i.e. auditors and the federal agencies start from the billings and work backwards. The system must document back to the original source documents and show how the prorate was applied. The most challenging part will be to interface time and labor including payroll, especially taxes and additives into the billing process. This causes the most difficult drillback as well as the area that is heavily customized. Contact David Alfredson at david.alfredson@ct.gov or 860-594-2258 for questions relating to the reimbursement process.
<i>Illinois DOT</i>	Our new system is to be complete by May 2018. My advice is to get started. Current technology is easier to adapt than old.
Iowa DOT	We have a Project Cost Reporting application we'd be glad to share info on it. It accumulates costs for any project. However, automated billings are only used for FHWA projects
Kansas DOT	The Agency uses the State Accounting System, SMART, which is on Oracle/PeopleSoft products, for check issuance and financial reporting: we do not use the SMART project module or grants module. A payment file is received back and loaded into another KDOT internal database. Project payment information is distributed from this database to the WinCPMS project system.
Maryland DOT	It is hard to capture everything, so feel free to contact us if more information is needed.

STATE DOT/TRANSPORTATION AGENCY	LESSONS LEARNED
Michigan DOT	If you choose an ERP, MDOT may be better positioned to answer questions and provide feedback, after we've gone live with the new ERP in the State of Michigan.
Montana DOT	We would be interested in seeing the results of your survey, as we're looking at replacing or enhancing our systems as well.
<i>Ohio DOT</i>	The answers provided were done so by looking through a "lens" that may or may not have relevance to what FDOT is attempting to accomplish. Further discussion may be warranted to determine if ODOT's existing (and currently-being- worked-upon future) solution is worthy of FDOT's time to conduct a review.
Oklahoma DOT	Make the traceability of the transaction from expenditure and reimbursement easily auditable.

**Exhibit 3-15: Market Scan Survey Summary: General Feedback and Comments**

### 3.4 TECHNOLOGY COSTS

#### 3.4.1 OVERALL TECHNOLOGY ENVIRONMENTS – TRANSPORTATION FINANCE LIFECYCLE & FEDERAL REIMBURSEMENT

There was very limited technology cost data provided by the State DOTs involved in the Market Scan Survey and follow-up interviews. The technology cost data provided was at the summary level reflecting Transportation Finance Lifecycle or statewide accounting systems implementation and maintenance costs. The following reflects the limited technology cost data by State DOT:

STATE DOT (TYPE OF SYSTEM)	IMPLEMENTATION COST	MAINTENANCE COST
Kansas DOT (Custom)	\$7,500,000	Unknown
Kentucky Transportation Cabinet (COTS)	\$30,000,000 (state-wide system)	Unknown
Louisiana DOT (COTS)	\$100,000,000 (state-wide system)	\$1,000,000
Maryland DOT (Custom)	\$12,000,000	\$5,000,000 (not just support)
Mississippi DOT (COTS)	\$8,000,000	\$250,000
Nevada DOT (COTS)	\$50,000,000	\$500,000
<b>Ohio DOT</b> (COTS implementation in process)	\$32,900,000	Unknown
<b>Texas DOT</b> (COTS)	\$45,000,000	Unknown
<b>Virginia DOT</b> (Combination COTS / Custom)	\$51,000,000 / \$800,000	Unknown / \$585,000
Vermont Agency of Transportation (Custom)	\$4,000,000	Unknown

**Exhibit 3-16: Market Scan Survey Summary: Transportation Finance Lifecycle System Costs**

Survey respondents indicated that they could not identify only the system costs of Implementation and Maintenance associated with just the reimbursement process as it was integrated within the larger Transportation Finance Lifecycle system(s). This seemed to be the case with all respondents regardless of the type of system COTS, Custom or, combination of both. The only change noted to the previous table was with Virginia DOT indicating that its reimbursement process is done through central financial system that was implemented at the cost of \$51,000,000 in 2011.

### 3.4.2 TECHNOLOGY COST DRIVERS

There are many individual cost elements that have an impact on the overall cost of an enterprise financial management system. Generally, these individual cost elements are combined into the following three categories:

- Required Purchases:** These costs include all the up-front items that must be purchased to enhance an existing system or deploy a new one. This includes software licenses, computer hardware, and data center facilities and equipment as well as any infrastructure technology systems required to support the new system (e.g., Directory Services, Security Services, etc.).
- Implementation:** These costs include the in-house and contracted labor required to deploy a new enterprise system. Major cost components include requirements development, project oversight, software installation and configuration, software development, system integration, report development, data conversion, testing and quality assurance, process re-design, organizational change management, project team training, and end user training.
- Operations and Maintenance:** These costs include all labor and materials required to support the enterprise system over the course of its full lifecycle. Major components of this category include software maintenance, production support and training, software development, planned future upgrades, process improvements, and change management related to upgrades, infrastructure support, system administration, ongoing hardware, data center facilities, and other equipment maintenance costs.

The following cost drivers were mentioned during the Market Scan Interviews by State DOT. Although requested at each interview there were no cost breakdown provided by any State DOT.

STATE DOT	IMPLEMENTATION COST	COST DRIVERS
<i>Illinois (IDOT)</i>	<i>Not Received</i>	
<i>North Carolina (NCDOT)</i>	<i>Not Received</i>	
<i>Ohio (ODOT)</i>	\$32,900,000	IBM System Integrator (SI) including HR, facility, capital program requirements, etc. Just includes the labor and already had the modules in place with kept costs low
<i>Texas (TxDOT)</i>	\$45,000,000	Overall cost for PeopleSoft implementation including license cost, development, infrastructure, IV&V, project mgmt. setup, Accenture was SI for implementation
<i>Virginia DOT (VDOT)</i>	\$50,000,000	Included all of the modules that were rolled out to other

STATE DOT	IMPLEMENTATION COST	COST DRIVERS
		agencies. Used Accenture for the rollout

**Exhibit 3-17: Market Scan Interview Summary: Transportation Finance Lifecycle System Cost Drivers**

### 3.4.3 LICENSING MODELS FOR TECHNOLOGY SOLUTIONS

There are two primary models for enterprise software licensing, either a per-user or an enterprise or a 'site' license. A per-user license cost is exactly as it sounds, the software company charges a specific cost for each user accessing the system. These costs may be further refined by the function accessed by an employee (e.g. a user who is only using reporting may cost less than a user who is performing accounting transactions). An enterprise license is where an organization pays a flat amount and there is then no incremental charge per employee using the software.

The pricing model is set by the software vendor. This analysis is presented to inform the overall evaluation, but the licensing model will be driven by the software vendor chosen, as opposed to being the primary choice of FDOT.

The following table outlines a comparison between per user and enterprise software licenses.

FACTOR	PER USER	ENTERPRISE
Scalability	Cost and usage of the software is directly scalable to the number of employees using the system where FDOT would pay an incremental amount for each user accessing the system	Software cost is fixed and does not change with the number of users or volume
Stability	Not applicable to this analysis	Not applicable to this analysis
Cost	The cost comparison for the licensing model must be addressed as part of the procurement process as either option could end up more beneficial to FDOT depending on the number of users, how the vendor sets up the system cost (enterprise wide, by function, etc.) and the actual cost for each model	
Ease of Implementation	Where there is a high cost to use the system, employees with minimal needs may be kept out of the system, leading to offline processes	Because there is no incremental cost, employees can be encouraged to use the system for any possible function

**Exhibit 3-18: Licensing Model Summary**

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## 3.5 TECHNOLOGY TRENDS

### 3.5.1 KEY CONSIDERATIONS

The following research sources were used to identify technology trends that align to the objectives of the Market Scan. These sources included:

- Conducted a Market Scan survey of other State DOTs on their comparable technology solutions for Transportation Finance Lifecycle processes and in particular their reimbursement process and associated system
- Based on the results of the Market Scan survey, selected certain State DOTs for more in-depth interviews on their particular technology solutions
- In conjunction with the American Association of State Highway and Transportation Officials (AASHTO) coordinated the market scan survey and review past AASHTO's studies and surveys
- Consulted with the FHWA Resource Center on past research
- Reviewed Past FDOT studies and research on the Transportation Finance Lifecycle technical solutions and options
- Conducted independent research through the following research sources:
  - Gartner
  - Forrester
  - National Association of State Budget Officers (NASBO)

From this market research, the Market Scan survey, and follow-up interviews, the following key technology themes emerged:

- **Use of COTS Solutions:** State DOTs are adopting and implementing COTS solutions to support core financial management (Transportation Finance Lifecycle) including reimbursement processes and functions. Several State DOTs are at some stage of transitioning from legacy mainframe systems, which are very difficult to maintain, to a COTS or a combination of a COTS and solutions. There are also some State DOTs that are leveraging their statewide COTS accounting systems. Some of the leading COTS solutions are PeopleSoft, SAP, and CGI Advantage software.
- **Business Process Standardization:** State DOTs are adopting consistent business processes that are integrated within COTS solutions or being developed as part of custom developed solutions. The benefit of increasing standardization is the lower overall support and maintenance costs because of the process standardization as well as the ability to limit agency-specific customizations. This process standardization, which is embedded into the technical solutions, should provide efficiencies to the overall reimbursement process.
- **Limit the Need for Customizations:** A best practice is using the COTS functionality as designed and keep customizations for core financial and operational transactions to a minimum. Limiting customizations reduces the implementation and maintenance cost of a COTS and enables the State DOT to take advantage of new functionality via regular vendor upgrades. Utilize the vendor-supplied configuration tools within the COTS

package as much as possible, vs. developing custom code to address specific business needs. This may also require a change to the Department's business process. Custom system solutions may be able to adopt customizations easier as part of their release schedule.

- **Develop Comprehensive Business Requirements:** In general, for both COTS as well as Custom developed solutions, developing and leveraging a comprehensive set of business requirements was key to a successful implementation and adoption of the new system(s). An approach that focused on providing adequate time and resources upfront for developing business requirements across all stakeholder groups was highly recommended in market research, as well as in the Market Scan surveys and interviews.
- **Focus on Organizational Change Management (OCM):** In nearly every case of implementing a new system(s), OCM played a key role in ensuring a successful implementation and adoption of the new system(s). Key components addressed by successful State DOTs include business process change, communication, training, and performance management.
- **Consult with Federal Agencies (i.e. FHWA):** To ensure success, several State DOTs chose to consult and work with federal agencies, such as the FHWA, as a part of the implementation process especially for federal reimbursements. The FHWA provides business services to State DOTs regarding the implementation of new systems that may impact the FHWA (federal) reimbursement. These services ranged from providing insights from previous State DOT financial management implementation to certifying State DOTs system(s) for FHWA reimbursements.
- **Leveraging Statewide Accounting Systems:** A number of State DOTs are either currently using or will be using the statewide accounting system for certain financial transactions, including the reimbursement process. As with State DOTs, there is a growing trend for states to adopt COTS solutions for their statewide accounting systems, which the State's DOT can leverage for certain financial transactions. One point to note with this approach, to be successful DOT needs to be the pilot/model for the statewide system, due to their unique needs.
- **Focus on Data Management and Quality:** The majority of State DOTs are using the implementation of either a COTS and / or Custom solution to enhance the management and quality of their financial data. This is especially true for State DOTs that are transitioning from old legacy mainframe systems that may have a lot of customized data values (i.e. Chart of Accounts) that have been added over the years to standardized data values in the new system(s).

### 3.5.2 *COMPARISON OF COTS VS CUSTOM SOLUTIONS*

**Understand The Business Need:** The first step is a requirements analysis, resulting in a document that formalizes the scope and priorities of the project. It should include:

- The needs and "wish lists" of all stakeholders
- Guidelines for balancing business needs and IT needs
- Prioritization of cost, security, efficiency, usability and interoperability
- Identification of business processes that must be supported by the software



- Identification of business processes that may be modified, or should be updated
- Evaluation of the current software environment
- Identification of possible changes in the business environment due to changes in the market, and the company’s strategic plan.

The resulting requirements document provides a picture of the current situation and the desired outcome, as well as the information needed to evaluate the fit of any COTS products under consideration. If a custom product is chosen, the requirements document will guide the design and management of the project and help compute the TCO of the project.

**Know The Total Cost of Ownerships (TCO) For All Options:** The TCO of COTS products will often overpower the ROI. Although it is often the case that COTS products have a smaller up-front investment when compared to custom software, the purchase price is only the beginning.

The fit of a COTS product is critical. If the product does not fit business needs, it isn’t a solution. A product that does not fit the IT environment will result in additional costs and problems. If the product and vendor are not reliable, the resulting inefficiencies and costs will add up quickly.

The larger up-front costs in custom software are invested in the design, quality assurance, testing, and development of the product. Properly done, these activities dramatically reduce the TCO of custom software, while ensuring that it fits both the business and IT requirements of the owner.

One of the biggest hidden expenses of COTS software is the cost of customization. If a COTS product isn’t a perfect fit, the choice is between modifying the business processes and requirements, modifying a COTS product, or building a custom product. All of these solutions have attendant costs. Modifying business processes or requirements can result in additional expenses which should be computed and added to the TCO of the COTS product. Key factors that should be considered are:

FACTOR	CUSTOM DEVELOPMENT	COTS
Scalability	Custom developed solutions are typically tailored to the specific need of an organization and are often built without regard for scalability or future customizations. Therefore, these applications tend to be less scalable than their off the shelf counterparts.	Providers of off the shelf software typically build it to support the needs of many organizations of different sizes and complexities – therefore their products inherently support both scalability and change.

FACTOR	CUSTOM DEVELOPMENT	COTS
Stability	<p>Because custom developed solutions are tailored to an organization's exact business requirements, they tend to be extremely stable so long as requirements do not change. Custom developed solutions tend to struggle in dynamic environments because changes often require extensive programming instead of minor configuration. Supporting large custom development software systems can become a challenge in organizations where staff turnover is high.</p>	<p>Unless it is heavily customized, COTS software is typically very stable, having been thoroughly tested and used by thousands of customers. In most cases, off the shelf software vendors provide support and keep base technology current as part of an annual maintenance contract.</p>
Cost	<p>For large-scale systems, initial development and implementation costs can be higher than the purchase of COTS software as the FDOT would have to do 100% of the design and development, where by purchasing a COTS, the development costs are spread across all of the vendor's customers. Long-term maintenance costs are typically higher for custom developed solutions because organizations which custom-build software must maintain deep software development skills post implementation to support upgrades.</p>	<p>For large-scale and complex applications, it is typically less expensive to buy software from a vendor who can aggregate the cost of development across all of their clients. When maintaining a COTS solution, there is a support cost that must be paired to the vendor each year, but this is typically offset by lower development staff costs thereby providing greater stability.</p>
Ease of Implementation	<p>Custom developed solutions allow organizations to create software to exactly match a business process. Where processes are standardized, this can be a large benefit, where there is limited standardization of business processes. Custom developed solutions typically take significantly longer to develop and implement than COTS alternatives because every function in the system has to be designed, developed and tested, taking significant numbers of internal and external resources. Acquiring the necessary resources may be difficult for the FDOT.</p>	<p>COTS software has many common processes built in and can be used as a template to help FDOT improve operations. COTS software enforces process standardization and requires project governance to facilitate changes to business process to minimize custom development for an effective implementation and supportable solution. Shorter implementation to benefits realization if properly managed because software is configured, not created from scratch.</p>
Reference State DOTs	Illinois	Texas, North Carolina, Ohio, Virginia

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## Exhibit 3-19: COTS vs Custom Software Summary

### 3.5.3 APPLICATIONS SUPPORT DETAILS – REIMBURSEMENT OF FEDERAL REIMBURSEMENT

It appears that the State DOTs with COTS solutions usually adhere to the application software vendors upgrade schedules, while the State DOTs with the Custom solutions are under no set schedule for upgrading the development software. There were several state DOTs that were planning or were in the process of changing the technical infrastructure that supports the reimbursement application system. These changes range from transitioning to a different database (i.e. Oracle to DB2) or operating system (i.e. Solaris to IBM – AIX). These changes were contributed to enhance performance and cost effectiveness.

### 3.5.4 TECHNOLOGY TRENDS – FEDERAL REIMBURSEMENTS

Please reference Section 3.5.1

## SECTION 4 SUMMARY OF OPTIONS & ANALYSIS

### 4.1.1 OPTION DESCRIPTIONS

Based on market research and the results of the State DOT surveys and interview there are four potential options to address a federal reimbursement system solutions:

1. COTS - ERP
2. Custom Development
3. COTS – Reimbursement Only (No State DOT in the Market Scan has taken this approach)
4. Maintain Current System (Do Nothing)

The commercial software market commonly labels software that can perform the functions required by the State and/or DOTs as Enterprise Resource Planning (ERP) software. ERP is business process management software that allows an organization to use a system of integrated applications to manage the business and automate back office functions. Common to all ERP systems are core financial transactions (general ledger, accounts payable, accounts receivable, asset accounting), and basic procurement (purchasing, contracts, and receiving). ERP systems also include additional functions such as project and grants tracking, human resources, and payroll. To be consistent with standard industry definition, the term ERP is used when reviewing the options to replace Transportation Finance Lifecycle processes including reimbursement.

Based on the Market Scan results and analysis there were no State DOTs that are using a stand-alone Reimbursement COTS solution. Additional research would be required to determine if there is a COTS solution that could address only the required Federal Reimbursement requirements and could be interfaced with the rest of FDOT's Transportation Finance Lifecycle sub-systems.

Each of the four options is described in detail including the following elements:

- An overview of the option
- State DOT's using the option
- A list of advantages and disadvantages

### OPTION 1: COTS – ERP

The majority of State DOTs are either currently using a COTS – ERP solution either internally within the DOT agency or as part of a state-wide accounting system, or are planning to transition to a COTS – ERP within the next few years. Most of the State DOTs that are transitioning to a COTS – ERP are moving away from older legacy mainframe systems. This option of a COTS – ERP would position FDOT to use a platform that could address the future requirements need to support and enhanced Transportation Finance Lifecycle.

State DOTs Using COTS - ERP for Federal Reimbursements:

STATE DOT/TRANSPORTATION AGENCY	TYPE OF REIMBURSEMENT SYSTEM	VENDOR
Arizona DOT (ADOT)	COTS	CGI - Advantage
California DOT (Caltrans)	COTS	CGI - Advantage
Connecticut DOT (CTDOT)	COTS	PeopleSoft
Delaware DOT (DelDOT)	COTS (State Wide System)	PeopleSoft
Georgia DOT (GDOT)	COTS (State-Wide System)	Team Works
Kentucky Transportation Cabinet (KYTC)	COTS (State-Wide System)	CGI - Advantage
Louisiana DOT (LA DOT)	COTS (State-Wide System)	SAP
Michigan DOT (MDOT)	Custom & COTS	ERP
Mississippi DOT (MDOT)	COTS	
Missouri DOT (MoDOT)	Custom & COTS	
Montana DOT (MDT)	Custom & COTS	
Nevada DOT (NDOT)	COTS	CGI - Advantage
<b>North Carolina DOT (NC DOT)</b>	COTS	SAP
<b>Ohio DOT (ODOT)</b>	Custom & COTS	PeopleSoft
Oklahoma DOT (ODOT)	Custom & COTS	
South Dakota DOT (SD DOT)	Custom & COTS	
<b>Texas DOT (TxDOT) - Interview Only</b>	COTS	PeopleSoft
Vermont Agency of Transportation (VTrans)	Custom & COTS	PeopleSoft
<b>Virginia DOT (VDOT)</b>	COTS	PeopleSoft

**Exhibit 3-20: Market Scan DOTs using Option #1**

### *Advantages and Disadvantages*

The following table outlines the advantages and disadvantages of Option 1:

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ Solution based on industry standard technology</li> <li>▪ Solution leverages industry standard practices for core business processes (e.g., order-to-cash, procure-to-pay)</li> <li>▪ Vendor upgrades will ensure solution continues to evolve and grow (i.e., add new functionality/capabilities)</li> <li>▪ Faster design, development, and implementation (DDI) cycles relative to pure custom built solution</li> <li>▪ Easier to identify and source resources to support solution</li> <li>▪ Provides a modernized ERP foundation to allow for further FDOT enterprise integration in the future</li> <li>▪ Single integrated platform automates and simplifies complex cash reconciliation process</li> <li>▪ Solution establishes a solid foundation to extend the ERP platform to other business functions (e.g., project costing)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Investment timeline and upgrade schedule dictated by the ERP vendor</li> <li>▪ Package solution requires extensive business process re-engineering to support standard business processes</li> <li>▪ Package solution would require staff to learn new business terminology and processes</li> </ul>

**Exhibit 3-18: Option 1 Advantages and Disadvantages**

**OPTION 2: CUSTOM DEVELOPMENT**

There were several State DOTs that have custom developed their own version of the Transportation Finance Lifecycle processes which would include the federal reimbursement process and functions. The development platforms that were noted in the Market Scan survey included Java, .NET and PowerBuilder. There were also a few State DOTs that were still performing custom development on their legacy mainframe systems.

***State DOTs Using Custom Development for Federal Reimbursements:***

STATE DOT/TRANSPORTATION AGENCY	TYPE OF REIMBURSEMENT SYSTEM	VENDOR
<b><i>Illinois DOT (IDOT)</i></b>	Custom	.NET / Mainframe
Iowa DOT	Custom	Mainframe / IDMS
Kansas DOT (KSDOT)	Custom	WinCPMS
Maine DOT	Custom	
Maryland DOT (MDOT)	Custom	Mainframe
Montana DOT (MDT)	Custom	

**Exhibit 3-21: Market Scan DOTs Using Option #2**

**Advantages and Disadvantages:**

The following Exhibit outlines the advantages and disadvantages of Option 2:

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> <li>▪ Solution is modernized and provides enhanced functionality</li> <li>▪ Solution is built to business requirements (i.e., you get exact functionality you want)</li> <li>▪ Impact of change on staff is less than package COTS solution since terminology would be similar to current solution (i.e. .NET)</li> <li>▪ Sourcing of IT resources is much easier since solution is built on modern technology</li> <li>▪ Cost and timing of upgrades and solutions enhancements is controlled by the agency (not a COTS software provider)</li> </ul>	<ul style="list-style-type: none"> <li>▪ When implementation is complete, FDOT must keep a team of software developers on hand to continuously research and develop system enhancements to ensure the product does not become outdated soon after deployment</li> <li>▪ Significant likelihood solution functionality will become stagnant through lack of adequate maintenance and support</li> <li>▪ Interfacing with the Transportation Finance Lifecycle sub-systems will continue to support the federal reimbursement process</li> <li>▪ Business processes are limited to solution design and business requirements (i.e., not based on inherent best practices in a package software product)</li> <li>▪ Software design and development timeline will be longer than a packaged COTS solution</li> </ul>

**Exhibit 3-22: Option 2 Advantages and Disadvantages**

**OPTION #3: COTS – REIMBURSEMENT ONLY**

Another potential option is to identify a COTS solution to support the federal reimbursement processes and functions. Currently, this approach is not in use by any DOT in this Market Scan. Once FDOT has developed its business requirements for the federal reimbursement processes, a formal *Request for Information* (RFI) could be issued determine if there are and COTS products that would meet FDOT’s business requirements.

Based on the Market Scan, there are no State DOT currently using this option today. However, some states using their statewide COTS financial systems utilized the statewide system for reimbursements. An example of this would be Virginia.

**Advantages and Disadvantages:**

The following Exhibit outlines the advantages and disadvantages of Option 3:

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> <li>▪ Solution is modernized and provides enhanced functionality for reimbursement only</li> <li>▪ Solution is built to business requirements for reimbursements</li> <li>▪ Potentially minimize the resources needed to operate and maintain the COTS reimbursement system</li> <li>▪ COTS for reimbursement only can reduce the time and effort to solution</li> </ul>	<ul style="list-style-type: none"> <li>▪ Investment timeline and upgrade schedule dictated by the COTS vendor</li> <li>▪ Package solution requires extensive business process re-engineering to support standard business processes</li> <li>▪ Package solution would require staff to learn new business terminology and processes</li> </ul>

**Exhibit 3-23: Option 3 Advantages and Disadvantages**

**OPTION #4: MAINTAIN CURRENT SYSTEM (LEGACY MAINFRAME)**

As currently constructed, the four sub-systems that support FDOT’s Transportation Finance Lifecycle are performing as design. The current system(s) have been customized and patched as needed over the years, which has left the system difficult to maintain with embedded inefficiencies. Enhancing the current system rather than replacing it with a newer custom solution or packaged COTS software is the last option to consider.

***State DOTs Using Custom Development for Federal Reimbursements:***

STATE DOT/TRANSPORTATION AGENCY	TYPE OF REIMBURSEMENT SYSTEM	VENDOR
Iowa DOT	Custom	Mainframe / IDMS
Maryland DOT (MDOT)	Custom	Mainframe
Michigan DOT (MDOT) – Transitioning to ERP	Custom	Mainframe

**Exhibit 3-24: Market State DOTs using Option #4**

It should be noted that both Michigan and Iowa are in the process of moving to a COTS solution.

***Advantages and Disadvantages:***

The following Exhibit outlines the advantages and disadvantages of Option 4:

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> <li>▪ Solution is built to business requirements (i.e., you get exact functionality you want)</li> <li>▪ Impact of change on staff is less than package COTS solution since terminology would be similar to current solution (Mainframe)</li> <li>▪ Cost and timing of upgrades and solutions enhancements is controlled by the agency (not a COTS software provider)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sourcing of IT resources on legacy technology becomes a real challenge</li> <li>▪ Significant likelihood solution functionality will become stagnant through lack of adequate maintenance and support</li> <li>▪ Cost and timing of any future reimbursement requirement changes can increase</li> <li>▪ Business processes are limited to solution design and business requirements (i.e., not based on inherent best practices in a package software product)</li> <li>▪ Software design and development timeline will be longer than a packaged COTS solution</li> </ul>

**Exhibit 3-25: Option 4 Advantages and Disadvantages**

#### 4.1.2 OPTION ALIGNMENT

The WPPII Strategy Articulation Map (Appendix: Section 6) includes a project vision statement, four solution goals and their associated business value. The vision provides direction on what is to be achieved by the potential solution and a basis for future planning, while the solution goals provide a minimum set of capabilities that must be met by the potential solution. Establishing a minimum set of capabilities is critical in order to ensure all options are compared to a common standard. This common base will allow option costs, timelines, and capabilities to be compared in a consistent manner.

As part of the analysis, each option was assessed against the vision statement and four solutions goals. This assessment was qualitative with the alignment presented for each option relative to the other options. The Exhibit below reflects the output of this qualitative assessment:



EVALUATION OF QUALITATIVE CRITERIA (TRANSPORTATION FINANCE LIFECYCLE)	OPTIONS CONSIDERED			
	OPTION 1: COTS - ERP	OPTION 2: CUSTOM DEVELOPED	OPTION 3: COTS – REIMBURSEMENT ONLY	OPTION 4: MAINTAIN CURRENT SYSTEM
<b>Vision:</b> Plan and deliver the Work Program with no money wasted and no time lost.	●	●	○	○
<b>Goal #1:</b> Intuitive and easy to use system	●	●	●	○
<b>Goal #2:</b> Flexible and adaptive	●	●	●	○
<b>Goal #3:</b> Process driven	●	●	●	○
<b>Goal #4:</b> Flexible reporting & open query	●	●	○	○
<b>Goal #5:</b> Complete audit trail	●	●	○	○
<b>Goal #6:</b> Well Documented	●	●	●	○
<b>Goal #7:</b> Enforces transparent and collaborative business practices	●	●	○	○
Combined Alignment	2.5	2.25	1.5	1.0
Relative Correlation to Stated Solution Goal:	○ Low (1)	● Medium (2)	● High (3)	

**Exhibit 3-26: Option Alignment to Vision and Goals**

### 4.1.3 COST COMPARISONS

There was very limited cost data provided from the market scan participants. Most of the data received was at the Transportation Finance Lifecycle level, as most of the responding participants have integrated solutions (COTS or Custom) where reimbursement processes or functions are not separated and integrated within the Finance Lifecycle. As such, there is no cost data for just the federal reimbursement process.

As indicated, the cost data provided in the market scan was at the summary Transportation Finance Lifecycle level, again there were no respondents at just the federal reimbursement

processes. The following cost data the market scan participants provided are averages of the COTS and Custom development. The breakdown of the high-level cost based on survey results are reflected in both the COTS - ERP and Custom options that vary widely based on the survey responses. These are high-level estimates for both implementation and maintenance costs which may reflect statewide accounting costs as well.

Cost information was very limited within the Market Scan and only a few State DOTs provided summary amounts for the Implementation and Maintenance & Operations costs of the system(s) supporting their Transportation Finance Lifecycle processes. As reflected in section 3.4.1 Overall Technology Environment – Transportation Finance Lifecycle, the average costs are as follows:

- **Option #1:** COTS – ERP had an average Implementation cost of \$45,271,000 and Maintenance & Operations cost of \$583,000 with a *solution total cost of ownership of \$45,854,000*.
- **Option #2:** Custom Development had an average Implementation cost of \$6,075,000 and Maintenance & Operations costs of \$2,792,000 with a *solution total cost of ownership of \$8,867,000*.

In the above cost amounts, *the solution total cost of ownership* is the sum of the following components:

- **Implementation Cost:** Internal (employee time) and external (contractors / purchases) expenditures required to design and implement the solution to replace the existing Transportation Finance Lifecycle sub-system(s)
- **Maintenance & Operations Cost:** Expenses associated with supporting the new Transportation Finance replacement solution during and after its implementation

#### 4.1.4 BENEFITS COMPARISONS

One of the key differentiators between the four options analyzed is the delivery of the expected benefits. The Exhibit below summarizes the expected benefits and compares the likelihood of each option to achieve those benefits.

	OPTIONS CONSIDERED			
	OPTION 1: COTS - ERP	OPTION 2: CUSTOM DEVELOPED	OPTION 3: COTS – REIMBURSEMENT ONLY	OPTION 4: MAINTAIN CURRENT SYSTEM
<b>BENEFITS</b>				
<i>Risk Avoidance</i>				
Risk of a catastrophic system failure would be significantly reduced by moving to a new or enhanced system.	●	●	○	○
Minimize Total Cost of Ownership (TCO) that covers both the implementation, enhancements and maintenance.	●	●	○	●
System support and maintenance challenges would be significantly reduced because moving to a modern technology platform or off the shelf solution would make identifying and retaining skilled technical staff much easier.	●	●	○	○
There is a lack of stability with the new system platform from operational performance to system availability.	●	●	○	●
Risk of the new system platform does not support scalability and can't be extended to accommodate new business requirements.	●	●	○	○
The new system platform is difficult to implement in a timely manner.	●	●	●	○
<i>Cost Avoidance</i>				
Use data efficiently to eliminate redundant system processing and data duplication.	●	●	○	○
<i>Operational Efficiencies</i>				
Automation of current manual process.	●	●	●	○
Utilize exception reporting vs. manual reconciliation.	●	●	○	○
Reports should be pre-configured to enforce business rules, exception criteria, and/or formatting to minimize time spent manipulating and customizing the report outputs after the fact to meet the actual business needs.	●	●	●	●
Combined Alignment	2.7	2.8	1.4	1.5
Relative Correlation to Stated Solution Goal:	○ Low (1)	● Medium (2)	● High (3)	

**Exhibit 3-27: Option Benefits**

#### 4.1.5 RISK ANALYSIS

All four options being evaluated are complex and challenging. They may require significant resources invested to achieve successful completion. Because of the complexity and breadth of the options, they share many of the same risks with the difference being the likelihood and severity of impact of each of the risks. The Exhibit below highlights the common risks that may be encountered during the implementation regardless of the selected option:

RISK	POTENTIAL IMPACTS	MITIGATION STRATEGIES
Loss of political / executive sponsorship	<ul style="list-style-type: none"> <li>▪ Failed implementation</li> <li>▪ Benefits not realized</li> </ul>	<ul style="list-style-type: none"> <li>▪ Educate executive leadership on the current risks and challenges faced with current environment</li> <li>▪ Document go-forward direction and timeline in Statute</li> <li>▪ Structure implementation to achieve incremental successes</li> </ul>
Ineffective governance processes prevent decision making	<ul style="list-style-type: none"> <li>▪ Increased customizations</li> <li>▪ Higher support costs</li> <li>▪ Benefits not realized</li> <li>▪ Budget overruns</li> <li>▪ Failure to meet implementation timeline</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define a governance structure denoting authority to make decisions and enforce policy across WPPII Program</li> <li>▪ Establish clear definition of decisions which can be made within the project and what decisions need to be raised to a higher level</li> <li>▪ Communicate to impacted FDOT stakeholders at the beginning of the project the expectations related to process standardization and customizations – only customizations required to meet state or federal statutes will be completed</li> </ul>
Funding not available	<ul style="list-style-type: none"> <li>▪ Failed implementation</li> <li>▪ Benefits not realized</li> </ul>	<ul style="list-style-type: none"> <li>▪ Establish funding mechanisms which are documented in statute</li> <li>▪ Complete the project in phases to lower fiscal commitments while still moving forward with wins and progress for FDOT</li> </ul>
Third party software developers and / or ERP implementation experts not available	<ul style="list-style-type: none"> <li>▪ Failed implementation</li> <li>▪ Budget overruns</li> <li>▪ Failure to meet implementation timeline</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure adequate budget is available to acquire / retain the appropriate technical resources</li> </ul>

**Exhibit 3-28 Risk Analysis**

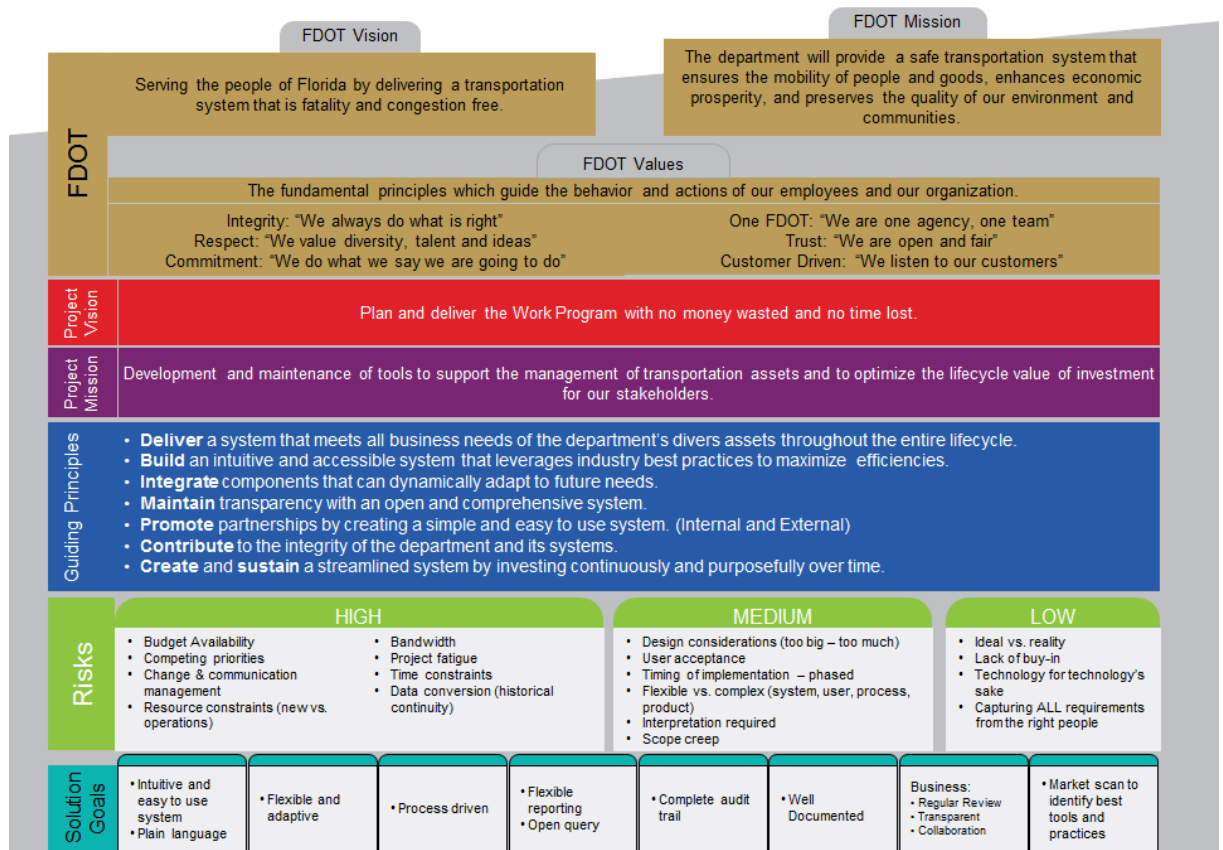
## SECTION 5 RECOMMENDED NEXT STEPS

Based on the market scan results, there is no single clear option particularly for a standalone reimbursement solution. The following are recommended next steps for FDOT:

- Complete the process documentation of remaining reimbursement areas
- Document the requirements for a future reimbursements solution
- Continue open communication with other state Transportation Agencies and follow-up on invitations to demo other states software solutions
- Establish a milestone/decision point prior to procurement of a standalone reimbursement solution to determine if the reimbursements solution should be integrated into the overall finance transportation lifecycle future solution
- Leave the options of COTS vs. custom development open through the procurement process to allow for the solution with the best value to FDOT
- Engage FHWA early in the process to streamline the certification process

## SECTION 6 APPENDIX

### 6.1 WPII STRATEGY ARTICULATION MAP (SAM)



## 6.2 MINIMUM CAPABILITY JUSTIFICATION (STATUTES & REGULATIONS)

### 6.2.1 FLORIDA STATUTES

FLORIDA STATUTES	DESCRIPTION
339.135 344.046 339.155	FDOT's Work Program is a five-year fiscally constrained program of projects. In accordance with Section 339.135 of the Florida Statutes, FDOT is responsible for the annual development of a five-year Work Program which meets the mission, goals and objectives of the Department (s. 344.046, Florida Statutes), and the Florida Transportation Plan (s. 339.155, Florida Statutes). This Work Program includes both traditional capital projects and other ongoing department activities such as maintenance and operations.
339.135(7)	According to Florida Statute, a project must be in the Adopted Work Program in order for the department to be able to work on the project. The Work Program can be amended during the fiscal year per Section 339.135(7) of Florida Statutes. Changes to projects (additions, advances, deferrals or deletions) in the first year of the Adopted Work Program (the then current fiscal year) must be approved by a Work Program Amendment Request. In certain situations the Work Program Amendment Request must be submitted to the Executive Office of the Governor for approval.

### 6.2.2 FEDERAL STATUTES & REGULATIONS

FEDERAL STATUTES	DESCRIPTION
U.S.C. Title 23 MAP-21	Apportionments to the State DOTs from the Highway Trust Fund (HTF) are computed based on prescribed formulas set forth in law, United States Code (U.S.C.), Title 23, and the Federal Authorization Statute, which is currently Moving Ahead for Progress in the 21 <sup>st</sup> Century (MAP-21) or other legislation; resulting in the issuance of project authorizations or agreements, to carry out the FAHP. These grant agreements are referred to as formula grants, for the purposes of this document. The State DOT is generally the grant recipient for funds made available in accordance with 23 U.S.C., which provides a formula to calculate the apportionment.
Section 1102 of MAP-21 Public Law 112-141	The amount of contract authority provided to State DOTs made under the HTF that can be used or obligated each year is limited by the Office of Management and Budget (OMB) based on Congressional Appropriations Acts or Continuing Resolution Acts. This limitation is referred to as obligation limitation. The distribution of obligation limitation to each State is determined by applying the obligation

FEDERAL STATUTES	DESCRIPTION
	limitation distribution methodology in section 1102 of MAP-21, Public Law 112-141, and is calculated based on the contract authority provided under MAP-21 for the specific fiscal year.
23U.S.C. 106 23 CFR 630 subpart B	State DOTs are required to prepare plans, specifications, and estimates (PS&E) in accordance with 23 U.S.C. 106 and 23 CFR 630 subpart B for all Federal-aid construction projects. State DOTs may, with FHWA approval, assume oversight responsibilities for projects delegated to them by 23 U.S.C. 106. State DOTs are not required to obtain FHWA approval on their PS&E for projects where oversight responsibilities are delegated to them.
USC Title 23, section 106	USC Title 23, section 106 requires a project agreement be submitted by the State DOT for each project. FMIS is FHWA's system for managing federally funded highway projects within the Federal-aid Highway Program. Staffs of FHWA Division Office and State DOTs are assigned FMIS access and levels of project approval authority. The audit trail for all FHWA project authorizations and obligations is contained in the FMIS.
2CFR 200	Every project's authorized phases-of-work have a corresponding FHWA Effective Authorization Date identified in the FMIS project authorization by the FHWA Division Office during their approval process. Effective with the changes to 2CFR 200, all projects are now required to have an end date.
the Improper Payment Information Act (IPIA) of 2002 and the Improper Payment Elimination and Recovery Act (IPERA) of 2010	Improper payment reviews are performed annually by the designated personnel within the FHWA Division Offices and overseen by the OCFO. Improper payment reviews are conducted in an accordance with the Improper Payment Information Act (IPIA) of 2002 and the Improper Payment Elimination and Recovery Act (IPERA) of 2010.
23 C.F.R., 630 Subpart A	In accordance with the 23 C.F.R., 630 Subpart A – <i>Project Authorizations and Agreements</i> , State DOTs are required to review, on a quarterly basis, inactive projects for which no expenditure has been charged against Federal funds for a specified period of time. The FHWA Division Office works closely with the State DOT in developing a process, conducting the quarterly review, and monitoring of inactive Federal-aid projects.
OMB's Revised Government-wide Uniform Guidance	<p>The U.S. DOT adopted OMB's revised Government-wide Uniform Guidance with an effective date of December 26, 2014. The implementation of the Uniform Guidance cancels 49 CFR Parts 18 and 19.</p> <p>In accordance with 2 CFR 200.210, each Federal award authorized in FMIS must include 15 uniform data sets which include the following:</p> <p>Recipient name (which must match registered name in DUNS);  Recipient's DUNS number (see § 200.32 Data Universal Numbering System (DUNS) number);  Unique Federal Award Identification Number (FAIN);</p>

FEDERAL STATUES	DESCRIPTION
	Federal Award Date (see § 200.39 Federal award date); Period of Performance Start and End Date; Amount of Federal Funds Obligated by this action; Total Amount of Federal Funds Obligated; Total Amount of the Federal Award; Budget Approved by the Federal Awarding Agency; Total Approved Cost Sharing or Matching, where applicable; Federal award project description, (to comply with statutory requirements (e.g., FFATA)); Name of Federal awarding agency and contact information for awarding official, CFDA Number and Name; Identification of whether the award is R&D; and Indirect cost rate for the Federal award (including if the de minimis rate is charged per § 200.414 Indirect (F&A) costs)

### 6.3 ADDITIONAL MARKET RESEARCH DOCUMENTS – KEY FINDINGS & TRENDS

**AASHTO IT Survey – 2016** – see attached survey results.

**AASHTO IT Survey – 2015** – see attached survey results.

**Gartner – Top 10 IT Strategy Trends for Governments in 2015: Trend Description: Scalable Interoperability, Web Scaled IT & Hybrid IT** – see attached.

**Gartner – Customization: The Cost That Keeps Costing – 2014: Trend Description: Determine Level of Customization to Assess Impact to Total Cost of Ownership (TCO) of COTS Applications** – see attached.

**Gartner – A Framework for Measuring and Managing COTS customization – 2014: Trend Description: Determine Level of Customization to Assess Impact to Total Cost of Ownership (TCO) of COTS Applications** – see attached.

### 6.4 MARKET SCAN – STATE DOTs WITH POINT OF CONTACT

STATE DOT/TRANSPORTATION AGENCY	NAME	EMAIL
Alaska DOT	George Crowder	george.crowder@alaska.gov
Arizona DOT (ADOT)	Shana Schaller	sschaller@azdot.gov
California DOT (Caltrans)	Clark Paulsen	clark.paulsen@dot.ca.gov
Connecticut DOT (CTDOT)	Pat Hustus	patricia.hustus@ct.gov
Delaware DOT (DelDOT)	Lanie Thornton	charlanne.thornton@state.de.us



STATE DOT/TRANSPORTATION AGENCY	NAME	EMAIL
Georgia DOT (GDOT)	Angela Robinson	abowen@dot.ga.gov
Illinois DOT (IDOT)	Roxy Heck	roxy.heck@illinois.gov
Iowa DOT	Cheryl Williams	cheryl.williams@dot.iowa.gov
Kansas DOT (KSDOT)	Gene Ingwerson	genei@ksdot.org
Kentucky Transportation Cabinet (KYTC)	Ronnie O'nan	Ronnie.O'nan@KY.gov
Louisiana DOT (LA DOT)	Brad D. Doucet	brad.doucet2@la.gov
Maine DOT	Andrew Bickmore	andrew.bickmore@maine.gov
Maryland DOT (MDOT)	Steve Watson	swatson@mdot.state.md.us
Michigan DOT (MDOT)	Patrick McCarthy	mccarthyp@michigan.gov
Mississippi DOT (MDOT)	Ben Cohen	bcohen@mdot.ms.gov
Missouri DOT (MoDOT)	Brenda Morris	brenda.morris@modot.mo.gov
Montana DOT (MDT)	Nicole Pallister	npallister@mt.gov
Nevada DOT (NDOT)	David Olsen	dolsen@dot.state.nv.us
North Carolina DOT (NC DOT)	Kim Padfield	kpadfield@ncdot.gov
Ohio DOT (ODOT)	Matt Downs	matt.downs@dot.ohio.gov
Oklahoma DOT (ODOT)	Chelley Hilmes	chilmes@odot.org
South Dakota DOT (SD DOT)	Leah DeMers & Kellie Beck	leah.demers@state.sd.us & kellie.beck@state.sd.us
Texas (TxDOT) - Interview Only	Stephen Stewart	Stephen.Stewart@txdot.gov
Vermont Agency of Transportation (VTTrans)	Renea Bordeau	renea.bordeau@vermont.gov
Virginia DOT (VDOT)	Kimberly Pryor	kimberly.pryor@vdot.virginia.gov

## 6.5 MARKET SCAN: STATE DOTs # OF ANNUAL PROGRAMS & FEDERAL FUNDING LEVELS

It should be noted that in this NASBO study that Florida DOT (FDOT) had an estimated 900 annual projects in the Work Program and that the estimated funding level in 2015 of \$2,247 (in millions), with Market Scan State DOTs having the following:

STATE DOT/TRANSPORTATION AGENCY	# OF PROJECTS	FEDERAL FUNDING (NASBO STUDY - 2015 ESTIMATES IN MILLIONS)
Alaska DOT	Unsure	1,000
Arizona DOT (ADOT)	Unsure	688
California DOT (Caltrans)	761	5,497
Connecticut DOT (CTDOT)	375	719
Delaware DOT (DelDOT)	200 - 300	237
Georgia DOT (GDOT)	200	1,593
Illinois DOT (IDOT)	2500	91
Iowa DOT	500	439
Kansas DOT (KSDOT)	500	478
Kentucky Transportation Cabinet (KYTC)	3,000	763
Louisiana DOT (LA DOT)	Unsure	649

STATE DOT/TRANSPORTATION AGENCY	# OF PROJECTS	FEDERAL FUNDING (NASBO STUDY - 2015 ESTIMATES IN MILLIONS)
Maine DOT	250	226
Maryland DOT (MDOT)	1,000 – 2,000	911
Michigan DOT (MDOT)	12,000 (by phase)	1,206
Mississippi DOT (MDOT)	800	530
Missouri DOT (MoDOT)	1300	74
Montana DOT (MDT)	200	434
Nevada DOT (NDOT)	600	337
North Carolina DOT (NC DOT)	3,000	1,376
Ohio DOT (ODOT)	900 – 1,000	1,393
Oklahoma DOT (ODOT)	2,000	748
South Dakota DOT (SD DOT)	1,400	331
Texas DOT	6,000 – 7,000	3,112
Vermont Agency of Transportation (VTTrans)	1,400	335
Virginia DOT (VDOT)	4,000	1,357

## 6.6 DETAILED STATE PROFILES – MARKET SCAN INTERVIEWS

### *Illinois (IDOT)*

IDOT's roots can be traced back over a century. For as long as there have been cars, highways, and air traffic, there has been an Illinois transportation agency. The rich history of our department spreads across the entire state. From massive bridges spanning the Mississippi or Illinois Rivers to winding roads eloquently carved into limestone bluffs. And, from two-lane roads tracing through rural corn and soybean fields to dirt and grass landing strips to the steel and concrete jungle of O'Hare International Airport, and on every mile of interstate and railroad that made Illinois what it is today, the mark of an Illinois transportation agency can be seen and felt.

Over the past century, Illinois businesses, residents, and visiting travelers have seen the steady development of one of the largest and most effective multi-modal transportation systems in the nation including roadways, passenger and freight railroads, transit and commuter services, bikeways, airports, waterways and canals, port districts, and inter-modal facilities. During just the past 50 years, Illinois' geographical location near the center of the nation and the diversity of statewide transportation options have made the Illinois multi-modal network a keystone and a vital hub for national and regional travel and freight movement.

Each day, IDOT strives to ensure that destinations are reached in the safest, quickest, easiest, and most comfortable and cost-effective manner. It does not matter which mode or modes are used, as long as your destination is reached successfully. We plan, program, design, implement, construct, maintain, operate, respond, repair, rebuild, and innovate - it is a cycle. None of this is new. Each day moving forward, we will continue to do each of these. And, though IDOT does this very well, we will strive to do it differently - in a way that is even more proactive and intuitive. In

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a way that brings the Illinois transportation infrastructure into the 22nd Century, before we get there, because the next transportation revolution is due now - in the United States, in Illinois. It is IDOT's vision to transform transportation for tomorrow.

This multi-modal transportation vision joins together concepts such as interconnectivity, system preservation, innovation, and global competitiveness, allowing them to work together in harmony with each other. It helps connect Illinois' most rural and remote communities downstate to its urban transportation networks while changing and transforming the quality of life in communities all along the way and creating an inclusive transportation system. With transforming transportation for tomorrow as the foundation of Illinois' transportation vision, IDOT is confident that it can create a safe and sustainable system by connecting and integrating even the most individualized communities as one. Because at IDOT, we believe that through continuous and proper system preservation, utilizing new and sophisticated communications networks, Illinois can serve as a more effective platform for economic growth and development.

### ***North Carolina (NCDOT)***

The N.C. Department of Transportation is one of North Carolina's largest state government agencies, with 12,000 employees. NCDOT works hard to provide high-quality transportation for travelers throughout North Carolina, including highways, rail, aviation, ferries, bicycle and pedestrian facilities, and public transit.

NCDOT's roots lie in the State Highway Commission, formed in 1915. Since then, NCDOT has evolved into a multi-modal agency providing a wide range of projects and services to meet North Carolina's transportation needs. Visit the [NCDOT Structure page](#) for an overview of the department's structure and decision-making process.

The N.C. Department of Transportation dates back to the establishment of the State Highway Commission in 1915. In 1941, the N.C. General Assembly created the Department of Motor Vehicles, consolidating services previously provided by the Secretary of State and the Department of Revenue.

The Executive Organization Act of 1971 then combined the State Highway Commission and the Department of Motor Vehicles to form the N.C. Department of Transportation and Highway Safety. In 1979, "Highway Safety" was dropped from the department's name when the Highway Patrol Division was transferred to the newly created Department of Crime Control and Public Safety.

Today, NCDOT oversee all modes of transportation in North Carolina, including [highways](#), [rail](#), [aviation](#), [ferries](#), [public transit](#), and [bicycle and pedestrian transportation](#). The department also oversees the [N.C. Division of Motor Vehicles](#), the [N.C. Turnpike Authority](#), [N.C. Ports](#) and the [N.C. Global TransPark](#).

NCDOT's operations are led by the [Secretary of Transportation](#), a member of the governor's cabinet. A 19-member [Board of Transportation](#) is the department's governing body and is

responsible for assisting in the transportation decision-making process and approving fund allocation. Board members are appointed by the governor

NCDOT's Mission and Goals are as follows:

**Vision:** A global leader in providing innovative transportation solutions

**Mission:** Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

**Goals:**

- Make our transportation network **safer**
- Provide GREAT **customer service**
- **Deliver and maintain** our infrastructure effectively and efficiently
- Improve the **reliability and connectivity** of the transportation system
- Promote **economic growth** through better use of our interface
- Make our organization a **great place** to work

NCDOT operates annually on a \$4.4 billion budget funded by both state and federal sources. The Finance and Budget page details what those sources are and how they are spent, as well as how NCDOT is using innovative methods to get the most out of our revenue.

### ***Ohio (ODOT)***

The **Ohio Department of Transportation** is the administrative department of the [Ohio state government](#)<sup>[3]</sup> responsible for developing and maintaining all state and federal [roadways](#) in the state of Ohio with exception of the [Ohio Turnpike](#). In addition to [highways](#), the department also helps develop [public transportation](#) and public aviation programs. ODOT is headquartered in [Columbus](#), Ohio. The Director of Transportation is part of the [Governor's Cabinet](#).<sup>[4]</sup>

ODOT has broken up the state of Ohio into 12 districts in order to facilitate regional development. Each district is responsible for the planning, design, construction, and maintenance of the state and [federal highways](#) in their region.<sup>[5]</sup> The department employs over 6,000 people,<sup>[1]</sup> and has an annual budget approaching \$3 billion.<sup>[2]</sup> It celebrated its 100th anniversary in 2005, and its 35th as the Ohio Department of Transportation in 2007

### ***Texas (TxDOT)***

The **Texas Department of Transportation** is a [government agency](#) in the [U.S. state](#) of [Texas](#). Though the public face of the agency is generally associated with the [construction](#) and [maintenance](#) of the state's immense [highway](#) system, the agency is also responsible for overseeing [aviation](#),<sup>[1]</sup> [rail](#),<sup>[2]</sup> and [public transportation](#)<sup>[3]</sup> systems in the state.

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At one time, TxDOT also administered [vehicle registration](#);[4] but this function transferred to the [Texas Department of Motor Vehicles](#), a newly created state agency which began operations in November 2009.[5][6]

The agency has been headquartered in the [Dewitt C. Greer Building](#) at 125 East 11th Street in [downtown Austin, Texas](#), since 1933.[7] The Texas Legislature created the Texas Highway Department in 1916 to administer federal highway construction and maintenance. In 1975, its responsibilities increased when the agency merged with the Texas Mass Transportation Commission, to form the State Department of Highways and Public Transportation.[8][9]

In 1986, the department started using "[Don't Mess with Texas](#)" as its slogan to reduce littering on Texas roadways, as part of a statewide advertising campaign. The phrase was prominently shown on road signs on major highways, as well as in television, radio, and print advertisements. The slogan is still in use and remains very popular.[10]

In 1991, the Legislature combined the State Department of Highways and Public Transportation, the Department of Aviation, and the Texas Motor Vehicle Commission to create the Texas Department of Transportation (TxDOT).[11]

In 1997, the pre-existing Texas Turnpike Authority (TTA) was divided into two successor agencies: the [North Texas Tollway Authority](#) took responsibility for TTA assets in four North Texas counties, while the Turnpike Authority Division of Texas DOT was given jurisdiction over toll facilities in the rest of the state.[12]

In 2009, the [Texas Department of Motor Vehicles](#) was created by the state legislature, [13] taking over some functions from TxDOT.

### ***Virginia (VDOT)***

The **Virginia Department of Transportation (VDOT)** is the agency of [state](#) government responsible for transportation in the state of [Virginia](#) in the [United States](#). Headquartered at the [Virginia Department of Highways Building](#) in [Downtown Richmond](#),[1] VDOT is responsible for building, maintaining, and operating the [roads](#), [bridges](#) and [tunnels](#) in the [commonwealth](#). It is overseen by the [Commonwealth Transportation Board](#), which has the power to fund [airports](#), [seaports](#), [rail](#) and [public transportation](#).

VDOT's revised annual [budget](#) for Fiscal Year 2010 is \$3.38 billion.

By July 1, 2010, VDOT will employ 7,500 full-time employees

## **6.7 FEDERAL AID BILLING AND FEDERAL FUNDS MANAGEMENT FEDERAL-AID HIGHWAY PROGRAM**

See attached Federal Aid Billing and Funds Management document.

**6.8 [NASBO – STATE EXPENDITURE REPORT](#)**

**6.9 COMPLETED MARKET SCAN RESPONSES**

Available Upon Request.

**Survey Results  
& Analysis**

for

**AASHTO 2014 Fall IT Survey**



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## **Executive Summary**

This report contains a detailed statistical analysis of the results to the survey titled *AASHTO 2014 Fall IT Survey*. The results analysis includes answers from all respondents who took the survey in the 85 day period from Thursday, September 18, 2014 to Thursday, December 11, 2014. 30 completed responses were received to the survey during this time. The survey was removed from on-line access on the morning of December 22, 2014. One additional survey response was received in paper form following the close of the survey; while it was not feasible to include the responses in many of the statistics and graphs, several of the textual responses were included.



# Survey Results & Analysis

**Survey:** AASHTO 2014 Fall IT Survey

**Responses Received:** 30

## 1) State or Province:

Shaded  denotes response received. 30 agencies have responded as of December 22, 2014. One additional response was received following the close of the survey; while it was not feasible to include the responses in many of the statistics and graphs, several of the textual responses were included.

Alabama	Kentucky	North Dakota	Alberta
Alaska	Louisiana	Ohio	British Columbia
Arizona	Maine	Oklahoma	Manitoba
Arkansas	Maryland	Oregon	New Brunswick
California	Massachusetts	Pennsylvania	Newfoundland, Labrador
Colorado	Michigan	Rhode Island	Northwest Territories
Connecticut	Minnesota	South Carolina	Nova Scotia
Delaware	Mississippi	South Dakota	Ontario
D.C.	Missouri	Tennessee	Quebec
Florida	Montana	Texas	Saskatchewan
Georgia	Nebraska	Utah	Other
Hawaii	Nevada	Vermont	
Idaho	New Hampshire	Virginia	
Illinois	New Jersey	Washington	
Indiana	New Mexico	West Virginia	
Iowa	New York	Wisconsin	
Kansas	North Carolina	Wyoming	

**2) Contact Information (Agency Name, and Contact Name must be provided as a minimum):**

This information is available to ASIS members.

**3) Please list the top three IT application development or implementation projects your agency plans to undertake.**

	<b>Project 1 Description</b>	<b>Project 2 Description</b>	<b>Project 3 Description</b>
AK	ERM Integrated Resource Information System IRIS Project sponsored by the Department of Administration that affects all accounting, payroll and procurement processes in the State of Alaska	Transportation Asset Management Plan that affects how all business is funded and performed. This affects most of our systems including Maintenance Management, State Equipment Fleet, Pavement Management, Bridge Management, Management Reporting, Bid Tabs, and other AASHTOWare initiatives.	Data Center Infrastructure upgrades to support continued operations of our Oracle Databases, applications, web services, Citrix, Backup and Recovery Services as well as upgrades to our GIS Services.
AL	Develop the Construction and Materials Management System (CAMMS)	Implementation of AASHTOWare Project Preconstruction	Implementation of BrM a comprehensive Bridge Maintenance System (formerly known as Pontis)
AZ	Enterprise Resource Planning (ERP)	Project & Portfolio management for roadway development & construction projects	Enterprise GIS, Construction Inspection mobile apps, Asset Management & Features Inventory
DE	Upgrade current Pre-Construction Suite (Bentley, Primavera)	Modernize several legacy applications & Infrastructure, move to web enabled applications (MEAP, FMIS, AASHTOWare upgrade)	Enhance data collections and metrics for data driven decision making (eConstruction, ITS deployment, DelDOT Traffic mobile traffic app)
FL	Work Program Integration Initiative Project	Information Technology Strategic Plan - Enterprise Information Management	Geospatial Roadway Data Strategic Framework
ID	Site Manager and LIMS	Professional Agreement Tracking System	Automate data transfer from truck controllers to Asset Management System
IN	Roads and Highways/Agile Assets Integration	Rewrite of our Electronics Permitting System	Creation of a new Utility and Railroad relocation application
KS	Replacing our aging FileNet Document Management System	Moving our on premises learning management system to one that is hosted by our vendor.	Replacing our existing roadway geometric inventory database.
KY	Vehicle Titling and Registration System replacement.	Driver's Licensing system replacement.	Utilities system, Motor Carriers
LA	AASHTOWare Project CR&L 2.02	AASHTOWare Project Estimation 3.0	Legacy Modernization
MB	Spatial Data Infrastructure: includes data cataloguing and querying	Asset Management, including Pavement and Bridge Management systems; Highway Inventory	Road Information (public) replacement
MD	Construction Management System	Materials Testing and Evaluation system	Consumable Inventory System
MI	SIGMA - State of Michigan enterprise resource planning.	JobNet - Transportation Program management system.	Web Transport systems.

MN	CAATS Project that will be consolidating the functionality of the following contract systems within MnDOT: 1. Contract/Agreement # Assignment Spreadsheet Process – Finance 2. Contract Management Application (CMA) - Office of Chief Counsel 3. External Audit Tracking System (EATS) - Audit 4. Consultant Agreements Reporting and Tracking System (CART) - Project Management & Tech Support 5. Metro Contract (MCA) – Metro District	AASHTOWare Construction and Materials 3.0 Implementation	
MO	Transportation Management System modernization --move present system from CA Advantage Gen to .Net. A multiyear, multimillion dollar effort	Upgrade Statewide Wireless Controller Infrastructure	Upgrade our Learning Management System
MS	oversize/overweight permitting	program/project development/management	Safety Analysis Management System V2
MT	Aeronautics Division suite	On-line permitting for Motor Carriers	Maintenance Division material tracking
ND	Motor Vehicle Modernization Project	Maintenance Management System	Business Intelligence Reporting
NE	Mainframe Migration	KRONOS Implementation	OnBase Implementation
NM	moving to all Web based applications	Virtualization	Mobile accessibility
NV	Asset Management	Document Management	Business Intelligence
OH	Enterprise Resource Planning (ERP) Implementation - PeopleSoft. To include Capital Program and Project Delivery Requirements.	Roadway Information Management System (RIMS) using ESRI Platform	Enterprise Information Management System (EIMS)using Agile Assets to include the entire agency capturing direct and indirect labor costs
OR	Services Transformation Program - This project entails updating the DMV service program and replacing a 40-year old legacy DMV driver and vehicle system.	Road Usage Charge program (RUC): Oregon will be among the first states to tax by the mile as opposed to collecting revenues through traditional gasoline/fuels taxes. The program will utilize technology and public/private partnerships to tax consumers by the mile.	Intelligent Transportation System (ITS): Utilizes connected vehicles, vehicle-to-road, weather tracking technologies, real-time traffic monitoring, adaptive signage technologies.
PA	Implementing 3 D CADD modeling and Providing Models to Contractors	Modernizing the Electronic Document Management System (EDMS)	Implementation of ProjectWise
RI	ESRI Roads & Highway: GIS-based linear referencing system (LRS)	Oracle Financials E-Business Suite Upgrade (FMS)	Project/Construction Management Software Upgrade/Replacement (PMP)
TX	Upgrading the applications used to manage projects and portfolios of project	Rationalizing legacy applications	Upgrading our pavement management system
VA	Project Portfolio Management System, for Design, Engineering, & Construction projects and programs, based on scoring, prioritization, and funding optimization	A new Maintenance Management System for non-pavement and non-bridge assets	online Construction document management system, including electronic acceptance of submittals, workflow based routing and review management, etc.
VT	Expand with upgrades to the new VTrans Project Information and Navigation System VPINS; which replaced a preconstruction capitol program management system	Automate ROW workflow functions with BPMS applications	Mobile technology applications

WA	<p>Time, Leave and Attendance (TLA). WSDOT, in collaboration with state enterprise services, is a pilot agency in the implementation of a new, highly configurable, Commercial Off-The-Shelf (COTS) TLA system. The new system will address some of the issues faced by WSDOT's use of the existing timekeeping systems, such as: difficulties implementing and tracking provision of the agency's thirteen collective bargaining agreements; maintenance of time keeping systems developed in the 1980's.</p>	<p>Ferries Vehicle Reservation System (VRS). WSDOT is implementing a new service, "Save A Spot", which replaces existing vehicle reservation capabilities on Washington State Ferries' routes. VRS is being developed by WSDOT and is integrated with WSDOT's existing "Wave2Go" ticketing and Electron Fare System (EFS).</p>	<p>Mobile development and deployment of a new Highway Activity Tracking System (HATS) for use by all WSDOT Maintenance Employees. This includes software development, Equipment deployment (iPads); Wireless access points; Mobile Device Management/security, etc.</p>
WI	<p>DOT STAR - Implementation of Financial, Purchasing, Budget and HR modules of a State ERP system.</p>	<p>Next Generation ATMS - RFP for the replacement software to run our State Traffic Operations Center.</p>	<p>Enterprise Document Management - Plan, create and implement an Enterprise Document Management (EDMS) service for WI DOT.</p>
WY	<p>ERP Upgrade - Upgrade PeopleSoft FSCM and HCM to version 9.2.x and upgrade Agile Assets to version 7.x</p>	<p>Sunset mainframe systems - Continue working on getting the last two systems off the mainframe - Fuel Tax &amp; RIS (Motor Vehicles Services/Drivers Services).</p>	<p>Replace Highway Patrol mobile terminals. The current mobile terminals are at end of life.</p>

#### 4) What new or emerging technologies do you foresee occurring or implementing in the near future?

	What new or emerging technologies do you foresee occurring or implementing in the near future?
AK	None
AL	We are continuing efforts to pursue implementing <b>mobile technology</b> into the CAMMS <b>web application</b> for our construction and materials field personnel to capture sample and inspection data on remote project construction sites.
AZ	<b>Cloud-based computing</b> (Software as a Service), Mobile, Business Intelligence, specific applications of GIS technology, ITS
DE	1) Continued deployment of <b>web based information</b> interfaces for consumer information. 2) Deployment of alternative UI's and data collection tools. 3) <b>Mobile apps</b> in general and specifically for construction inspection and administration of contracts.
FL	Enterprise Services Bus, ArcGIS On-Line, Mobile Application Development, <b>Cloud based offerings</b> ,
ID	Utilizing mobile technology in the field
IN	Expanding further into mobile technologies (HTML5, XCODE, PHONEGAP, REST Services, etc.)
KS	The adoption of a state hosted <b>private cloud</b> (IaaS). Moving to a statewide, web based email solution (O365).
KY	Hadoop, Windows 8/10 tableted computing becoming more mainstream. More <b>cloud computing</b> .
LA	Mobile Application, <b>Cloud Services</b>
MB	ArcGIS On-line, along with improved Asset Management systems
MD	Expanding the use of <b>Cloud Technology</b> , Mobile Applications and associated BYOD acceptability.
MI	Mobility, GIS/Mapping, LIDAR, 3D CAD/GIS
MN	Linear Referencing System (LRS) project 1. A centralized tool for locating and analyzing spatial roadway data attributes 2. A tool to translate between various linear referencing methods 3. Temporality and the ability to track history 4. A precursor for Shared Centerline collaboration with local jurisdictions 5. Improved tools for data quality and business process workflows AASHTOWare Construction and Materials 3.0
MO	Mobile analytics --giving mobile users analytical info into MoDOT
MS	<b>Cloud</b> , HTML5, MVC, Mobile Device Management
MT	Open Source Business Intelligence tools
ND	<b>iCloud</b> , Mobile Apps for Data Collection, UAV for site surveys, bridge and tower inspections.
NM	Mobile Device Management
NV	More Mobile applications Shortest Path Bridging networks
OH	IT Service Management using ServiceNow
OR	Vehicle telematics, expanded GPS, <b>SaaS, PaaS</b> , bluetooth sensors to track road conditions/congestion, connected vehicles.
PA	3 D CADD Modelling Mobile Computing utilizing <b>Cloud Technology</b> Agile Development
RI	<b>Cloud Based Solutions</b> & Mobile Technologies
TX	Enterprise service bus and data lake
VA	Strategic mobile services deployment for employees, service partners, and citizen services.
VT	CITRIX ZenMobile; administering and managing mobile technology; turning a IPAD into a laptop
WA	More mobile and <b>cloud based services</b> .
WI	Mobile 3D LIDAR
WY	Looking at using <b>cloud services</b> .

**5) Please identify the top three transportation agency business processes that could be improved through the use of mobile technology.**

	<b>Business Process 1</b>	<b>Business Process 2</b>	<b>Business Process 3</b>
AK	Road Weather	Road Conditions	Highway Feature Information
AL	The Construction and Materials Management System (CAMMS)	RoadMAP is a commercial off-the-shelf application developed by CitiTech, Inc. of Rapid City, South Dakota. It is used by the ALDOT Maintenance Bureau to manage Work Requests, Work Orders, physical and personnel assets, Condition Assessments, and annual maintenance budgets.	Geographic Information System (GIS)
AZ	Construction site inspections & data gathering	Roadway asset inventory	Road closures & incident management
DE	Customer Service Experiences (DMV, Public transit)	Field Project Management / Inspection collection.	Traffic Control Management (Signals, flow control)
FL	eConstruction	Inspections	Permitting
ID	Electronic approval of constructions documents	Easier access to Design files for construction teams	Inspection review and agreement management at constructions sites
IN	Roadway Asset collection	Bridge Inspections, Inspections of other assets such as Culverts and Facilities	Construction: Pay Item Quantity Calculations, Daily Work Records, Asset Locations
KS	Fleet Management	Roadway service requests.	Roadway condition reporting.
KY	Construction and Bridge Inspection	Asset Inventory and Management including traffic signal inventory/manipulation.	Crowd Sourcing on Reporting Problems, Incidents, Events.
LA	Construction Inspection	Compliance Field Interviews	ITS Traffic Reporting
MB	Surveying (LIDAR) and road design	Inventory data gathering	Road Condition Information
MD	Various field Inspection and Reporting	Maintenance Data gathering and reporting	field and office collaboration
MI	Asset Management	E-Construction (electronic signature, workflow management, document repository and electronic file)	Traffic flow and road conditions (communication)
MN	Civil Rights Field Reporting	Materials Sampling	Culvert Application – Asset Management
MO	Maintenance -	Asset management	Construction inspection
MS	Bridge Inspection	Construction management	Maintenance Management
MT	Data collection for Planning Division (HPMS, Traffic, road inventory)	Construction Management Activities	Maintenance Management Activities
ND	Site Data Collections using iPads, inventory, etc...	Mobile App Development	Citizen Reporting App of potholes, signage down, accidents, weather conditions, road kill, etc..
NE	Approval of Documents	Plan/Project reviews	Asset Management
NM	Application Entry and updates	Reporting	Real time updates and accuracy
NV	Maintenance Management	GIS Data Collection	511 type services for the public

OH	Asset Management - Collection of Assets	Incident information - Traffic conditions	
OR	Department of Motor Vehicles - ability to perform the majority of transactions from any device, any where. Customer-centric design, portal based.	Continued development of Oreogn Tripcheck systems to provide real-time information to Oregonians (cameras, traffic conditions, weather conditions, etc.)	Vehicle inspection process (Motor Carrier)
PA	Construction Inspection	Construction Quality Assurance	Materials Testing
RI	Work Orders	Inventory Asset Tracking	Document Approvals
TX	Field inspection for construction and maintenance projects	Emergency/disaster response	Workflow approval
VA	Inspection activities - construction, bridge, ordinary maintenance, environmental, etc.	ADA compliance monitoring for sidewalks and curbs.	Emergency and Incident Management and coordination.
VT	Asset inventory	Maintenance work activity	Project inspection
WA	Maintenance activity tracking. Field inventory, inspection and reporting.	Project management (site management)- Inspectors daily reports, etc.	Improved communication and timely access to information. Emergency Operations.
WI	Inspections of bridges and other structures	Inventory of road signs, markers, signals, utility lines, etc.	GIS mapping
WY	Bridge Inspections - Being able to run disconnected and/or mobile will be beneficial.	Agile Assets - Being able to complete some work at the roadside would be beneficial.	ERP Approvals - Being able to process some ERP approvals from mobile devices would be beneficial.



## 6) What significant changes in the agency's business processes will affect your agency's technology needs?

	<b>What significant changes in the agency's business processes will affect your agency's technology needs?</b>
AK	The above mentioned IRIS and TAM related systems
AL	We have a need to take advantage of emerging technologies that provide for electronic signatures where applicable. This would allow the multitude of forms, permits and other documentation currently circulated via paper/snail mail, to be transferred electronically for processing and gaining approvals, etc.
AZ	The need for complete, accurate, timely and actionable information anytime, anywhere in any format (mobility especially)
DE	Asset Management data collection. Continued / expanded measurements for the system efficacy. Expanding inventory of assets and no ability to expand existing complement of FTEs will require outsourcing portions of our business. That combined with IT consolidation may mean that data collection will be done more outside the State network on platforms we do not own. We would simply be the receiver of a finished product.
FL	Enterprise Information Management, Paperless workflow processing, providing secure anywhere, anytime data access to employees in the field.
ID	Increased utilization of mobile technology will require improved network access throughout the state
IN	Financial Approvals
KS	Adoption of the central government cloud. Move to ESRI for GIS application.
KY	Most business changes impact technology. Lots of business processes are demanding more data to enable them to make better decisions and establish accountability. General move to mobile facilitated by 4G/LTE.
LA	IT Consolidation
MB	Data identification and sharing (Asset Management) along with mapping capabilities
MD	With reduced resources, especially in the operations areas, we need to outfit them with more mobile technology but still securely store their confidential data.
MI	SIGMA (ERP)
MN	Use of Mobile Devices
MO	Greater mobile adoption with force greater internal mobile app development, necessitating greater resource dedication (Mobile Application Developers, either internal or consultant.)
MS	Performance & Accountability measures, the need to have technology for in the field work. External collaboration with other agencies and partners.
MT	Need for mobile access for data collection and access in for field operations
ND	Working toward eliminating programs / applications that reside on the state's mainframe.
NE	Users are wanting more freedom to display information and utilizing data to create reports the way they want to see the information. Therefore we need to be able to develop applications that give them this flexibility and improve the user experience as well.
NM	MAP-21
NV	MAP21 performance based budgeting for asset conditions and reporting
OH	Collection and management of assets, Data Governance, and Document Management.
OR	Would need to expand ODOT's mobility group and create a mobile applications group.
PA	Additional funding leading to a need to deliver more with the same number of staff
RI	Mobile Maintenance Work Orders. This would require opening outside connections and introducing a new module

TX	Continuing reliance on IT to complete the agency mission, the continued expansion of mobile opportunities, and the need for better information delivered more quickly than in the past.
VA	Virginia legislated a new scoring and optimization process for selecting and allocating projects for funding. The House Bill 2 (HB 2) will have significant impact on agency's six year improvement programming process.
VT	More mobile use of hardware and applications
WA	More demand for mobile and "real-time" data/information.
WI	1. The implementation of the State ERP system. 2. Move from 2D to 3D technologies. 3. Automation of manual business processes.
WY	I'm not aware of any.

**7) Please list/describe any mobile applications that your transportation agency uses that you believe would be useful to other agencies. Please indicate if the application is free, purchased, or developed in-house.**

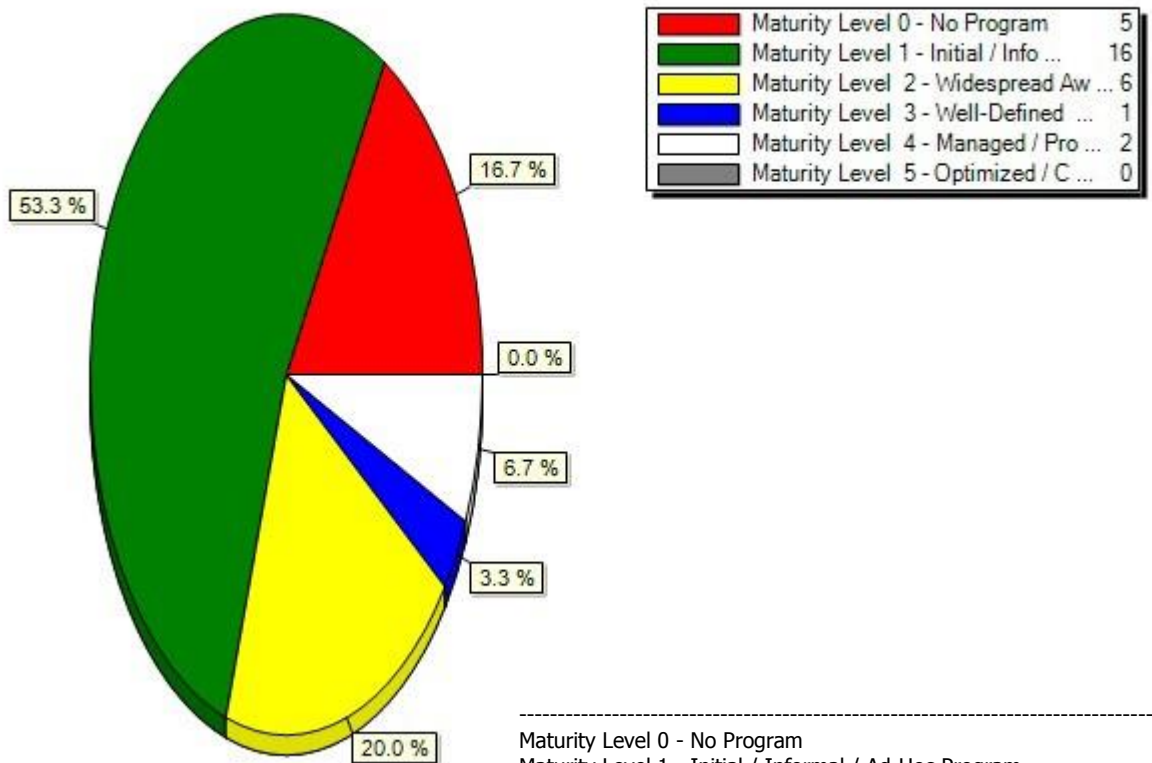
	<b>Please list/describe any mobile applications that your transportation agency uses that you believe would be useful to other agencies. Please indicate if the application is free, purchased, or developed in-house.</b>
AK	None
AL	None at this time.
AZ	Feature Inventory data collection (in-house). Construction Inspections (in-house).
DE	DelDOT Traffic App - developed in-house.
FL	SunPass 511
ID	511 mobile app - contracted Sign Inventory data (ESRI) collection app
IN	DamageWise (system associated with the inspection/invoicing/collection of Crash Damage) - Built inhouse; Field Assistant (Add-on to SiteManager that collects pay item information from the field) - Built inhouse Inspectech - (Bridge Inspection), purchased from Bentley
KY	Citrix Receiver, Pocket Cloud as purchased. Waze free.
LA	None
MI	Mobile Airport Directory, MiDrive, OneDrive
MN	Culvert Application – Developed in house
MO	MoDOT mobile TIM --available on Apple or Google stores - a mobile version of our Traveler Information Map MoDOT NOW --a MoDOT information dissemination app, available on Apple or Google
MS	MSTRAFFIC, developed in house app for Mississippi traffic information and cameras on ios and android.
MT	None
ND	NDROADS for Travel Information. Also developing a Motor Vehicle Renewal App for Vehicle Registration Renewals.
NE	NDOR does not have any mobile applications that have not already been developed by other agencies.
NM	ENDWI
NV	Free ArcGIS tools for data collection in the field
OH	Location Finder - Provides county crews location information by converting GPS to ODOT's base referencing system (DIH), Work Zone Pocket Guide - Provides work zone setup information from the MUTCD on a mobile platform (DIH), Roadway Deficiency Application - Used during by-weekly system inspections to denote the type and location of roadway deficiencies and includes pictures. This information is used by our county forces to inventory deficiencies and create work plans. (DIH) OHGO - Used to provide real time traffic and incident information - free
OR	Tripcheck (under development)
PA	MC Docs- provides availability to various specifications and other reference documents to inspectors in the field. I-Forms- Bridge inspection
RI	NA
VA	VDOT's 511 Traffic Information System mobile app for iphones, ipads, and android smart phones.
WA	HATS Project described above.
WI	Our current mobile apps are either under development or in pilot stages.
WY	NA

**8) Please propose 2 questions and/or topics for a round table session at the next ASIS meeting.**

	<b>Round Table Question 1</b>	<b>Round Table Question 2</b>
AK	BYOD Device Management	Microsoft Office 365
AL	Best practices to obtain "buy in" from management for obtaining/implementing mobile technology	How to transform agency to paperless environment.
AZ	Big Data - Data Management	Intelligent Transportation System (ITS)
FL	Does your agency have an IT Strategic Plan? Challenges? Benefits?	How has your agency addressed mobile device standards and policies? Challenges? Benefits?
ID	Information Management Planning	Cloud Services
IN	Discussion of how DOT IT departments are staffing and funding projects (in-house, staffing/contractors, outsourcing), (State Funds, SPR, HSIP, etc.)	Largest IT security threats that are facing DOT Departments and ways to combat those threats
KS	Who has adopted a centralized IT approach and is it working? What challenges are to be faced and how to the Agencies establish priorities?	Who has migrated to Office 365 and are there any things that you might do differently.
KY	An effective mechanism to publish information and share systems for non AASHTOWare applications.	
LA	How has Consolidation affected other agencies?	
MB	AASHTO adoption of Asset Management system(s)	Spatial data standards (data sharing)
MD	How can DOTs more easily share applications and technology solutions through AASHTO connections so it does not feel like it is too big of a hurdle to spend time helping our colleagues?	What has worked for your state in evaluating and implementing current and emerging technology solutions?
MI	How can we better share experiences and lessons learned?	How does AASHTO choose vendors and ensure quality software?
MN	Please describe you agencies use of Web Services	How is your agency interfacing large scale Enterprise Systems? Do you have a mobile device strategy for your department
MO	What, if anything, has your DOT's IT department done regarding internal chargebacks or show backs for IT resource consumption?	Do you have an agency wide business process improvement program or group and if so, how does it work with the IT division?
MS		
MT	Consolidation/Centralization	Portfolio Management/IT governance
ND	How is your state DOT IT structured - what is included, what has been consolidated - future outlook (like to have the info gathered before the meeting)	Any new programs developed and could they be shared and used by other states.
NE	Are agencies utilizing cloud storage? Is it a statewide solution?	What are agencies doing with retention of data such as source code, development documentation, incident and change tickets, and other IT-related records?
NV	Asset Management system approaches and challenges	Data warehousing/transportation data management best practices

OR	Discuss what you think will be the importance of mobile applications in transportation. What can transportation agencies do to be ready? What business areas do you think will most benefit from the use of mobile applications?	Discuss what your agency is doing regarding infrastructure technologies. For example: variable message signs, variable speed signs, roads that adapt to congestion and weather, etc. What role does technology play now and what do you see for the future?
PA	How is 3 D Modelling being used in state DOTs.	Innovative ways of communicating with consultants/contractors.
RI		
TX	Value of using big data tools	Legal/security concerns around using cloud environments
VA	Secure GIS enabled mobile everything.	Citizen engagement or communication in channels of their choice - time, technology, topic, and tone.
VT	What are DOTs using for business process management systems and how well is it going?	
WA	Mobile Device Management/security	Application Development/deployment for mobile.
WI	What are the best practices towards application management and data security when IT is centralized outside of the business area and/or agency?	How does the creation of good use cases for testing improve the transportation system?
WY	What drives the decision to dedicate IT development or support staff to a specific business function and/or application system?	How have you responded to IT consolidation?

**9) Does your agency have an enterprise architecture program? If so, what is its maturity level? Please feel free to provide any additional information in Additional comments.**

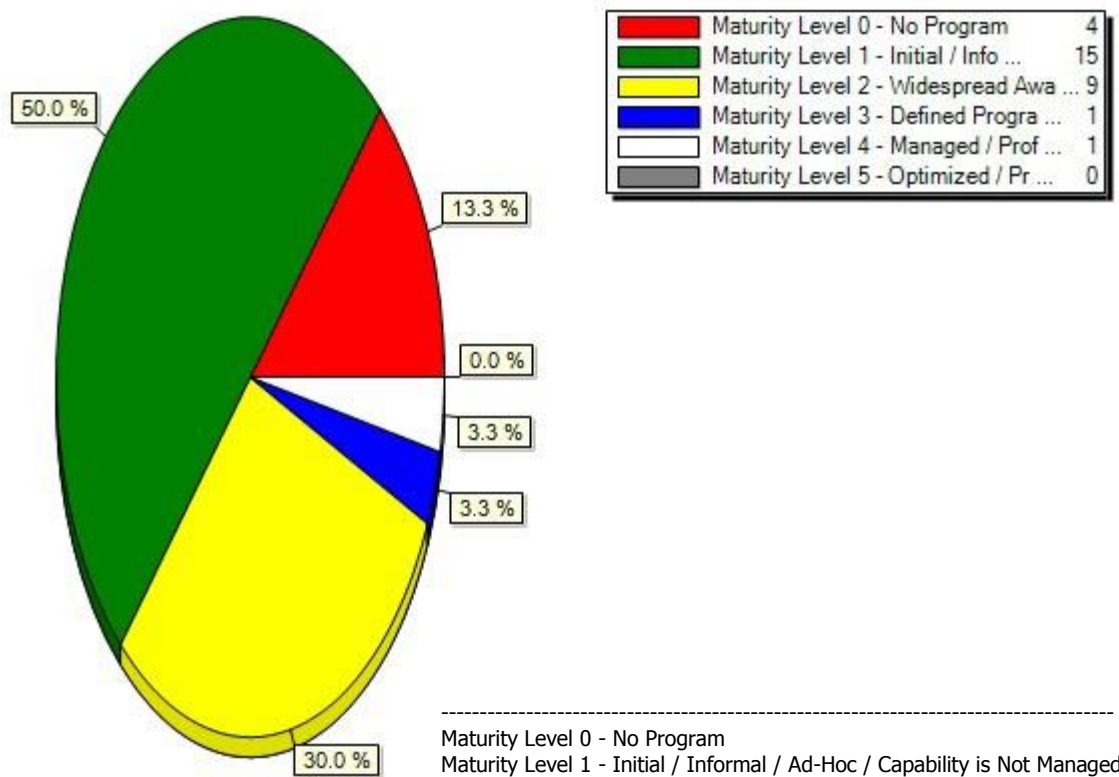


-----  
Maturity Level 0 - No Program  
Maturity Level 1 - Initial / Informal / Ad-Hoc Program  
Maturity Level 2 - Widespread Awareness / Repeating Program  
Maturity Level 3 - Well-Defined Program  
Maturity Level 4 - Managed / Proficient Program  
Maturity Level 5 - Optimized / Continuously Improving Vital Program

**Comment Responses:**

FL	For enterprise management we are a level 3/4. Shadow IT reduces our overall score to a 1
KY	Consolidation eliminated owned infrastructure; we do have have a well defined optimized application development environment and program.
MT	We have a project underway to hire a consultant to help develop a formal EA program
WI	We are putting the finishing touches on our EA program. Still working on gaining acceptance of the EA program by the business.

**10) Does your transportation agency or state enterprise have a data governance model? Is it implemented, being used? What is its maturity level, how would you describe its maturity? Please feel free to provide any additional information in Additional comments.**

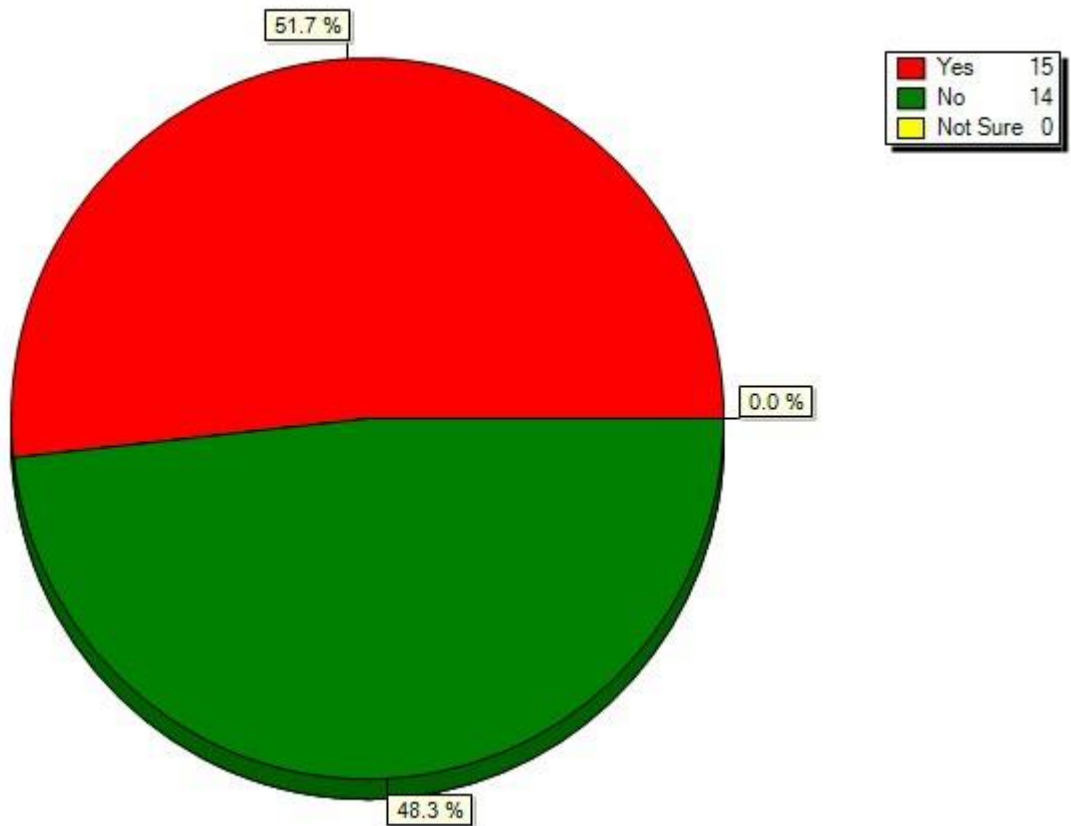


-----  
Maturity Level 0 - No Program  
Maturity Level 1 - Initial / Informal / Ad-Hoc / Capability is Not Managed  
Maturity Level 2 - Widespread Awareness / Repeatable / Metrics Established  
Maturity Level 3 - Defined Program / Self-Monitoring & Reporting Progress  
Maturity Level 4 - Managed / Proficient / Sustainable and Maintenance Metrics  
Maturity Level 5 - Optimized / Prioritization and Improvement Metrics

**Comment Responses:**

FL	For enterprisedenterprise management we are a level 3/4. Shadow IT reduces our overall score to a 2
KY	High priority to develop and implement data governance plan.
MN	1.5
MT	Data governance is a key component of our EA project
RI	Being Implemented

**11) Does your transportation agency use open source technologies and/or libraries? If yes, please describe those technologies and/or libraries in Additional comments.**



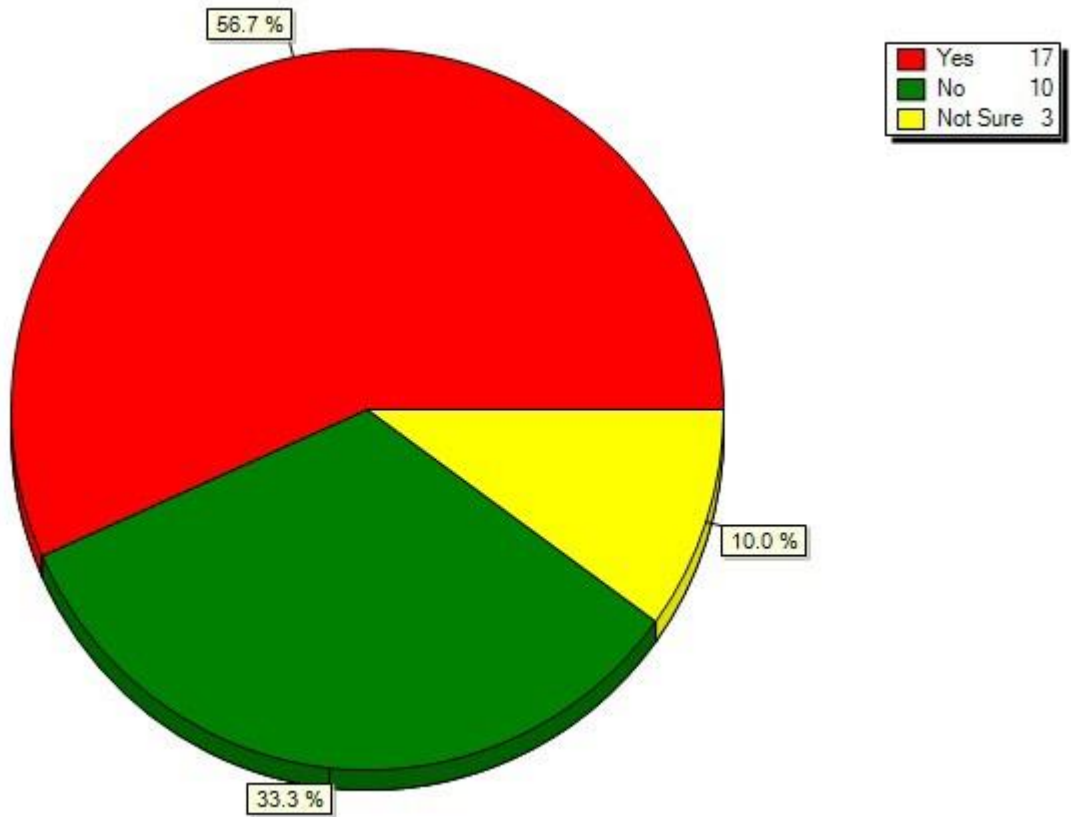
**Comment Responses:**

AZ	C# components, various security tools, Linux servers, various security administration tools
FL	Limited use for specific .NET controls and libraries and appliance servers.
IN	Leaflet Map engine, JSON services, HTML5/JS, PostgreSQL, SQLite, PhoneGap
KS	While we have some, it is very limited in scope.
KY	Hadoop
MI	JBOSS and numerous JAVA libraries
MN	Linux, JSON



MO	Linux server infrastructure/ Apache
MS	PDF Sharp, Java Script, Boot Strap, PHP,
NE	We are using open source technology on a number of applications such as our Storefront application, Financial system development, <a href="#">Department Intra/Internet application</a> and with our 511 system that is currently being updated.
OH	Log4Net, Spring.Net, iReport Designer, Jasper Reports, Junit, TestNG, Hibernate, Spring Framework, Ehcache, Multiple products/libraries from CodPlex, jQuery, Python, Perl, Notepad++, NSIS, Apache Web Server, Tomcat/JBoss, Apache Software Foundatio
TX	Various open source tools
WI	Several development tools, code testers, viewers

**12) Does your transportation agency integrate externally hosted application data with internal applications or databases? If so, please explain the basic technologies and approach in Additional comments.**



**Comment Responses:**

AZ	Highway Conditions Reporting, Grant Management, HR
FL	Web/Map services
ID	Motor Vehicle data, safety data
IN	Traffic Counts, CARS511, Bridge Inspections, Bidexpress
KY	Yes, we integrate GIS vector, imagery & elevation data from another state agency into our ESRI-based mobile, Web & desktop solutions. This is achieved using ESRI database connections and REST service connections.

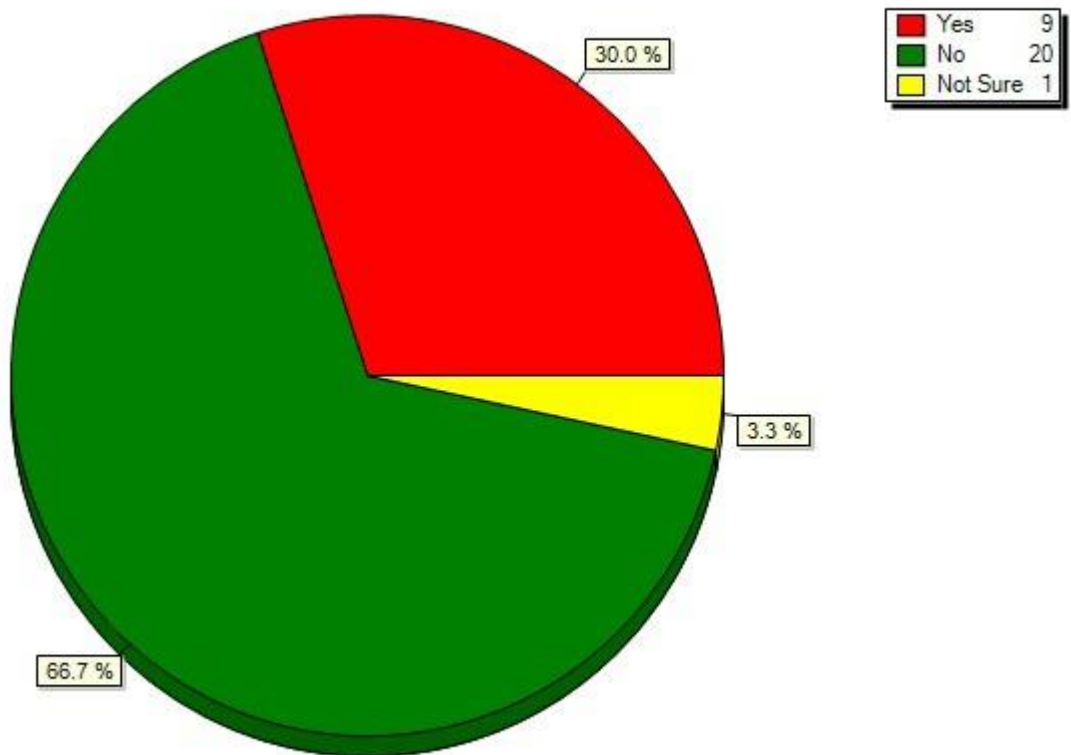
LA	Webservices, FTP, and direct database connections
MD	We are a Salesforce customer for Platform as a Service and Software as a Service
MI	Not at this time, but this will happen in the future
MO	We have nightly feeds of a State of Mo. financial and HR system into our data warehouse/marts. We use Informatica
NE	Some of this we do using webservice calls utilizing OData (open data protocol) and others with XML data exchanges.
NV	web services and flat files
PA	via Web Services, File Transfer, Middleware
PH	Yes - a virtual private tunnel is created so data can be passed in a secure environment.
RI	FTP/Web Services
TX	Batch loads
VT	Yes, BPMS SAS hosted using AOT data
WI	We make use of WebServices and/or XML where at all possible. Otherwise we do ETLs.
WY	We do this integration for a large number of systems. The basic technologies and approach will vary depending on the systems being integrated.

**13) Does your transportation agency purchase any software as a service (SaaS) other than email, BidExpress, and/or word processing? If so, please list/describe the software and/or service.**

	<b>Does your transportation agency purchase any software as a service (SaaS) other than email, BidExpress, and/or word processing? If so, please list/describe the software and/or service.</b>
AK	govdelivery.com
AL	no
AZ	Not at this time.
DE	Yes, we explore / employ a "cloud first" mind-set. Currently utilize DecisionLens.
FL	Yes, Innotas Portfolio Management, Office 365, Symantec Enterprise Vault, MaaS360, Mobile Device Management, Agate Federal Grant Management and Tracking Program.
ID	Office 365
IN	Traffic Counts (MS2), Bridge Inspections (InspectTech), CARS511
KY	Meeting room manager, Airport Permitting (ASM) and MS Project Cloud for PMO. ArcGIS Online
LA	Yes, RIMS Railroad Inventory.
MB	Road Information, Road Weather Information
MD	Salesforce - various app & Dev. platform Innotas - IT Portfolio Mgmt Cornerstone - Human Capital Mgmt SW
MI	No
MN	'SaaS Hosted': 1. Structure Inv Mgmt Sys (SIMS) a. Bridge inspection program 2. Maintenance Decision Support Sys (MDSS) 'Cloud': 3. Public Transit App (PTA) a. This application is used by the Office of Transit to manage Minnesota's transit systems' information. It includes statistics regarding funding, ridership, replacement bus information, etc. Contains financial data. 4. Snap b. COTS survey app that is hosted and supported by contractor. MN.IT @ DOT provides desktop and network services. MnDOT business guides end-users to contractor for support. 5. 511 Web and 511 phone c. SaaS app hosted and supported by Castle Rock. Free (no charge) app to end-users. Traveler information for metro and statewide travelers delivered via web and phone. Content is provided by MNCARS and Traffic Management Systems. 6. MnPASS d. SaaS app hosted and supported by VESystems VTX software. MnPass converted the I-394 and I-35W high occupancy vehicle lanes into pay-per-use, high occupancy toll lanes that will allow single occupancy drivers to utilize the HOV lanes and speed up their commute. The lanes will also remain open to high occupancy vehicles use at no charge. . This software interfaces with bar code software, credit card transaction processing software, field and vehicle hardware, and enforcement software from other vendors. 7. Performance Monitoring Sys (PeMS) e. SaaS app hosted and support by Iteris. Allows MnDOT staff to analyze and report on freeway performance within the Twin Cities Metro Area. The Regional Transportation Management Center (RTMC) within Metro District has over 5000 loop detectors that cover 400+ miles of metro freeway that measure traffic volumes and speeds every 30 seconds. 8. Survey Monkey f. Online survey SAAS. Account: D6-MnDOT 9. Decision Lens g. No description
MO	EPM Live for IT PPM.
MS	Decision Lens, BidX
MT	No
ND	Nothing notable.
NE	Our Rail Inventory System (RIMS) and we are implementing KRONOS to replace an in-house developed mainframe application for time and leave.
NM	NO
NV	Railway inventory system bridge management system eSTIP Office 365 - SharePoint
OH	ServiceNow, Roadway Weather Information System
RI	Yes, Civil Rights System

TX	Various SaaS offerings including Salesforce and applications that support federal DBE management, literature requests/fulfillment, and legislative tracking.
VA	Construction Document Management Services - for
VT	BPMS Fleet Management 511 web site with ESRI
WA	Our new Time, Leave and Attendance system will be a hosted SaaS solution.
WI	SharePoint, Lync
WY	No

**14) Does your transportation agency use any crowd-sourcing applications/data? If yes, please describe the applications/data and how are they used in Additional comments. Crowd-sourcing in this context is loosely defined as obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community. Please list those crowd-sourcing applications (Twitter, Waze, etc.) and the degree to which it is being used in Additional comments.**

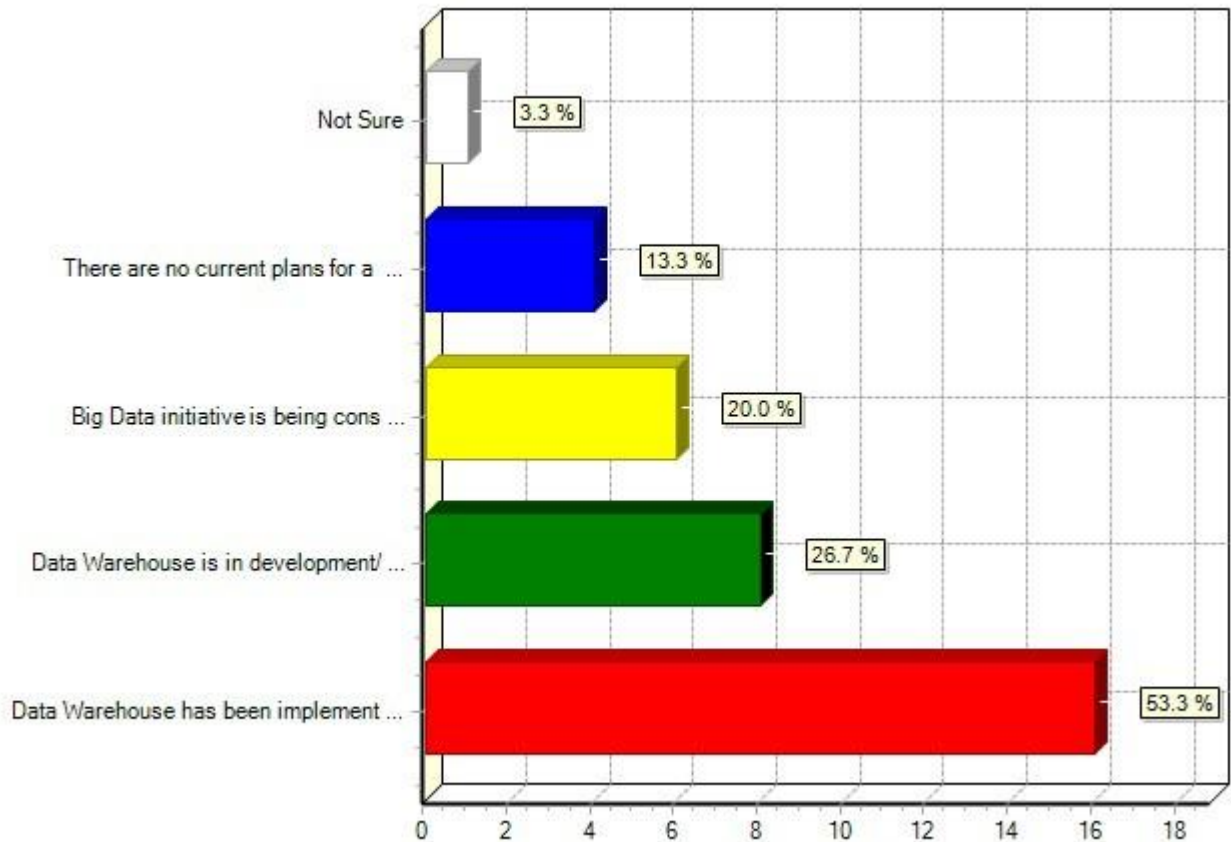


**Comment Responses:**

FL	Data sharing agreement with WAZE incorporated into our 511 application
IN	Facebook, Twitter, ExactTarget

KY	Waze in GeoEvent Processor. More crowd sourced information probably will be integrated via GeoEvent Processor.
MD	Twitter, Facebook, and now looking at combining information to create service requests and customer service responses to those requests.
MI	possible future use
MS	Would like to get access to Waze data
ND	Thru surveymonkey and GovDelivery
NE	We use a product called Mindmixer to solicit information about Highway Construction projects.
OR	Twitter, Instagram
RI	Twitter for Traffic/Construction Updates
VA	We are interested in learning how other organizations are doing this.
WA	Twitter, Facebook, Flickr

**15) Has your transportation agency implemented, or is considering implementing, a data warehouse, or planning a "big data" initiative? If so, please describe the implementation or plans in Additional comments.**



Not Sure  
 There are no current plans for a Data Warehouse nor a Big Data initiative  
 Big Data initiative is being considered  
 Data Warehouse is in development/consideration  
 Data Warehouse has been implemented

**Comment Responses:**

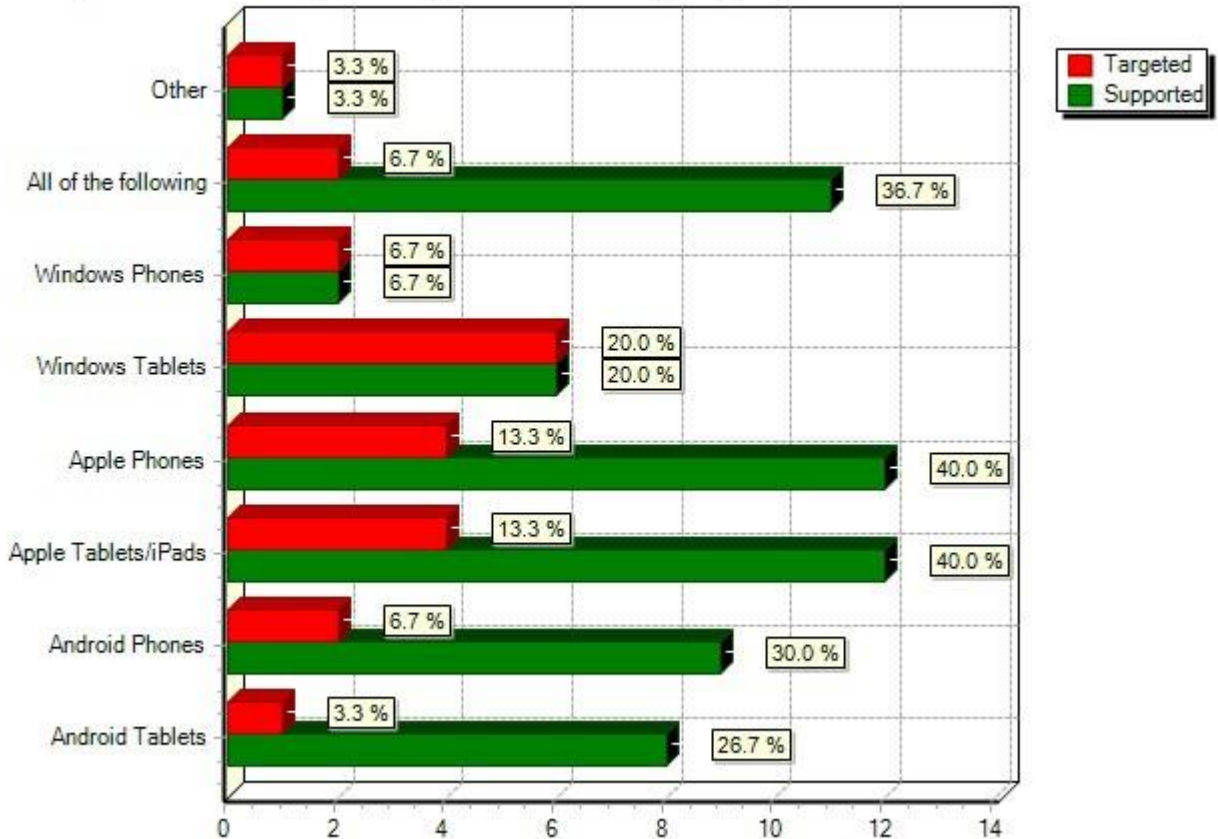
AZ	IBM Cognos
FL	Enterprise Information Management, Standards & Governance
IN	Our DW has existed for about 7 years and has truly become the epicenter for our systems integrations and enterprise reporting
KY	Pilot Hadoop for big data requirements for Enterprise.
LA	BAMS\DSS, SAP BI Data warehouse



MD	the system we participate in is a statewide system
MT	Part of our data management strategy and Business Intelligence initiative

## 16.1) Mobile devices anticipated for support for external use (by the public) in FY2015

16.1) Mobile devices anticipated for support for external use (by the public) in FY2015

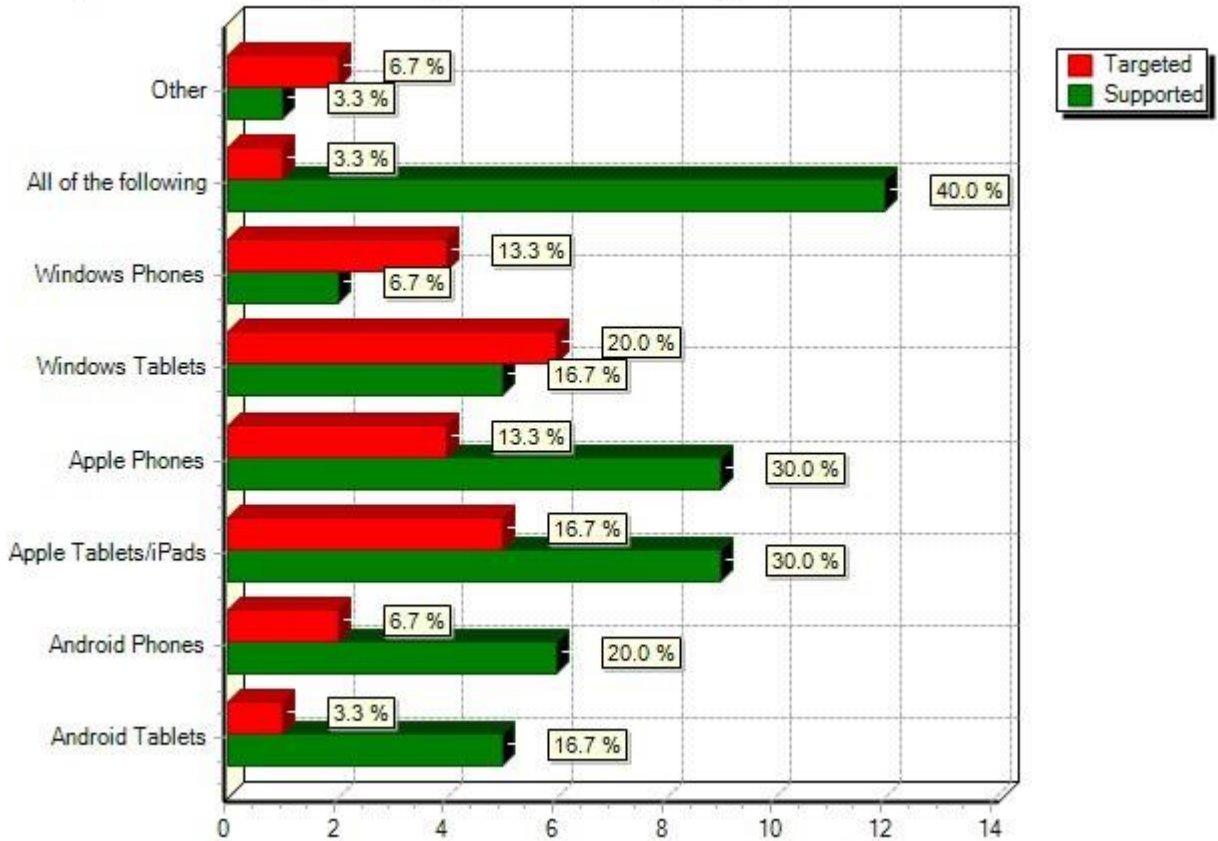


### Comment Responses:

FL	support limited to mobile applications supporting, no direct technical support provided for the public
IN	For external apps we use HTML5 and test via iphones/ipads but it should work on any browser
LA	1 App and Public Website
WI	External facing apps are dev for both Apple and Android, however we don't support the publics devices.
WY	Our internet sites are built to render well on most mobile devices.

## 16.2) Mobile devices anticipated for support for external use (by the public) in FY2016

16.2) Mobile devices anticipated for support for external use (by the public) in FY2016

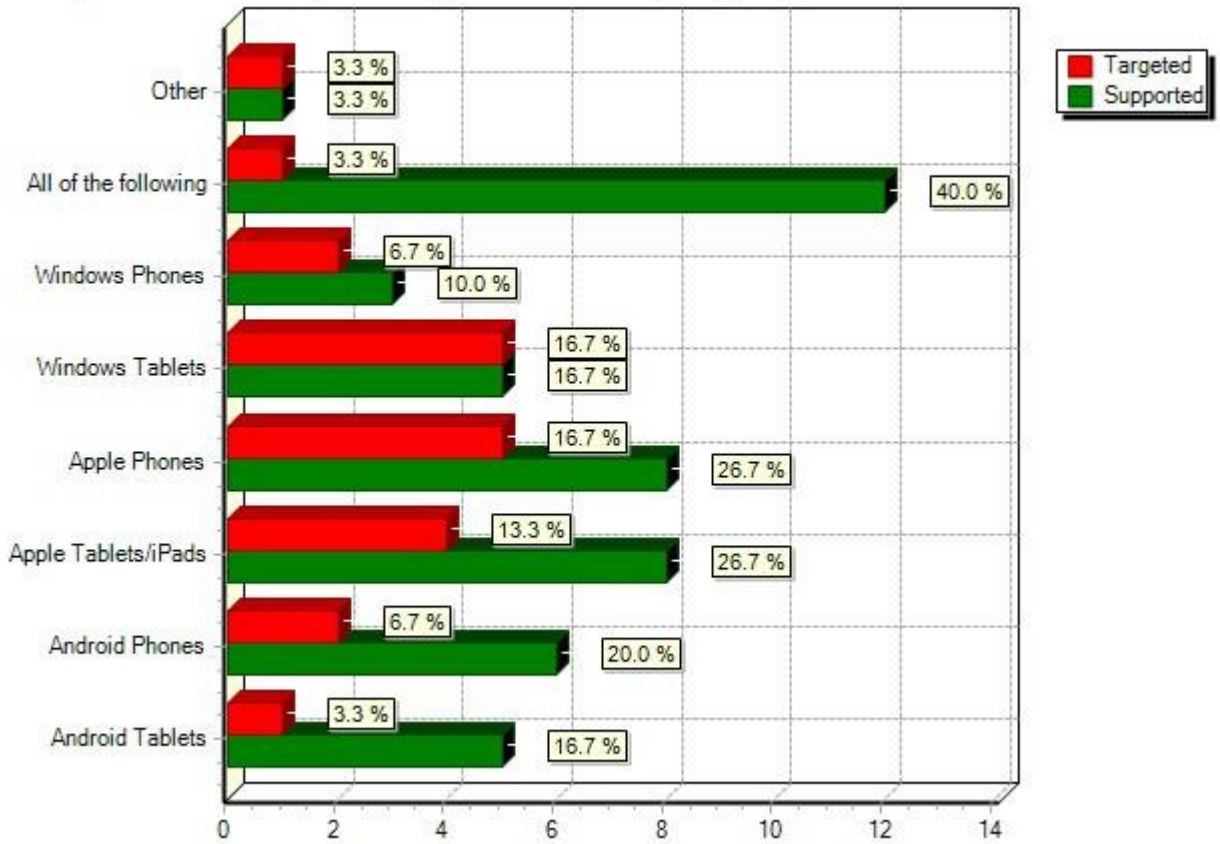


### Comment Responses:

IN	For external apps we use HTML5 and test via iphones/ipads but it should work on any browser
OH	All HTML 5.0 supported devices

### 16.3) Mobile devices anticipated for support for external use (by the public) in FY2017

16.3) Mobile devices anticipated for support for external use (by the public) in FY2017

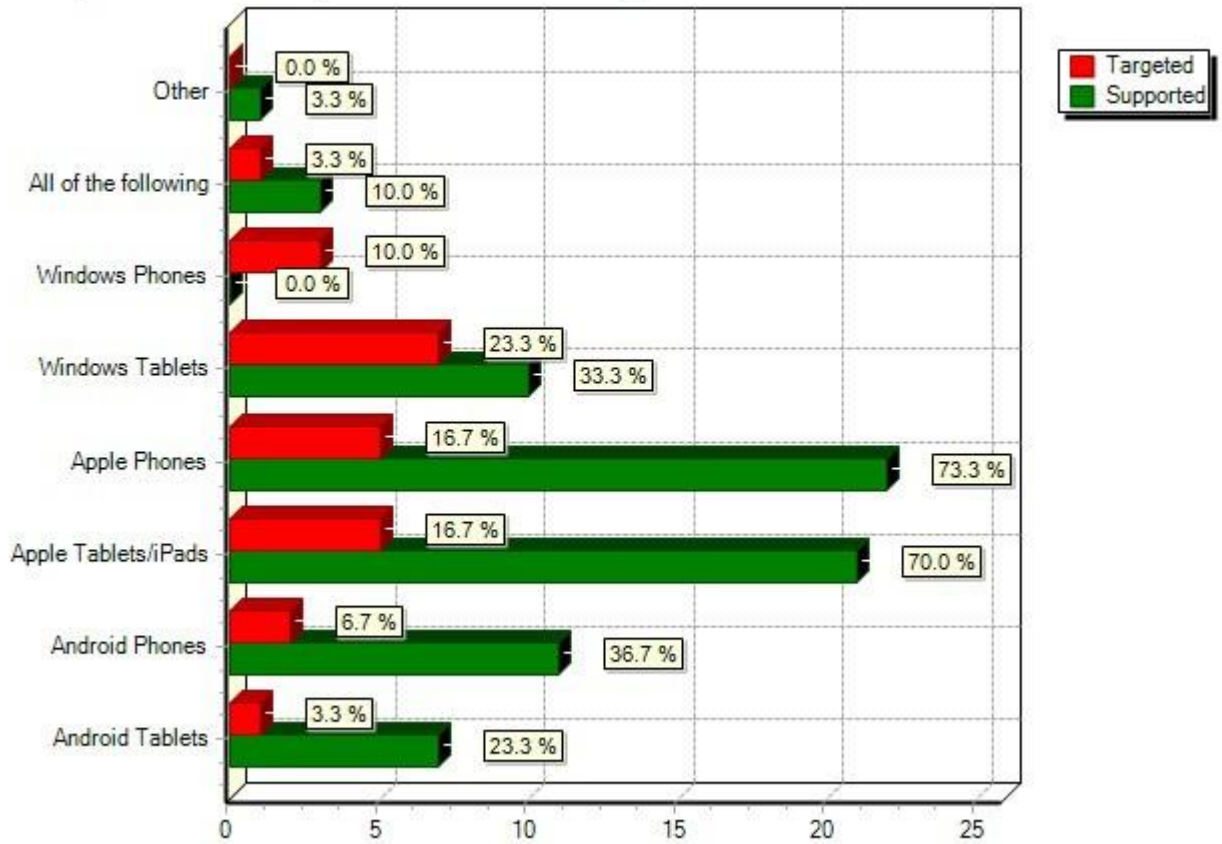


#### Comment Responses:

IN	For external apps we use HTML5 and test via iphones/ipads but it should work on any browser
OH	All HTML 5.0 supported devices

## 17.1) Mobile devices anticipated for internal use and/or support in FY2015

17.1) Mobile devices anticipated for internal use and/or support in FY2015

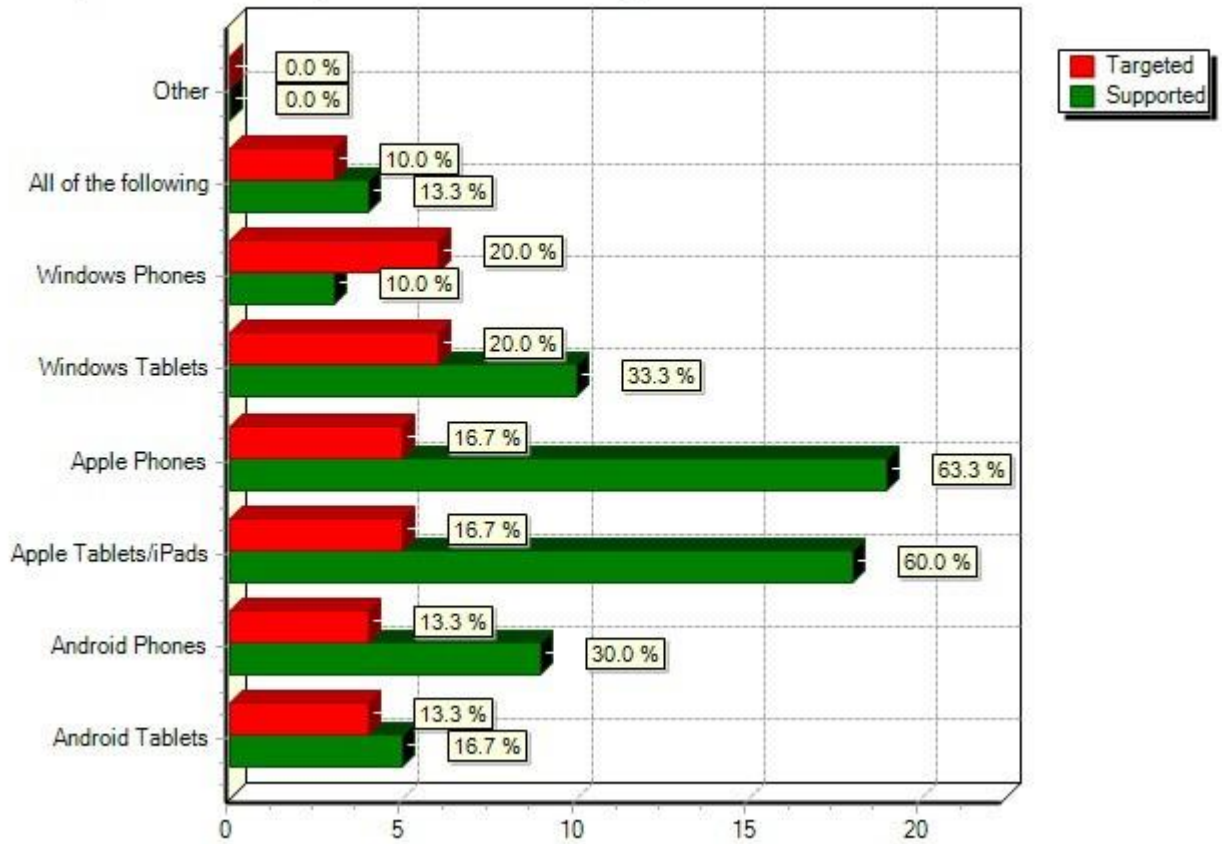


### Comment Responses:

IN	Our mobile platform is the iPad but we use HTML5 and PhoneGap so other devices from BYOD should work
OR	Only Samsung on Androids

## 17.2) Mobile devices anticipated for internal use and/or support in FY2016

17.2) Mobile devices anticipated for internal use and/or support in FY2016

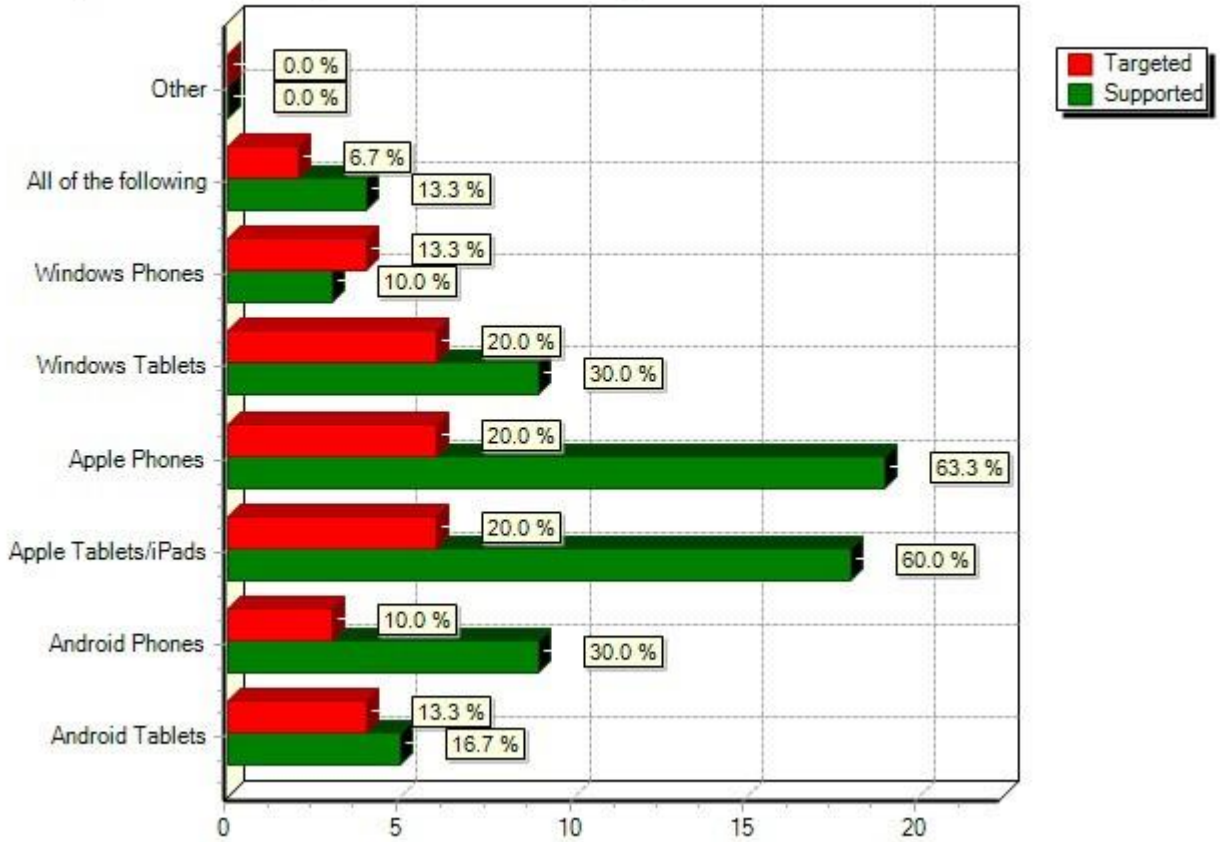


### Comment Responses:

IN	Our mobile platform is the iPad but we use HTML5 and PhoneGap so other devices from BYOD should work
OH	All HTML 5.0 supported devices
OR	Only Samsung on Androids

### 17.3) Mobile devices anticipated for internal use and/or support in FY2017

17.3) Mobile devices anticipated for internal use and/or support in FY2017

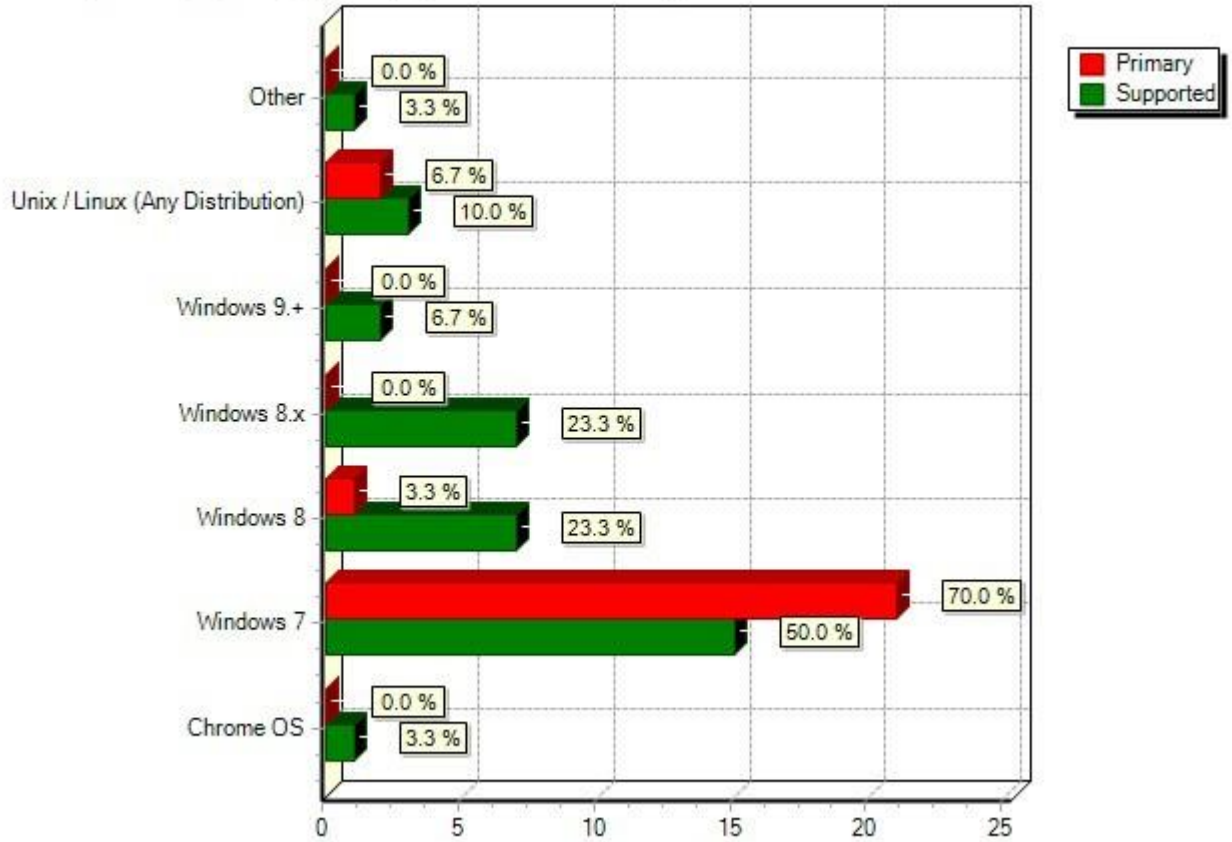


#### Comment Responses:

IN	Our mobile platform is the iPad but we use HTML5 and PhoneGap so other devices from BYOD should work
OH	All HTML 5.0 supported devices
OR	Only Samsung on Androids

## 18.1) Desktop operating systems projected for use and/or support in FY2015

18.1) Desktop operating systems projected for use and/or support in FY2015



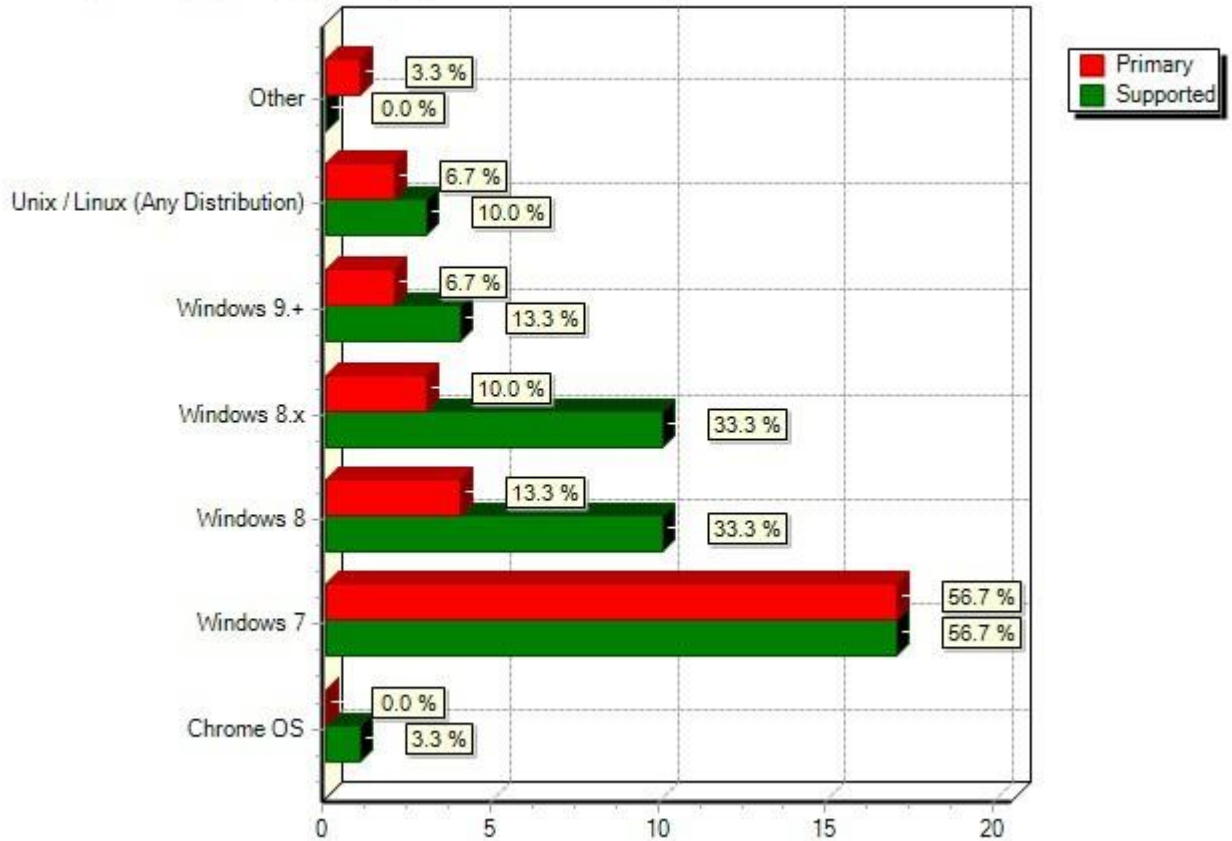
### Comment Responses:

LA	Windows 10
MT	Beginning to assess migration to windows 8 and or 9



## 18.2) Desktop operating systems projected for use and/or support in FY2016

18.2) Desktop operating systems projected for use and/or support in FY2016

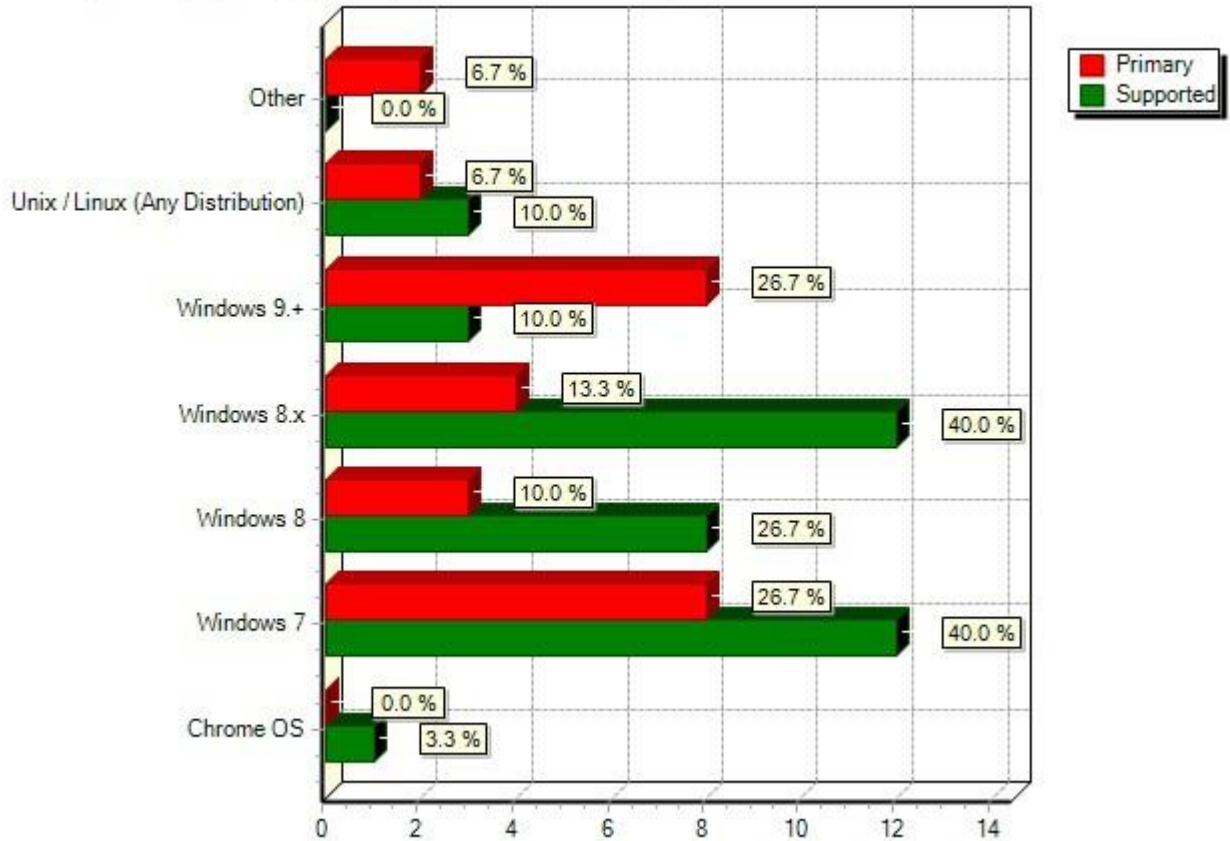


### Comment Responses:

LA	Windows 10
OR	Target windows 10

### 18.3) Desktop operating systems projected for use and/or support in FY2017

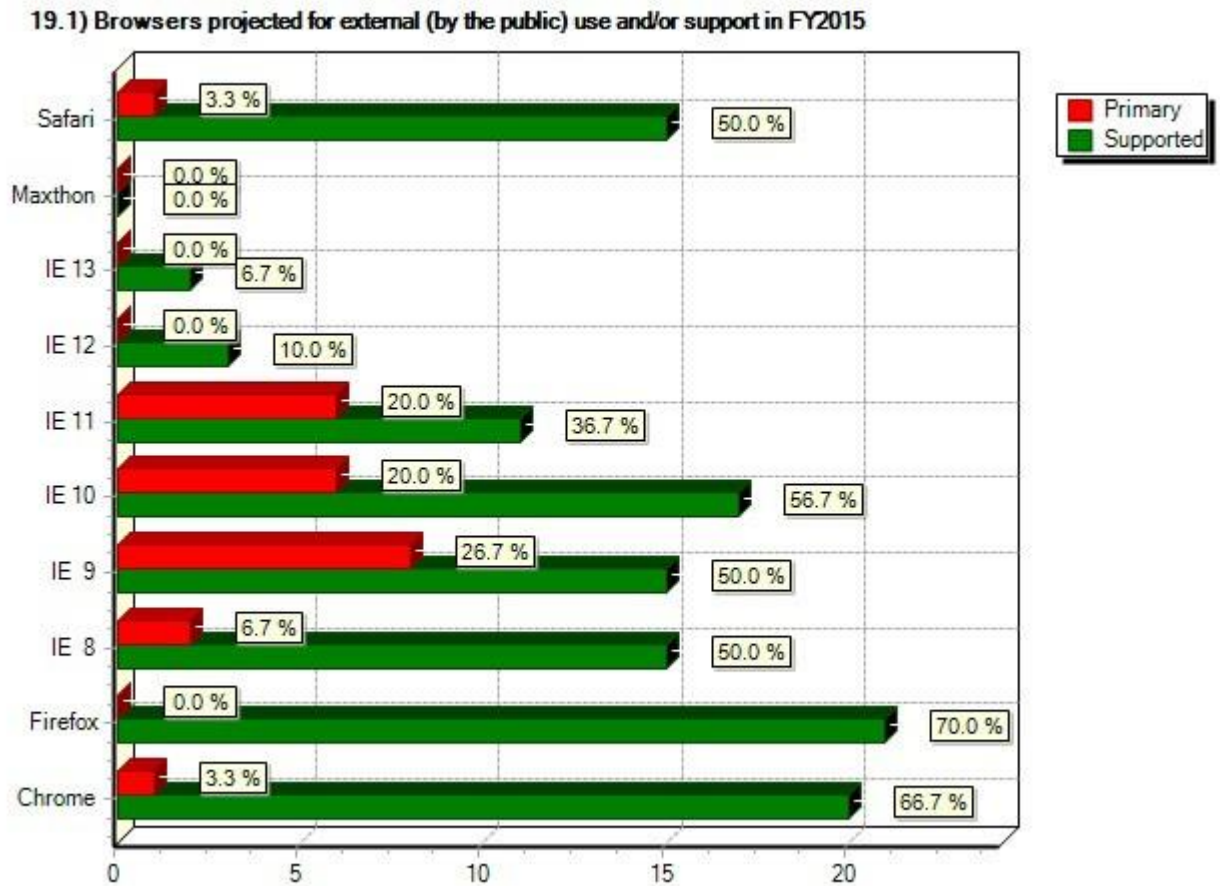
18.3) Desktop operating systems projected for use and/or support in FY2017



#### Comment Responses:

IN	May support Windows 9.+
LA	Windows 10
OR	Windows 10

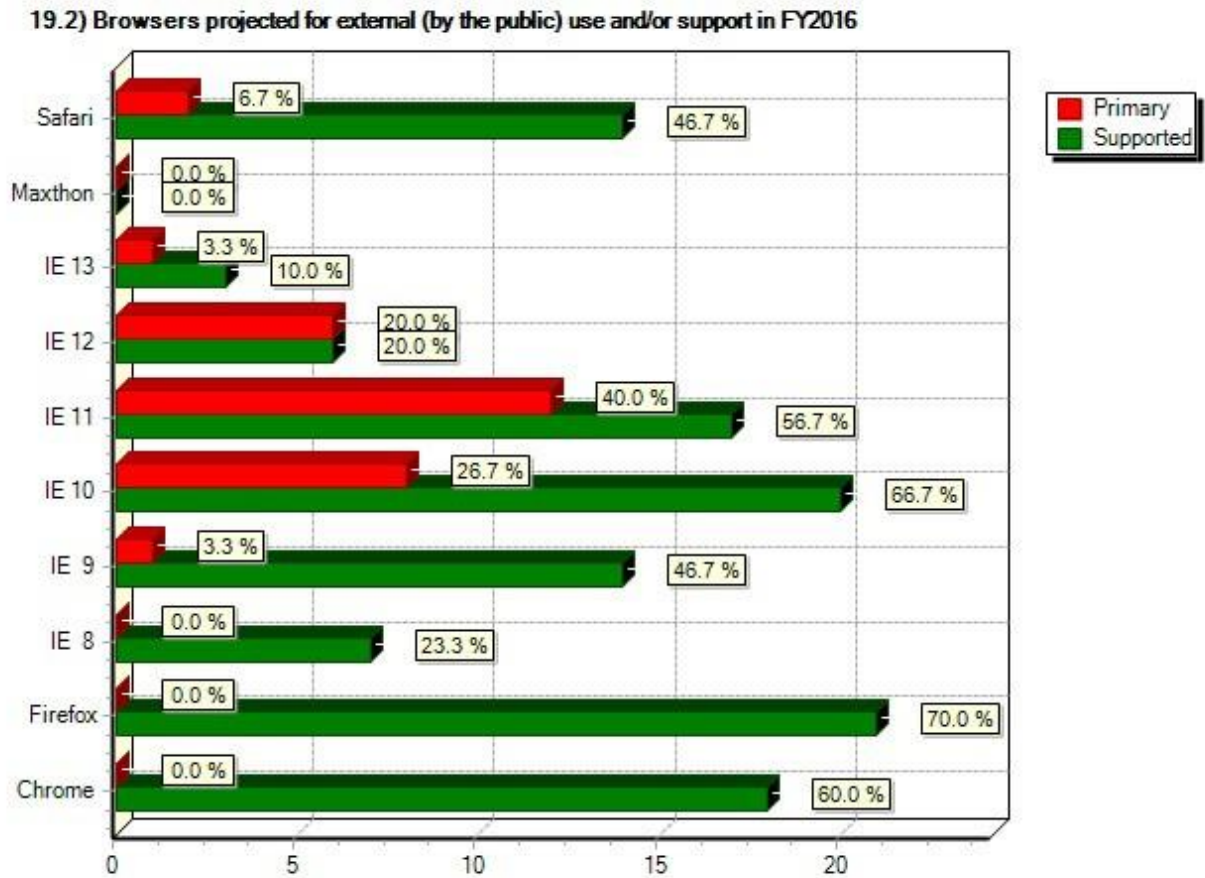
## 19.1) Browsers projected for external (by the public) use and/or support in FY2015



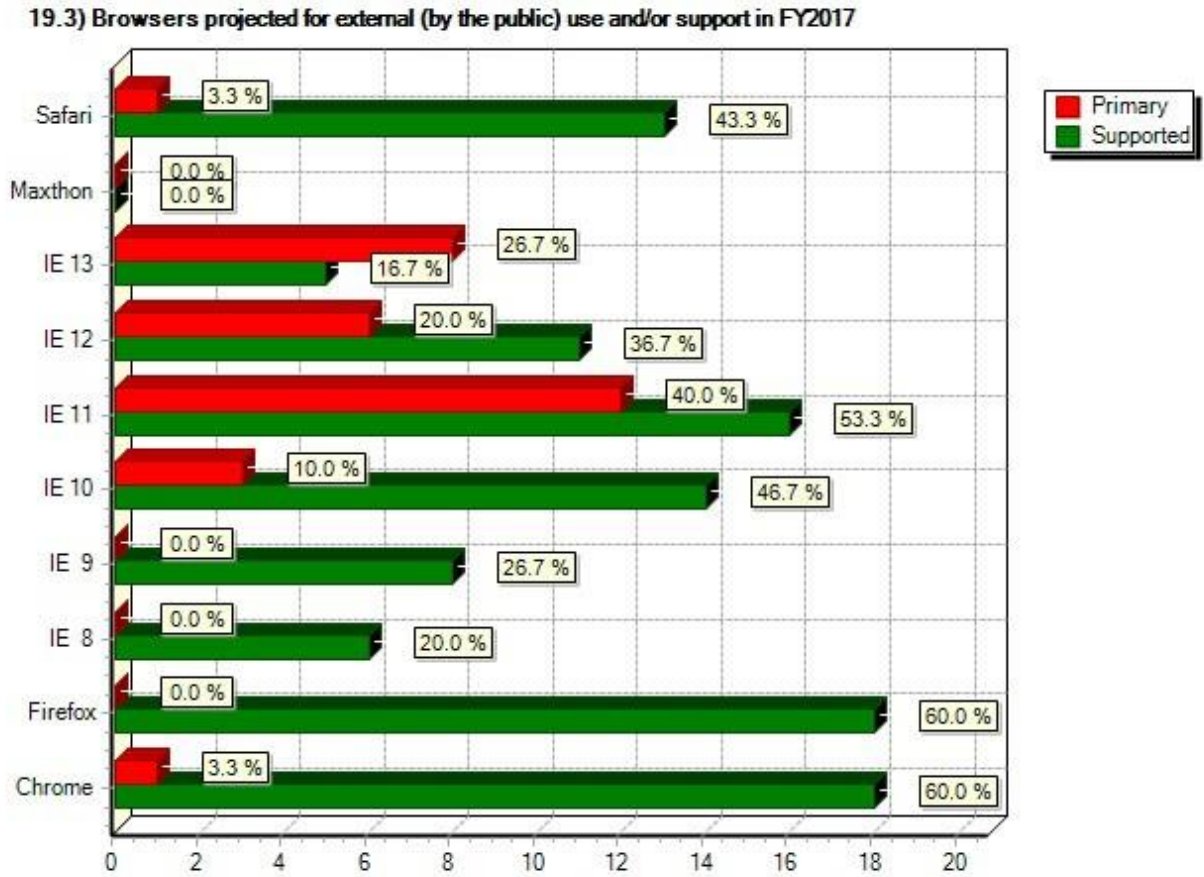
### Comment Responses:

RI Chrome/Firefox can be used but not supported by agency

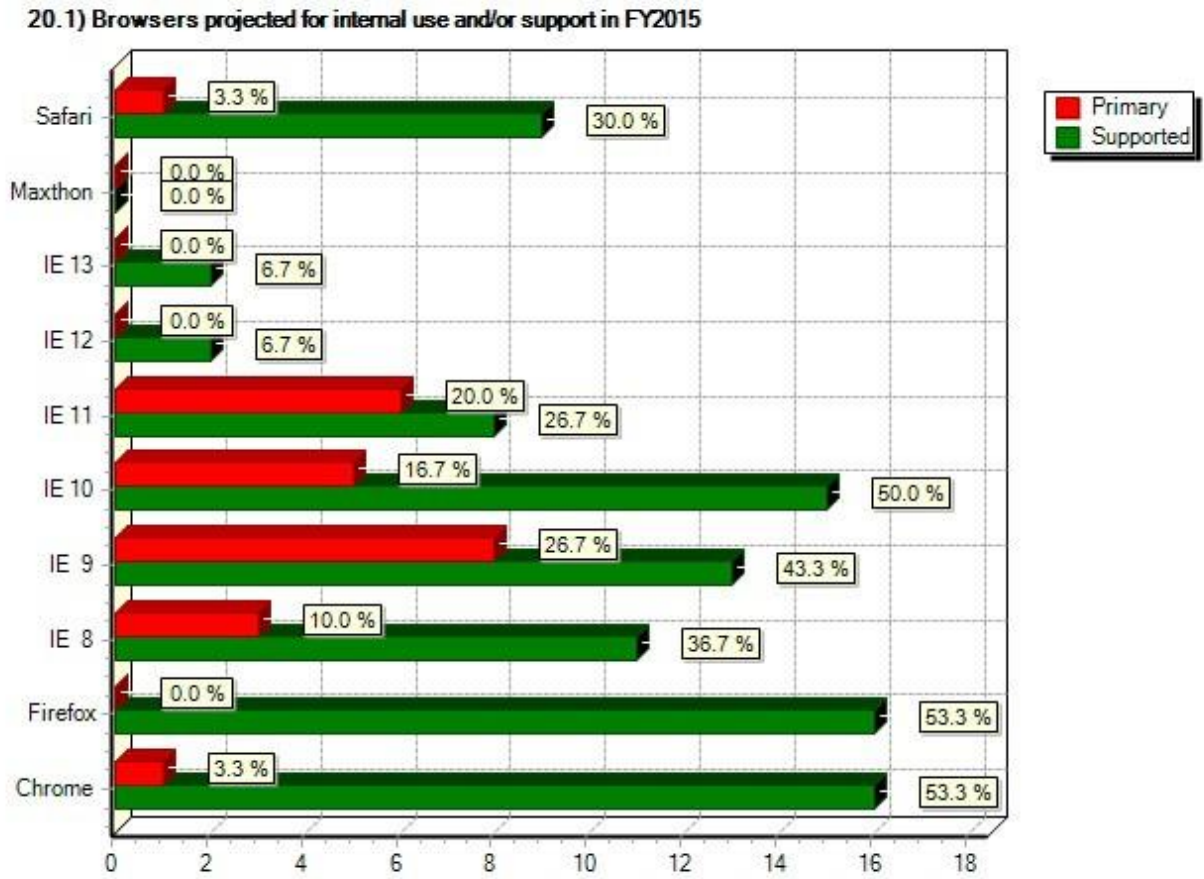
## 19.2) Browsers projected for external (by the public) use and/or support in FY2016



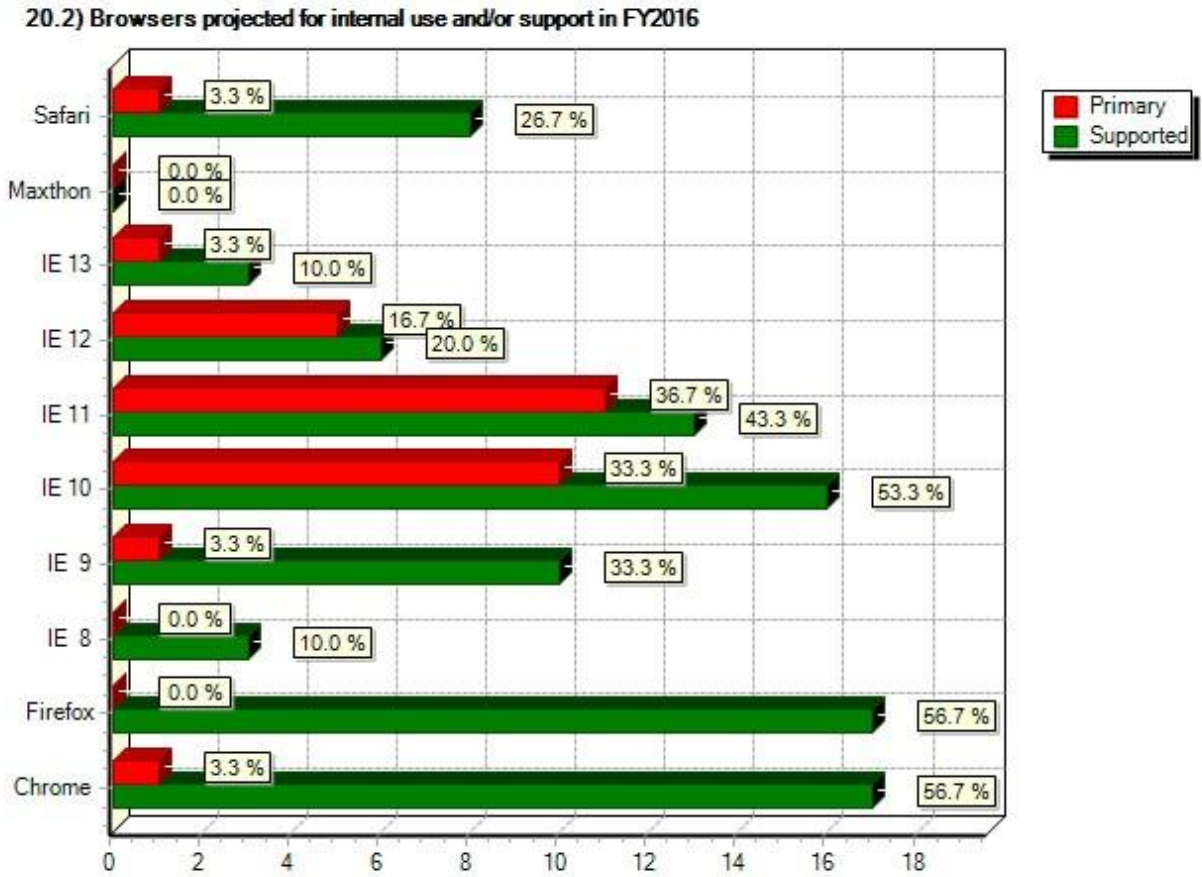
### 19.3) Browsers projected for external (by the public) use and/or support in FY2017



## 20.1) Browsers projected for internal use and/or support in FY2015

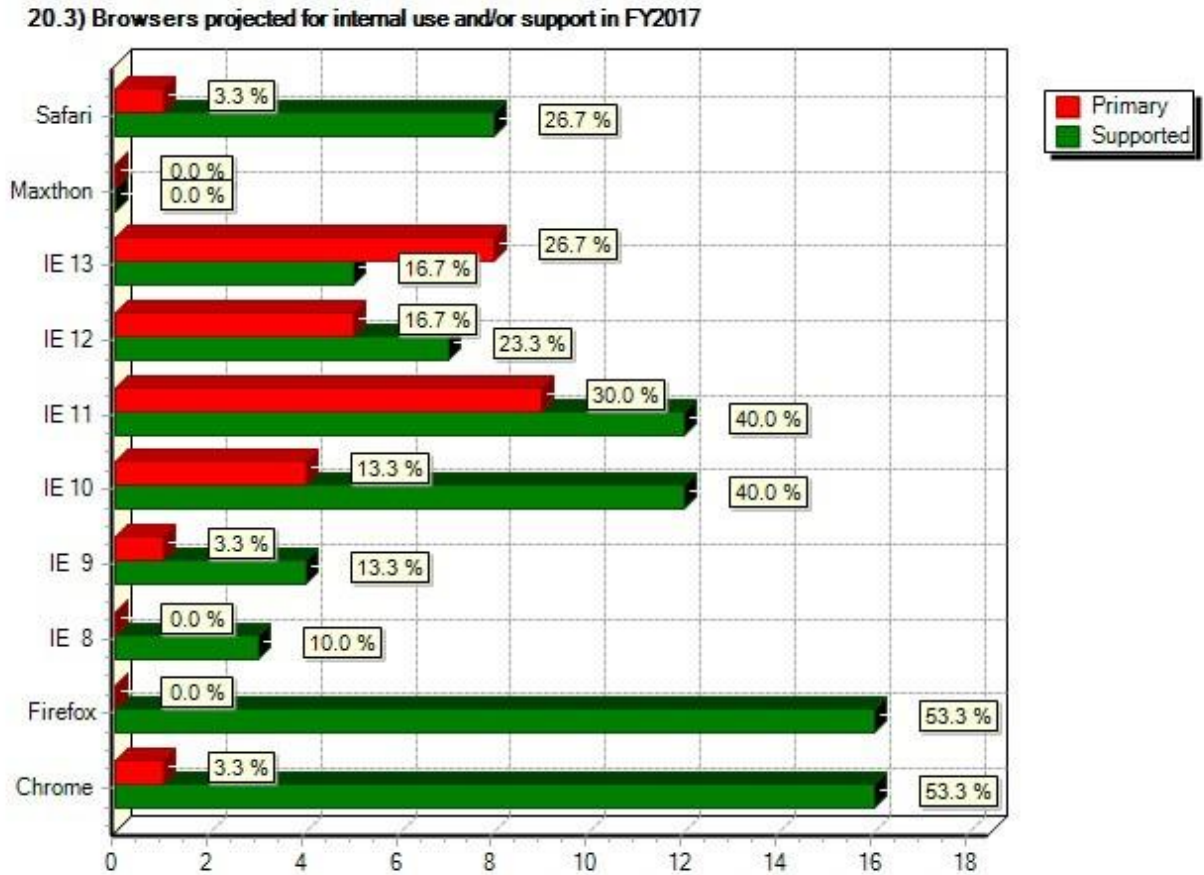


## 20.2) Browsers projected for internal use and/or support in FY2016





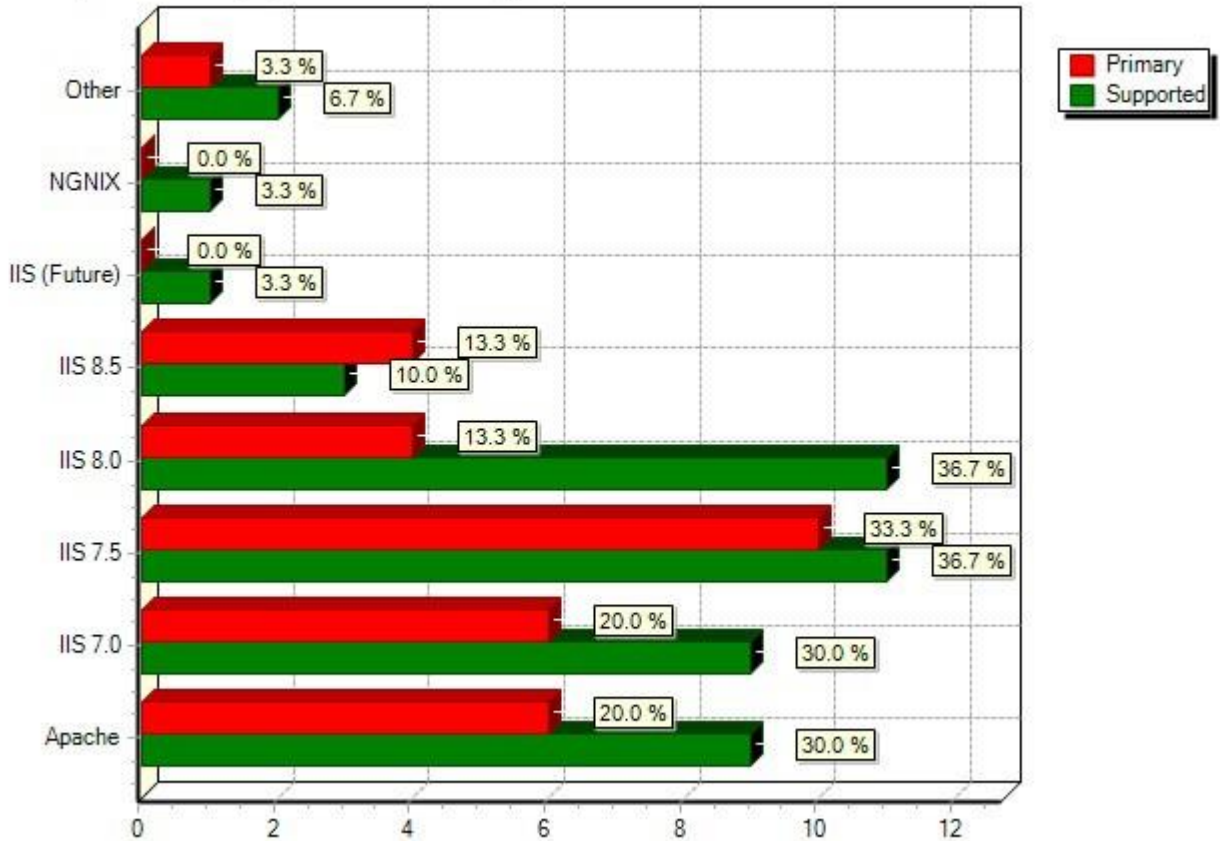
## 20.3) Browsers projected for internal use and/or support in FY2017





## 21.1) Web servers projected for use and/or support in FY2015

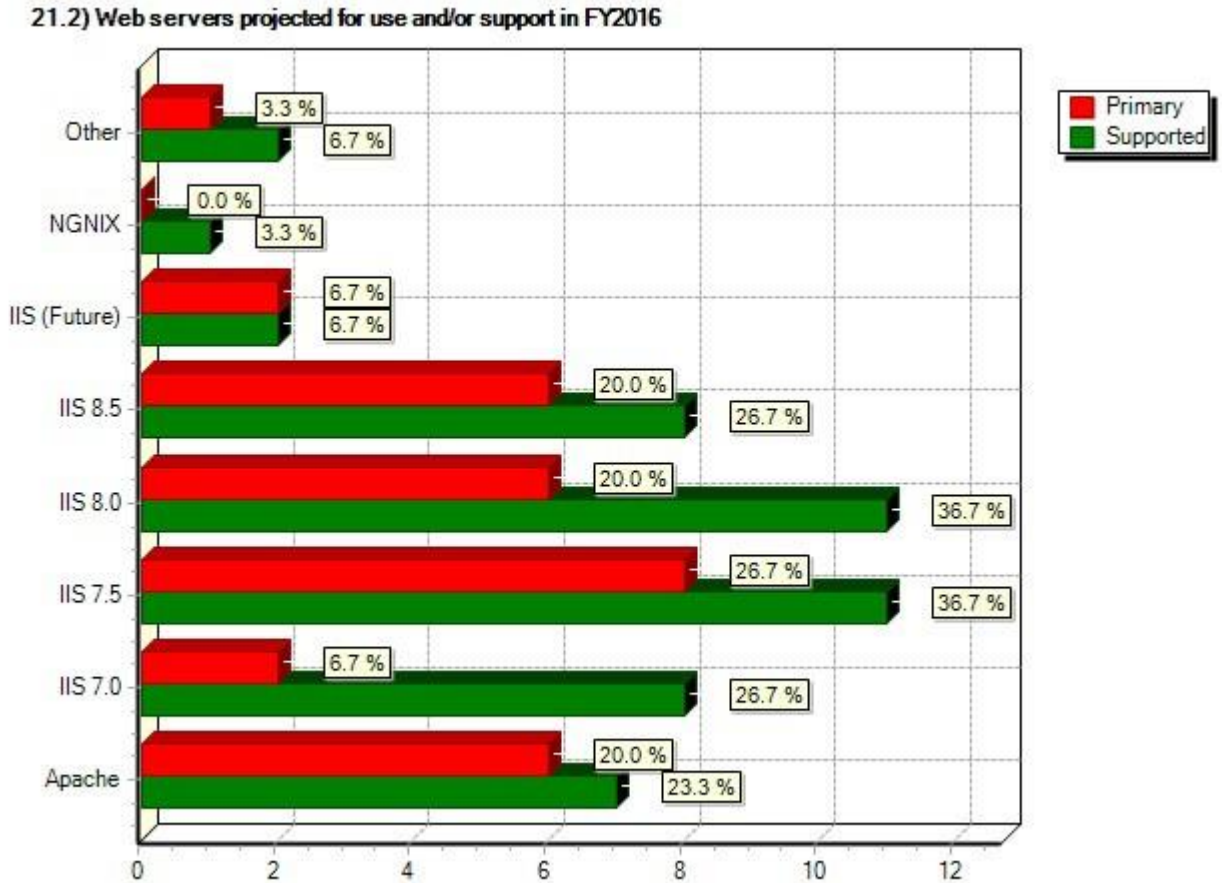
21.1) Web servers projected for use and/or support in FY2015



### Comment Responses:

LA	IIS 6.0
PA	Other (IBM Http server on Windows v8)
WI	Websphere

## 21.2) Web servers projected for use and/or support in FY2016

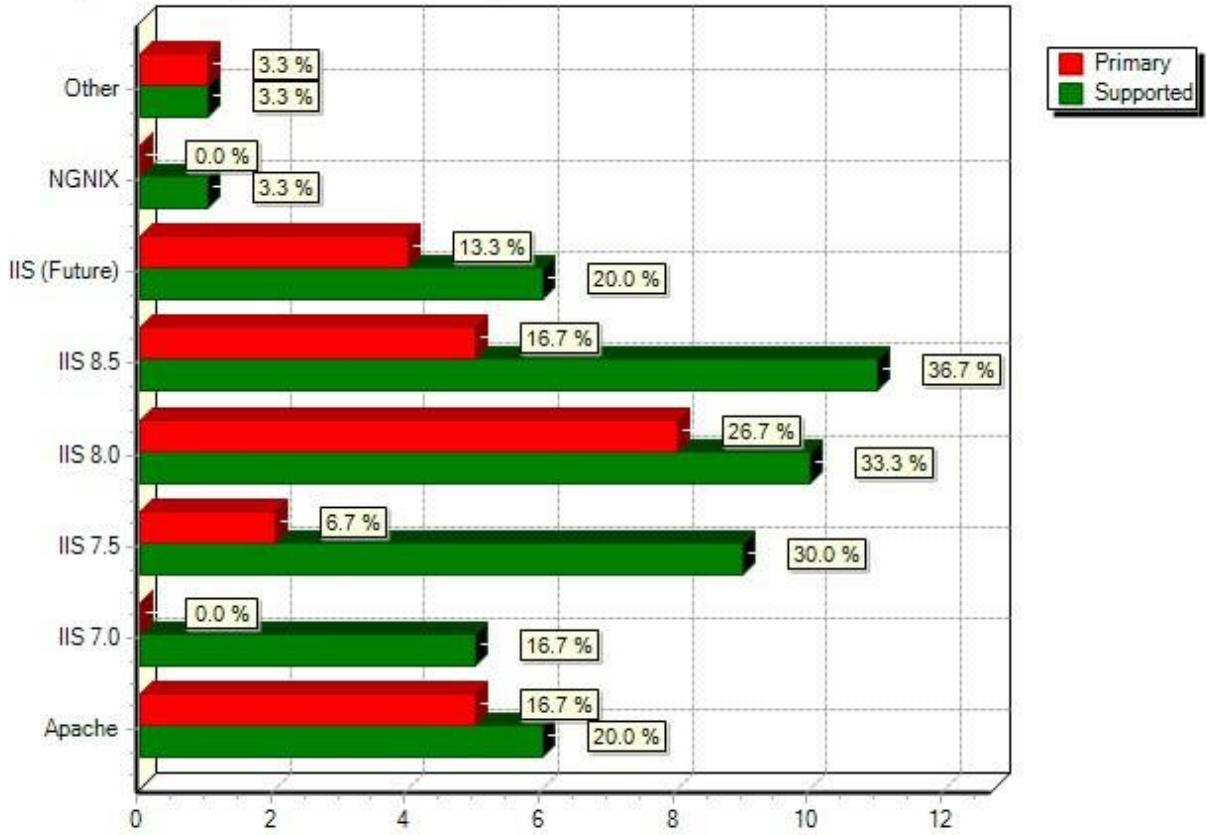


### Comment Responses:

LA	IIS 6.0
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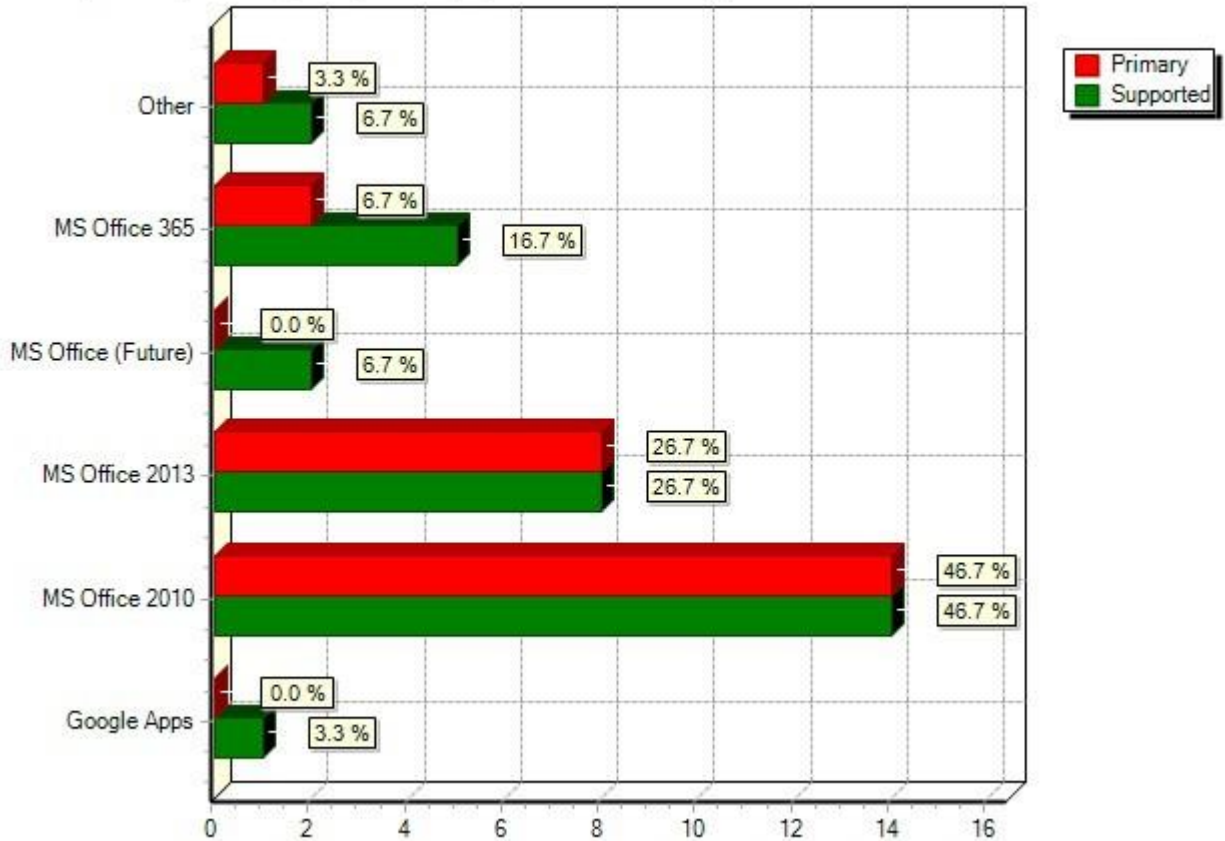
### 21.3) Web servers projected for use and/or support in FY2017

21.3) Web servers projected for use and/or support in FY2017



## 22.1) Office productivity suite/products projected for use and/or support in FY2015

22.1) Office productivity suite/products projected for use and/or support in FY2015

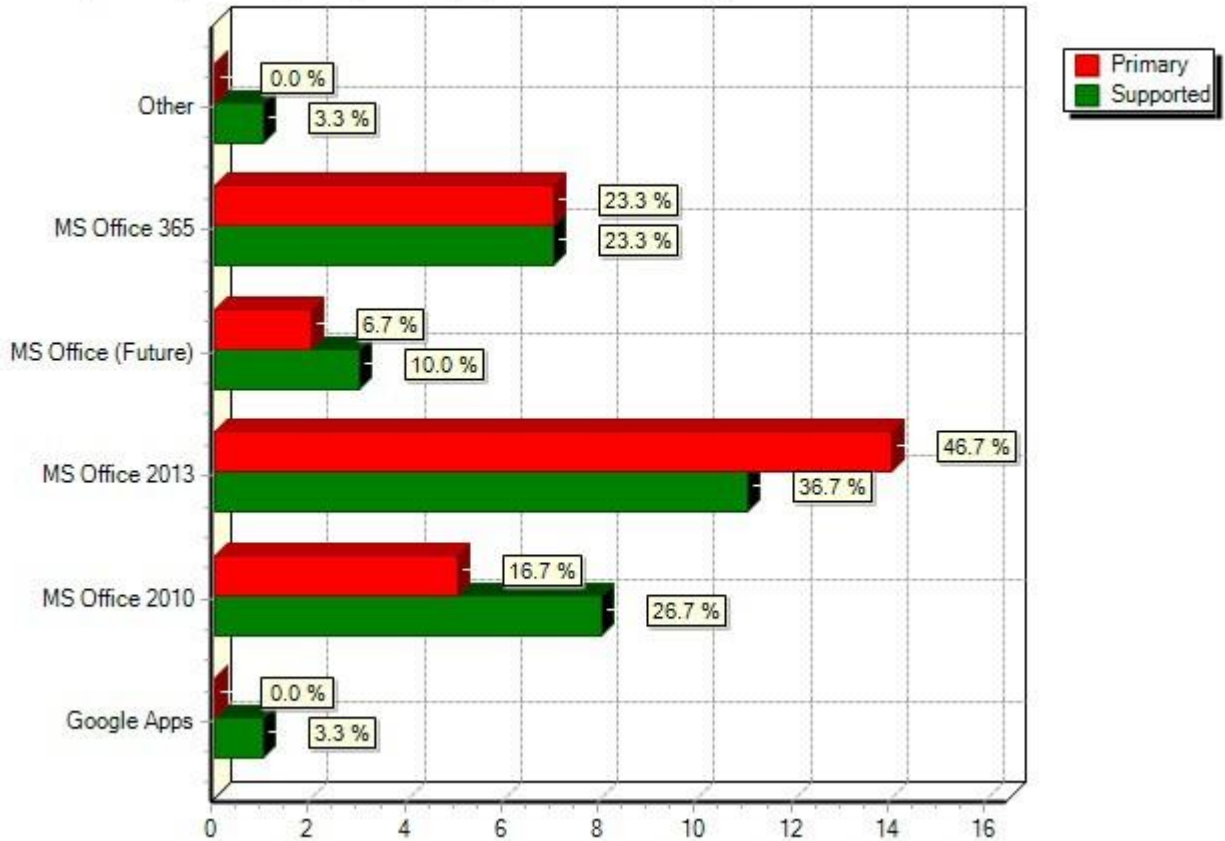


### Comment Responses:

MB	Office 2007
WI	MS Office 2007

**22.2) Office productivity suite/products projected for use and/or support in FY2016**

22.2) Office productivity suite/products projected for use and/or support in FY2016

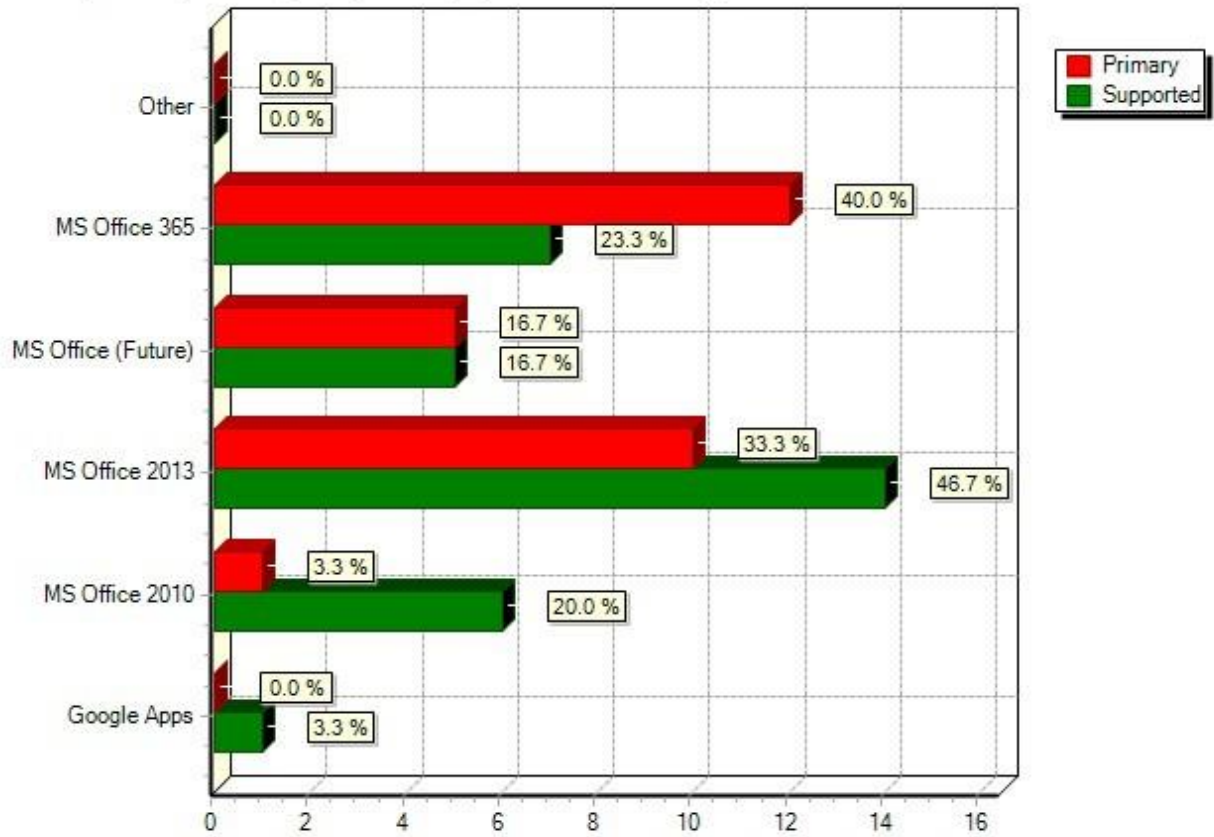


Comment Responses:

WI MS Office 2007

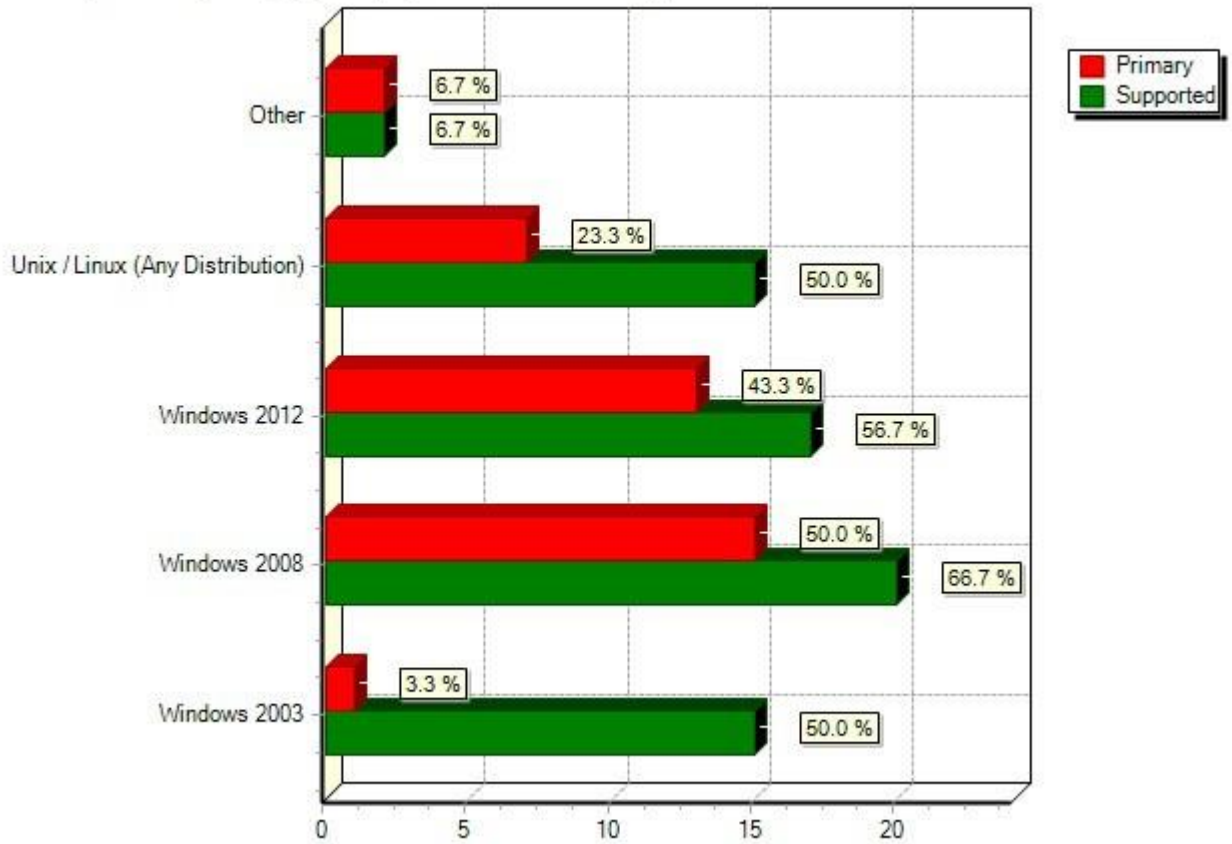
### 22.3) Office productivity suite/products projected for use and/or support in FY2017

22.3) Office productivity suite/products projected for use and/or support in FY2017



## 23.1) Server operating systems projected for use and/or support in FY2015

23.1) Server operating systems projected for use and/or support in FY2015

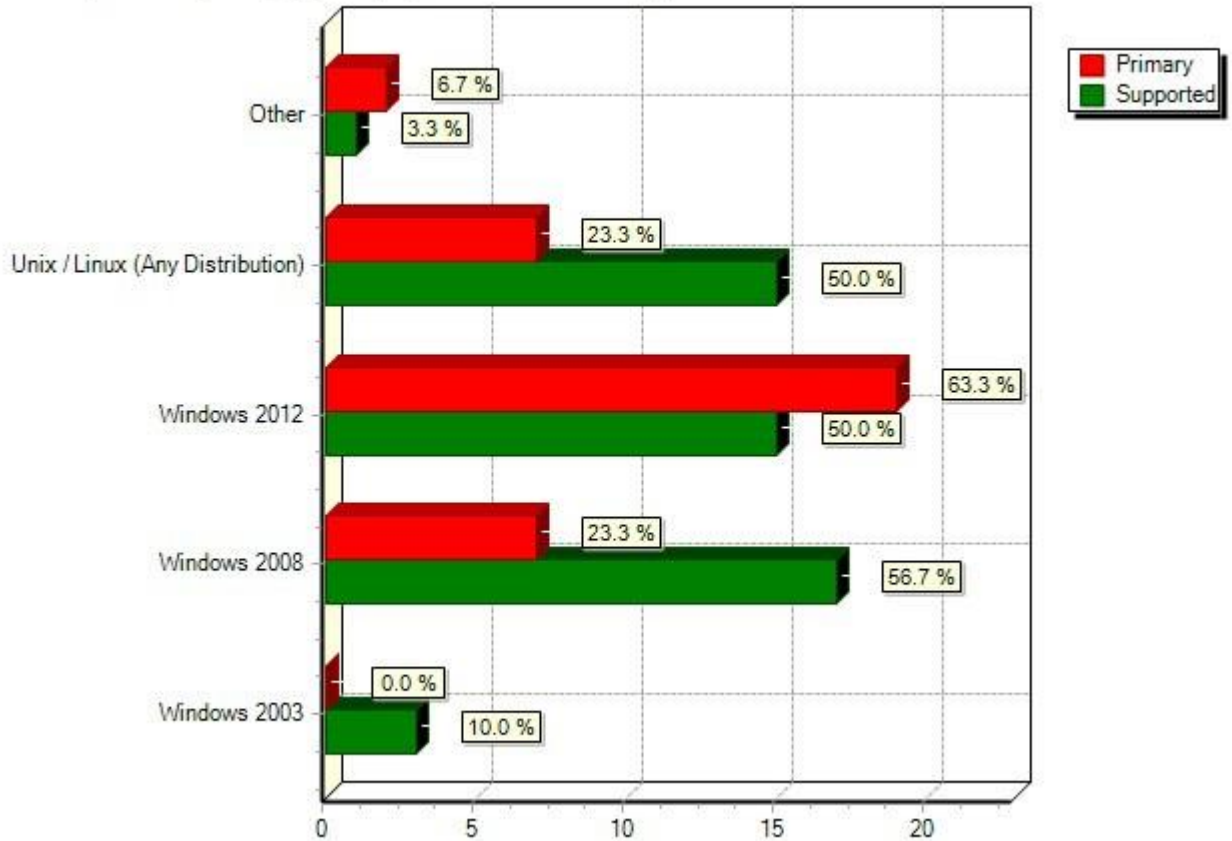


### Comment Responses:

OH	AIX
OR	z-linux
WI	Z/OS

## 23.2) Server operating systems projected for use and/or support in FY2016

23.2) Server operating systems projected for use and/or support in FY2016



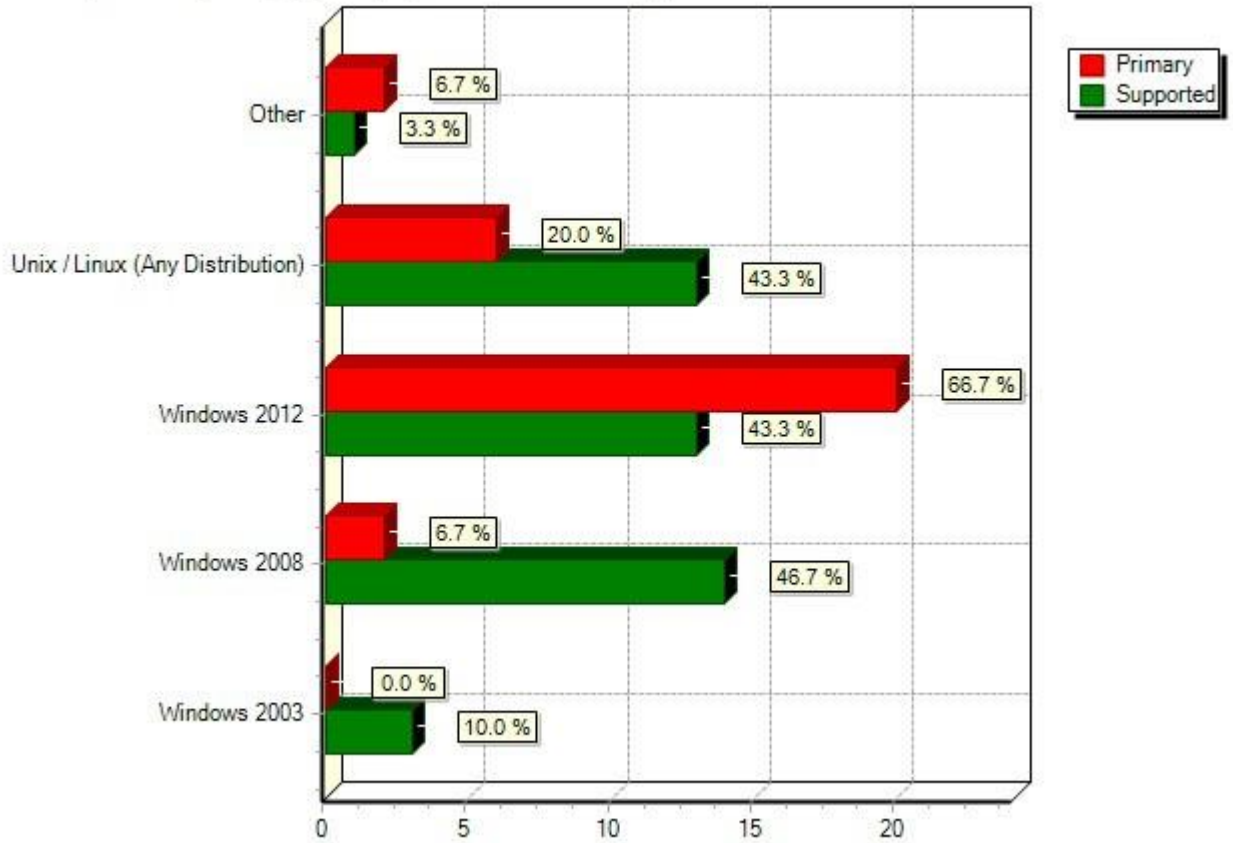
### Comment Responses:

OH	AIX
WI	Z/OS



### 23.3) Server operating systems projected for use and/or support in FY2017

23.3) Server operating systems projected for use and/or support in FY2017

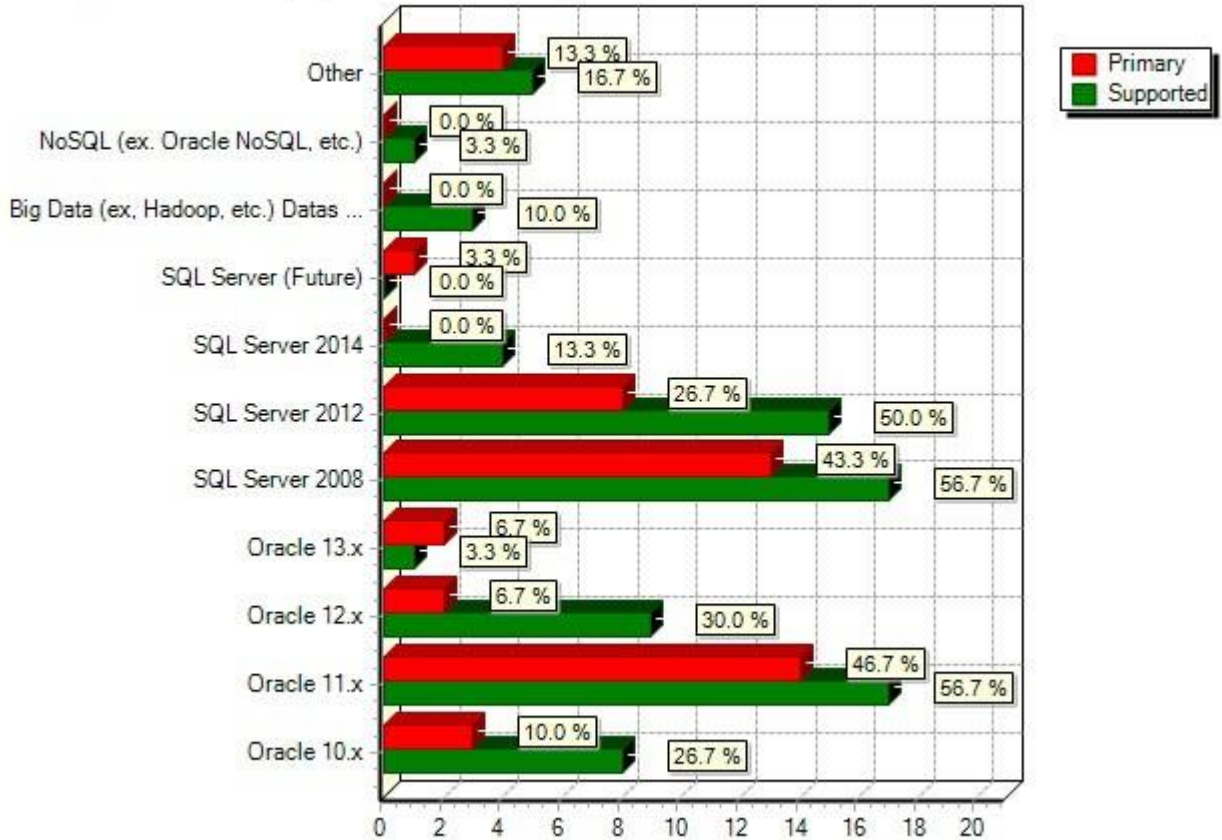


#### Comment Responses:

MI	unknown
OH	AIX
WI	Z/OS

## 24.1) Server databases projected for use and/or support in FY2015

24.1) Server databases projected for use and/or support in FY2015

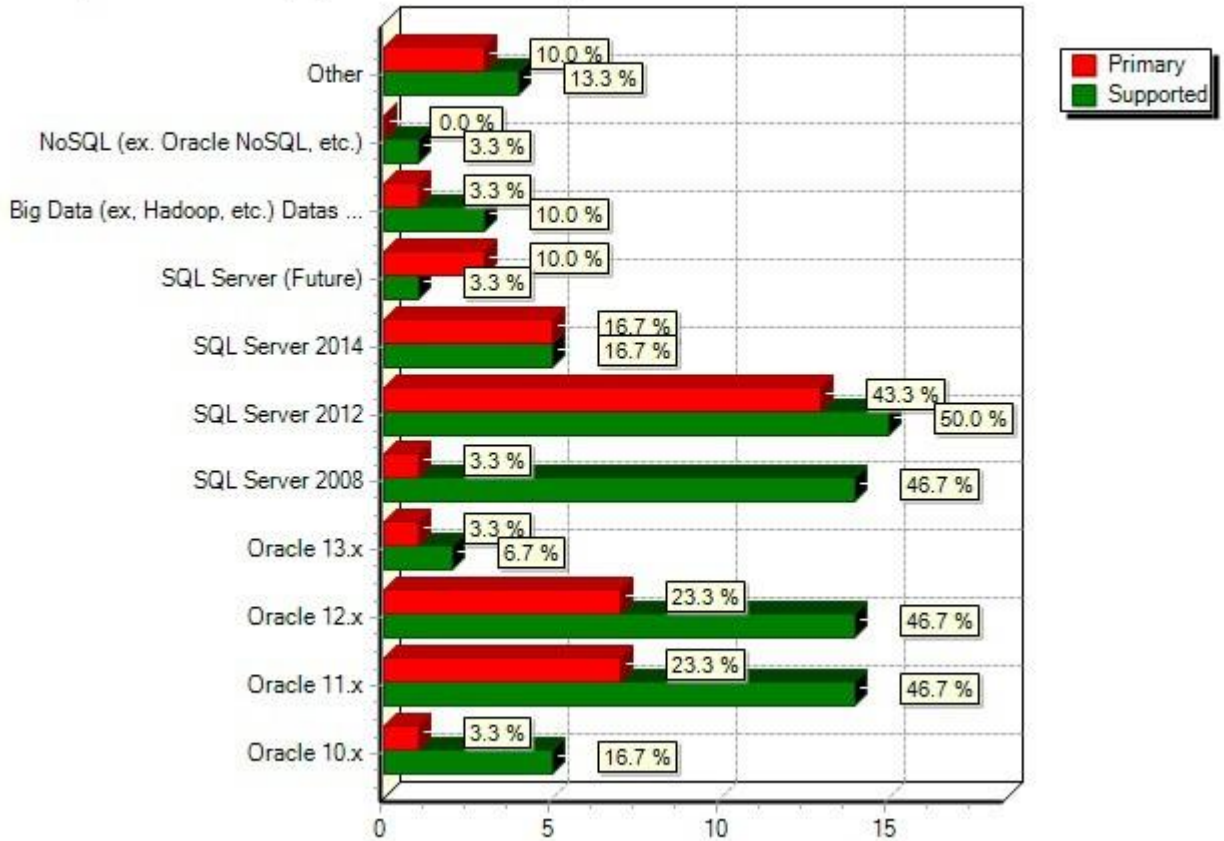


### Comment Responses:

AL	ALDOT is also utilizing DB/2. This supports multiple critical applications and will for the foreseeable future.
IN	Oracle DW, POSTgreSQL
LA	DB2, Sybase
PA	Other (DB2 v10 – primary (DB2)
WI	DB2/IMS

## 24.2) Server databases projected for use and/or support in FY2016

24.2) Server databases projected for use and/or support in FY2016

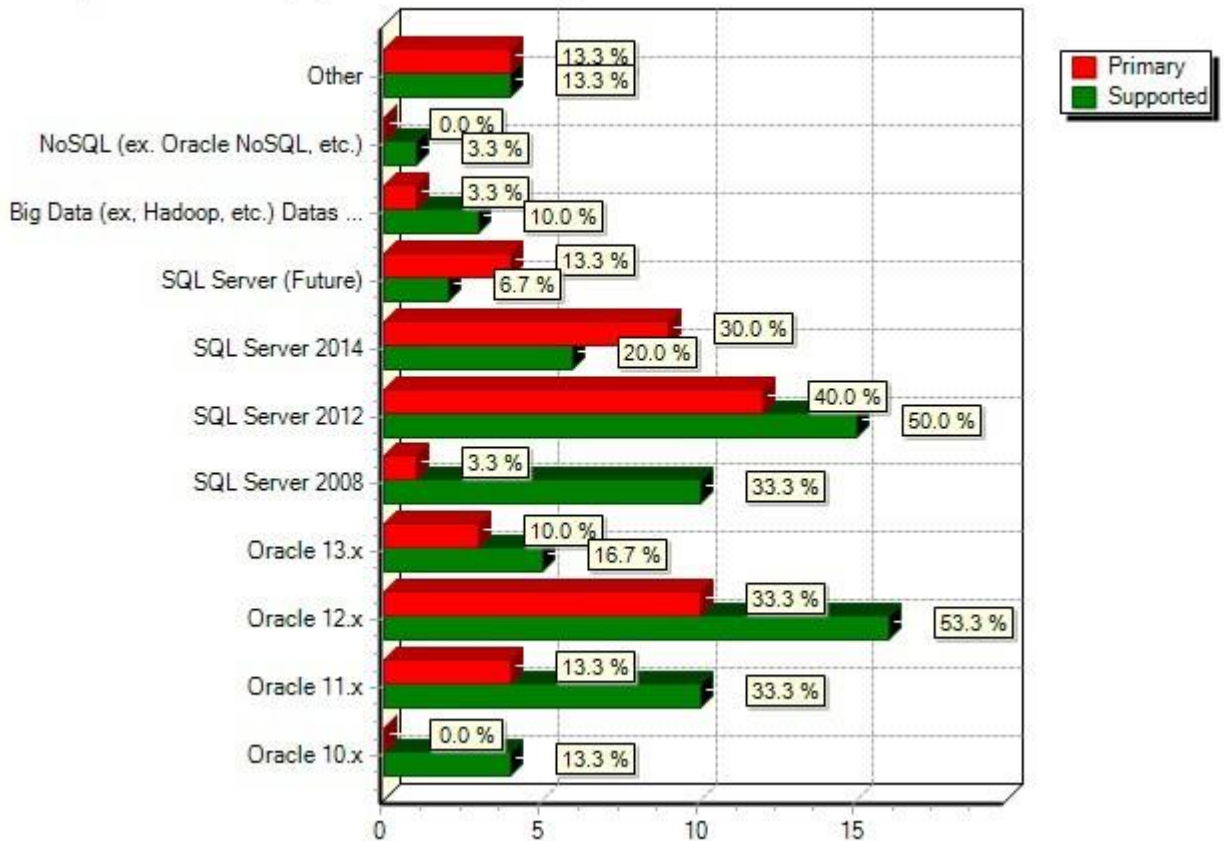


### Comment Responses:

IN	Oracle DW, POSTgreSQL
LA	DB2, Sybase
WI	DB2/IMS

## 24.3) Server databases projected for use and/or support in FY2017

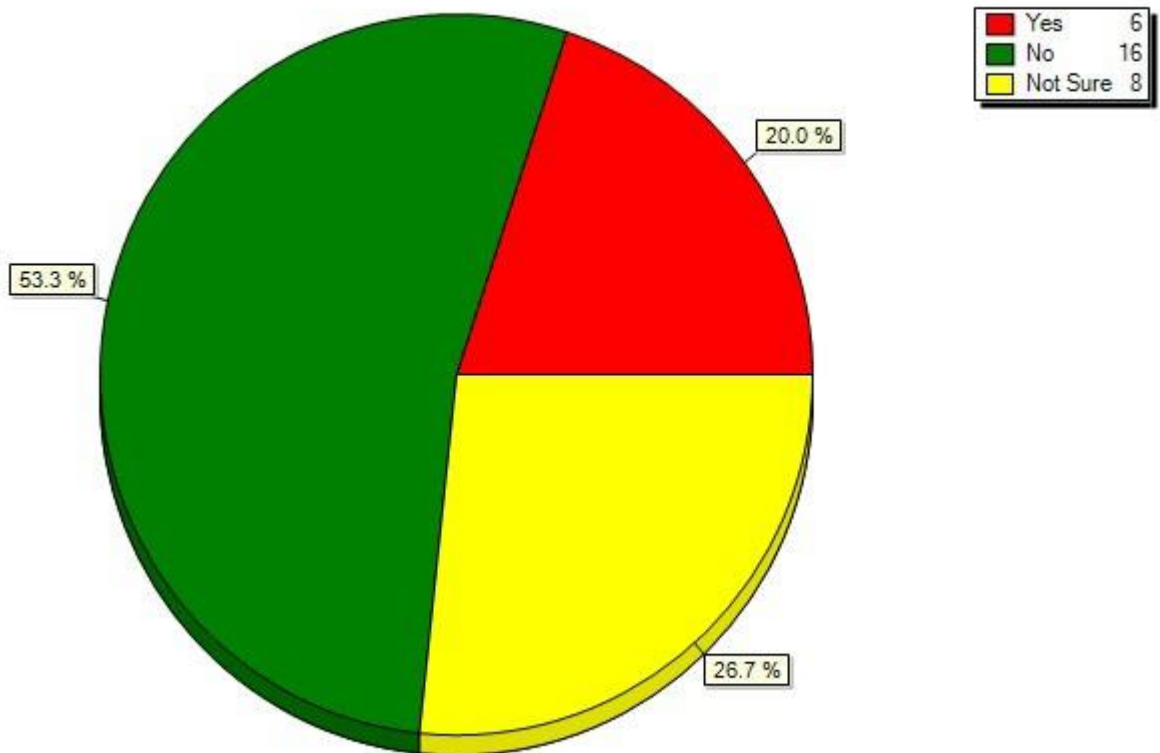
24.3) Server databases projected for use and/or support in FY2017



### Comment Responses:

IN	Oracle DW, POSTgreSQL
LA	DB2, Sybase
WI	DB2/IMS

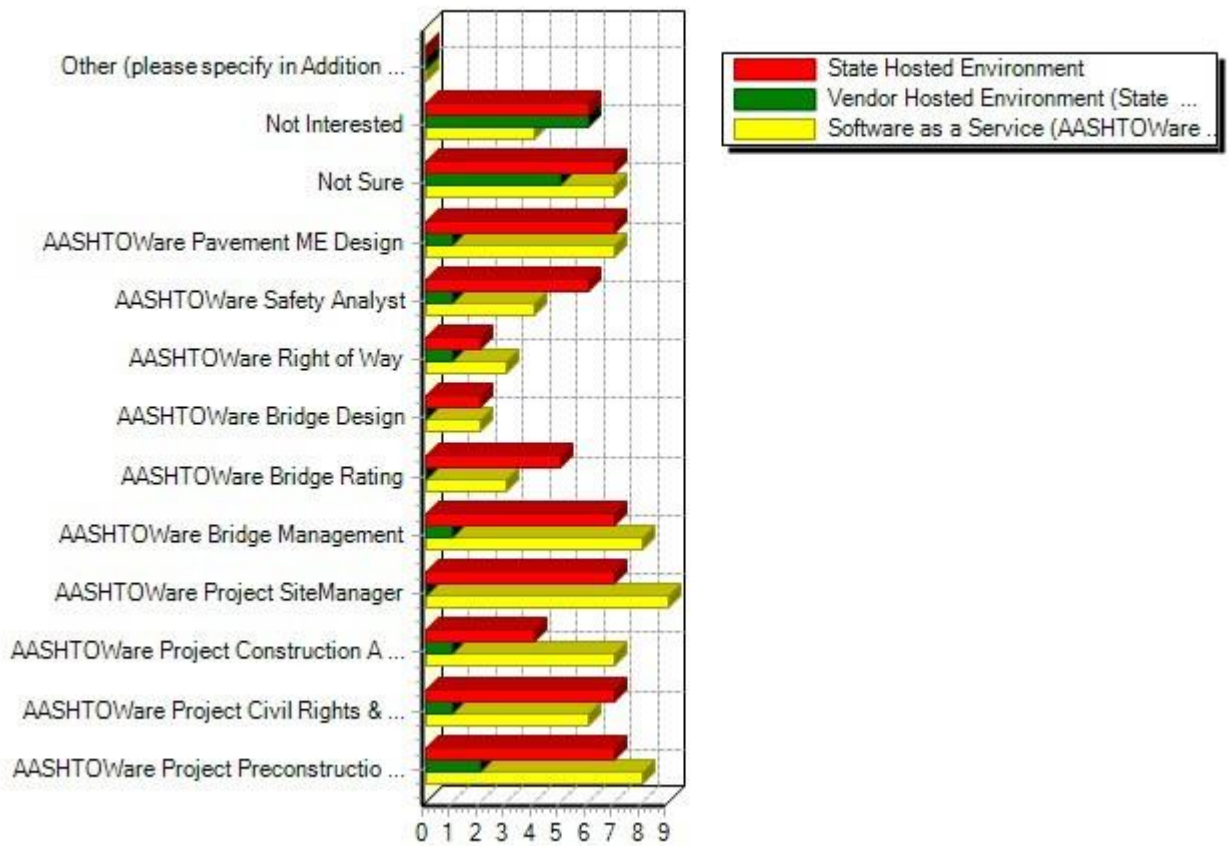
**25) Is your agency linking AASHTOWare product information with your agency's GIS? If so, please include the product name and/or a brief description of the data in Additional comments.**



**Comment Responses:**

DE	Perhaps not currently, but we will be linking in the future.
ID	ESRI
IN	We don't link the product directly but we pull data from many of the products into a DW where it is then linked
KY	Bridge condition data and projects are displayed on public facing website.
MD	Transport data with our GIS system to display projects under development on our statewide mapping system.

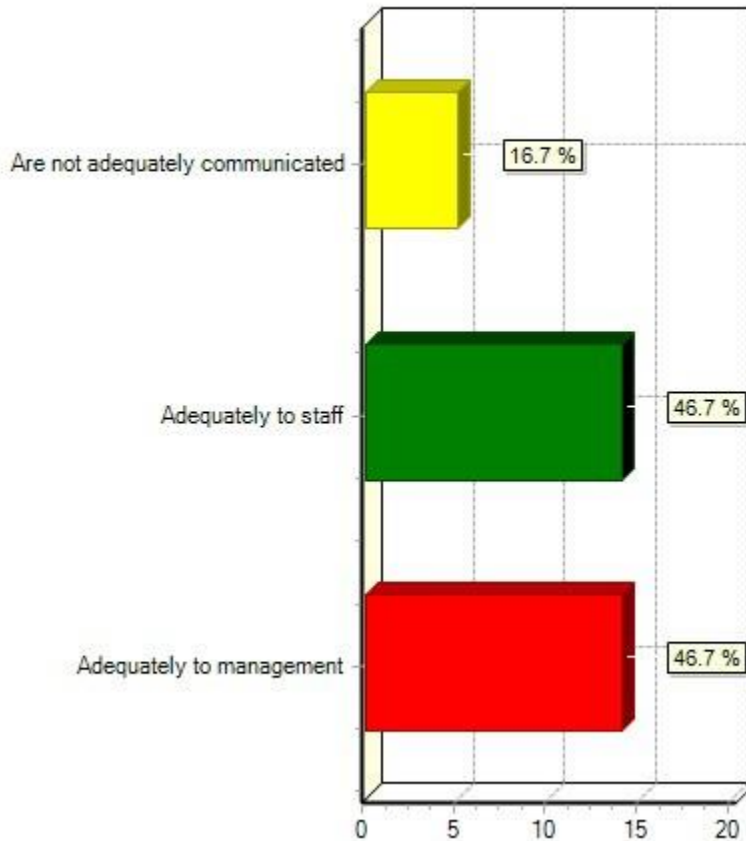
**26) Which of the following products would your transportation agency be interested in using in an externally hosted environment operated by a separate state agency, or an industry vendor/provider, or via a Software as a Service as a licensing option through AASHTOWare?**



**Comment Responses:**

OH	Possible central IT hosted environment
----	--

**27) How well does the AASHTOWare organization communicate its products capabilities?**



**Comment Responses:**

DE	I would say not as well as perhaps it should be communicated because most employees were not aware of the rebranding that took place 2 years ago and still refer to the software using their old names. Nor were they aware of new products/upgrades.
MS	adequately is a broad term, AASHTO does a good job, but the news has to be heard by the recipients
RI	Product training/solicitation/functionality are lacking
TX	Capabilities are communicated to known contacts. Information needs to be distributed lower in the organization.
WI	Communication has been focused on business areas, not IT areas of our agency. Many of the products don't work as stated and require a lot of effort to get to work in our environment.

## 28) What distinguishes AASHTOWare products from market competitors?

	<b>What distinguishes AASHTOWare products from market competitors?</b>
AK	It feels more like a co-op as opposed to typical vendor marketing
AL	Join Design/Development by the agency end-users, not what a market competitor thinks that you need.
DE	DOT Specific, collaborative, supported.
FL	Software development includes expert knowledge and resources from DOT agencies around the country. Complies with transportation national standards and is updated to comply with changes to FHWA regulations. AASHTOWare ability for agencies to do own customizations that are incorporated and maintained with software maintenance upgrades. Great customer support from AASHTOWare software vendors - Infotech.
ID	reasonable costs
IN	AASHTOWare's integration between its products is a competitive advantage
KY	Cooperative development model
LA	Able to align processes with other transportation agencies.
MB	Fair price, longevity, large user base, standards
MD	Multiple DOT and US DOT consistency so that we know that if other states are making it work, our state could with minor configuration/customization.
MI	We are interested in understanding AASHTO's process in evaluating the development quality of their products. There are concerns that AASHTO is not contracting with the best IT vendors to provide quality products.
MN	Joint Development - Collaboration
MS	collaborative development and management
MT	Cost of ownership and ability to participate in the development
ND	Agency Driven
NV	DOT specific
OH	Developed by states who participate (joint development). Generic base software so individual agencies can configure for specific needs of the state.
OR	Easier to procure
PA	Specificity to state transportation agencies
RI	Common Software used across Transportation agencies. They are more compliant with FHWA guidelines.
TX	use of very knowledgeable SMEs in a collaborative method
VA	Relevant to our business model
WA	The collaborative process and shared interests/requirements are a key distinction.
WI	Not Sure



**29) From a transportation agency perspective, what specific areas would your agency like to see improved in AASHTOWare product delivery?**

	<b>From a transportation agency perspective, what specific areas would your agency like to see improved in AASHTOWare product delivery?</b>
AK	We do not have any suggestions at this time
AL	None
DE	Shorten time of delivery.
FL	More inclusive involvement of representatives of all licensed agencies for software development requirements and design rather than a very limited subset, members of the TRT-Technical Review Teams.
ID	mobile capabilities
IN	More configurable
KS	CMS
KY	Better Quality Control on releases and more coverage on inspection/inventory type of collections.
MD	Price competitive hosting option for all web-based software products.
MI	We are interested in understanding AASHTO's process in evaluating the development quality of their products. There are concerns that AASHTO is not contracting with the best IT vendors to provide quality products.
MN	Amount of time to work through processes Reduce Complexity Roles and Responsibility
MO	Greater testing in production-like environment prior to giving to customers
MT	Time to market and mobile access
ND	Time to market, and less state specific, more state generic.
NE	It takes way too much time to get new enhancements in the products. Something needs to be done to improve the process. Product delivery that is error/bug free...BrM 5.2.1 is a prime example in that it contains known memory leak issues.
NV	Honestly we don't use many AASHTOWare products so I'm not as familiar with them as I should be.
OH	Speed of delivery
OR	Contract Management
PA	outreach
RI	Training in-house/online. Better webinar course materials.
TX	Time to market, availability as SaaS
WA	Mobile focus/integration. Faster to market/release of new versions.
WI	Better testing of the products to work in large environments. Separate of security so System Admins and Application Admins don't need the same authorities.

### 30) How can AASHTOWare products evolve to better meet the business and technology needs of the transportation agency?

	<b>How can AASHTOWare products evolve to better meet the business and technology needs of the transportation agency?</b>
AK	We do not have any suggestions at this time
AL	Continue to attempt to stay on top of current overall IT trends and keep AASHTOWare evolving
DE	Mobile apps Predictive models that run in a mobile environment such as traffic incident re-routing guidance.
FL	Continue to deliver alternative solutions to meet ongoing future changes in technology platforms and products, including mobile solutions.
ID	business rules engine that can be utilized by each state agency
IN	The "hosted" option is attractive an many cases. More configuration capabilities that equal less coding customizations. Focus on allowing integrations so perhaps many established/supported APIs.
MD	No new suggestions. Stay on the path you are to implementing hosting solutions.
MI	AASHTO needs to keep up-to-date with platforms, N+1.
MN	Reduce Complexity Make Software more open
MO	Make sure products that are dependent on base technologies (browser plugins, etc.) are kept more current with the pace of those base technologies.
MT	Mobile solution for Project and Bridge
ND	Increase web services, mobile,
NE	The fact that AASHTOWare is moving towards the Microsoft .NET framework and SQL as the standard database matches what our agency is standardizing on for development as well.
NV	More modern web based applications with mobile support would be nice.
OH	Mobile applications, collection of assets within the applications, and linking data with GIS.
OR	Keep up with current technologies
RI	Questions 28-29 answer this
TX	Availability as SaaS, support of mobile devices, and ease of integration into existing agency security and data reporting tools
VT	better pricing model for small states
WA	Mobile focus/integration. SaaS.
WI	Follow development best practices. Make sure products are mature and are supported on multiple platforms with delegated security models. Quality controls on development.

**31) Please provide any additional information or comments on this survey, or for a future survey.**

<b>Please provide any additional information or comments on this survey, or for a future survey.</b>	
AL	None
AK	We do not have any suggestions at this time
FL	Software vendor support – FDOT has been very pleased with the support and quick response by software vendor Infotech of issues and questions with installation, customization, evaluation and implementation AASHTOWare Project Preconstruction (wT-PrP).
IN	Thanks.
KY	Many states have in-house non-AASHTOWare applications for Engineering purposes that could be shared. AASHTO could serve as a catalog source and clearing house for states to exchange or provide applications to one another.
MN	N/A
NE	I suggest cutting down the number of questions in half if you want a timely response and also a larger number of responses. It took us over three hours total to fill out this survey with gathering information and making sure it was correct. I know we don't have the time to set aside at one moment, which is why we didn't get this turned in until the end of the year. If you want to continue using all these questions, I suggest asking half one year and the other half the next year.

# The Top 10 Strategic Technology Trends for Government in 2015

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**Analyst(s):** Rick Howard

Gartner's 2015 top strategic technology trends for government are the prime enablers of new service models for digital government. CIOs and IT leaders can use this research to assess the impact of these technologies on their IT organizations, and to determine the business value for their agencies.

## Key Findings

- Government CIOs who explain digital innovation in terms of business priorities — such as citizen experience, operational efficiency and improved outcomes — have the opportunity to increase support for IT investments among their agencies' executive leaders.
- The limitations of e-government service models reflect the constraints of inflexible architectures and traditional IT management practices, which are compelling government CIOs to factor emerging technology trends into their digital government strategic plans.
- Organizational culture, legacy IT systems and business processes, stretched IT budgets, and the lack of critical IT skills are among the inhibitors for government CIOs when evaluating and selecting new technology or sourcing options.

## Recommendations

Government CIOs and IT leaders:

- Gain support for digital innovation from public officials and administrators by presenting relevant examples of what the consumer service industry or other digitally savvy government agencies have done with digital, how they have done it, and what the results have been.
- Factor these top 10 technology trends into your IT planning activities. Determine which trends are most applicable to your agency's business strategy, and consider the various ways they can run, innovate or transform your organization.

- Re-evaluate core competencies, and select the technologies or services you will divest or broker over the next three years in order to increase capacity in areas such as contract management, bimodal capability or workforce development.

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## Strategic Planning Assumptions

By 2018, 25% of large organizations will have an explicit strategy to make their corporate computing environments similar to a consumer computing experience. (Digital Workplace)

By 2018, more than 30% of digital government projects will treat any data as open data. (Open Any Data)

By the end of 2017, 20% of IAM purchases will use the IDaaS delivery model — up from less than 10% in 2014. (Citizen e-ID)

By 2018, data discovery and data management evolution will drive most organizations to augment centralized analytic architectures with decentralized approaches. (Edge Analytics)

Through 2018, there will be no dominant IoT ecosystem platform; IT leaders will still need to compose solutions from multiple providers. (Internet of Things)

By 2018, more than 25% of new IT projects in traditional enterprises will be built on Web-scale architectures. (Web-Scale IT)

By 2020, at least 70% of new application development projects will be deployed to private or public cloud infrastructures. (Hybrid Cloud [and IT])

## Analysis

### Overview

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In many parts of the world, the lingering effects of economic uncertainty and austerity measures continue to influence how government leaders allocate funds for government programs and services, including IT. The issue of declining IT budgets is more acute in some jurisdictions and geographic regions than others (see "2015 CIO Agenda: A Government Perspective").

However, in the emerging digital ecosystem of interconnected people, businesses and things, many nations and municipalities recognize that IT and digital services play an outsized role to support economic development, enable health system reform or underpin a smart infrastructure.<sup>1</sup> For government agencies and programs to convincingly fulfill their designated missions, they must make strategic investments in IT, or risk perpetuating service models that are financially unsustainable in the long term.

Gartner has identified the 10 most important technology trends for government in 2015 in order to help CIOs and IT leaders assess critical strategic technologies and prioritize investments for their enterprises' or agencies' IT roadmaps (see Figure 1).

Figure 1. Top 10 Technology Trends for Government

Business Focus	Digital Government Technology Trends
<b>Engaging</b>	<ul style="list-style-type: none"> <li>• Digital Workplace</li> <li>• Multichannel Citizen Engagement</li> <li>• Open Any Data</li> <li>• Citizen e-ID</li> </ul>
<b>Connecting</b>	<ul style="list-style-type: none"> <li>• Edge Analytics</li> <li>• Scalable Interoperability</li> <li>• Digital Government Platforms</li> <li>• Internet of Things</li> </ul>
<b>Resourcing</b>	<ul style="list-style-type: none"> <li>• Web-Scale IT</li> <li>• Hybrid Cloud (and IT)</li> </ul>

Source: Gartner (April 2015)

These strategic technology trends have substantial disruptive potential that is just beginning to materialize. They are predicted to reach an inflection point within the next three to five years. CIOs can capitalize on the value of these trends by first determining how they will impact government program operations or service delivery models, and then by building the organizational capabilities and capacity needed to support them.

Each trend is presented with its own distinct rationale and value proposition. However, many are interrelated. For example, citizen e-ID enables multichannel citizen engagement, and the Internet of Things (IoT) amplifies the power of edge analytics. Government CIOs should consider how the unique digital business strategy of their enterprise or agency affects the extent to which these trends may reinforce one another, and also consider the timing and sequence of when they are deployed.

When it comes to considering any new IT investment or selecting among alternatives, government CIOs should pose and seek answers to three business-centric questions: Does the proposed solution effectively engage the workforce and citizens? Will it connect government agencies and external partners, and support coordinated services in ways we cannot today? Can it be sustainably resourced and supported? (See "Agenda Overview for Government, 2015.")

Accordingly, the 10 technology trends for government are grouped into three interrelated focus areas — engaging, connecting and resourcing — but the sequence is not intended to imply any prioritization. Rather, government CIOs can use this list of 10 trends to articulate their business value to executive leaders and program managers, and to provide them with technology guidance that clearly supports the agency's business needs.

Each of these trends relies on various technologies, services and practices, many of which are profiled in the "Hype Cycle for Digital Government, 2014."

## The Top 10 Strategic Technology Trends for Digital Government in 2015

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### Digital Workplace

**Trend Description:** The government workforce of the future will be populated with digitally literate employees, from frontline workers to top-level executives. In many jurisdictions, the growth rate of the public-sector workforce is likely to lag behind the private-sector workforce. This places a premium on employee satisfaction, productivity and effectiveness. Although the mission of most government programs may change very little, the nature of work and the culture of the workplace will change dramatically.

The digital workplace is shaped by the twin forces of consumerization (the migration of consumer-originated technologies to business or government organizations) and democratization (the widespread and easy access to technology products and services by people without specialized IT expertise). This creates the conditions for a work environment in which employees are more agile and engaged because the environment is centered on consumer-oriented styles and technologies.

CIOs and IT leaders must build a more social, mobile, accessible and information-driven work environment to exploit rapidly changing business conditions. Executing a digital workplace initiative requires the use of familiar project management tasks, such as frameworks and roadmaps. However, unlike productivity initiatives of the past, digital workplace initiatives are not traditional IT projects. CIOs and human resources (HR) or personnel directors must work together to contextualize and personalize the workplace for each worker within the systems and culture of a larger organizational structure. This means supplementing standard project management practices with tools, such as social network analysis and social sciences (for example, anthropology and ethnography), to understand how employees perform work in social networks.

At the same time, advances in machine learning will create a new category of applications (such as virtual personal assistants and smart advisors), as well as more dynamic content and intelligent referral services, thereby ushering in a new era of computer-assisted work. In the digital workplace, smart devices will take an increasing role in making material decisions that impact humans in one way or another. These advances will accelerate the practical separation between work, social and private life in the actions of employees and employers alike.

### Key Findings:

- An employee-centric mindset forces organizations to rethink how employee needs are assessed, and how applications and programs are constructed.
- The digital workplace, when it is properly designed, results in a more social, mobile, accessible and data-driven work environment.
- Digital workplace organizational change activities often are an afterthought, and commonly are associated with training.

**Implications:** Most people who are drawn to a life of public service want to make a difference in the world. They desire work that is meaningful and challenging. To be high-impact performers,



government employees require a flexible work environment that supports the devices, individual learning styles and user experiences that they are familiar with in their personal lives. Employee preferences are accommodated, not disregarded.

The digital workplace provides employees with clarity and accurate feedback on which they can act. A central feature of the digital workplace is immediate and continuous access to external and internal data and real-time analytics so that employees can make data-driven decisions with the aid of smart devices and cognitive computing.

The digital workplace is an open, flat and democratic environment. It is the organizational manifestation of open government. There are no barriers preventing collaborative networks from forming and then dispersing. Improved technology enables knowledge to spread more easily.

Government CIOs and IT leaders who are responsible for today's workplace technologies — such as email, portals and content management — must learn how a digital workplace will affect the customary dependencies on those capabilities as workforce demographics skew younger, not to mention how the nature of risk will change in a fully digital environment. Government CIOs, in particular, must discover the emerging opportunity, if not the imperative, to take a leadership role in driving a digital workplace.

### **Recommendations for Government CIOs and IT Leaders:**

- Establish the technology direction of your digital workforce strategy by evaluating interconnected societal trends — such as demographic shifts, changing roles and responsibilities, digital lifestyles, and collaborative work models — as well as organization-specific consumer preferences and shadow IT investments.
- Develop a common vision for the digital workplace, and make sure it is generally understood and has a consistent message.
- Connect digital workplace efforts to existing activities wherever possible. Executive management, HR, corporate communications or individual line-of-business managers may have tactical projects underway that can be leveraged to support a broader digital workplace program.

### **Recommended Reading:**

*(Some documents may not be available as part of your current Gartner subscription.)*

"CIO Survey Uncovers the Need to Focus on Digital Workplaces and Engaged Workforces"

"A Simple Recipe for Success in the Digital Workplace"

"Digital Workplace Organizational Change Imperatives"

## Multichannel Citizen Engagement

**Trend Description:** A multichannel strategy is a high-level articulation of how an enterprise will leverage operating channels, so that each can be optimized in its own right and, when integrated with the other channels, deliver measurable benefits for all stakeholders.

In government, a multichannel strategy is required to provide ready access to services by nearly all demographic groups in a population, regardless of socioeconomic status or physical limitations. An effective multichannel strategy uses market segmentation to group citizens into various constituencies; many citizens view "the government" as a single, undifferentiated entity, even when they are being served by numerous agencies and programs. Citizens are largely unconcerned about where the boundaries between jurisdictions or tiers of government begin and end. What they do care about is the quality of the interactions they have with government.<sup>2</sup> They also expect "the government" to seamlessly resolve any back-office complexity or perceived "red tape" that gets in the way of accurate, personalized service delivered through any mode they choose.<sup>3</sup>

As digital business takes hold, overall citizen engagement and user experience will depend on providing retail-grade multichannel access to government services (see "Digital Government Will Move at the Speed of Civic Moments"). Citizens' baseline expectations about government performance are shaped by how private-sector businesses accommodate their needs and preferences. Ratings that reflect citizen satisfaction and the achievement of desired outcomes will become increasingly important in how government programs are evaluated, and, ultimately, in the amount of funding they receive at the program or policy level.

A multichannel strategy, in the context of digital government, means more than delivering a seamless (or contiguous) experience to stakeholders. It also is about delivering interactions that are connected, consistent, convenient, collaborative, customized, clear and transparent. This is not simply providing uniform services that are consistent across channels. Government must balance the need for consistency against the unique advantages of each channel, such as the location-aware services available through mobile channels. Consequently, a multichannel strategy needs to consider the role of each channel when developing use cases, and determine how each one may affect outcomes or user experience.

### Key Findings:

- Government jurisdictions with multiple channels (municipal offices, physical mail correspondence, contact centers, e-government websites and mobile apps) are struggling to provide their citizens with one coherent view of the enterprise.
- Many current IT practices in government are technology-focused or process-focused, and are insufficient for creating people-centered environments that are more responsive to end-user needs.
- The role and importance of traditional primary channels, such as physical "branch" offices or contact centers, will change in the course of implementing a multichannel strategy.

**Implications:** Government agencies operate in multiple channels, but citizens are the ones who initiate and control how they want to interact with agencies in and across those channels. Therefore, citizens can choose to complete an end-to-end business transaction through one or more channels. This means processes must be capable of "crossing over" channels at any point in the workflow. To be successful, government agencies should focus on providing a frictionless experience for citizens, regardless of their channel preference. This may require taking a consistent approach to how citizens or workers authenticate with any given service. Wherever possible, credentials should be the same across different channels to provide equivalent functionality and assurance levels across each channel, and to avoid end-user confusion.

Multichannel citizen engagement starts with the outcomes that favorably affect customer experience and achieve program goals for the target constituency or group. To produce those outcomes, policymakers and CIOs must radically redesign service models by combining traditional marketing tools (such as focus groups, user experience labs, surveys and stakeholder analysis) with new approaches (such as citizen co-creation initiatives, agile development and design thinking).<sup>4</sup>

Business leaders and CIOs also need to ensure that the policy, business processes and IT infrastructure supporting the multichannel strategy are flexible, iterative and responsive to changing citizen needs. Technology capabilities supporting digital government will enable stakeholders to quickly and easily connect, collaborate and co-create.

In the broader context of a digital society that is fast-moving and transient, government IT organizations need to adopt agile procurement, agile infrastructure and agile development processes to mirror citizen behavior in a multichannel environment.

### **Recommendations for Government CIOs:**

- Establish a team within your organization that is primarily focused on citizen-facing processes in order to break down the barriers between functional silos and support seamless cross-channel processes, with the goal of reducing the use of nondigital legacy channels (such as paper).
- Develop an application development model that moves responsibility for channel-specific functionality to channel-specific developers who are governed by multichannel master data management and multichannel master content management policies and standards.
- Identify and use customer-centric metrics for single-channel and cross-channel processes in order to monitor channel effectiveness and multichannel dynamics. Establish additional key performance indicators or data requirements needed for ongoing improvements and optimization.

### **Recommended Reading:**

"Multichannel Strategy Is the Critical Foundation for Survival in the Digital Business World"

"Designing Multichannel Support Into Your Application Architecture"

"Focus on the Customer or Employee to Innovate With Cloud, Mobile, Social and Big Data"

## Open Any Data

**Trend Description:** Open any data in government results from "open by default" governance policies and information management practices, which make license-free data available in machine-readable formats to anyone who has the right to access it without any requirement for identification or registration. Open data is published as collected at the source ("raw") at the lowest granularity, as determined by privacy, security or data quality considerations (see "The Benefits and Risks of Using Open Data"). Open data is accessible with open APIs and is not subject to any trademark or copyright.

The number and variety of public-facing open datasets and Web APIs published by all tiers of governments worldwide continue to increase.<sup>5</sup> Government budget and spending data, medical claims payment data, environmental hazards, census statistics, legislation, and transportation timetables are examples of popular published open datasets. The [U.S. Digital Accountability and Transparency Act of 2014](#) (aka DATA Act) is an example of a national government requiring agencies to post aggregated federal spending information on an open data platform, and in formats that permit users to download the data in bulk.

The [Global Open Data Index](#), operated and maintained by Open Knowledge, tracks the availability and accessibility of state or local, regional and national government open data worldwide. Large-scale events (such as the [National Day of Civic Hacking](#)) and global open data support organizations (such as the [Open Government Partnership](#)) are sustaining open data's momentum.

### Key Findings:

- Government open data is here to stay, but it will take a decade or more before its maximum utility is realized.
- The rapid growth of open datasets among early-mover organizations and flat or declining budgets create sustainability challenges to government open data programs.
- Cultural resistance and institutional barriers can slow down the internal use of open data to support innovation and improve public services.
- Innovation within government and in other sectors of the economy occurs when data is easily collected, published and reused, no matter where it originates — whether it is from people, digital business operations, or things such as sensors or devices.

**Implications:** When government planners draft a business case to establish an open data program, two key considerations often are overlooked. First, not all open data needs to be public data. Agencies that are moving into higher levels of open government maturity publish their previously inaccessible data in open data format for the internal use of government only. By determining which open datasets to make public and which to keep behind the firewall, agency business executives can increase data exchange within government, improve agency performance and program outcomes, and justify the cost of open data programs.

The need to sustain growing open data programs leads to the second point: Open data is not free. For most government agencies, open data programs are an unfunded or underfunded cost center.

In 2014, Gartner predicted that, by 2017, more than 60% of government open data programs that do not effectively use open data internally will be scaled back or discontinued.

The "value" of open data must become tangible to government in terms of how its availability can quantifiably contribute to operational efficiency or effectiveness, let alone how it supports economic development, national productivity or commercial ventures. Ultimately, open data must deliver measurable, positive business results in order for government agencies to continue financing and enhancing open data programs.

### Recommendations for Government CIOs:

- Work with your agency executives to identify and prioritize high-value datasets that can be used to improve business processes or enhance business analytics. Enter into cooperative agreements with other public-sector and nongovernment organizations that can benefit from access to your internal (nonpublic) open data, or vice versa.
- Determine the total cost of the open data program, including personnel, Web API development, data quality and technical costs. Post the cost of each dataset that is published on your agency's public open data portal to remind end users that providing the service is not free, even if the data is.
- Manage the open data program as a business-led initiative that supports an enterprise digital strategy. Use information governance to focus on the value, reuse, risk and compliance potential of open data, and to address issues of data ownership (that is, data is a reusable enterprise asset or public good, and is not "owned" or limited for use by a single business program area).
- Use open data and analytics to discover complex interdependencies among agency programs or government vertical industries (such as healthcare, education and social services), to improve government performance, or to gain insight into citizen preferences.

### Recommended Reading:

"Open Data Is Coming to the Enterprise"

"Moving Toward Data-Centric Government"

"Gartner Open Government Maturity Model"

### Citizen e-ID

**Trend Description:** It has been a long-standing yet elusive goal of many government planners to provide citizens with integrated and seamless access to all government services according to a "no wrong door" business model. This capability depends, in part, on finding a means to associate an individual with one unique and persistent identifier within the bounds of what is culturally acceptable and legally permissible in the jurisdiction.

Citizen electronic identification (e-ID) refers to an orchestrated set of processes and technologies managed by governments to provide a trusted domain for how public services will be accessed by citizens on any device or through any online channel (Web, mobile devices or applications) — and, in some cases, using smart card readers attached to PCs or kiosks. This orchestration works across multiple systems to enable citizens to authenticate for secure online connectivity in order to access commercial and government resources and services.

The proliferation of mobile devices, cloud computing and social media is speeding up the adoption of citizen e-ID programs and gaining renewed interest from governments to support political mandates. Examples include New York City's [IDNYC](#) program, which connects residents to services, programs and benefits (regardless of immigration status, homeless status or gender identity), or Dubai Smart Government's [MyID](#) service, which connects residents to support mobility programs.

While many jurisdictions continue to pursue government-issued credentials, in some cases, citizen e-ID implementations place governments in the role of identity brokers that rely on cloud and SaaS delivery models deployed by trusted commercial partners (such as the U.K.'s [GOV.UK Verify](#)). However, identity proofing for citizen e-ID is relatively expensive, which limits its broader acceptance. Therefore, a market is forming — but is not fully emerged — for strong, reusable identity credentials. Not only will these arrangements seek efficiencies and economies of scale, and extend traditional on-premises deployments, but also they will speed up adoption rates.

### Key Findings:

- Citizen e-ID projects are shaped by cultural norms about convenience versus privacy, regulatory constraints, technical environments and demographic preferences.
- To be successful, citizen e-ID programs require a trusted relationship between government and commercial vendors, with a focus on business value, interoperability and user experience.
- Citizen e-ID initiatives will increasingly support cloud-based federated identity services that can be more easily incorporated into private-sector business workflows.

**Implications:** Vendor solution providers no longer exclusively rely on back-end automation and report generation for traditional identity and access management (IAM) approaches and infrastructure. The focus of citizen e-ID services is shifting to front-end usability and business value, system interoperability, and user experience (such as provisioning of resources, system personalization and management oversight of user accounts).

This change in approach is driven by the use of external identity credentials that are managed with a federated governance model in distributed IT environments. Some credentials are provided by e-ID projects, wherein identity information from one domain is cross-referenced to access directory resources in another domain in order to enable single sign-on (see "Solution Path: Providing Single Sign-On Access to Cloud Applications").

Regardless of whether a government agency serves as the primary citizen e-ID identity broker or contracts with a commercial IAM as a service (IDaaS) provider, CIOs must ensure that personal privacy and data confidentiality requirements are met.

### Recommendations for Government CIOs:

- Determine what kind of consent management systems — and what levels of granular consent capabilities — are needed to record and enforce the privacy and data sharing preferences of individuals, according to the norms in your jurisdiction.
- Evaluate the feasibility of any proposed citizen e-ID initiative according to the criteria of business value, interoperability and user experience.
- Form an ecosystem of identity service brokers that enables government and commercial entities to provide services to designated stakeholders — without incurring the cost of identity creation, proofing and management.

### Recommended Reading:

"Tutorial: Successful Approaches to Citizen Electronic Identification Initiatives in Government"

"Hype Cycle for Privacy, 2014"

"Hype Cycle for Identity and Access Management Technologies, 2014"

### Edge Analytics

**Trend Description:** Analytics is rapidly evolving from a separate and distinct business function into a fluid aspect of system operations and user experiences. This development allows leading government agencies to move beyond traditional, reactive dashboards and business intelligence (BI) tools to process models where analytics take place at the point of service to inform context-based decisions. The capabilities of edge analytics are particularly relevant as government CIOs and agency program leaders design new mobile services that are augmented by situational context and real-time interactions.

Edge analytics possess three distinct characteristics. Primarily, they are advanced — they apply predictive and prescriptive algorithms and cognitive computing to make real-time assessments about what will happen or what should happen. Second, edge analytics are pervasive. They are embedded into business processes and applications to deliver responsive and agile organizational performance. Finally, edge analytics are invisible. They operate continuously in the background, tracking user activity, processing sensor and environmental data, dynamically adjusting workflows to enhance the user experience, or managing activities during events as they unfold.

### Key Findings:

- Industry collaboration around "fog computing" and distributed intelligence — the extension of cloud computing and analytic capabilities to the edge of the network — is creating a viable



ecosystem of computing services, data, storage, networking resources and application services for smart city initiatives and personalized citizen services.

- Edge analytics are being driven by: (1) its use in supporting high-scale, high-throughput and low-latency applications that bridge public, private and hybrid clouds; (2) the velocity dimension of big data; (3) real-time and high-performance analytics requirements; and (4) the need for greater situation and location awareness in business processes or dynamic events.
- Government programs such as public safety, justice, tax and revenue, natural resource management, public health and healthcare, or social case management provide a rich set of use cases in which edge analytics can be applied to enhance program performance or transform service delivery models.

**Implications:** Governments in all jurisdictions, from federal or national agencies to smart cities or metropolitan regions, will run on an application-centric digital infrastructure in which everything — objects, people, processes and data — is connected and integrated using common architectures, interoperability and open standards. Program evaluation, service utilization management, policy or contract compliance, and fraud detection are among the functional business areas that can be enhanced and continuously monitored with edge analytics.

Edge analytics make sense of the patterns found in data streaming from the IoT, in combination with huge volumes of transactional data. This contrasts with established BI solutions that are built to function on more limited datasets and with a more traditional data warehouse approach. In government, BI tools primarily have been used to query systems of record, such as enterprise asset management, ERP, CRM, claims processing or case management systems. Edge analytics supplement these data sources with data from operations systems that manage and control physical processes, such as public telematics initiatives that aim to improve traffic flow, congestion or toll collection.

CIOs who are charged with implementing a digital government business strategy can partner with vendors that have integrated advanced analytics with their technology stacks to leverage data in real time, in order to support automated action and decisioning at the edges of the service delivery network. Industry-formed groups, such as the [Industrial Internet Consortium](#), are working to create the reference architecture and promote the standards needed for interoperability exchange, and to analyze data throughout the government service ecosystem.

### Recommendations for Government CIOs:

- Assess your agency's analytical needs and your organization's analytical capabilities. Identify areas where additional investments in hardware, software, business process modeling, workforce skills and staff are needed to support a digital business strategy and data initiatives.
- Develop business use cases that embed analytical processes and results into the end user's normal flow of activity, and that present insights or assess risks at the point and time of action.
- Identify additional sources of internal and external data that can augment existing data, and identify the requirements needed to integrate data into existing processes for analysis.



- Break down the traditional silo barriers between transactional and analytics systems to enable next-generation applications by streaming data directly to intelligent business operations systems that can dynamically execute business processes that use or react to information.

### Recommended Reading:

"Practical Ways to Make Business Operations More Intelligent"

"Find the Best Approach to Decision Management"

"Establish a Framework for Analytics Governance"

### Scalable Interoperability

**Trend Description:** Government agencies are starting to increasingly rely on data exchange with external partners in order to optimize their service delivery networks and business functions, such as cross-boundary collaboration and service coordination, monitoring, and outcomes reporting.

Interoperability is the ability of two or more systems or products to seamlessly exchange and use information, regardless of the architectures and technologies they have been built on, in a manner that is invisible to the user. Interoperability at the technical, syntactic (such as XML or SQL) and semantic levels is the means by which digitally enabled value chains can effectively span on-premises legacy custom applications, commercial off-the-shelf (COTS) products and cloud-based services.

Scalable interoperability offers government CIOs, enterprise architects and business process analysts an incremental, "just enough" approach to architecture and standards to deliver "soon enough" value, as defined by prioritized, high-value use cases. By narrowing the scope of interoperability initiatives, a motivated community of interest — that is, stakeholders who receive tangible benefits from improved data exchange — can agree to use application-neutral and source-neutral extensible identifiers, formats and protocols (such as HTTP, uniform resource identifier [URI], JavaScript Object Notation [JSON], XML, Atom or OAuth) to achieve mutual goals.

Scalable interoperability pragmatically applies the principle of "interoperability by design" in enterprise information architecture so that government IT leaders can establish platforms to bridge information silos, improve data quality and reconcile long-standing semantic issues across systems (see "Reimagining Enterprise Information Architecture: Improve Information Sharing Through Interoperability by Design" [Note: This document has been archived; some of its content may not reflect current conditions]). All new IT acquisitions and services should adhere to the interoperability-by-design principle.

### Key Findings:

- Governance, finance and project management challenges for cross-cutting interoperability and information exchange programs are rising disproportionately to the number of organizational boundaries crossed.

- Low levels of interoperability and information exchange among government agencies and nongovernment partners are barriers to efficient and effective public service integration and orchestration.
- Scalable interoperability establishes an incremental path to information sharing by applying a pragmatic approach to interoperability-by-design practices. Interoperability by design seeks to balance the technical architecture layer of data exchange with the information architecture layer of semantic reconciliation.

**Implications:** Data interoperability poses a major challenge for government CIOs as they shift from an IT service model that is based primarily on internal development (inside-out) to one centered on co-development and information exchange using externally shared infrastructures (outside-in). To make this shift, government CIOs and enterprise architects must focus on stable, general dependencies, relationships and interfaces by adopting an enterprise architecture (EA) middle-out approach based on Web-oriented architecture (WOA) principles, and on the sharing of information delivered through the universal platform of the Internet and Internet protocols.

System heterogeneity requires CIOs and enterprise architects to pursue strategies dealing with the differences that are barriers to interoperability — for example, purchasing COTS software with a library of prebuilt adapters to negotiate the interfaces between particular COTS applications and COTS SaaS packages relevant to the program's business needs. Where such COTS functionality is not available and the business case warrants, evaluate integration platform-as-a-service offerings that have tools to enable crowdsourcing of integration interfaces or software adapters, self-service portals, and integration artifacts (see "Market Guide for Integration Platform as a Service").

In addition to speed to solution, scalable interoperability emphasizes data quality and reliability. Interface development time and costs can be reduced with conformance testing of interoperability between systems and information exchanges. For example, the Aegis.net [Developers Integration Lab](#) provides a platform for self-service automated, Internet-based interoperability testing against Nationwide Health Information Network (NwHIN) specifications and implementations.

Interoperability potentially offers government CIOs a phased "step-down, step-up" transition path from legacy systems to the cloud. When business functions migrate off-premises to the cloud, data in legacy systems can continue to remain in use as the new cloud service is brought online.

Greater interoperability can upend business operations, laws or policies, and management practices that predate the rise of open standards and systems. While agency executives and partners recognize the importance of tracking outcomes, few have restructured service delivery to support an outcome-based model. A key point of contention is "who gets credit" when multiple participants contribute to producing a shared result or positive outcome. This is no small consideration when zero-based budgeting, pay-for-performance contracts or value-based purchasing can influence the future funding levels of program operations. To resolve this tension, detailed interoperability use cases and value stream maps and data flows for end-to-end services must be developed.

Targeted cross-boundary use cases — such as those described in the draft version of the U.S. Office of the National Coordinator for Health Information Technology's (ONC's) ["Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap"](#) — and associated value

stream mapping can help determine the relative contribution of, appropriate performance measures of and equitable distribution of payment for services among participants or entities in the value chain. Ultimately, data interoperability facilitates greater collaboration, and produces the transparency and accountability for outcomes that justify program budgets and optimal resource allocation.

### Recommendations for Government CIOs:

- When procuring new IT systems or services, include requirements to conform to accredited or "best available" interoperability frameworks, open standards and data formats, such as [NIEM](#) (National Information Exchange Model), [HL7 FHIR](#) (Health Level Seven Fast Healthcare Interoperability Resources) or [XBRL](#) (eXtensible Business Reporting Language). Add bonus points for vendors that present proof of independent (third party) interoperability testing and a product interoperability roadmap.
- Illustrate the value of interoperability with compelling use cases and civic moment scenarios in order to enlist other government agencies, private-sector companies and nonprofit organizations in the innovative thinking and collaborative end-to-end process design required to improve program performance and outcomes.
- Initiate an interoperability pilot project that is narrowly scoped to manage governance, finance, policy, data quality, technology, security and organizational change management risks. Extend the scale and scope of future interoperability initiatives as your technology and partner ecosystems mature.

### Recommended Reading:

"Digital Government Will Move at the Speed of Civic Moments"

"Industry 2020: Open and Horizontally Focused"

"Two Technologies That Exploit Business Moments at Scale"

"Robust Testing Is Required for Reliable Healthcare Interoperability"

### Digital Government Platforms

**Trend Description:** The digitalization of business is an international phenomenon sweeping through all sectors of the global economy, including the public sector. Widespread application of cloud, mobile, social and information technologies — often expressed in the synergistic effects of big data analytics and smart devices connected by the IoT — is beginning to dissolve traditional barriers across industries. Old business and service models are breaking down under the weight of costly, inefficient processes that produce inconsistent outcomes. Government agencies, like private-sector companies, are challenged by the rise of agile and fluid ecosystems that are capable of using digital data to quickly discover and exploit new opportunities, or to solve long-standing problems (see "Industries Will Become Fluid in the Era of Digital Business").

The pervasive use of cloud, mobile, social and information technologies is not only blurring the established boundaries between government agencies, but also making the borders between regional jurisdictions and among the tiers of government less defined. To citizens who view "government" as a monolithic entity, the borders that define cities, counties, provinces, states and nations are of less importance than the quality of public services delivered at a price that the economy (and taxpayers) can sustainably support. In digital business, citizens should no longer have to navigate among various agencies and programs through vertical, first generation e-government Web portals in order to locate the services they seek.

Cross-domain fluidity requires an optimized IT infrastructure — an ecosystem of integrated technologies, middleware, and interoperable, configurable COTS applications — that is designed to be as indifferent to how government is organized as citizens are. Deploying a flexible solution architecture that is open and extensible is particularly critical when departments and programs consolidate, dissolve, transfer or reconsolidate according to the shifting dictates of successive election and budget cycles.

### Key Findings:

- The digitalization of society is driving government to become more open and horizontally aware across adjacent domains (such as education, social services, healthcare and associated public-private partnerships) in order to integrate and coordinate services to improve outcomes and citizen experiences.
- Framework technologies, EA reference models and industry standards have matured to the point that stable and extensible best-of-breed platforms can be architected.
- Institutional factors such as governance, financing or organizational resistance to change are greater barriers to the adoption of enterprise-level platform solutions than the technologies are.

**Implications:** A digital government platform incorporates service-oriented architecture (SOA) design patterns for the provision and use of enterprise services across multiple vertical business domains, systems and processes. Digital government platforms can be deployed on-premises, as a private cloud, or hosted, and they support event capture and processing, data exchange and analysis (internal and external information coming from multiple sources), user interfaces, and interoperability between applications across different domains, tiers and constituencies. Leveraging data generated from smart devices and the IoT is a critical capability of any digital government platform.

E-government frameworks and platforms have been around for more than a decade, usually as part of product and consulting vendor offerings. Over the past few years, some of them have morphed into platforms supporting smart city programs. These platforms are close to providing some of the basic functionality to support the Gartner concept of "digital civic moments" — that is, events that trigger a series of cascading actions and data exchanges across a network of people, businesses, organizations and things to achieve a singular objective. Data can be internal and external to government. The platform architecture should consist of services that are compliant with industry standards in order to facilitate reuse, adaptability and interoperability.

Vendor offerings are still at an early stage, and they focus primarily on supporting smart cities; examples include IBM Smarter Cities, Microsoft CityNext, Cisco Smart+Connected Communities, SAP Urban Matters, Oracle's Solutions for Smart Cities and Capgemini's Global Cities. Despite their focus on operational technologies and the IoT, these platforms address many of the issues pertaining to the data exchange and event triggering that are typical of digital government. Domain-specific platforms, such as the Accenture Public Service Platform or IBM Cúram Solutions, bring a platform approach to health and social services.

### Recommendations for Government CIOs:

- Socialize the value of digital government platforms by working with business leaders and program managers to model business capabilities in a way that is accessible and links to measurable business outcomes. Use the expertise of your enterprise architects to facilitate business capability modeling workshops.
- Evaluate digital government platforms in terms of the incremental expansion of functionality over time on a base that is scalable and extensible in expanding capabilities to transform service models and meet future digital government business needs.
- Assume a "one platform provider and multiple software vendors" approach in which one platform-as-a-service vendor provides technical, data and business services, such as a server storage, networking, virtualization, middleware, database management, analytics or workflow. Other COTS software vendors are plugged into or integrated with the primary vendor's platform.
- Understand how effectively other government clients leveraged the selected vendor's platform solution to support service delivery transformation, and whether the organizational change management program was adequately resourced.

### Recommended Reading:

"Renovate the IT Core: Laying the Foundation for Digital Business"

"Future of EA 2025: Evolving From Enterprise to Ecosystem"

"Platform as a Service: Definition, Taxonomy and Vendor Landscape, 2014"

### Internet of Things

**Trend Description:** The IoT is the network of physical objects (fixed or mobile) that contains embedded technology to communicate, monitor, sense or interact with multiple environments. For government, the IoT enables new levels of flexibility, reliability and collaboration for supporting the digital transformation of service strategies, regardless of data ownership, to create, collect, analyze and make decisions based on different data types and sources. The use of these sensor-enabled connections is growing rapidly in many industries, and these connections are increasingly being used by mobile apps (see "Internet of Things Can Help Public-Sector Services Reduce Costs and Engage Citizens").

The first wave of the Internet connected people with one another. The second wave is connecting things with other things and people with the things that surround them. The IoT is more than just technology-enabled sensors in devices. It is an architectural paradigm that makes embedded computing technology part of a broader ecosystem of capabilities that underpins entirely new products and services.

Government agencies can expect IoT-driven changes in several different areas, including environmental or public infrastructure monitoring, emergency response, supply chain inspection, asset and fleet management, and traffic safety. Wearable devices and mobile health monitoring devices will collect lifestyle, behavioral and health data that will help manage the costs of publicly financed health insurance and healthcare programs.

### Key Findings:

- The IoT presents a massively diverse and complex set of business and technology opportunities that requires the use of formal ideation practices and business scenarios as a basis to understand how value can be generated.
- The IoT demands application architectures, networks and middleware that are unfamiliar to most IT organizations.
- Sensor-based and other IoT systems must be linked to data and information management, with security and information access governance, as well as business enablers and operational cost savings.

**Implications:** Data is central to digital government, and information is the lifeblood of an IoT strategy. Organizations that don't define an "information of everything" strategy will risk legal, regulatory and reputational exposure.

The IoT will change technical architectures. Data, processing and interfaces can exist at multiple levels. Government CIOs and IT leaders should consider how and where to apply five key architectural styles to their IoT projects: (1) thing-centric, where a thing, whether it is a sensor or smart device, carries the greatest load of data processing; (2) gateway-centric, where the thing is relatively dumb and a gateway in the field is the primary control point; (3) smartphone-centric, where the smartphone acts as a hub for other IoT objects (for example, wearables); (4) cloud-centric, where a cloud service is the major point of application execution and things must be connected to operate; and (5) enterprise-centric, where things are more tightly anchored onto existing IT systems.

Government CIOs and IT leaders will need to look beyond EA to ecosystem architectures that incorporate citizens, employees, partners and the things that are important to each of them. Managing risk in adopting IoT technologies requires increased collaboration with public-sector peers, or studying related but different private-sector industries in order to evaluate best practices or lesson learned.

### Recommendations for Government CIOs:

- Approach the IoT strategically to evaluate how a growing base of intelligent objects and equipment can be combined with traditional Internet and IT systems to support breakthrough innovations in operational performance or public service delivery.
- Familiarize key staff members with IoT concepts and technologies to ensure that they are ready to make informed decisions about strategies, products, architectures and services as IoT requirements emerge.
- Develop an interoperability strategy to gain sustainable and extensible business value from IoT initiatives. Focus on business outcomes, scenarios and defined business information to determine your approach to interoperability.

### Recommended Reading:

"Build Your Blueprint for the Internet of Things, Based on Five Architecture Styles"

"Leveraging Enterprise Architecture to Enable Business Value With IoT Innovations Today"

"Survey Analysis: The Internet of Things Is a Revolution Waiting to Happen"

### Web-Scale IT

**Trend Description:** Government agencies — particularly those serving large populations, or whose missions span wide geographic regions — can no longer afford to have their growing needs for innovation and agility limited by legacy infrastructure, suboptimal business processes, and linear development methods that are inflexible and insufficiently scalable.

"Web-scale IT," a term coined by Gartner, describes how enterprises can attain efficiencies that rival the cloud — when cloud is not an acceptable option — by emulating how applications and services are designed to operate in cloud architectures. This requires a re-examination of IT conventional wisdom in several areas, including: (1) how to build out (and populate) data centers; (2) how to design and develop applications so that they are scalable and delivered quickly to the market, and so they are resilient in case of failure; and (3) how to develop operational processes that are complementary to a more agile environment.

Web-scale IT is a system-oriented architectural pattern of global-class computing that delivers the capabilities of large cloud service providers within an enterprise IT organization (see Note 1). Web-scale IT enables the rapid and scalable development and delivery of Web-based IT services that leverage agile, lean and continuous delivery principles.

Web-scale IT focuses on not only the ability to scale IT-related facilities and technology, but also the associated operational processes and supporting organizational structure. Perhaps most importantly, however, is the ability to reshape an organization's IT culture by encouraging unconventional thinking.



For government, the shift to Web-scale IT is a long-term trend with significant IT process, cultural and technology implications.

### Key Findings:

- Web-scale IT is the result of the demand to create global-class cloud services to address the increasingly complex client environment, using automation and other software-defined and policy-based models to drive speed and agility.
- Loosely coupled, WOA-based software architectures are enabling development teams to increasingly operate independently, while improving overall application resiliency.
- The influence of DevOps on IT culture, tools, processes and organizational structures is resulting in the acceleration of application delivery and an environment of continuous experimentation (see Note 2).

**Implications:** Web-scale IT is disrupting the status quo with regard to vendors and business end users. Enterprises adopting a Web-scale IT philosophy will largely eschew the acquisition of expensive, scalable computing, storage and networking resources in favor of lower-cost, open-source-derived hardware that bypasses the traditional infrastructure "middlemen." Consequently, traditional IT suppliers will become less relevant to government CIOs and IT leaders, as will traditional modes of IT service delivery. For example, IT production engineering and operations support teams will increasingly reject ITIL-based manageability approaches (and their associated consulting organizations), and adopt more lean and agile governance models that are designed to better complement agile development efforts.

Web-scale IT leverages four characteristics:

- **Information-fueled:** Digital government applications and infrastructure rely on information to drive the behavior of the IT environment, which allows for extensive automation and deep analytical capabilities to help IT organizations understand operational efficiencies and program effectiveness. The multichannel citizen engagement, edge analytics and IoT trends will drive the shift to Web-scale IT.
- **Software-defined-anything-enabled and cloud/client-modeled:** Building off the power of software-defined anything allows organizations to have next-level automation, granular control of IT processes, reduced reliance on hardware for resilience, increased flexibility in throttling performance, and allowance for new capabilities without hardware upgrades (see "Software-Defined Architecture for Applications in Digital Business"). Cloud/client models and WOAs establish the delivery model and user experience for software-defined architecture styles.
- **Built-in IT continuity:** Since Web-scale IT is modeled on large, multitenant cloud providers, it is designed to automatically remediate hardware and software failures through an architecture that doesn't have a single point of failure to compromise the other solutions.
- **Industrially designed data centers:** Design approaches pioneered by large Web firms are expanding into the enterprise. The new models disaggregate for cost, design for efficiency, are engineered for serviceability and are architected for agility.



The use of the word "Web" in "Web-scale IT" does not restrict the approach to citizen-facing e-government applications. Web-scale IT also includes systems that derive their architecture from SOA, including service-oriented infrastructure and REST-based principles.

Web-scale IT takes advantage of the architecture concepts behind the large public cloud to bring global-class capabilities to the enterprise:

- **Increased organizational agility:** This enables new products, services and enhanced business insights by reducing complexity and the time to build solutions, along with providing a connected IT ecosystem of information and technology.
- **Low total cost of ownership:** This helps government agencies deliver more capabilities at a lower operational cost by driving down the costs of labor required to create solutions; it reduces IT infrastructure and software costs; and it is able to monitor and charge customers according to the peak-hours or off-hours utilization needs of a service.
- **Predictable scale:** This provides a continuously running infrastructure that is able to scale based on the compute needs, with a seemingly limitless potential demand for computing usage.

#### Recommendations for Government CIOs:

- Prepare for the deployment of a Web-scale IT architecture by involving the IT organization in initiatives such as the [Open Compute Project](#) and the [Open Data Center Alliance](#). CIOs of smaller jurisdictions should evaluate how Web-scale IT capabilities can be obtained through consortia or the public cloud.
- Adopt SOA and software-defined architecture to deliver managed agility in software for digital government services.
- Create a roadmap that defines your organization's Web-scale IT infrastructure strategy, including the investment gaps, future impacts to existing infrastructure, and competencies that will be needed to execute this strategy.
- Use DevOps and WOA to incrementally build out an industrial-grade infrastructure.

#### Recommended Reading:

"Use Web-Scale IT to Make Enterprise IT Competitive With the Cloud"

"Cultural Issues Are the Primary Barrier to Web-Scale IT Adoption"

"Web-Scale IT Influences the Market and Enterprises for Cloud Computing"

#### Hybrid Cloud (and IT)

**Trend Description:** Hybrid IT offers government CIOs a new operating model that supports their IT departments' ability to combine and manage on-premises infrastructure or internal private cloud with external cloud-based environments (community, public or hybrid) simultaneously (see Note 3).

Hybrid IT is how IT departments are organized to secure, deliver, manage and govern these environments.

Gartner advises most (if not all) organizations to move in the direction of a hybrid architecture in order to take advantage of the different resources and service delivery models. In government, where consolidation is high on many agendas, a hybrid IT model requires very different competencies to support various public cloud deployments.

Most implementations of private cloud computing are following those of the public cloud — to develop new applications that are dynamically composed from standardized components and bound to the infrastructure at runtime. As a result, the next generation of private and hybrid cloud computing solutions will better support agile methodologies and DevOps initiatives, thereby accelerating the time-to-solution cycle that Web, mobile and digital business applications demand.

### Key Findings:

- Increased multisourcing and cloud adoption is making it more complex to manage end-to-end services in a hybrid IT environment, thereby driving government CIOs to find new ways to manage and deliver run-based services.
- IT organizations want to optimize the placement of services across the public cloud and on-premises private clouds, preserve flexibility in using multiple cloud providers, and reduce lock-in.
- The hybrid IT service function within an organization will become one of the most critical technology and partnering investments made by enterprises, and will influence how IT makes decisions on all technologies and IT services used by the enterprise.

**Implications:** Hybrid IT requires new organizational roles and structures, whereby the infrastructure and operations organization can assume and/or delegate responsibility to external IT service providers, multisourcing service integrators and cloud service brokerages (CSBs) to deliver the IT services it needs. Cloud management platform tools are used to ensure the best utilization of cloud-based IT resources through proper management.

As government IT progressively loses total control over IT purchases, and as business units increase their influence over those decisions, government CIOs must focus on building the institutional capacity to manage cloud technology, and on preparing their IT organizations to adopt a more business-centric service model to deliver faster IT solutions through a diversified portfolio of resources that includes hybrid cloud solutions (see "Explore a Solution Delivery Perspective for the IT Power Shift").

Many government CIOs struggle to modernize or migrate legacy systems to new platforms without disrupting business services. There are few examples where cloud has proved to be a viable option, despite expectations to the contrary (see "Government CIOs See Expected Cloud Cost Savings Evaporate"). Hybrid cloud provides a mechanism to further leverage legacy environments without needing to redevelop them.

Government CIOs will need to reposition IT organizations from being full-service providers of IT services to being their agencies' preferred brokers and managers of services offered predominantly through the cloud. As the IT organization assumes cloud intermediary responsibilities, its success will be demonstrated by how effectively it can accelerate the time to solution, derive cost savings from cloud usage and protect the enterprise's information assets.

Thus, government CIOs and IT leaders' new core competencies will become advising the business on best practices to procure and administer cloud services while integrating with traditional on-premises or outsourced services.

### Recommendations for Government CIOs:

- Establish policies, operational processes, business relationships and technologies that strategically leverage multisourcing options (cloud and noncloud, on-premises and off-premises, and private/public/hybrid cloud).
- Create an intermediary organization (hybrid IT function) to assist with cloud governance, integration, aggregation and customization for your cloud projects. Smaller jurisdictions should consider contracting with a CSB.
- Design private cloud services with future public cloud integration and interoperability in mind, including hybrid cloud computing. Establish requirements for vendors to support open, standard northbound APIs in order to maximize flexibility and minimize lock-in.

### Recommended Reading:

"Exploring Cloud Management Trends and the Actions to Take"

"Become a Cloud Enabler by Following Our Eight Steps to Hybrid IT"

"Hybrid IT: Delivering IT as a Provider and a Trusted Broker"

"Exploiting MSI and CSB Roles to Effectively Manage Complex Hybrid IT Services Environments"

### Acronym Key and Glossary Terms

<b>Fog computing</b>	Industry collaboration around "fog computing" — the extension of cloud computing capabilities to the edge of the network — is providing data, storage and application services to end users and smart devices.
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### Evidence

<sup>1</sup> The Organisation for Economic Co-operation and Development (OECD), "[Measuring the Digital Economy: A New Perspective](#)," OECD Publishing, 8 December 2014.

<sup>2</sup> Development Research Centre on Citizenship, Participation and Accountability, "[Blurring the Boundaries: Citizen Action Across States and Societies](#)," 2011.

<sup>3</sup> United Nations Department of Economic and Social Affairs, "[United Nations E-Government Survey 2014: E-Government for the Future We Want](#)," 2014.

<sup>4</sup> T. Brown, "[Design Thinking](#)," Harvard Business Review, June 2008.

<sup>5</sup> According to the [ProgrammableWeb Research Center](#), the count of government Web APIs has grown from 39 in 2009 to 338 in 2013.

### Note 1 Web-Scale IT and Global-Class Computing

Global-class computing is a term used to describe the reality of computing in the modern world. It emphasizes characteristics that challenge the basic assumptions of how computing should be done. These characteristics are technological, cultural and organizational; they are positioned to highlight the differences between traditional enterprise computing and the type of computing done on the Web and in the cloud.

For example, a global-class approach emphasizes the value of a citizen-centric service culture (an "outside-in" view), as opposed to the government institution culture (an "inside-out" view). The approach highlights government-to-citizen, government-to-business, government-to-community and government-to-government information sharing that is not structured in the same way as the enterprise would structure it. Also, the approach highlights a scale of computing that is largely horizontal, using federated resources in massive quantities. These, among other characteristics, form a foundation of computing that allows Web-scale IT to happen.

### Note 2 Define DevOps for Your Organization

There are many definitions of DevOps, depending on where you look. Gartner defines it as "a change in IT culture, focusing on rapid IT service delivery through the adoption of agile, lean practices in the context of a system-oriented approach" (see "Principles and Practices of DevOps").

### Note 3 Hybrid IT Is Here to Stay

The term "hybrid IT" describes the new functional and operational model for IT in a cloud computing, dynamically multisourced and heterogeneous world. A hybrid IT organization is a trusted broker, interface and provider of all IT services, whether private or public. A combination of services is provided by the IT organization and external providers, using cloud-based and traditional styles of computing. These services are integrated, aggregated, customized, managed and governed to meet enterprise IT requirements.

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# Customization: The Cost That Keeps on Costing

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The customization of packaged applications consumes a very significant percentage of large-enterprise applications budgets, but the disciplines for managing the customization process are, generally, poorly developed. This research provides an overview of the various ways in which packaged applications can be adjusted to suit the needs of the client organization, and identifies the long-term cost implications of each approach.

## Key Findings

- "Implementing the standard solution" is an aspiration that is rarely achieved.
- There is no such thing as an 80% fit.
- Well-managed customizations may repay their costs many times over by delivering special support for important business processes: by contrast, poorly managed customization will destroy value in the application and in the business.
- Failure to design an application development methodology and a software development life cycle (SDLC) to deal with the specific exigencies of packaged application customization will bequeath endless grief to future generations of application managers and business users.

## Recommendations

- Put specific measures in place at the point of implementing a new application to control the propensity of business users and the implementation partner to identify customization as the solution to achieving an application fit for the business.
- Ensure that the full life cycle costs of customization are estimated alongside the initial development costs.
- Document, document and document; customizations will be highly likely to outlive the teams that implement the changes.

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## Analysis

### 1.0 The Buyer's Perspective

"Our strategy is to use commercial packaged software wherever possible." This is an article of policy in the application portfolio strategy of practically every organization on the planet. And with good cause; developing your own software solution is expensive and risky, so using commercial, off-the-shelf software appears to be a very attractive alternative. As well as lowering the initial cost and risk, buying into a commercial solution provides a degree of future-proofing for the implementation, because continuous investment by the vendor theoretically ensures that the application keeps abreast of emerging business and technical demands. Although management teams cite many reasons for the preference to use packaged solutions, it is clear that one primary

reason is that the client is buying into the expectation of continued investment by the vendor in the R&D of the package.

This is all well and good — in theory. But there is a problem with commercial, off-the-shelf software applications; they may not be a good fit to the business requirements. The lack of fit can be caused by many factors, such as:

- The shipping address is assumed to be the same, regardless of the shipment mode, whereas we will drop ship directly to factories for some things, but hazardous materials have to go to central distribution.
- The package assumes that anyone who can modify a customer order delivery date can modify the order quantity — we don't allow this in Europe, the Middle East and Africa (EMEA) operations, but we do in the North American service center, as long as the customer ID does not start with "P."
- The package permits a call center operative to override a credit check; we need supervisor authorization to be acquired.

Most buyers of applications recognize that they will not find a perfect fit. It is common for selection teams to talk about "looking for an 80% fit with our requirements." Selection teams then tend to enter into elaborate exercises to match their requirements against potential packages to score the fit. There is no simple mechanism to measure the deviation between package functionality and user requirements. User requirements consist of functional requirements and system attributes. The functional requirements are statements about activities that should be automated and controlled by the system. The package will do something like the functional requirements as they're stated, but there will be countless differences. Each of these will need to be considered and evaluated, and decisions must be made about how to handle the deviation. System attributes (such as agility, maintainability, localizability and cost of operations) are equally important in determining the viability of a particular solution, but are much harder to evaluate than simple functional requirements. The bottom line is that the concept of an 80% fit is mythical. Selection teams are generally seeking the "least worst" fit.

Whatever the scoring mechanism, a package is eventually selected as the nearest to the desired requirements. Then the real work starts; what is to be done about the variance between requirements and package?

## 2.0 The Vendor Perspective

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Let's look at this problem of "fit to requirements" from the perspective of a software vendor. The vendor would like to sell its solution wherever it can find willing buyers. If the package is too narrow and restrictive, then the market will be limited, and sales could be difficult. So, the vendor's architects and designers seek ways of adding inherent flexibility to their solutions so that the system will be configurable to meet a broad range of requirements. This is a good idea — but it comes with a penalty. As the level of configurability increases, the inherent complexity of the system increases. Complex systems tend to be more expensive to implement, support and maintain.



The package vendor is faced with a challenge. It needs its systems to be configurable enough to sell to the largest possible market, but the system must be manageable and supportable, which means the vendor cannot possibly provide infinite configurability. It needs to make design decisions about where to place itself on the spectrum between "complete rigidity" and "infinite flexibility." One can argue that selecting the position on this spectrum is the most important design decision in a packaged application, because it defines the balance between "salability" and "deliverability."

One way vendors can square this circle is to implement the portions of the application that are common to a related set of markets, but not create the completed application for each individual submarket. Then the vendor relies on service providers or on the customer to finalize the implementation according to a basic pattern that it has been designed against, to support the submarkets and customer variations. This is essentially what has happened in the complex order management space for a while, and in a lot of call center applications, for example. The real question, from the vendor's perspective, is how much upfront investment it wants to make, and what share of the margin it can capture, versus that of its ecosystem partners.

### 3.0 The Slippery Slope to Customization

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Nobody buys a packaged application with the express intention of undertaking massive customization. The initial intention will always be to fully exploit the configuration options available in the package to create an effective match to the users' requirements. After all, the client will have seen one or more demonstrations of the software that showed it was not far from what the client wanted, and the client must have some understanding of the package's parameterization possibilities. So, the journey toward implementation tends to start with a view that any customization will be "on the edge," not really impacting the core system.

However, not long after this hopeful start, the implementation project manager is besieged by users and business analysts explaining how the world will stop turning on its axis if they cannot have some basic changes to the system — and some of these changes will require the source code of the application to be modified. Many package implementations in recent years have attempted to pre-empt this by gaining executive commitment upfront to "changing the business processes," to avoid source code modifications. These agreements may be quite effective for some basic application services, such as running the finance function, but they tend to break down quickly when faced with the differentiating business processes, such as production or customer management. This is not always a "failure" — it is simply recognition of the fact that some enterprise processes do have important characteristics that do not appear to be supportable within the issued package. The problem is that once an exception has been created for a justifiable reason, the floodgates seem to open. Often, the implementation project plan has not included the time, budget and resources needed to address this flood of customizations within a controlled methodology, which means that they are rushed through to have the least possible impact on the initial implementation costs and delivery date. This "rushing through" frequently means that inadequate attention is paid to the architectural rules, coding standards, development methodologies, documentation standards and quality assurance techniques that need to be in place to ensure that the customizations are carried out effectively. There is certainly zero attention paid to the full life cycle cost implications of the customizations.

## 4.0 A Taxonomy of Packaged Software Modification Styles

Packaged software can be adapted in many ways to suit the needs of a specific client organization. However, the terminology used by participants is rarely rigorous, meaning that there is plenty of opportunity for confusion. Project teams should impose some structure on discussions around how the package can be adapted, using the following taxonomy.

### 4.1 Configuration

When a package is designed and developed, the vendor's design team will create a number of configuration settings that allow the user organization to modify the behavior of the application without access to the source code. These configuration settings have a wide range of impacts, for example:

- **Simple configuration settings** could allow an individual implementation to select the language for screens or reports, the currency symbol to be used, date formats, the way in which numerical information is presented (commas or periods for decimals). These tend to be systemwide configuration options to be used as default settings, set once and never changed.
- **Personalization configuration settings** allow an individual user or group of users to override systemwide defaults, such as language selection, date formats, screen layouts and user interface behaviors.
- **Security access configuration settings** determine which data and process tasks are available to individual users or groups of users.
- **Business logic configuration settings** allow the implementation team to modify the business rules employed by the application. For example, a business logic configuration setting could implement a rule that says whether inventory levels are ever allowed to be recorded as negative.
- **Workflow configuration settings** allow the implementation team to set rules about how transactions are sequenced through roles. For example, in accounts payable, after an invoice registration for a service invoice, the approval needs to be routed to procurement first and then to the budget-holding business unit for approval, not the other way around.

### 4.2 Reporting Extensions

Users will always want more reports than come with the standard package. In recognition of this, most packages come with report-writing tools, which require a level of programming expertise. For many packages, there is also a thriving market in third-party, report-writing tools that can be used to supplement the delivered reports. These reports form a significant extension to the package implementation.

### 4.3 Templating

Large packaged applications can have thousands of individual configuration options. Configuring all these options for a specific enterprise creates a significant challenge for the implementation team. This challenge has created a market for application templates — a preconfigured set of options that provides an effective shortcut for implementations in specific industries or geographies. These templates may be provided by the application vendor or, more likely, a system integrator that specializes in the specific package. In addition to the preset configuration options, an application template may contain a number of industry-specific or geography-specific extensions (see "Process Templates Emerging As Key tools in SOA Projects and Applications Strategy").

### 4.4 Extension

An implementation team can construct systems "around the edges" of an application so that the use of the package is extended in ways that may not have been envisioned by the original design team. For example, an accounts payable package could be extended by adding a document-scanning system and optical character recognition to facilitate invoice acceptance. One key characteristic of an extension is that it does not require access to the source code of the packaged application.

### 4.5 Code Exits

Code exits are also known by a host of insider terms (for example, hooks and breakouts). Some package vendors provide the ability for the client organization to add its own code to the vendor-supplied executables by means of "code exit" routines. The vendor supplies an executable that does nothing — that is, simply returns control to the main body of code. The client can replace these "return" functions with real executables developed and supported by the client. The vendor publishes standards for returning error codes from these code exit routines so that the main code can take account of nonrequired events in the client's code exit.

### 4.6 Vendor-Permitted Customization

Some package vendors provide segments of source code alongside licensed executables. These segments are intended to allow the client organization to modify the behavior of the system in those segments of code, typically to achieve additional validation or to vary exception handling. These are similar to code exits, but, unlike code exits, they have default functionality, and are generally capable of returning more sophisticated information to the invoking code.

### 4.7 Full Source-Code Customization

The term "customization" should be exclusively preserved to describe changes to the application that are delivered through modification of the original source code. This source code would be made available to the implementation team under license from the package provider. In many cases, the customization will be undertaken by a third party.

## 5.0 The Role of Third-Party Implementers in Customization

When a client implements a new, packaged software application, it will inevitably require outside assistance. In a small number of cases, clients may buy the implementation services from the package vendor, but the more common approach is to use third-party service providers. The selection of the service provider typically takes place after an extensive bid process, where the price of the implementation service will play a large part in the selection of the winner. This frequently means that the implementer has little margin in the basic implementation, and some implementers seek to redress this by actively seeking to extend the scope of the basic implementation, thereby being able to add to revenue and margin.

What happens when the client's implementation team says, "We need to do it this way — can the package be configured to meet our needs?" If we consider the possible responses from the service provider's lead business analyst, then it has a range of possibilities and outcomes:

- At one extreme, the answer could be, "I do not know." This is a good and probably correct answer. There are thousands of configuration settings and options, such as the exploitation of code exits or vendor-permitted customizations. A lead business analyst from the implementer might have been involved in four or five previous implementations (if the client is lucky), and cannot possibly be expected to know all the options available. So, "I don't know" is a good answer, but it (a) diminishes the credibility of the business analyst, and (b) commits the business analyst and team to the laborious process of trying to find out whether the package can be configured to meet the requirements.
- A midrange answer could be; "Before we look at changing the system, can I get you to consider changing what you do so that you can use the delivered system without modification?" This sounds like a sensible approach, but it has drawbacks on both sides. From the business analyst's point of view, this generally opens up a world of pain, because business users typically strongly resist changing what they do, so political battles will ensue that will consume time and resources, potentially slowing the implementation. From the business users' point of view, even if they are willing to consider changing what they do, the problem is understanding the real options. As explained, the package does not have one way of doing something, it has potentially thousands of different ways, depending on how it is configured. The business analyst, however, likely knows only a limited number of configuration options, and will push users toward one of these. This is unlikely to be the optimum configuration of the package.
- At the other extreme, the answer could be; "No, but we can look into doing this by customizing the code." This answer has the distinct advantage (from the business analyst's perspective) of (a) removing the issue from the table and (b) driving more revenue to his or her team. From the perspective of business users, this approach also sounds like a sensible solution — because they are rarely exposed to the true lifetime costs of ownership of the customized code, so they seem to be getting what they want for the simple costs of the initial customization.

This is not a criticism of third-party implementation teams; it is an analysis of a frequent pattern of behavior that tends to create substantially more customization than the client or implementer anticipated. The question we must ask is not "Does it happen?," but rather "Does it matter?" After all, if most implementations proceed down this path, then most businesses must be happy with the

outcomes, right? If only this were true. There is a short-term benefit from most customizations — the benefit of avoiding change to business processes, organizations, and roles and responsibilities. Unfortunately, the price is paid over a much longer time scale; customizations should be seen as having a perpetual rental that must be paid, rather than as something that is purchased once. To put it another way, customizations are like tattoos — quick to install but almost impossible to remove, and likely to be an embarrassment for years to come.

The real costs of customization are not just the money cost of making the code change in the first place. Any customization will inevitably increase the cost of support for the package. When reporting an error, the client may be asked to reproduce the error in an uncustomized test copy of the package before it will be considered by the vendor's support team. This can be expensive and time-consuming, and will rarely produce a clear-cut result. The real cost of customization is likely to be experienced when the vendor releases a new version of the product, because the cost and difficulty of executing the upgrade path will increase as a result of customizations. There are many instances where the client organization simply cannot justify the expense of upgrades, and find itself in the perverse situation of paying for support for an progressively aging product without being able to tap into the development investments of the software vendor.

## 6.0 Life Cycle Management of the Different Styles of Packaged Application Modification

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### 6.1 Configuration

The traditional view was that vendor-supplied configuration options were vendor-supported configuration options, and should be preserved throughout the life of the application, through all upgrades. (Sadly, this is becoming less common, as vendors increasingly use integer releases to rearchitect their products and this rearchitecting can mean the loss of certain types of configuration options.) Configurations do not only incur cost during the implementation phase. The configuration options also determine the code paths executed, which influences the errors that will be discovered by the business. It is very important that the configuration options are thoroughly documented so that they can be communicated to the vendor support team and any programmers who may be developing solutions that interface with the vendor package. Wherever possible, configuration settings should be frozen through tightly restricted access-controls to the configuration management functionality; all too often there are instances of massive disruption to major application implementations because somebody "found" a parameter setting on a screen and changed the setting without understanding the implications.

### 6.2 Reporting Extensions

The plethora of reports that spring up around a package implementation create a significant cost hazard during any upgrade activity. Reports are often poorly documented, and there is rarely any form of central repository of reports so that an impact assessment is almost impossible when major changes are in progress. This leads to disruption to business performance after an upgrade, as users struggle to identify how system changes impact their much-loved reports. Attempting to bring all reports under any form of central control will likely be resisted as expensive and time-consuming;

nonetheless, application management teams should offer a service so that users can opt to have their reports registered, maintained and managed to avoid business disruption during upgrades.

### 6.3 Templates

These are special cases of configuration. Where a client purchases an industry template from an implementation partner, the client is generally acquiring a snapshot of that template at a specific point in time. Implementation partners usually are not disciplined about version control or revision management with their templates, and this can cause problems if the client wants to extend the implementation through the addition of a new module of the packaged application. The implementation partner may have a template that covers the new module, but probably has never validated the module's template against the version of the template for the main application that has been implemented by the client. Once again, this places the onus on the client to thoroughly document the precise state of the template as delivered and, particularly, to record how the template has been modified to meet the needs of the specific business.

### 6.4 Extensions

These systems have been developed or acquired to supplement the packaged application. Because these are separate from the vendor deliverables, they have their own life cycles, albeit with the need to manage additional work when the main package is upgraded. It is important to treat these extension systems as independent, with their own governance, cost management and life cycle management.

### 6.5 Code Exits

These were originally conceived as small and simple mechanisms to allow limited validation or exception handling to take place, but, in many instances, have grown into full-blown parasitic or symbiotic applications in their own right. The problem for many clients is that they fail to put in place a strict application development methodology and an associated SDLC when getting started with code exits, and consequently end up with vast swathes of unregulated and poorly documented code. The code exits need extensive review when the vendor delivers an upgrade, but the lack of common source code management, configuration management and nonstandard documentation mean that this is an onerous and expensive task that is highly error prone. The key management technique is to apply the highest possible standards to the application development methodology, the software development life cycle and, particularly, to the documentation of code exits so that they do not become a major cost and risk impediment to the upgrade activity.

### 6.6 Vendor-Permitted Customizations

The management issues in this category are similar to those posed by code exits, with the additional complexity that vendor-supplied patches to the default executables can arrive at anytime in a set of repairs or a minor system upgrade. This means there is a risk that the new default code object could overwrite the customized code object, so special care must be taken in operational upgrade processes to identify the potential for this. Where such modified vendor routines are an integral part of any release, it is important to verify whether the changes introduced by the vendor in



the revised code need to be reflected in the customer's modified version. Once again, excellence in application development and management (ADM), SDLC and configuration management are essential disciplines.

## 6.7 Full Source Code Customizations

In terms of the discipline needed in the design and development processes, full source code customization is at least as demanding as pure application development, and one can argue that it deserves even more rigor. Unfortunately, few organizations give more than cursory attention to the need to specifically design the application development methodology and SDLC to meet the unique challenges of package modification until such time that they have created a significant volume of changes in a very undisciplined manner. By this time, it is generally too late to do much more than hope that there will be time to "sort it all out;" of course, such a future very rarely arrives. To break out of this pattern of behavior, implementation teams should implement a full life cycle cost model for customization activities, and expose the business to the true lifetime total cost of ownership. This will involve developing an application life cycle management (ALM) discipline attuned to the needs of customized package applications. (For an introduction to ALM see, "Application Life Cycle Management Has Found a Home") Components of the life cycle costs of customization include:

- The opportunity costs of choosing this specific customization, compared to any others that are competing for the same resources (time, people and budget)
- The initial costs of requirements definition, process design, gap analysis and the specification of the customization
- The initial coding, testing and documentation costs
- The costs of skills transfer in the application maintenance team when responsibility for maintenance is transferred among individuals or teams
- The initial cost of creating the user documentation and user training material explaining the customization
- The additional costs of training for all user personnel onboarded to the application throughout its life
- The ongoing costs for applying the customization to all upgrades received from the vendor throughout the life of the system (or the cost impact of shortening the viable life of the application through inability to absorb upgrades and, therefore, inducing early obsolescence)
- The fixed costs of maintaining the expertise to manage the customization even if no work is required over a period of time
- The additional costs of support when errors need to be reproduced in a separate copy of the application without the customizations before the vendor will investigate under the support agreement
- The additional costs of maintenance and support when vendor-supplied error fixes need to be reverse-engineered into the customized code

Client organizations setting out on the path of customizing a packaged application should ask themselves tough questions about the long-term cost implications of what they are doing, for example:

- Have we thoroughly documented the business requirements we sought to achieve through the customization?
- Can we create an SDLC where the standards of documentation and coding will allow a programmer in 15 years to understand exactly what changes were made and why they were made? (If you don't believe the customizations will be in place in 15 years, then explain how this need goes away.)
- Can we make an investment in the highly specialized testing environment necessary to support the customized code, and maintain all the test artifacts, such as scripts and data, over the life of the system?
- Have we designed the operational procedures associated with applying vendor-supplied repairs so that the existence and function of customizations are recognized as integral components of the management processes?
- Have we fully explained to the business the additional costs that will likely be incurred when the vendor releases new versions, and has the business unambiguously signified its agreement to meet these costs or to live on the frozen version until it is discarded (and then fund the cost of a replacement)?

## 7.0 Summary

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Despite the rapid growth of software as a service and other manifestations of cloud computing, packaged software applications will be a significant component of the application portfolios of business and public-sector organizations for the near future. Although some user organizations will achieve their objective of implementing some of their applications without reaching for the coding sheet, a significant number of major applications will require extensive customization that must be managed throughout the life of the application. If you can avoid customization, then avoid it. If you really can't avoid it, then be prepared to make the investment in the application development methodology, the SDLC, and especially the documentation and validation of customization to enable the customization to be managed efficiently throughout the life of the system. Failure to make these investments is to bequeath a world of pain to the future.

### More on This Topic

This is part of two in-depth collections of research. See the collections:

- Life Cycle Guide to ERP Research, Update 2012
- Life Cycle Guide to ERP Research, Update 2013



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# A Framework for Measuring and Managing COTS Customization

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This research helps application leaders answer two important questions: (1) How much customization are we planning for an application that we intend to implement? and (2) How much customization do we have in an existing application? These are important questions because the level of customization has a dramatic impact on the lifetime costs associated with the application.

Gartner foundational research is reviewed periodically for accuracy. This document was last reviewed on 5 November 2014.

## Key Findings

- The percentage of customization in an application should be measured by the costs of the customization compared to the other costs for owning the application.
- Customization costs during the initial implementation are only a fraction of the overall cost of customization.
- Once customization has been started, it becomes addictive and more customization will follow.

## Recommendations

- During application selection, project teams should establish the likely initial costs for customization and then show the impact of those initial costs in all subsequent years.
- When managing existing applications, managers should report on the percentage customization by referencing the percentage of the total cost of ownership (TCO) to date attributable to the use of customizations.
- Application planning teams should show future budgets for support and maintenance split between standard services and costs due to customization.

## Analysis

"We are evaluating various commercial off-the-shelf (COTS) business applications for such-and-such business process. We know that we won't find exactly what we are looking for, but we hope to find an 80% fit."

Such is the common opening statement from clients who have embarked on the search for a business application. There is remarkable consistency across multiple industry sectors and geographies: Almost everybody uses "80%" as the percentage of fit when they are looking for an application. But it is also universally true that none of these searches have a way of measuring the percentage of fit of an application to the business requirements. Simply counting the number of boxes ticked to say "yes, the system does this" does not provide a meaningful evaluation, since the requirements cannot possibly be equal in size and complexity. One tick box might require 500 function points and another could need 20,000 function points.

Everybody uses the 80% number but nobody can measure it in a meaningful way, and it has always been thus so it really doesn't matter, does it? Yes, it does matter — it matters a lot. Because it is within the early stages of evaluating the different business applications that expectations are set, these expectations, once set, tend to persist way beyond the point at which it is obvious that reality bears no relation to those expectations.

What is the alternative? First, it is necessary to recognize that most COTS applications require a range of configuration techniques, many of which cannot be characterized as "customization." (For a taxonomy of configuration techniques, please read "Customization: The Cost That Keeps on Costing"). Secondly, it is necessary to recognize that for certain classes of application — especially large, mission-critical systems — some degree of real customization is likely to be necessary (see "Manage ERP Customizations, Don't Avoid Them"). In order to understand how much time and effort the customization will represent, the starting point is to have a simple mechanism for measuring the fit of an application. One of the best measurement tools available in any business is money. Money is actually a good mechanism for measuring COTS fit.

How can this work? There are four primary cost groups associated with the TCO of a COTS solution:

- The cost to implement
- The cost to operate
- The cost to support and maintain, including upgrades
- The cost to enhance and extend

There are three sources of these costs:

1. Internal costs
2. Monies paid to the independent software vendor (ISV) — i.e., initial license and recurring maintenance charges

3. Monies paid to third-party implementation partners (in some circumstances, the implementation partner may be the same as the ISV, but this is the exception rather than the rule)

In order to support the effective evaluation of different vendor offerings, selection teams should create a TCO model that shows, for each product under consideration, the expected initial implementation cost and the annual costs for each of the other three cost groups (operate, support and maintain, enhance and extend), with a clear indication of the percentage split between costs attributable to a standard implementation and costs attributable to the customization. Note that costs attributable to customization will cover both internal costs and external costs, as internal business analysts and subject matter experts (SMEs) will be needed to specify and test customizations during the initial implementation and at subsequent stages in the life of the application.

The TCO model should be developed for a time horizon that is at least seven years or half the expected life of the application, whichever is greater. Using this technique, the selection team will be able to show how the TCO is split between standard implementation and customization for the initial TCO period, and will also be able to identify the expected division of costs for future years.

## Cost-Benefit Analysis for Customization

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Any proposed customization will be suggested in order to deliver some specific business value. The challenge for a project team is to be able to ensure that the value delivered exceeds the cost of delivery. The core of this challenge is that the initial cost of the customization is only a small percentage of the overall cost of the customization over the life of the application. In order to perform an effective cost-benefit analysis, it is necessary to develop an understanding of the TCO of the customization. The investment management team, who should have responsibility for approving customization requests, then has the information needed to make a decision.

### Impact of Customization on Cost to Implement

These are the easiest costs to measure because they fall within the project budget, so they have strong visibility. Project managers should be at pains to report clearly separate costs related to customizations from the other costs incurred during the implementation project.

### Impact of Customization on Cost to Operate

Customization will generally have an insignificant impact on the cost to operate the application. However, each customization should be examined for its effect on the storage, network traffic and processing power required to support the expected performance.

### Impact of Customization on Cost to Support and Maintain

Before embarking on COTS customization, the project team should pay special attention to the impact on support and maintenance costs.

## Impact on Support

The project team should identify how first-, second- and third-line support will be provided, and further identify how the cost of providing these services will be affected by the presence of customized code.

## Impact on Maintenance

There are two types of maintenance associated with COTS implementations, and there is frequently confusion between the two. All COTS implementations pay an annual maintenance fee to the ISV, which entitles the client organization to certain contractually-specified services from the ISV. For a standard implementation, this may be the only form of maintenance. However, as soon as there is any form of customization or product extension carried out by a third party, there is software that must be maintained which falls outside the scope of the COTS maintenance contract. This customized software will need maintenance (such as the delivery of error investigation, repair, test and release services). In many situations with customized COTS systems, the user organization needs to retain its own software maintenance team to liaise with one or more customization partners on the maintenance activities associated with the customized code.

This is an area where many organizations experience significant costs. In theory, most customization contracts provide for an initial payment for the delivery of the customization, and then an annual payment for the support of those customizations. However, there are many circumstances where the customization partner is asked to undertake diagnosis and repair of a perceived defect when that perceived defect does not emanate from the customized code. In these circumstances the customization partner is generally contractually permitted to charge for the time and materials expended. Over time, the level of customization increases, the number of different customization agencies can proliferate, and the implementation diverges more and more from the current supported version — leading to more and more instances where the fault for the error can be denied by all — leaving the client to pick up the tab.

## Impact on Upgrades

The most significant costs of customization occur when the vendor of the COTS solution provides a new software release. In order to access this release, extensive work is required to review all of the customizations undertaken to date and then develop a plan as to whether and how they should be incorporated into the upgrade. In cases where extensive and deep customization has taken place, it is practically impossible for the client to upgrade to the latest version. This tends to result in the implementation having a considerably shorter life — which should be reflected in the overall plan for the application.

## Impact of Customization on Cost to Enhance and Extend

In theory, with a COTS system, the enhancement and extension of the application will happen as a result of the vendor delivering service packs and upgrades that contain new functionality. However, this theory assumes that the client organization can wait for the vendor to deliver these changes in its own time, and that the client organization does not require enhancements or extensions that are

outside the scope of the vendor's vision. Now, if the original implementation was a vanilla implementation — one with practically zero customization — then such an approach may be viable. But when the original implementation has included a measurable amount of customization, a precedent has been established that will almost certainly persist for the life of the application. This means that the client organization will probably establish a near-continuous program of work with the implementation service provider for the delivery of a stream of enhancements and extensions. Each one of these projects increases the total spending on customization in two ways:

- In the initial cost of the customization project for the enhancement
- In the annual cost of the maintenance that the service provider makes for the maintenance and support of that customization

### Estimating, Measuring and Reporting the Scale of Customization

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The initial project estimates should show four figures:

- The initial license fee being paid to the ISV
- The cost of the implementation service from the implementation partner
- The budget for customization work to be undertaken by the implementation partner
- The budget for the internal costs necessary to specify and test the customizations.

The percentage customization for the project (stress on "project," not "application") is therefore represented by the sum of the third and fourth figures expressed as a percentage of the total project estimate.

For each subsequent year of the planning horizon, the project team should show estimates for four figures:

- The annual maintenance fee being paid to the ISV
- The annual maintenance fee being paid to the implementation partner for all existing customizations
- The annual costs of maintenance for all internally-maintained customizations
- The expected budget for this year's enhancements and extensions to be undertaken by the implementation partner or internally

This will then show the total cost of customization to date as a percentage of the total software costs to date. It should be noted that, generally speaking, the cost of the annual support and maintenance paid to the ISV remains relatively constant since it is a percentage of the initial license fee, whereas the cost of support paid to the implementation partner can be a continuously escalating figure based on the cumulative cost of all the customizations delivered to date.

Of course, these estimates will almost certainly be wildly optimistic, as project teams tend to adopt "sell it thin to get it in" as their approach to estimating costs in general, and they are even more

inclined to adopt this approach when predicting costs incurred after the initial implementation project. Therefore, it is important for the project governance board to insist on regular updates throughout the implementation project, showing the actual project expenditures compared to estimated expenditures. Where the deviation is excessive, the project board should also require the estimates of likely future costs to be revised. But the real proof comes after the project goes live, when control of the application passes fully from the project governance structure to the application governance team. This team will be responsible for monitoring cost and value throughout the life of the application, and they should seek clarity about the annual escalation of the degree and cost of customization.

## Summary

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Customization is a fact of life for the majority of COTS implementations. By using money as the measure of customization, application managers can create a common basis for evaluating their current portfolios and articulating the likely level of customization required in future applications in a simple standard manner. The real key to effective control of COTS applications is to take a long-term view of the TCO. Separating the total cost of customization may provide a salutary shock that will bring renewed focus to the need for clear business justification for the customization investment.

### More on This Topic

This is part of two in-depth collections of research. See the collections:

- Life Cycle Guide to ERP Research, Update 2012
- Life Cycle Guide to ERP Research, Update 2013

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# **Federal Aid Billing and Federal Funds Management Federal-aid Highway Program**

**July 2015**

## Program Description

The Federal-Aid Highway Program (FAHP) provides financial assistance for the planning, construction, preservation and operations to support State and local highway systems. These funds are generally targeted to federal-aid highways, which account for approximately 1 million miles of the Nation's 3.9 million-mile highway network. A road is designated as a federal-aid highway based on its functional classification and includes the higher level public roads including all arterial roads, urban collector roads, and major rural collector roads. The National Highway System, which includes the Interstate system, are federal-aid highways. The Federal Highway Administration (FHWA) is charged with implementing the Federal-aid Highway Program (FAHP) in cooperation with the States and local government. Apportionments to the State DOTs from the Highway Trust Fund (HTF) are computed based on prescribed formulas set forth in law, United States Code (U.S.C.), Title 23, and the Federal Authorization Statute, which is currently Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) or other legislation; resulting in the issuance of project authorizations or agreements, to carry out the FAHP. These grant agreements are referred to as formula grants, for the purposes of this document. The State DOT is generally the grant recipient for funds made available in accordance with 23 U.S.C., which provides a formula to calculate the apportionment. As a result, no application or competitive process is involved in issuing a formula grant. A Stewardship & Oversight Agreement between the State DOT and their respective FHWA Division Office formalizes roles and responsibilities to address how the FAHP will be administered in the State.

Apportionments to the State DOTs from the Highway Trust Fund (HTF) are computed based on prescribed formulas set forth in law, U.S.C., Title 23, and MAP-21 or other legislation. Before the apportionments are distributed, rescissions, takedowns, set-asides, and penalties may be deducted from the authorized amount. The FHWA apportionment notices, providing guidance and procedures denoting the sums deducted and exact amount of each apportionment, are prepared by the FHWA Budget Office staff and reviewed by the FHWA Budget Director, Chief Counsel, Chief Financial Officer, and/or other contacts as necessary. The necessary reviews and clearance signatures are included on a distribution list and tracked using that list. The apportionment notices are then signed by the FHWA Administrator. Signed notices are electronically provided to the FHWA Division Offices, who make them available to their State DOTs. Apportionments are entered into FHWA's Financial Management Information System (FMIS) by the FHWA Budget Office and made available to State DOTs for obligation. The funds are controlled in FMIS through the use of an assigned federal program code for each category of funds as outlined in authorizing legislation. These apportionments are often referred to as Contract Authority.

The amount of contract authority provided to State DOTs made under the HTF that can be used or obligated each year is limited by the Office of Management and Budget (OMB) based on Congressional Appropriations Acts or Continuing Resolution Acts. This limitation is referred to as obligation limitation. The distribution of obligation limitation to each State is determined by applying the obligation limitation distribution methodology in section 1102 of MAP-21, Public Law 112-141, and is calculated based on the contract authority provided under MAP-21 for the specific fiscal year. The available obligation limitation for each State is loaded into FMIS by the FHWA Budget Office. FMIS controls the availability of the obligation limitation and what can be used on project agreements/authorizations.

After August 1 of each fiscal year, the FHWA Office of the Chief Financial Officer (OCFO) and Program Offices working collaboratively with Division Offices and State DOTs. FHWA will revise the distribution of obligation authority made available if a State does not plan to obligate the amount distributed during that fiscal year. The amount returned will be redistributed as formula obligation limitation to those States able to obligate amounts in addition to those previously distributed during the fiscal year. This is commonly known as the August Redistribution process. This process ensures that all one-year obligation limitation for a fiscal year will be utilized prior to its expiration at the end of the fiscal year

Before funds can be obligated, State DOTs are required to develop a Statewide Transportation Improvement Program (STIP) that describes FHWA and Federal Transit Administration (FTA) planned projects. The STIP covers a period of no less than four years and must be updated at least every four years. It includes capital and non-capital surface transportation projects such as transportation enhancement projects, Federal Lands Highway program projects, State DOT's Strategic Highway Safety Plan projects, trail projects, and bicycle and pedestrian projects. State DOTs work cooperatively with Metropolitan Planning Organizations (MPOs) to develop the STIP. Each MPO develops its own Transportation Improvement Program (TIP), which is included, either directly or by reference, in the STIP.

At least every four years, State DOTs must submit an updated copy of the STIP to the FHWA Division Office and FTA Regional Office for review and approval. Title 23 U.S.C. allows FHWA to rely on State self-certifications and assurances of compliance with applicable laws, regulations and policies. The State DOT submits the Statewide Planning Process Self-Certification (or STIP Certification) to the FHWA and Division Office and FTA Regional Office for review. The purpose of their review is to determine if the STIP or amendment substantially meets the requirements of 23 U.S.C. part 135, and 23 Code of Federal Regulation (CFR) part 450 for any identified categories of projects.

Once the STIP/TIP and other planning documentation are submitted by the State DOT, the FHWA Division Office's designated personnel review the highway related component of the STIP to ensure that it is consistent with Federal regulations. The transit related component of the STIP is reviewed by FTA Regional Office for compliance with requirements set-forth in the public law. The FHWA Division Office will follow up with the State DOT for all non-compliance issues. A joint approval letter is prepared by designated personnel within the FHWA Division Office and FTA Regional Office once the review of the STIP is completed, and the State DOT's compliance with required public laws is determined by both agencies (FHWA Division Office and FTA Regional Office). The approval letter also details the findings identified during the review process and recommendations for those findings. A due date for corrective actions is also provided to the State DOT. The approval letter is reviewed and approved/signed by the FHWA Division Administrator and FTA Regional Administrator. Once the joint letter is approved by both FHWA and FTA, it is forwarded to the State DOT.

Once approved, the STIP is in place for the duration of the approval period but may be modified or amended to reflect changes in project priorities or scope. Subsequent highway project modifications and STIP amendments are submitted to the FHWA Division Administrator or their designee for review and approval; transit project STIP amendments are submitted to FTA for

review and approval. Approval of the STIP does not constitute a commitment of Federal funds for the projects contained therein. Federal funding for the projects is determined when project authorization is requested of FHWA or upon submission of a grant application to FTA.

Projects identified in an approved STIP/TIP may become eligible for federal-aid funding as requested by the State DOT or other grantee and approved by the FHWA Division Office through the issuance of a federal-aid project agreement. State DOTs, their subgrantees, and other grantees may submit project documentation for planned projects to the Division Office and/or State DOT prior to issuance of a Federal-aid project Agreement. This documentation may include items such as the required National Environmental Policy Act (NEPA) documentation; Right-of-Way (ROW) Certification; and Plans, Specifications and Estimates.

- Environmental Impact Assessment:

NEPA is triggered when a federal action is required for a project. For FHWA, action is defined in 23 CFR 771(b) as: “A highway or transit project proposed for FHWA or FTA funding. It also includes activities such as joint and multiple use permits, changes in access control, etc., which may or may not involve a commitment of Federal funds.” Federal transportation statutes, Title 23, U.S.C., *Highways* and Title 49, U.S.C., *Transportation*, require FHWA to ensure NEPA requirements are met before a Federal action is taken. Potential Federal-aid highway projects are identified through the planning process and incorporated in the previously mentioned STIP/TIP. Once a project is identified for advancement, the State DOT provides information and documentation describing projects they wish to advance to the FHWA Division Office. Based on the information submitted, the designated personnel within the FHWA Division Office review the documentation submitted and advise the applicant of the probable class of action and the related level of documentation required for NEPA compliance in accordance with 23 CFR 771. FHWA Division Offices may delegate responsibilities and liabilities for making project specific categorical exclusion (CE) determinations to State DOTs. Additionally, some select States may assume the Secretary's responsibilities under the NEPA for one or more highway projects. These assumptions of responsibilities are generally outlined in the Stewardship & Oversight Agreement between the FHWA Division Office and the State DOT.

- Right-of-Way Certification:

During the development phase of a Federal-aid construction project, the State DOT must acquire ROW in accordance with the Uniform Act. In compliance with 23 CFR 710.201(c), each State DOT prepares and submits to FHWA for approval a ROW Operations Manual, certifying that the manual conforms to existing practices and contains necessary procedures to ensure compliance with Federal and State real estate law and regulation. The FHWA Division Office may receive and review ROW certifications for applicable projects as specified in the Stewardship & Oversight Agreement between the FHWA Division Office and State DOT. The primary purpose of the right-of-way certification is to ensure that all ROW is acquired in accordance with Federal laws and regulations (i.e. the Uniform Act.). The certification in part will state

that either all right-of-way clearance, utility, and railroad work has been completed or that all necessary arrangements have been made for it to be undertaken and completed as required for proper coordination with the physical construction schedules or appropriate notification will be provided in the bid proposals identifying the right-of-way clearance, utility, and railroad work which is to be underway concurrently with the highway construction.

- Plans, Specifications, and Estimates:

State DOTs are required to prepare plans, specifications, and estimates (PS&E) in accordance with 23 U.S.C. 106 and 23 CFR 630 subpart B for all Federal-aid construction projects. State DOTs may, with FHWA approval, assume oversight responsibilities for projects delegated to them by 23 U.S.C. 106. State DOTs are not required to obtain FHWA approval on their PS&E for projects where oversight responsibilities are delegated to them.

USC Title 23, section 106 requires a project agreement be submitted by the State DOT for each project. FMIS is FHWA's system for managing federally funded highway projects within the Federal-aid Highway Program. Staffs of FHWA Division Office and State DOTs are assigned FMIS access and levels of project approval authority. The audit trail for all FHWA project authorizations and obligations is contained in the FMIS.

State DOT's identify, determine, and plan which projects will be undertaken with federal-aid highway program funds and includes them in their STIP/TIP. When the State DOT is ready to advance a project that is included in the STIP/TIP a request for project authorization, which may also be referred to as a project agreement or federal-aid highway program grant, is submitted to the FHWA Division Office for review and approval. The request in most cases is submitted electronically by the State DOT through FMIS using direct data entry or an electronic batch process. However a hardcopy request may be submitted using FHWA Form 37. When a hardcopy FHWA Form 37 is utilized, the FHWA Division Office keys the project information into FMIS. FMIS keeps track of the various funding amounts available to each State for obligation by federal program code; when the State applies their final signature to a FMIS project authorization request - funds availability is verified and the requested funding is reserved pending FHWA Division Office project authorization approval.

While all the phases of a project may not be federally funded, Federal-aid highway projects typically follow a life-cycle that encompasses the following progressive work phases:

- Preliminary Engineering (PE) – (For the preparation of plans, specifications, and estimates (PS&E), traffic, and related studies including field inspections, surveys, material testing, and borings. Includes preliminary design, environment, final design, development of plans specifications and estimates.)
- Rights-of-Way (ROW) – (For purchase of land, improvements and easements, in addition to the cost of moving and relocating buildings, businesses, and persons.)

- Construction (CONST) (For the construction of highways, bridge rehabilitation, construction engineering, planning, research, safety, rail/highway crossing, transit, landscaping and debt service.)

Prior to beginning each of these work phases, FHWA Division Office project authorization is required. Flexibility for these work phases to be entered into FMIS as one comprehensive project or as individual projects is provided to State DOTs in order for them to maintain eligibility controls for the projects and related reimbursement requests (current bills). Every project's authorized phases-of-work have a corresponding FHWA Effective Authorization Date identified in the FMIS project authorization by the FHWA Division Office during their approval process. Effective with the changes to 2CFR 200, all projects are now required to have an end date.

Upon receipt of an authorization request, the FHWA Division Office reviews the project information and any related documentation provided in accordance with their project authorization standard operating procedures. The Division's review may vary based on the type of funds, project purpose, work phase requested for authorization, location of the project, dollar amount of the request, or other criteria determined by the FHWA Division Office. FMIS contains an edit check to ensure that a minimum of two responsible FHWA officials perform the review, recommendation, and approval of any pending FMIS action request; FMIS project actions executed by a single signer are flagged for follow-up action by the Division Administrator.

When changes are needed to items such as project funding, scope, etc., or upon advancement of the project to the next work phase, or upon project completion; a modification to an existing project authorization is submitted by the State DOT for Division approval. The modification request is routed and processed by the Division in accordance with their office procedures.

Approved FMIS project authorizations and modifications are uploaded through the DELPHI Interface Maintenance System (DIMS) by the FHWA Budget Office for obligation in DELPHI. DELPHI is the accounting system utilized by the U.S. DOT and is based on ORACLE Federal Financial Software.

FHWA utilizes a number of mechanisms to monitor State DOT and sub-grantee stewardship of Federal funds and compliance with pertinent laws and regulations: Stewardship & Oversight Agreement oversight and approval actions; a robust agency risk management program; the Financial Integrity Review and Evaluation (FIRE) program; and Division, Program Office and National review initiatives. FIRE is a risk-based financial management oversight program that each Assessable Unit (AU) (i.e., Federal-aid division office, Federal Land's division office, Headquarters office, and the Office of Technical Services) is required to execute. The FIRE Program supports the FHWA annual assurances, certifications, and financial reporting. This directive consolidates FHWA's various financial management oversight requirements and responsibilities.



- Improper Payment Reviews

Improper payment reviews are performed annually by the designated personnel within the FHWA Division Offices and overseen by the OCFO. Improper payment reviews are conducted in accordance with the Improper Payment Information Act (IPIA) of 2002 and the Improper Payment Elimination and Recovery Act (IPERA) of 2010. Additional billing transaction reviews may be conducted by the FHWA Division Office if required by their annual risk assessment. The purpose of these reviews is to ensure that project costs incurred and claimed are supported by adequate documentation; proper internal control is implemented by the State DOT to avoid misuse of Federal funds; and also to determine the extent to which improper payments were made in the Federal-aid Highway Programs. Sample transactions are randomly selected from the Rapid Approval State Payment System (RASPS) by the FHWA Chief Financial Officer, Office of Financial Management and provided to the FHWA Division Office. The designated personnel within the FHWA Division Office obtain the State DOT billing detail to support each payment. The billing detail is matched against the amount paid in RASPS to ensure that the amounts agree.

FHWA Division Office personnel are responsible for completing the improper payment reviews by tracing the sample transactions selected to the corresponding source documents provided by the State DOT. Supporting documentation is reviewed to ensure that payments are supported by adequate documentation; projects are billed to the correct appropriation/program code; and costs are allowable. If unallowable costs are identified, State DOTs are required to reimburse FHWA upon notification of the ineligible amounts. The OCFO includes results of the nation-wide improper payments reviews in the annual Performance Accountability Report (PAR).

- Inactive Federal-aid Projects Review

In accordance with the 23 C.F.R., 630 Subpart A – *Project Authorizations and Agreements*, State DOTs are required to review, on a quarterly basis, inactive projects for which no expenditure has been charged against Federal funds for a specified period of time. The FHWA Division Office works closely with the State DOT in developing a process, conducting the quarterly review, and monitoring of inactive Federal-aid projects. The purpose of reviewing inactive Federal-aid projects is to ensure that (a) Federal funds are properly obligated, (b) Federal funds are being used effectively, and (c) unused funds are properly safeguarded and/or de-obligated to minimize misuse. The results of these reviews are entered in the FIRE Inactive Project(s) Workbook and provided to the Resource Center quarterly.

### **Advance/Reimbursement**

The Federal-aid highway program was designed to be a jointly administered and funded program. With few exceptions, FHWA does not provide full funding for a project. Each funding category has an established funding ratio which defines the Federal share of the project cost. The remaining funding comes from the State or local agency. State and local funds may come from a variety of sources including toll credits, private donations, fair market value of any

donated right-of-way for the project, and in some cases, may include Federal funds from another agency when permitted by that agency.

While the legal term for the Federal-aid highway program is a "grant program," no cash is actually disbursed at the time of project authorization or modification. Federal-aid projects are authorized, funds are obligated, and then the FHWA makes payments to the States for actual costs as they are incurred. Typically, State DOT's submit their billings for costs incurred on authorized projects to the FHWA Division Office electronically through RASPS. RASPS is a feeder system used by FHWA to electronically process grant payments against balances obligated in FMIS and DELPHI.

State DOT payment requests are certified by an authorized State DOT official before they are transmitted to FHWA. State DOTs upload their billing information into RASPS where electronic bills are created. Each State DOT billing identifies costs incurred by project and program code at a summary level; State DOTs might bill numerous projects in one bill. RASPS has an automated edit check process that verifies the validity of the billing information with FMIS. The edit includes verifying the existence of an obligation account for the billed project in FMIS and also verifying the availability of sufficient funds in the obligation account. The FHWA Division Office is notified by the State DOT that there are State DOT billings in RASPS pending approval.

The Division Office reviews the payment request to ensure that no suspended projects or program codes are included in the request. The Division approver uses a Personal Identification Number (PIN) to authorize the pending billings in RASPS. This action transmits the payment request to the FHWA Office of Financial Services.

An accounting technician within the Accounts Payable Office (AMZ-150) at the Enterprise Service Center (ESC) runs the automated data extraction process and Open Interface Report that posts approved expenditures in RASPS to DELPHI once a day via the DIMS. DELPHI functionally matches the payment transactions to the obligation number to ensure the availability of sufficient funds. Purchase order obligation numbers in DELPHI are also matched against the purchase order numbers identified on the invoice during the edit check process. If there are insufficient obligated funds in DELPHI or the purchase order numbers do not agree, invoice payments are rejected or put on hold by DELPHI. Only State DOT billings that are approved during the DELPHI edit check are processed for payment.

A payment batch is then created by the accounting technician within ESC for the expenditures approved in DELPHI. The payment batch is recorded in DELPHI as a clearing batch. The accounting technician within ESC then imports the payment batch data into the Treasury Standard Payment System (SPS) using an automated process. This process uploads payment data into Treasury's SPS. Once the payment data is uploaded into SPS, a certifying officer within ESC runs a matching report to review the listing of all payment requests and match them to the obligation amount. Reimbursements to State DOTs are processed within the same day once the certifying officer in ESC electronically certifies the matching report in SPS.



All payments are directly forwarded to the grantee (by Electronic Funds Transfer or check) from the Department of Treasury. Treasury provides a payment confirmation through the Government On-Line Accounting Link System (GOALS II) Internet site. ESC's Treasury Report and Reconciliation Office reviews the GOALS II file on a daily basis to verify payments processed by Treasury. A cash disbursement transaction is then recorded in DELPHI upon receipt of confirmation of payment from Treasury. Once the payment confirmation is recorded in DELPHI, a data extract is executed by the accounting technician within ESC to provide payment information for updating FMIS. The accounting technician then imports this data file into RASPS, which in turn updates FMIS for the payment transactions. FMIS provides an automatic edit check that prevents expenditures in excess of the available obligated fund balance.

All State DOT billings approved for reimbursement in RASPS are reconciled with the expenditures recorded in DELPHI on a daily basis by the accounting technician in ESC. Additionally, the cash recorded in DELPHI is reconciled with the Treasury cash reporting by the ESC Cash Operation team.

### **Closeout**

Grant closeouts are initiated by the State DOT or other project sponsor when all approved activities are completed and applicable Federal funds are expended. Upon completion of the authorized project, the State DOT requests grant closeout through FMIS.

Upon receipt of all documents, as outlined in the FHWA Division Office and State DOT Oversight & Stewardship Agreement, the FHWA Division Office reviews the closeout documents to ensure that all grant requirements have been satisfied.

A final project closeout or post review may be performed by the FHWA Division Office to ensure that there are no unallowable costs billed by State DOTs and also to ensure that vouchers submitted by the State DOT are supported by adequate documentation. Project and/or Billing reviews focus on accuracy, completeness, and validity to reasonably ensure that the cost incurred by the State DOT is allowable and reasonable. State DOTs are required to reimburse FHWA for any unallowable cost identified during the final review process.

Non-Delegated (full oversight projects only): Highway engineers within the FHWA Division Office perform a final project inspection to ensure that there are no outstanding items that need to be completed by the State DOT. Highway engineers use check lists during their performance of the project inspection. Once all the necessary reviews are completed and there is confirmation that no outstanding items are left, final acceptance reports are prepared by the highway engineer within the FHWA Division Office and forwarded to the State DOT.

Once all the necessary reviews have been completed by the FHWA Division Office, the financial manager or other personnel within the FHWA Division Office (per the Division standard operating procedures and delegations of authority) will approve the closeout request of the project in FMIS. This process de-obligates any unexpended funds in FMIS.

### **FMIS – Fiscal Management Information System (FMIS)**

FMIS is the FHWA's major financial information system for tracking Federal-aid Highway Projects on a project-by-project basis. It contains data related to all highway projects financed with Federal-aid Highway funds. Additionally, FMIS tracks apportionments, allocations, and limitation information. FHWA uses the information entered in FMIS for planning and executing program activities, evaluating program performance, and depicting financial trends and requirements related to current and future funding. It is FHWA's single most important tool for delivering more than \$40 billion annually to the State DOTs for the Nation's surface transportation system. As such, it is both the FHWA's major grants tracking management system and Federal-Aid financial system. Current functions within FMIS include project funding, obligation authorizations and agreements, modifications and amendments with electronic signatures, project tracking and status, expenditure thresholds by project, and various levels of project statistics to provide oversight capabilities of partial and full oversight projects. These functions are extended with interfaces to State DOT systems, some of which are also automated electronic systems, and to U.S. DOT's DELPHI Accounting System.

The Office of Management and Budget (OMB) has published [2 CFR Part 200](#) (referred to as the "Uniform Guidance") to streamline the Government-wide guidance on Administrative Requirements, Cost Principles, and Audit Requirements for Federal awards. The Uniform Guidance consolidates and eliminates the duplicative guidance found in 8 OMB circulars which includes A-50, Audit Follow-Up, A-87, Cost Principles for State, Local, and Indian Tribal Governments; A-102, Grants and Cooperative Agreements with States and Local Governments; and A-133, Audits of States, Local Governments, and Non-Profit Organizations. The new Uniform Guidance expands requirements in several areas. The consolidation of the circulars is a key component of a larger effort to more effectively focus Federal resources on improving performance and outcomes, while ensuring the integrity of Federal funds in partnership with State, local, and tribal stakeholders. The U.S. DOT adopted OMB's revised Government-wide Uniform Guidance with an effective date of December 26, 2014. The implementation of the Uniform Guidance cancels 49 CFR Parts 18 and 19.

In accordance with 2 CFR 200.210, each Federal award authorized in FMIS must include 15 uniform data sets which include the following:

1. Recipient name (which must match registered name in DUNS);
2. Recipient's DUNS number (see § 200.32 Data Universal Numbering System (DUNS) number);
3. Unique Federal Award Identification Number (FAIN);
4. Federal Award Date (see § 200.39 Federal award date);
5. Period of Performance Start and End Date;
6. Amount of Federal Funds Obligated by this action;
7. Total Amount of Federal Funds Obligated;
8. Total Amount of the Federal Award;
9. Budget Approved by the Federal Awarding Agency;
10. Total Approved Cost Sharing or Matching, where applicable;
11. Federal award project description, (to comply with statutory requirements (e.g., FFATA));

12. Name of Federal awarding agency and contact information for awarding official,
13. CFDA Number and Name;
14. Identification of whether the award is R&D; and
15. Indirect cost rate for the Federal award (including if the de minimis rate is charged per § 200.414 Indirect (F&A) costs).

## Statutes and Regulations

- 2 CFR 200
- 23 USC Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP21) Public Law 112-141
- 23 USC, Section 1102
- 23 USC, Part 135
- 23 USC (Highways)
- 23 USC 106 (Federal Aid Construction Projects)
- 49 USC (Transportation)
- 23 CFR 630 Subpart B (Federal Aid Construction Projects)
- 23 CFR, Part 450
- 23 CFR 771 (Environmental Impact Assessment)
- 23 CFR 710 (Right of Ways)
- 31 CFR 205.11 (Federal Interest Liabilities)
- 31 CFR 205.12 (Federal Funding Techniques)
- 31 CFR 205.33 (Processing Federal Funds Transfers)
- Public Law 107-300 (Improper Payment Information Act IPIA)
- Public Law 111-204 (Improper Payment Elimination and Recovery Act IPERA)

## Catalogue of Federal Domestic Assistance (CFDA#)

This pertains to all CFDA#s for which the FHWA is responsible for administering. The specific CFDA#s currently in effect are as follows:

- Highway Research and Development Program CFDA#20.200
- Highway Planning and Construction CFDA#20.205
- Highway Training and Education CFDA#20.215
- Recreation Trails Program CFDA#20.219
- Transportation Infrastructure Finance and Innovation Act (TIFIA) Program CFDA#20.223,
- Fuel Tax Evasion-Intergovernmental Enforcement Act CFDA #20.240

### Scope and Objectives

**Objective A:** Evaluate controls over ensuring allowable and eligible costs are in accordance with Federal cost principles and other Federal regulations.

**Objective B:** Assess whether Federal billings and reimbursements were done in accordance with Federal requirements and the State's approved State Treasury Agreement

**Objective C:** Determine the adequacy of internal controls over monitoring of Federal Aid billings and reconciliation of Federal funds.

**Objective D:** Determine that project closeout was completed in accordance with Federal requirements and state procedures.

## **Audit Program**

**Objective A:** Evaluate controls over ensuring allowable and eligible costs are in accordance with 2CFR 200 and other Federal regulations.

### **Step 1**

Determine whether staff have the appropriate qualifications and experience. Determine if there is documentation to support that staff are qualified and have received appropriate training on 2CFR 200 and Federal Aid Billing. For each individual, document the following:

- a. Years of related State experience.
- b. Training regarding Federal Cost Principles.
- c. Training regarding Federal Aid Billing.

### **Step 2**

Test a sample of projects to determine if there is evidence to support that the project was entered correctly into FMIS and approved by FHWA.

- a. Documented procedures were followed when authorizing the project in FMIS.
- b. Federal-Aid Project Request/Obligation Authorization Form was prepared and retained.
- c. Data entered in FMIS included all 15 required data elements and each data element was correct (e.g. CFDA number was reported correctly)
- d. Request was made and given by FHWA for the project through the FMIS System prior to the letting of the project.
- e. Test a sample of projects to determine the accuracy of the information entered into FMIS by comparing it to the originating documentation. Specifically, test the following data elements that are required in FMIS:
  1. Recipient name (which must match registered name in DUNS);
  2. Recipient's DUNS number (see § 200.32 Data Universal Numbering System (DUNS) number);
  3. Unique Federal Award Identification Number (FAIN);
  4. Federal Award Date (see § 200.39 Federal award date);
  5. Period of Performance Start and End Date;
  6. Amount of Federal Funds Obligated by this action;
  7. Total Amount of Federal Funds Obligated;
  8. Total Amount of the Federal Award;
  9. Budget Approved by the Federal Awarding Agency;
  10. Total Approved Cost Sharing or Matching, where applicable;
  11. Federal award project description, (to comply with statutory requirements (e.g., FFATA));
  12. Name of Federal awarding agency and contact information for awarding official,
  13. CFDA Number and Name;
  14. Identification of whether the award is R&D; and

15. Indirect cost rate for the Federal award (including if the de minimis rate is charged per § 200.414 Indirect (F&A) costs).

- f. Test a sample of project modifications to determine if they were approved by FHWA in FMIS.

### **Step 3**

Evaluate the effectiveness of the internal controls over the accounting and related system utilized for the Federal billing review process.

- a. Assess the adequacy of controls by interviewing staff, reviewing any written procedures, flow charts of systems and system narratives utilized for Federal-aid projects. Determine if these controls are the same as used for the State only projects.
- b. Assess the adequacy of written procedures for authorizing projects in FMIS and billing costs using RASPS.
- c. Assess the adequacy of controls to ensure proper authorization of project agreements in FMIS.
- d. Review the information technology system utilized to gather eligible costs and determine if it includes edits to ensure individual costs are properly authorized by testing a sample of project expenditures to determine the following:
  - 1. Pay items were properly coded as Federal participating and non-participating costs consistent with the applicable Federal Program.
  - 2. Pay items were eligible for the particular Federal funding.
  - 3. Costs are limited to contractual maximums.
  - 4. Participating costs billed due to costs in excess of the Federal Agreement are tracked and monitored. For example, a system may be used to generate an “Unbilled Report”, which is then monitored by appropriate staff.

### **Step 4**

Test a sample of reimbursed project expenditures to verify that costs are supported and have been accurately accounted for and were reviewed and approved by appropriate personnel by performing the following:

- a. Verify procedures were followed when claiming costs and processing payments.
- b. Verify if appropriate supporting documentation for the expenditures claimed is maintained (e.g. progress estimates, time records, expense vouchers, invoices, and contractor/vendor payments).
- c. Verify the mathematical accuracy of the total cost claimed by recomputing the total expenditure amount from the supporting documentation.
- d. Determine if costs were approved by appropriate personnel, including any State or Local official.
- e. If indirect costs were claimed

1. Determine that the State has an FHWA approved Indirect Cost Allocation Plan that complies with 2CFR 200.
  2. Determine if costs were allocated in accordance with the State's approved Indirect Cost Allocation Plan.
- f. Determine if personnel approving the Federal Bill are different than those individuals who reviewed and approved the project costs to ensure an appropriate segregation of duties.

### **Step 5**

For the sample of projects selected in Step 4, determine if all costs were eligible for Federal reimbursement by determining if:

- a. The cost of the item was charged to the correct project.
- b. The cost was for only Federally participating items and any non-participating items were excluded from Federal reimbursement.
- c. The cost was incurred subsequent to the date of approval and prior to the project agreement end date as authorized by FHWA in the project agreement.
- d. The correct Federal share was applied to the project.
- e. Controls are in place and adequate for reviewing the Federal Bill for ineligible costs.
- f. Controls are in place and adequate for the removal of costs determined to be ineligible and that appropriate supporting documentation is maintained regarding any adjustments. For example, the DOT may have a form that requires an explanation of the adjustment and the attachment of related supporting documentation.

**Objective B:** Assess whether Federal billings and reimbursements were done in accordance with Federal requirements and the State's approved State Treasury Agreement

### **Step 1**

Obtain a copy of the approved State Treasury Agreement and verify that it is still in effect.

### **Step 2**

Test a sample of Federal Fund draws to determine they were performed in accordance with the approved methodology.

1. For Federal Funds drawn utilizing a reimbursement method, test a representative sample of reimbursement requests and determine that costs were paid with State funds prior to being drawn from the Federal Government in accordance with one of the acceptable reimbursement methods.
2. For Federal Funds drawn utilizing the Pre-Issuance method, test a representative sample of reimbursement requests to determine that costs were paid out within a reasonable time period based on the advance funding requirements stated in the grant agreement or program provisions.

### **Step 3**

Test a sample of project expenditures to determine that all applicable credits were appropriately applied including any discounts and rebates, recoveries of losses, refunds, and corrections of Overpayments/Errors.

### **Objective C:**

Determine the adequacy of internal controls over monitoring of Federal Aid billings and reconciliation of Federal funds.

### **Step 1**

Determine whether adequate controls exist over the reconciliation of Federal funds by performing the following:

- a. Determine if a reconciliation of FHWA reimbursement claims to State accounting system and records to State Comptroller records and actual fund receipts are performed on a regular basis by the responsible area.
- b. Conduct a current reconciliation of the Federal billing to determine if balances in the State system agree with balances in the Federal system.

### **Step 2**

Test a sample of projects to determine if the project cost estimate agrees with the total funds committed on the project including the appropriate State and Federal funds allocated to the project.

### **Step 3**

Determine the adequacy of controls over inactive obligations by performing the following:

- a. Assess the adequacy of written procedures regarding inactive obligations.
- b. Determine if the written procedures for handling inactive obligations were followed.

### **Step 4**

Determine the adequacy of controls over the monitoring of billings submitted through RASP to ensure they are accurate and supportable by performing the following:

- a. Determine if regular reviews are conducted and document the various reviews conducted during the last year and assess the timeliness of reviews.
- b. Determine if the reviews were properly documented.
- c. Determine if any billing reviews resulted in a detection of improper payments. If so, determine if the improper payments were communicated to FHWA in a timely manner.
- d. Determine the timeliness of satisfactory resolution of any issues noted.



- e. Determine if changes were made to the billing system or process since the last assessment. If yes, conduct the following:
  1. Interview personnel to determine if there are any concerns that resulted from the changes.
  2. If yes, assess the adequacy of what is being done to address those concerns.

### **Step 5**

Assess the controls over the tracking and use of Advanced Construction (AC) to determine the following:

1. The frequency of the monitoring of AC projects.
2. If AC projects are converted in a timely manner to ensure the timely use of the Federal obligation.

**Objective D:** Determine that project closeout was completed in accordance with Federal requirements and state procedures.

### **Step 1**

Test a sample of closed projects to assess the DOT's controls over the final vouchering process to determine a review is conducted to verify that project cost responsibility has been applied appropriately for the project (State, Federal, Local), in accordance with the applicable contracts and Federal Regulations.

### **Step 2**

For a sample of closed projects, determine if a reconciliation was conducted between the Federal Trial Balance, the DOT's accounting obligation expenditures and the final cost estimates. Ensure that any reconciling items were addressed such as overpayment is returned to FHWA, amount due from FHWA or Local Government is billed.

### **Step 3**

Determine that all request for payments by a subgrantee or vendor were paid in accordance with the terms and conditions of the award and state procedures (2 CFR 200.343(c)).

### **Step 4**

Ensure all claims for reimbursement were submitted to FHWA no later than 90 calendars days after the project agreement end date as authorized by FHWA in the project agreement (2 CFR 200.343(b)).

**Step 5**

Determine that all financial, performance and other reports are submitted no later than 90 calendar days after the project agreement end date as authorized by the FHWA in the project agreement (2 CFR 200.343(a)).

**Step 6**

Determine that any unexpended balance of Federal funds was promptly deobligated to match the current project cost estimate (2 CFR 200.343(d)).



**PROJECT MANAGEMENT PLAN**

**Appendix G**

**WORK PROGRAM INTEGRATION INITIATIVE (WPPI)**

**FLORIDA DEPARTMENT OF TRANSPORTATION**

**OCTOBER 13, 2016**

## CONTACTS

Agency Project Director:		Agency Executive Project Sponsor:	
<b>Tom McCullion</b>		<b>Rachel Cone</b>	
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## 1 EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) manages over \$10 billion a year in transportation projects in various stages of the project lifecycle. Functional activities include managing over 9,000 active contracts valued at over \$11 billion, planning for over \$40 billion in future commitments, implementing \$10 billion in current year commitments and monitoring transportation systems and infrastructure performance for critical information inputs into planning activities. These activities are spread across the broad spectrum of transportation modes including: roads, bridges, airports, seaports, rail systems, spaceports, bus transit, and bicycle and pedestrian facilities. Not only does FDOT contribute to Florida's economy through infrastructure investments, it also contributes to the traveling public's quality of life and supports the movement of commercial goods and services.

FDOT is entrusted by Florida's taxpayers to deliver a safe, viable and balanced transportation system serving all regions of the state and to assure the compatibility of all components (s. 334.044, F.S.). FDOT works diligently to protect the public's interest through established policies, procedures, technology systems and processes. The Work Program Administration (WPA) system supports core activities related to planning for future projects, programming projects within resources, implementing planned commitments, managing and monitoring projects and associated contracts and measuring performance for compliance with legal mandates. It is also the tool for reporting the five year list of projects which FDOT plans to undertake (s. 339.135, F.S.) and is used to manage the projects in their various lifecycle states.

The Financial Management (FM) suite of systems and the 150 plus system interfaces present tangible risks to the FDOT's ability to continue supporting its core operations essential to managing its multi-billion dollar transportation business. This suite is a complex aggregation of business processes and supporting systems which are disjointed and brittle, are costly to maintain, and demand significant manual intervention to meet new business needs. Its intricacies often obscure the usefulness of data resulting in duplication in other systems. The systems are supported by a small team of functional experts, who each possess singular institutional knowledge and are reaching retirement, which increases the risks and potentially shortens these systems useful lives. It is imperative that FDOT continues efforts to develop an enterprise-based solution with a consolidated information base and the flexibility to meet the organization's requirements in order to mitigate impacts to potential project production or financial failures. The Work Program Integration Initiative (WPPI) was launched to achieve that mission.

## 2 PROJECT SCOPE

### 2.1 Project Summary

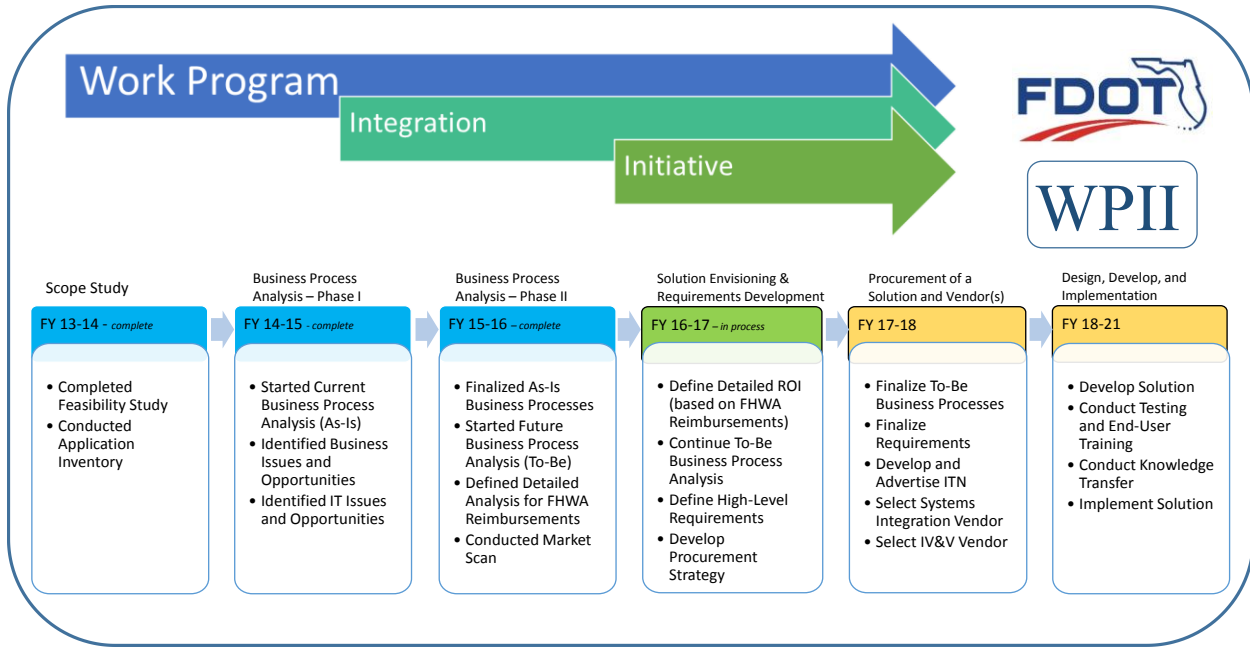
The WPPI project is a multi-phase, multi-year project as depicted in the graphic below.

FY13/14 laid the groundwork for the project with a feasibility Study and Applications Inventory.

FY14/15 through FY16/17 defined the As-Is Business Processes which led into a Business Process Reengineering effort to create more efficient To-Be Business Processes. FY16/17 will conclude with developing the Business and Technical Requirements sufficient for a quality procurement process.

FY17/18 will complete the To-Be Business Process and Requirements development efforts. That will lead into the procurement process ending in the selection of a Solution and System Integrator.

Today it is anticipated that it will be a three-year Design, Development, and Implementation (DDI) Phase to complete the project. The DDI approach will be determined during the Vendor selection process.



## 2.2 In Scope

Policy - Executive-level decisions that provide a methodology to align department resources to its long-term objectives and obligations. Sub-processes include:

- Review of the Florida Transportation Plan - The department engages its partners and establishes its policy directives and goals setting the direction for transportation for the 50 year planning horizon.
- Development of the Strategic Intermodal System (SIS) Strategic Plan – Providing an assessment of investment needs, a project prioritization process and a finance plan based on reasonable projections of anticipated revenues
- Inputs to Policy Development include:
  - State statutes
  - Federal regulations
  - Federal, state and local partners and stakeholders
  - The public
  - Previous statewide and local plans.
- Outputs from Policy Development include:
  - Guidance for transportation decisions and investments made based upon the prevailing principles of providing for the safety of the public
  - Preserving the existing transportation infrastructure
  - Enhancing economic competitiveness
  - Improving travel choices to ensure mobility

Plan - Processes related to the planning of projects, particularly with respect to the anticipated funding and financing of the Tentative Work Program. Sub-processes include:

- Development of the Multimodal Unfunded Needs Plan
- Development of the SIS Cost Feasible Plan
- Development of modal master plans (airports, seaports, rail, and transit)

- Development of safety plans
- Development of the Preliminary Program and Resource Plan
- Inputs to Planning include:
  - Florida Transportation Plan
  - Policy decisions
  - Legislative bill impacts
  - Current transportation needs
- Outputs from Planning include:
  - Project scoping and feasibility
  - Initial project cost estimating
  - Project prioritization
  - Funding allocations (Schedule A)
  - Program Targets (Schedule B)
  - 10-Year Preliminary Program and Resource Plan

Program and Implement functional areas are closely related and have been combined in this bullet – Processes are related to aligning financial resources to planned products based on prioritized lists. This includes submission of a budget request and development of the five year work program of projects. Sub-processes include:

- Developing the Tentative Work Program
- Financing the Tentative Work Program
- Adoption of the Work Program
- Budget Allocation
- Funding Authorization
- Project funds approvals
- Management and monitoring of projects and associated contracts
- Closeout of projects and associated contracts
- Inputs into programming and implementation processes include:
  - State statutes
  - Federal regulations
  - Input from federal, state and local partners and stakeholders
  - The Florida Transportation Plan (FTP)
  - The Cost Feasible Plan
  - System plans
  - Metropolitan planning organization, county and city prioritized plans
  - Direct input from the public
- Outputs from programming and implementation processes include:
  - Balanced Tentative Work Program
  - Tentative Program and Resource Plans
  - Public Private Partnership financing details
  - Statewide and district program planned commitments
  - Finance Plan
  - Cash Forecast
  - Financing strategies
  - LBR
  - Adopted projects
  - Letting Plan
  - Budget Allocations

- Adopted Finance Plan and Adopted Cash Forecast
- Project Work Plans
- Authorized Financial Projects
- Approved Federal Authorization Requests
- Local Funds Deposits
- Advertised Contracts
- Memo Encumbrances
- Approve Project Funding
- Contract funds approvals
- Project encumbrances
- Work Program amendments
- Contract modifications
- Contract funds approvals
- Reviewed and approved invoices
- Cost allocations
- Funding reimbursement requests
- Monthly Cash Forecast
- Closing packages

Measure - The department measures product, finances, performance and conformity with policies and goals across the Work Program Lifecycle. Lessons learned are used to improve future operations and programs. Sub-processes include:

- Performance Monitoring
- Performance Reporting
- Inputs to measurement include:
  - Data from active projects
  - Data from funds and program management
- Outputs of measurement include:
  - Florida Transportation Commission (FTC) assessment
  - Monthly Performance Report
  - Work Program reviews and results
  - Quality Assurance Review results
  - Audit Findings
  - Finance Plan and Cash Forecast variance analysis
  - Cash Management Improvement Act (CMIA) submission

Schedule of Expenditures for Federal Awards details

## 2.3 Out of Scope

- For the purpose of this project, the following are out of scope:
- Any FDOT business process not explicitly defined as in scope
- The replacement or remediation of any systems not explicitly defined as in scope
  - Interfaces to those systems from WPPI will be in scope
- Impacts to projects outside of WPPI
  - Interfaces to those systems from WPPI will be in scope (e.g. PALM)



## 2.4 Project Objectives

WP II is the department’s effort to re-engineer the Work Program’s business processes and leverage new technology to support the delivery of the \$40 billion, annual 5-Year Work Program. This is fundamentally a business process reengineering effort which impacts every office within the department. This project is not a technology refresh with a sole focus on upgrading the technical infrastructure. Funding this initiative is necessary to mitigate the risks identified from the Strengths/Weakness/Opportunities/Threats analysis and ensure FDOT’s continued successful management of the Work Program.

WP II will integrate the financial aspects of Work Program projects with key contract management information and reduce manual user interfaces between its systems. This integration and automation of information processes will ensure the department’s continued financial integrity, address changing partner demands and account for the use of vital project funding sources. New system logic will be established based on a principled set of business rules and seamlessly convert data from various sources into decision-making information to all stakeholders.

The project ultimately seeks to optimize the Work Program’s production capabilities by aligning business processes to a common set of strategic objectives and operational standards, aided by modernized system solution, which will reduce redundancy, increase efficiency and mitigate risks.

## 2.5 Critical Success Factors

The criteria below apply to the successful implementation of the business initiative:

SUCCESS CRITERIA TABLE I – NEW SYSTEM				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
1	Certification of the new system by the Federal Highway Administration (FHWA)	Approval from the FHWA that the new system has been certified for use	FDOT	Just prior to system implementation
2	Complete project scoping and feasibility studies for potential projects	Definition of scope for candidate projects completed	FDOT and transportation stakeholders	At system implementation
3	Preparation of initial cost estimates for candidate projects for potential inclusion in the Work Program	Completed cost estimates based on the department’s cost estimate handbook and guidelines	FDOT and transportation stakeholders	At system implementation

SUCCESS CRITERIA TABLE I – NEW SYSTEM				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
4	FTP	Contains specific long and short range components; major programs of the department; products to be delivered; resources required.	FDOT and transportation stakeholders	At system implementation
5	Prioritize candidate projects	Preliminary list to be considered during Work Program gaming process	FDOT and transportation stakeholders	At system implementation
6	Development of the Program and Resource Plan Summary	Adheres to guidance by the FTP; consistent with established performance measures; compliant with funding policies	FDOT	At system implementation
7	Completion of funding allocations	Consumes all available funding and revenue sources; adheres to the department’s program objectives	FDOT	At system implementation
8	Build the tentative and adopted Work Programs	Compliance with allocations, Work Program Instructions, funding policies, legislation and appropriations.	FDOT	At system implementation
9	Capture a “snap shot” in time of the versions of the Work Program	Creation of the Program and Resource Plan Summary; Work Program information by Program Plan, Category and Sub-category	FDOT	At system implementation

SUCCESS CRITERIA TABLE I – NEW SYSTEM				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
10	Produce a balanced financial plan projecting cash needs for the Program and Resource Plan Summary	Work Program is planned to deplete estimated resources; includes a balanced Cash Forecast and Finance Plan; estimated cash balances are above working minimums	FDOT	At system implementation
11	Create the Legislative Budget Request	Submission of tentative and adopted Work Programs; compliance with statutory due dates	FDOT	At system implementation
12	Manage the federal funds program and support the department's partnerships with federal agencies	Review of mandated federal project tier analysis; adherence to Federal Funding Accountability and Transparency Act reporting requirements	FDOT	At system implementation
13	Develop the annual Obligation Authority Plan	Consumption of federal appropriation by September 30 <sup>th</sup> of each federal fiscal year	FDOT	At system implementation
14	Obtain FHWA approval for federal participation in eligible costs on individual transportation projects	Successful acknowledgment and approval of FDOT authorization requests	FDOT	At system implementation
15	Managing and monitoring of the execution of the Five-Year Work Program	Required adjustments to the planned number and mix of projects based on performance measures	FDOT	At system implementation

SUCCESS CRITERIA TABLE I – NEW SYSTEM				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
16	Provide funds approval documentation for contracts and purchase orders prior to agreement execution	Compliance with Section 339.135(6)(a),F.S.	FDOT	At system implementation
17	Validation of the FDOT's interface with the state of Florida accounting system	Data validation for approved invoices; internal control validations; successful interface of accounting and budgeting transactions; completion of the project cost allocation process for department projects	FDOT	At system implementation
18	Validate and generate the period billing for reimbursement from FHWA	Successful transmission and receipts of cash; completion of the quarterly CMIA requirements; status of outstanding billings	FDOT	At system implementation
19	Satisfy the department's certification forward and carry forward statutory requirements	Tested and approved functionality	FDOT	At system implementation
20	Provide required information for the Florida Accountability Contract Tracking System (FACTS).	Tested and approved functionality	FDOT	At system implementation

SUCCESS CRITERIA TABLE I – NEW SYSTEM				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
21	Management and monitoring of project, grant and contract functions concurrently	Adherence to 2 CFR Part 200, 215.97 F.S., 215.971 F.S; establishment, modification and ongoing management of agreements; oversight and reporting of locally funded agreements	FDOT	At system implementation
22	Monitor the overall performance in accomplishing the annual FDOT Work Program	Performance reporting to FTC, legislators, legislative staff, EOG; FDOT management, etc.	FDOT	At system implementation
23	Provide a broad range of business intelligence and analytics capabilities	Adherence to Government Accounting Standards Board and financial statement reporting requirements; ad-hoc, business analytics and decision support for department projects and other financial related information; enterprise-wide geographic information system integration and spatial display for department projects and other financial related information	FDOT	At system implementation

The criteria below apply to the successful completion of the project itself:

SUCCESS CRITERIA TABLE II – PROJECT MANAGEMENT				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
1	Establish a comprehensive governance model for the WPPI project	<ul style="list-style-type: none"> <li>Variance analysis of project progress points and scheduled due dates versus actual results</li> </ul>	FDOT	From project initiation
2	Review of the To-Be (i.e. future state) analysis of relevant business processes and the high-level requirements	<ul style="list-style-type: none"> <li>Identification of in-scope processes</li> <li>High-level requirements were included in Requirements Traceability Matrix</li> <li>Deliverables met the criteria established in the Deliverable Expectations Documents</li> </ul>	FDOT	09/17
3	Maintenance of a Project Management Plan detailing a consistent and disciplined approach for managing the project	<ul style="list-style-type: none"> <li>Details communication of project status and progress reporting</li> <li>Defines how issues and risks will be documented and managed</li> <li>Incorporates feedback received during the Kickoff Meeting</li> </ul>	FDOT	From project initiation
4	Maintenance of a high-level schedule, including milestones and deliverables	<ul style="list-style-type: none"> <li>Modified to reflect actual project funding and FDOT directives</li> <li>Includes resource-loaded activities</li> <li>Predecessor and successor dependencies are identified with critical path established</li> <li>Projected FDOT resource allocation</li> <li>Includes FDOT review time periods</li> </ul>	FDOT	From project initiation

SUCCESS CRITERIA TABLE II – PROJECT MANAGEMENT				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
5	Submission of the Deliverable Expectations Documents outlining the acceptance criteria for each deliverable	<ul style="list-style-type: none"> <li>• Common, well-aligned expectations are set</li> <li>• Basis is established against which to consider deliverable feedback</li> </ul>	FDOT	From project initiation
6	Reconfirmation of project scope	<ul style="list-style-type: none"> <li>• Documentation of processes identified during To-Be phase is complete</li> <li>• Justification for out-of-scope processes is provided</li> <li>• High-level requirement deliverable adheres to Deliverable Expectation Document</li> <li>• Recommendations for managing anticipated changes to internal and external stakeholders are documented</li> </ul>	FDOT	09/17
7	Development of requirements sufficient for procurement	<ul style="list-style-type: none"> <li>• Assessment of high-level technical requirements is completed</li> <li>• Updated Requirements Traceability Matrix</li> <li>• Confirmation to the overall FDOT business and IT strategy, platforms, and standards</li> <li>• Ground rules provided for technical selection criteria during System Integrator procurement process</li> <li>• Validation completed by process owners and subject matter experts</li> </ul>	FDOT	11/17

SUCCESS CRITERIA TABLE II – PROJECT MANAGEMENT				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
8	Completion of Requirements Traceability Matrix	<ul style="list-style-type: none"> <li>Document includes requirement number, core and sub process definitions, process descriptions, prioritization measure, FDOT owner</li> <li>Detailed requirements are associated with the in-scope To-Be processes</li> <li>Detailed requirements include identification of application interfaces, data and information management needs, and required computing infrastructure needs</li> </ul>	FDOT	11/17
9	Formalized ROI based on completed detailed requirements	<ul style="list-style-type: none"> <li>Sufficient detail must be available from the Detailed Requirements to identify potential benefits of the project, which are inputs in calculations for the ROI.</li> <li>The Request for Information must be developed in a way that FDOT receives examples of net benefits from recent, similar, implementation of projects such as this.</li> </ul>	FDOT	11/17
10	Develop implementation strategy	<ul style="list-style-type: none"> <li>Final specifications needed to assess the capability of System Integrator solutions</li> <li>Evaluation criteria established to meet the objectives of the To-Be processes and satisfy functional and technical requirements</li> </ul>	FDOT	11/17



SUCCESS CRITERIA TABLE II – PROJECT MANAGEMENT				
#	Description of Criteria	How will the Criteria be measured/assessed?	Who benefits?	Realization Date (MM/YY)
11	Development of Invitation to Negotiate	<ul style="list-style-type: none"> <li>• Systems Integrator response process has been detailed</li> <li>• Scope of work is defined</li> <li>• Acceptance and grading criteria has been established</li> <li>• Adherence to state of Florida procurement statutes and FDOT policies and procedures</li> </ul>	FDOT	11/17
12	Identification of risks throughout project	<ul style="list-style-type: none"> <li>• Probability measures have been established</li> <li>• Mitigation strategies are detailed</li> </ul>	FDOT	From project initiation

## 2.6 Assumptions

FDOT will continue to operate on a cash flow basis and be responsible for the agency unique functions to maximize the use of funds over time and cover existing commitments as they occur. As such, the department will continue to perform the functions required to manage budget, funding sources and cash flow concurrently.

Adequate funding and resource availability are primary drivers in the Pre-Implementation, Implementation and Maintenance phases of the department's WPPI initiative.

The department will continue to satisfy the information needs and address system interface requirements with its external partners. Some of these key areas include:

- Legislative Appropriation Systems/Planning Budgeting Subsystem (LAS/PBS), the state's budgeting and appropriation subsystem, will continue to be used for developing, preparing, analyzing and evaluating agency budget requests
- The department will continue to maintain the interface to LAS/PBS for the Work Program plan of projects in addition to Legislative Budget Request submittals
- The department must continue to interact with Financial Management Information System (FMIS 5.0), the Federal Highway Administration's (FHWA) major financial information system for tracking Federal-Aid projects, to manage the obligation of federal funds to specific projects and to submit periodic billings to FHWA for the reimbursement of expended federal funds
- FDOT will continue to update its supporting applications to provide geospatial information, improvement types and other new project attributes as required by FHWA

Per s. 215.94 F.S., the Department of Financial Services (DFS), will continue to be the owner of the state of Florida's statewide accounting system (currently, Florida Accounting Information Resource (FLAIR)) and will continue to perform the accounting, financial reporting and treasury functions commonplace for modern core financial management systems

- DFS is in the process of replacing FLAIR and the Cash Management System with the Florida PALM project, which will support the general accounting and financial management needs of Florida's agencies, including: general ledger, accounts payable, accounts receivable and payroll functionality

PALM Phase I is scheduled for deployment in FY 2020-21 and will not encompass the unique financial requirements of FDOT, meaning FDOT must continue to actively engage and collaborate with DFS prior to pre-implementation to ensure the continued functionality of approximately 50 incoming and outgoing interface points between the two agencies

## 2.7 Constraints

- Funding constraints may impact the specific timing and deployment of the proposed solutions recommended in the Detailed or High Level Requirements
- Due to the magnitude of Transportation Finance Lifecycle, hiring consultant augmentations to support WPPI is essential for the department's continuity of operations, however, limited resources could have an impact on the timing and scope of recommended solutions
- WPPI must be able to interface with systems outside of the scope of the project, many of which are based on technology that is either outdated or considered non-strategic
- As the department continues to refine business processes and seek technological solutions in response to customer driven needs, resources may be dedicated to other strategic initiatives

## 2.8 Interdependencies

Key projects that may be impacted, or could impact WPPI, are ROADS and PALM.

## 2.9 Milestones

Milestones will be managed as part of the project schedule. Key milestones as defined today are:

- Finalized As-Is Process                      October 2016
- Define To-Be Process                        September 2017
- Requirements Defined                        December 2018
- Solution and Vendor Selected              June 2018

## 2.10 Deliverables

Deliverables are managed throughout the project lifecycle and are defined initially as part of a Vendor's\* contractual statement of work. Also, the project has adopted the practice of having Deliverable Expectation Documents (DEDs) developed and approved before work commences. The DEDs will define specific work products as part of the deliverable, cost, and timeframe. They will also include a Responsible, Accountable, Consulted, and Informed (RACI) chart for each.

*\* Various Vendors may be selected to provide services to FDOT for WPPI. The main Vendor implementing the final Solution is known as the Systems Integrator.*

## 2.11 Requirements Traceability

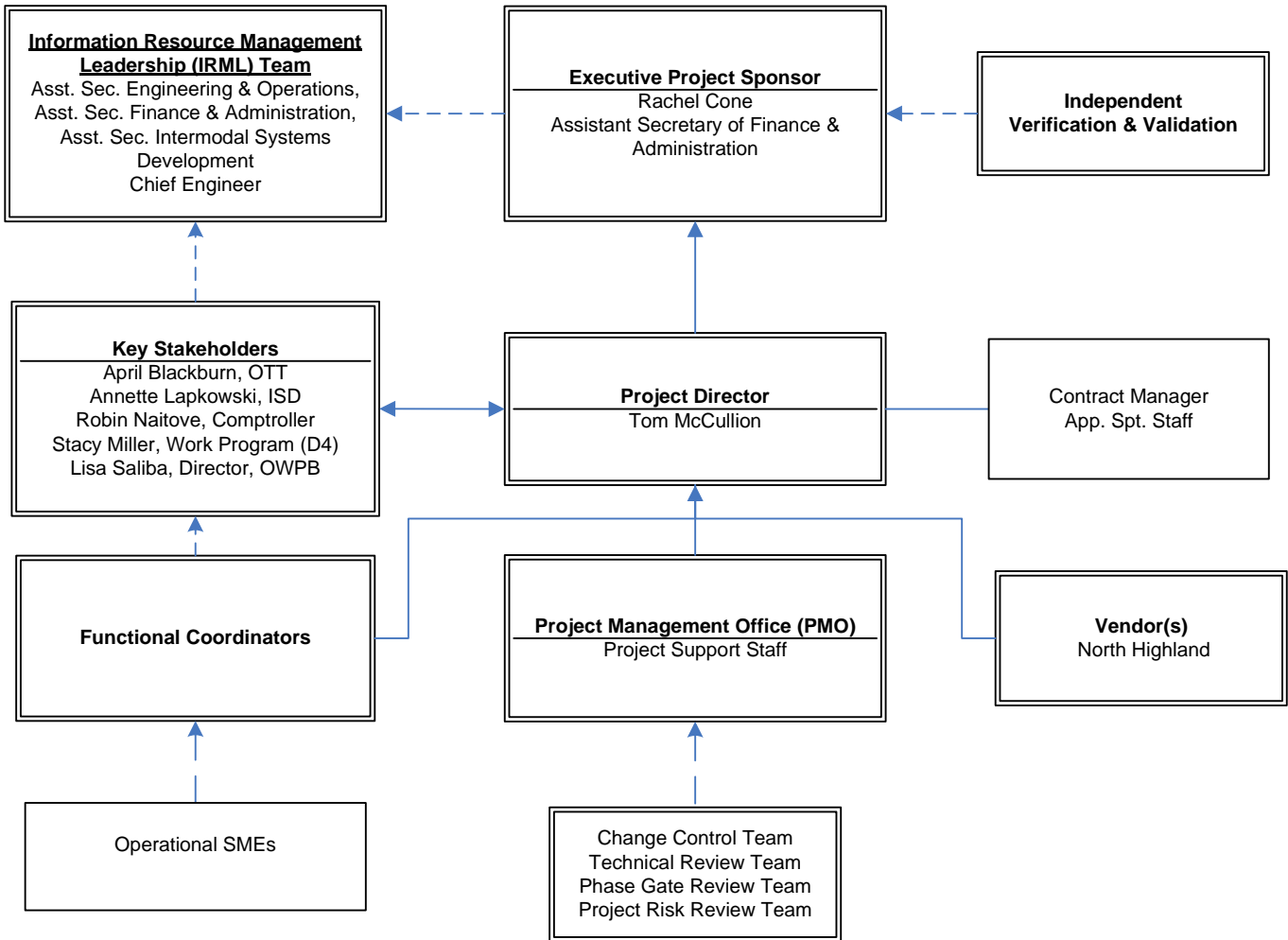
A Requirements Traceability Matrix (RTM) that documents the life of a requirement and provides traceability between associated requirements and throughout the completion of the project will be defined at the beginning of the Requirements Development phase of the project. The RTM will be managed in the WPPI Project Document Repository in SharePoint.

# 3 PROJECT APPROACH

The project approach and systems development life cycle will be determined as part of the Procurement Phase of the project.

## 4 PROJECT ORGANIZATIONAL AND GOVERNANCE STRUCTURE

### 4.1 Project Organizational & Governance Chart



The responsibilities of the roles in the organizational chart above are defined below:

ROLE	NAME	RESPONSIBILITIES
Executive Project Sponsor	Rachel Cone	Ensures cross-functional FDOT alignment Has ultimate responsibility for the project Provides support for the Project Director Serves as a champion of the project within the department Provides guidance on overall scope and project direction
Key Stakeholders	April Blackburn (Chair) Annette Lapkowski Stacy Miller Robin Naitove Lisa Saliba	Reviews and approves deliverables Resolves issues, risks, and decisions raised by functional coordinators Process visionaries assisting functional coordinators Reviews and approves external project communication Provides support to the Project Director Serves as a champion of the project within the department Provides guidance on overall scope and project direction
Project Director	Tom McCullion	Oversees the work of the combined project team Provides daily leadership and direction for the project Leads project to ensure contracted deliverables are met Serves as an escalation point for the Project Team Provides status updates to the project sponsorship Monitors performance against the schedule and PMP Serves as member of Deliverable Review Team

ROLE	NAME	RESPONSIBILITIES
Contract Manager	John Mallette	<p>Provides formal acceptance of project deliverables</p> <p>Ensures overall adherence to the contract (SOW)</p> <p>Coordinates communications/meetings with FDOT</p> <p>Monitors project deliverable deadlines</p> <p>Prepares change order reports for Management Steering Committee approval</p> <p>Prepares weekly updates on action items and reports progress</p> <p>Prepares, tracks, and coordinates paperwork for issues, risk, and decisions</p> <p>Monitors performance against the project schedule and PMP</p> <p>Interfaces daily with the Vendor(s) and Project Director to assist with logistics</p>
Functional Coordinators	<p>Karen Corman</p> <p>Nia Clark</p> <p>Lisa Evans</p> <p>Sharon Jackson</p> <p>Laura Herrscher</p> <p>Greg Patterson (Chair)</p> <p>Anna Suhrweir</p> <p>Teresa Mast</p> <p>Brian Toppel</p> <p>Leslie Wetherell</p> <p>David Williams</p>	<p>A dedicated resource from the Functional Office assigned to serve as liaison between the Vendor, Office of Information Technology and the Functional Office</p> <p>Acts as an agent for the Project Sponsor(s)</p> <p>Provides guidance on overall scope and project direction</p> <p>Provides verbal status updates to Project Sponsor, project members, Vendor(s) Project Director and Project Director</p> <p>Acts as a point of escalation for issues, risks, and decisions</p> <p>Process Visionaries for specialized line of business</p> <p>Coordinates functional activities and ensures employee participation as needed</p> <p>Assists in preparing internal and external project communication</p> <p>Reviews work products with Management Steering Team and recommends course of action on items under consideration</p>

ROLE	NAME	RESPONSIBILITIES
North Highland Project Manager*	Jeremy Segers, PMP	Acts as primary liaison to Project Director and Contract Manager Has day-to-day responsibility for the project Responsible for the successful completion and the quality of the project deliverables Oversees the work of the North Highland Project Team Acts as a point of escalation for the project Manages the project schedule, risks, action items, issues, and decisions Reports project status and maintains project plan Ensures that the processes in the PMP are followed

\* - Other Vendor representatives will be defined as they roll onto the project.

## 4.2 Identify Stakeholders

As the Project progresses through its lifecycle, stakeholders will be identified and added into the Project’s Communications Plan as appropriate.

Information Resource Management Leadership (IRML) Team – Executive Management Team that provides direction and prioritization for all information technology resources and projects that are estimated at over 1,500 hours of effort.

- Brian Blanchard, Asst. Secretary Engineering & Operations
- Rachel Cone , Asst. Secretary Finance and Administration
- Thomas Byron, Asst. Secretary Intermodal Systems Development
- Phillip Gainer, Chief Engineer

Key Stakeholders – Senior management or their representative with oversight of the areas significantly impacted by WP II. The Key Stakeholders meet with the Project Management Team on a regular basis and serve on the Management Steering Committee.

- April Blackburn, Chief of Transportation Technology
- Annette Lapkowski, ISD
- Robin Naitove, Comptroller
- Stacy Miller, Director of Transportation Development, D4
- Lisa Saliba, Director, Office of Work Program & Budget

Functional Coordinators - Serve as a dedicated resource from the Functional Offices assigned to be accountable for identifying the As-Is Business Processes for their respective areas; coordinates functional activities and ensures employee participation as needed and ensuring that any gaps are addressed by Operational SMEs; provide information based on professional experience, sound judgment and knowledge of transportation systems and business processes; are empowered to design solutions to deliver business process improvement opportunities and support their implementation through aligned new or enhanced supporting information systems; reviews work products with Management Steering Committee and recommends course of action on items under consideration. The role of the Functional Coordinator will exist throughout the life of the project life-cycle.

<b><u>Named Resource</u></b>	<b><u>Office/Functional Area &amp; Expertise</u></b>
Nia Clark	ISD/Operations
Karen Corman	District/WP (D7)
Lisa Evans	OOC/Process Architect
Laura Herrscher	ISD/Planning (D1)
Sharon Jackson	OWPB/Business Processes
Teresa Mast	OOC/Project Costing
Greg Patterson	OWPB/Process Architect
Anna Suhrweir	OWPB/Finance/Allocations
Brian Toppel	OIT/Systems Architect
Leslie Wetherell	District/Planning (D4)
David Williams	OOC/Federal Aid



### 4.3 Identify Project Team

Project Director: Tom McCullion – The Project Director is responsible for the strategic oversight of the project in close coordination with the Key Stakeholders. Advises executive management regarding information resources management needs of the department. Assist in the development and prioritization of the information resources management schedule of the department’s legislative budget request. Approves changes requests with a scope and schedule variance of < 10% and budget variance < 0%.

Project Administrator: TBD – The Project Administrator is responsible keeping the project schedule, budget, RAID Log, project status, and other project documentation updated and communicated out per the Communications Plan.

For each major scope of work, a RACI chart will be produced, managed and maintained.

### 4.4 Project Governance Process

As events unfold throughout the lifecycle of the project, there will be impacts to project scope, timeline, budget or quality that require decisions. Decision making authority is aligned with the severity and potential impact of the situation at hand.

There are three tiers of governance. It is important to understand each tier’s level of decision making ownership and the resulting escalation path. This enables the team to move issues through the governance framework without jeopardizing scope, schedule, budget or quality of the overall project.

The project governance levels are:

- Tier 1: Project Management Team (PMT): Functional Coordinators and the Project Director (Chaired by Greg Patterson)
- Tier 2: Management Steering Team (MST): Key Stakeholders and the Project Director (Chaired by April Blackburn) with guidance from the Change Control Team, Technology Review Team and Phase Gate Review Team
- Tier 3: Executive Steering Team (EST): The Executive Project Sponsor

### 4.5 Escalation Process

Timing for decision making is:

- Tier 3 (Low priority/impact items) escalations require action at the EST level, either immediately or at the next regular meeting.
- Tier 2 (Medium priority/impact items) escalations should be addressed during the monthly MST team meetings unless convened earlier.
- Tier 1 (High priority/impact items) escalations should be addressed at the work stream working team level as a course of the normal day-to-day activities.

## **5 RESOURCE PLAN**

### **5.1 Human Resources**

Once the resource plan has been built in the project schedule and approved, the Project Director works with the Key Stakeholders to ensure appropriate staff and time is available to meet the work requirements. Any conflicts will be raised through the project governance plan.

### **5.2 Equipment/Materials Resources**

Any equipment and/or materials necessary to complete the scope of the project will be defined during the procurement phase of the project. Other investments required will be encapsulated in the annual Legislative Budget Request cycle.

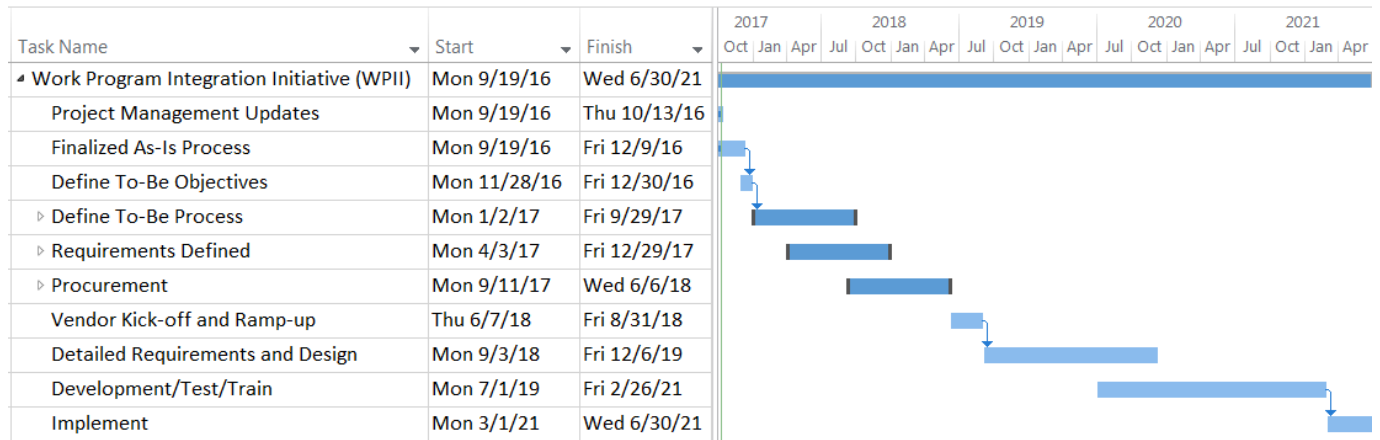
## **6 WORK BREAKDOWN STRUCTURE**

The Work Breakdown Structure is defined with the Project Schedule. See Section 7 below.

## 7 PROJECT SCHEDULE MANAGEMENT PLAN

### 7.1 Project Schedule

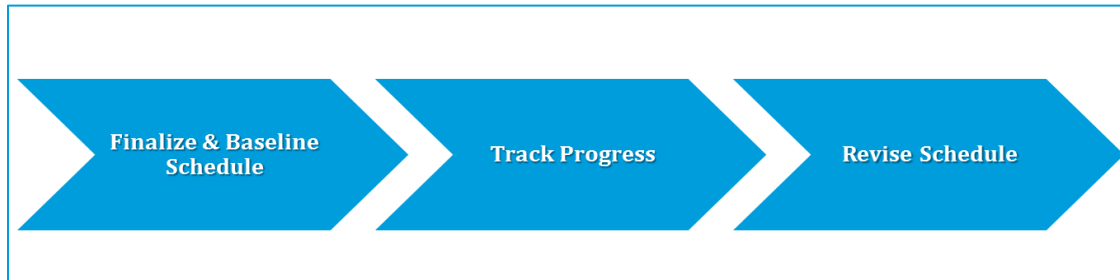
FY14/15, FY15/16, and FY16/17 estimates were based upon the planned work schedule for those respective years. Today the project team is working towards a five-year plan to complete the project. This will be adjusted as we work through the As-Is Business Process design and requirements gathering in FY16/17 and procurement in FY17/18. The project timeline will be firmed up once a Systems Integrator and Solution is selected at the beginning of FY18/19. See proposed project schedule below.



## 7.2 Schedule Management

### Overview

Consistent, high-quality schedule management processes allow the project team to understand the current situation, accurately assess the impact of changes, correctly prioritize team efforts, and effectively communicate the schedule health of the project. A structured process allows the team to develop a baseline and report progress against the planned project schedule.



### Finalize Schedule

Throughout the project lifecycle, a key objective for the project team is to revise, baseline, and communicate the project's scope and schedule.

The steps that constitute the final schedule activities include:

- Review existing draft schedules and plans
- Review and baseline the Work Breakdown Structure (WBS)
- Review and baseline the activity durations
- Review and baseline activity dependencies including the creation of milestones
- Review the overall schedule and integration of tasks between teams including incorporating external dependencies

### Approve schedule

The Project Director and Vendor Project Managers will only consider changes to the project schedule with approved change requests (see Change Management Plan). Any approved changes to the project schedule will be made by the Project Director or designee.

### Track Progress

The Project Director will utilize the weekly status meetings and status reports to track and communicate progress against the schedule. This process consists of the following steps:

- Track, review and document progress updates
- Review the schedule and report progress
- Analyze progress and determine corrective actions

### Document corrective actions

The Project Director will update the project schedule as needed to reflect corrective action, report through the project status process, and escalate via the governance process if needed.

Tracking progress against the schedule is a continuous process that occurs weekly in order to collect and report accurate information in a timely manner.

To build consistency in how Deliverable progress is reflected in the schedule and weekly status report, tasks will be tracked using the following Percent Complete definitions as weekly tracking occurs. Project tasks contained in the project schedule will have their progress reflected using the Percent Complete definitions below.

Deliverables will be tracked according to the actual percent complete in the project schedule.

Percent Complete	Definition
0%	Task not started
25%	Task started and in-progress
50%	Draft Complete
75%	Internal Review Complete
100%	Task complete

The project schedule also reflects milestones. Milestones are binary – they are either not complete or complete. A completed milestone will be reflected as 100%. Otherwise, a milestone will be reflected as 0%.

## 8 COST MANAGEMENT PLAN

### 8.1 Budget

The following table reflects the actual funding to date and the budget request for FY17/18. For FY17/18 planning and budgetary purposes, the department used a \$50 million estimate based on a Custom Off The Shelf solution as a model as it seems to be a reasonable target. Once the As-Is business processes and requirements are complete, and the responses to the Invitation to Negotiate on the new system have been proposed, the final recommendation and a more refined ROI will be determined.

Fiscal Year	Phase/Major Steps	Budget Source	Budget
2013 – 2014	Feasibility Study	Existing Operating Budget	(Actual) \$188,000
2014 – 2015	Needs Assessment and formal Project Kick-off Activities	FM Redesign LBR	(Actual) \$832,000
2015 – 2016	As-Is Business Processes	Work Program Integration Initiative LBR	(Budget) \$1,700,000 <i>Reverted</i> <u>(\$135,538)</u> (Actual) \$1,564,462
2016 – 2017	Define Detailed ROI, Continue To-Be Business Process Analysis, Define High-Level Requirements, Develop Procurement Strategy	LBR	(Budget) \$2,757,780
2017 – 2018	Finalize To-Be Business Processes, Finalize Requirements, Develop and Advertise ITN, Select Systems Integrator, Select IV&V Vendor	LBR	(Requested) \$15,000,000

2018 – 2019	WPII Solution Award, Detailed Requirements & Design; Reimbursements Implementation	LBR	(TBD)	\$xx,xxx,xxx
2019 – 2020 2020 – 2021 2021 - 2022	Develop Solution, Conduct Testing and End-User Training, Conduct Knowledge Transfer, Implement Solution	LBR	(TBD)	\$xx,xxx,xxx

## 8.2 Project Spending Plan

The current Spend Plan is maintained in the WPII Project Document Repository.

## 8.3 Cost Management

Cost management activities are subject to the governance and escalation processes described in the Organizational and Governance Plan and change control processes as described in the Change Management Plan.

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# 9 PROCUREMENT MANAGEMENT PLAN

## 9.1 Procurement Management Procedure

Purchasing for the project is either a major procurement (related to contracts and the hardware, software and services required for the new system) or minor procurement (related to daily activities such as supply ordering).

Minor purchases are handled through FDOT’s existing processes using MyFloridaMarketPlace (MFMP). All expenditures made against the WPII budget require approval from the Project Director unless otherwise noted. Staff Augmentation will be procured utilizing Requests for Quote via the State Term Contract process.

The scope of the Procurement Management Plan will be fleshed out in more detail as part of the procurement strategy phase.

## 9.2 Contracts Management Procedure

Contract Management will align with FDOT’s standard operating procedures. WPII has a contract manager assigned to the project that will monitor and verify appropriate internal procedures will be followed for monitoring and administering the contract, and the process for contract payment. Any contract amendments from the change control process will adhere to the appropriate internal procedures.

# 10 COMMUNICATIONS MANAGEMENT PLAN

Efficient and effective project-level communications management is critical to overall project success. Both project leadership and project team members benefit greatly from timely, accurate and predictable communications. Project communication management includes the generation, collection, storage, dissemination, and disposition of project information.

The purpose of this section is to document the formal project communication process developed for the WPPI Project. This plan defines:

- What needs to be communicated on the project
- Who is responsible for communicating with what audience
- When the communication needs to take place
- How information will be communicated

The project communication process ensures that project leadership and team members are kept in sync and are aligned about the status of the project and its upcoming activities.

This plan provides a framework for the information exchange within the project. This plan focuses on formal communication elements although other channels exist on informal levels and enhance those discussed within this plan. This plan does not limit, but rather enhances, communication practices. Open, on-going communication between project sponsors and project team members is vital to the success of the Project.

Changes to this plan will be coordinated by the Project Director.

Key Terms	Definition
Executive and Management Steering Teams	A group of individuals appointed to provide input and guidance to the project team.
Key Stakeholder	A person whose support is critical to the success of the project.
Agency Management	Executive and senior-level managers
Project Team	The people actively working on the project.
Project Management Office (PMO)	The individuals charged with managing the project management process itself (e.g. schedule, budget, resource plan, status reports, etc.)
SME	Subject Matter Expert
Executive Project Sponsor	A person who provides behind-the-scene assistance to project personnel. Acts as an advisor in decision-making and problem resolution.
Stakeholders	Any person or group that has a vested interest in the success of the project.

## 10.1 Assess Stakeholders

A key part of the Organizational Change Management Plan will be a Stakeholder Assessment to determine the most effective way to engage and communicate to the project stakeholders at large.

## 10.2 Communication Plan

	<u>Frequency</u>	<u>Sent by:</u>	<u>Type:</u>
Internal Project Team Meeting	Each Monday	Project Director	Meeting
Project Status Report	Each Wednesday by 5pm	Project Director	Report
Key Stakeholders Status Meeting	Each Thursday	Project Director	Meeting
Key Stakeholders Status Meeting – Agenda Submission	Wednesday before the Key Stakeholders’ meeting	Project Director	Document via Email
Key Stakeholders Status Meeting – Notes Submission	Following the Key Stakeholders’ meeting – updated as part of the Agenda document	Project Director	Document via Email
Management Steering Team	As part of the last Thursday of the month Key Stakeholders Meeting	Project Director	Meeting
Management Steering Team – Agenda Submission	Wednesday before the Key Stakeholders meeting.	Project Director	Document via Email
Management Steering Team – Minutes Submission	Following the meeting and sent to MST members	Project Director	Document via Email
Executive Steering Team Meeting	Every fourth Tuesday	Project Director	Meeting
Executive Steering Team – Minutes Submission	Following the meeting and sent to the EST members	Project Director	Document via Email
Executive Workshop	Monthly (12 <sup>th</sup> of each month)	Project Director	Presentation via Email
AST WPII Status Report/Schedule/Budget Summary/RAID Log/Monthly MST and EST Meeting Minutes	Monthly (10 <sup>th</sup> of each month)	Project Director	Reports
WPII Schedule	Every Friday by 5pm	Project Director	Report
Innotas Status Report	10 <sup>th</sup> of each month Executive Status and Work Plan Update	Project Director	Report
Legislative Report	12 <sup>th</sup> of each month	Project Director	Report



## 10.3 Communications Tracking

### Weekly Status Reports

Status Reports will be developed and distributed to the Key Stakeholders on a weekly basis.

### Status Meetings

Weekly status meetings will be conducted between the Key Stakeholders throughout the course of the project. The result of these meetings is a published Status Report distributed to the project team members and stakeholders. Meeting attendees will be notified of changes to the time or location of these meetings via email and/or telephone as far in advance as possible.

### Executive Project Status

The Project Director will provide a monthly status update for use by the Application Services Manager for review by FDOT Executives as part of the Application Services Work Plan Review Meeting. This status is used in a monthly review of the progress of Application Services projects with the Executives. The North Highland team will assist in providing input into this status.

### FDOT Executive Workshop Status & Presentation

The Project Director, Application Services Manager, CIO and Project Sponsor collaborate to develop a monthly report to the Executive Workshop on the progress of WPPI. This presentation will allow open discussion regarding the project, along with an opportunity for feedback on the project. The North Highland team will assist in providing input into this status presentation. This presentation will include:

- PowerPoint presentation highlighting recent accomplishments and deliverables, upcoming tasks and critical issues.
- A one-page summary of the presentation which can be used by workshop attendees to provide updates to their staff.
- A multimedia presentation that highlights the items presented at the Executive Workshop. This will be made available within 10 business days of the Executive Workshop.

### Legislative Project Status

The Project Director will provide a monthly status report to the Applications Services Manager for review and submittal to the Office of Budget. This status will then be provided to the Office of Planning and Budget. This report addresses the status of projects which are funded by Legislative Budget Request.

### Agency for State Technology (AST) Project Status

The Project Director will provide a monthly status report to the Agency for State Technology to support their Project Oversight effort. This report will use the Project Status Report template required by AST for all projects under Oversight. FDOT will include the required narrative status report, schedule and other documents as requested.

## 10.4 Documentation Standards

### Overview

The Document Management section describes the document management practices for this project. Document management includes document creation, document revision, delivery approach, and version control. A standard process will be used for project related documents and applies to the creation and management of documentation including minutes, notes, deliverables and other outputs for this phase of the project.

## Document Creation and Delivery Approach Objectives

This approach is designed to ensure:

- Defined objectives are met
- Expectations of the major stakeholders of the project are fulfilled to the extent appropriate
- Approved principles, measures, standards, and methods are applied uniformly
- Consistency and continuity is maintained for project artifacts

## Purpose of Document Management

The purpose of Document Management is to define the process for how documents developed by the Vendors will be managed and submitted to FDOT for approval.

This document identifies the steps in the document creation and update processes, from the initial creation of a document through approval by the Project Team (if applicable), including any revisions or updates necessary throughout the document's useful life.

## Document Management Strategy

The PMO and all Vendors will work together to ensure quality in the documents submitted to the PMO for review and approval. To support this goal, several tactical actions are planned or have already been performed:

- The project will use the WPPI Project SharePoint Document Repository. SharePoint helps to organize large, complex information sources and manage documents with multiple authors and approvers. SharePoint provides for version tracking, check-in and check-out to ensure that only one person works on a document at a time, controlled document access based on user roles, and automated routing of documents to reviewers.
- Vendors can create an internal SharePoint (or similar) sites to manage and maintain their working documents. The PMO maintains the WPPI Project SharePoint Document Repository site and grants Vendors the ability to add and update folders and documents.
  - As the standard protocol for the project, the following documents will be maintained on the WPPI Team site:
    - Status Reports
    - Submitted deliverable documents for review and the associated companion documents consisting of: deliverable review workbooks, deliverable expectation document, and deliverable acceptance forms
    - Working documents defined as those artifacts created to support the project such as milestone documents, data analysis models, inventory spreadsheets and artifacts collected from state scan or agency interviews
    - Meeting agenda and summaries
- The approach and the document naming standards defined in this plan will be adhered to for documents that will be maintained by the Vendor and submitted to the PMO.
- As relevant project documentation, including hard copy documents (i.e. charts, graphs, and other supporting documents) are gathered, to the extent practicable and as determined appropriate, documents will be scanned and stored in SharePoint following standards and processes defined in this plan.
- Each project document will have a Vendor owner who is responsible for the creation of and updates to the document throughout its useful life.

## Document Naming Standards

Artifacts will use a standard naming convention to provide consistency in the way project related artifacts are named. The file naming conventions used on this project include (e.g. WPPI-Workflow-DED-161011-v001):

- WPPI is the project code
- Abc-XYZ –Artifact-Name is a short description of the deliverable

If the document is going to be shared outside of the Project SharePoint environment, or if the document is time sensitive (monthly project status), the document name will also be appended by:

- Yymmdd

And if it is anticipated that the document may be modified and exchanged several times with an outside entity, it may also be appended by:

- V### is the version tracking number. Minor updates are indicated by changes to the third digit. Major updates are indicated by changes to the first digit.
- V100 identifies the a final version of the document

Note: Artifact Name – Replace this value with the deliverable name and always use hyphens instead of spaces. Additional text or details to the name of the file (no initials, change details, etc.) will not be added. The Revision History table and check-in comments included in each document template will be used to include the details of what was changed in each version.

## Version Control

The project will standardize version control for project artifacts. This will provide consistent document version control. The following steps will be followed for each project artifact:

- Documents will have a consistent name throughout the update process, with versioning being indicated through a version number and date listed within the document, and as part of the document name.
- Each new document will start at version v001 (for external documents – internal documents will use SharePoint versioning)
- The version number will be incremented by 1 until the Project Team has approved the document
- The first digit of the three-digit version identifier will be used for approved deliverables. Example: Version 002 will become Version 100 after being approved and accepted.
- If revisions are made after the initial acceptance, the version number will be incremented by 001 until another approval. Minor updates will keep the incremental version number (Example: 103). Major updates will increment to the next full number (Example 200).
- All versions (incremental and approved) will be documented in the Revision History table.
- Version number and date will be indicated on the cover page of each document, or alternate location as appropriate based on the type of document.

## 10.5 Centralized Document Repository

The Document Repository is established in Microsoft SharePoint and will contain current and previous versions of deliverable and work product documents. The Project Team Members will use Microsoft’s SharePoint software as the collaboration tool. This tool provides version control and many additional features that may be implemented to maximize project communications.

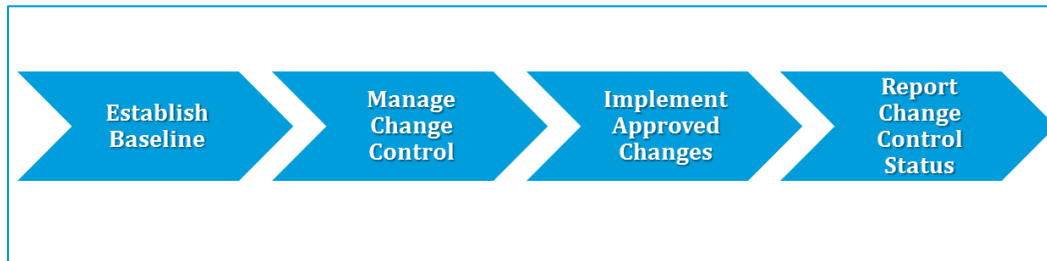
# 11 CHANGE MANAGEMENT PLAN

### Overview

Throughout the life of the project, any change to the current scope will follow the Change Control process. In order to control these changes, the project team will utilize a formal change control management process for identifying, reviewing, approving, coordinating, archiving, and reporting the status of these change requests.

Project members have a role in this process that is based on analysis of the change and the implication of the proposed change on project scope, schedule, budget, and benefit.

**Note:** The WPII Project is a fixed price project. Budget changes are not anticipated and would only result if new or revised scope was introduced to the project.



### Establish Baseline

The scope defines the boundaries of the project (e.g. project goals and objectives, requirements, work products, schedule, quality, resources, etc.).

The purpose of establishing and maintaining baselines is to provide a reference point to control the risk that the scope, budget, or schedule of the project will be adversely impacted by a potential change. The Project Management Plan and Project Schedule documents will establish the project’s initial baseline. From that point forward, the Vendor Project Manager will not allow a change without an approved change request.

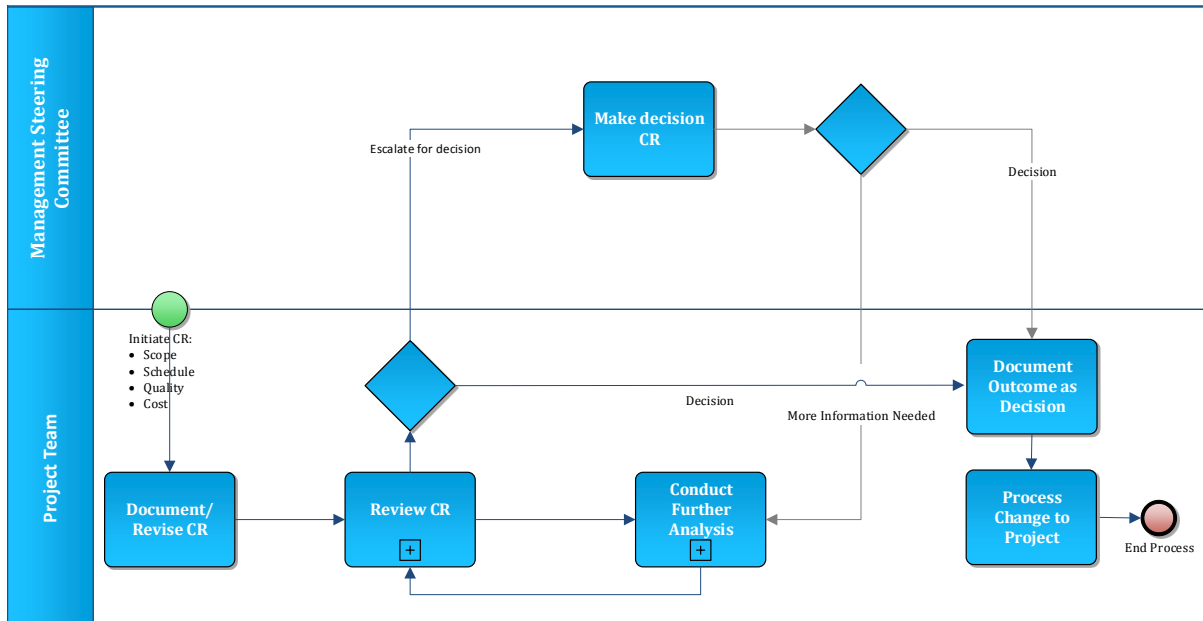
## 11.1 Change Management Roles and Responsibilities

The Change Management process will be in effect for and substantive changes in scope, budget, or schedule.

## 11.2 Change Control Process

### Manage Change Control

A Change Request (CR) is a request to modify the established project schedule. The following flowchart outlines the process for how changes are requested, analyzed, and either authorized or denied.



The PMO and the Vendor Project Managers can provide the final disposition of a CR, without going to the Project Director or the Vendor Project Manager, if the change is considered to have no impact to contract, schedule, budget or quality. If a difference of opinion exists between the Project Director and the Vendor Project Manager, or the CR is of the nature there is an impact to the contract (e.g., schedule budget or quality), the CR will be escalated for review and disposition.

### Implement Approved Changes

Once a CR has been approved, the PMO, and potentially the Vendor’s Project Manager, are responsible for implementing the change. Key activities to complete (as needed) are:

- The PMO will update the Project documentation baseline, including Project Schedule (archive previous baseline version)
- The PMO will update project budget as it relates to the contract
- The Project Director will update master project budget (if new scope introduced)
- The Contract Manager will oversee the appropriate change to the project purchase order in MyFloridaMarketPlace

- The Project Director will communicate disposition of CR to the Project Team and Stakeholders

### **Report Change Control Status**

The PMO will include the status of open CRs and number of CRs closed in the current reporting period on the weekly status report. The Project Director will also track and monitor that project team members are incorporating approved CRs in their project activities and documentation.

### **Project Scope Change Request Form**

The Change Request Form provided by the PMO, and associated components, will be used to capture any project CR's.

### **Project Staffing**

All Vendor staffing changes must be approved by the Project Director, Contract Manager, and Executive Project Sponsor.

## **11.3 Track Project Changes**

Throughout the project, the project team will document CRs in the project change order log which is a tab on the RAID Log. The disposition and status of submitted CRs will be captured in the Change Order Log.

## **12 ORGANIZATIONAL CHANGE MANAGEMENT PLAN**

The Organizational Management Plan will be developed during FY17/18.

### **12.1 Organizational Impact Analysis and Recommendations**

TBD.

### **12.2 Organizational Assessment**

TBD.

### **12.3 Stakeholder Analysis**

TBD.

### **12.4 Sponsor Analysis and Action**

TBD.

## 12.5 Communication

TBD.

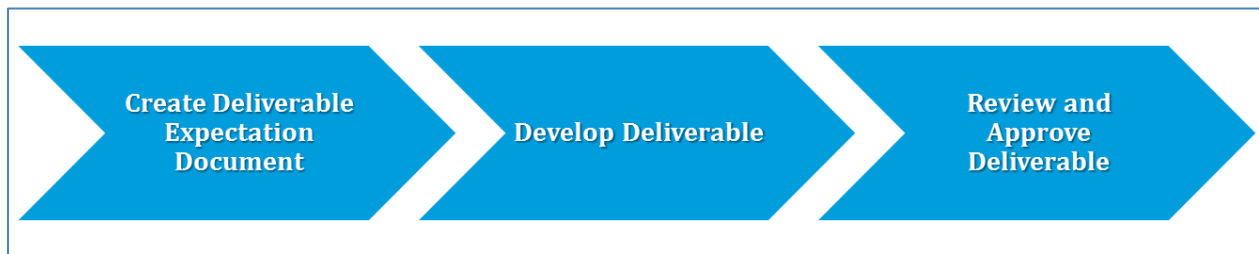
## 12.6 Training

TBD.

# 13 QUALITY MANAGEMENT PLAN

## Overview

Quality Management is an integral component to project success and needs to be integrated into the project approach and schedule. To support a quality outcome, there are several activities that need to be carried out over the life of a project to make sure that expectations are met and aligned. The exhibit below illustrates the high-level Quality Management Components.



### Deliverable Expectation Document

The Deliverable Expectation Document (DED) is used to record mutually agreed acceptance criteria, and it will facilitate an efficient and effective process to obtain final approval on deliverables. Also recorded in the DED is the Vendor’s general approach to meeting the deliverable requirements through the development process.

The deliverable acceptance criteria are recorded in the DED. The acceptance criteria must be clearly defined and absent of subjectivity and ambiguity wherever practical. Recorded in the document are the specifics of how the criteria will be measured, and any comments pertinent to further clarifying the criteria or assessment.

Once agreement is reached with the PMO on the expectations and acceptance criteria, the Vendor will finalize the draft and submit the DED to the Project Director and Contract Manager with the Deliverables. The Contract Manager will send it to the deliverable reviewers to ensure their understanding of the expected content in the associated deliverables.

### Deliverable Development Process

The key, at a high level, to making sure surprises are minimized during the deliverable review process is the involvement of Project leadership and Project Sponsors in the deliverable development process. Sharing working

drafts of deliverables in a collaborative manner throughout the project facilitates the identification of issues, differences of opinions, and misunderstandings.

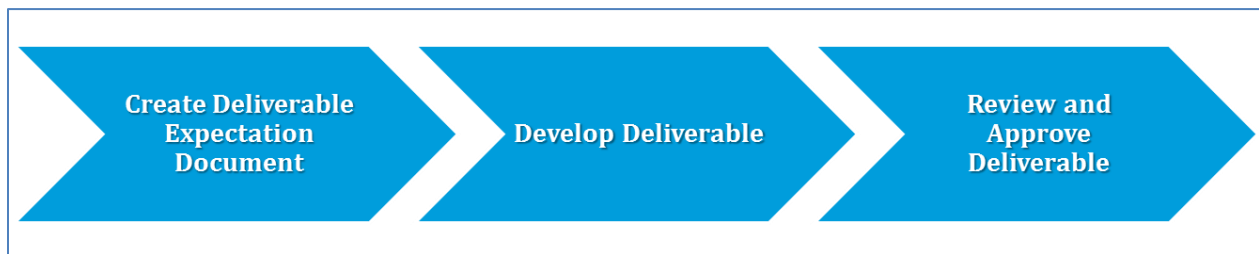
During the Deliverable Development process decisions may be agreed upon by the Project Director or Executive Project Sponsor and the Vendor Project Manager that impacts the DED. When this occurs the Vendor Project Team is responsible for making the updates to the current version of the DED and submitting the revised document to the Project Director. The Project Director is responsible for managing the dissemination of the updated DED.

### **Internal Vendor Deliverable Review**

In alignment with the project schedule, each project deliverable will go through an internal Vendor quality assurance review. During this review, the Vendor Project Manager and members of the Vendor team will review the deliverable and assess whether it meets its intended scope, is clear and concise, and meets expectations. The internal Vendor review team will focus on content but will also review the deliverable to ensure consistent and proper document formatting. Deliverables will not be submitted to the PMO for approval until the deliverable has been subject to this internal Vendor review.

## **13.1 Quality Assurance Activities**

Quality Management is an integral component to project success and needs to be integrated into the project approach and schedule. To support a quality outcome, there are several activities that need to be carried out over the life of a project to make sure that expectations are met and aligned. The exhibit below illustrates the high-level Quality Management Components.



## **13.2 Quality Control Activities**

The Quality Control Activities will be developed as part of the Procurement Phase of the project.

## **13.3 Test Plan**

The Test Plan will be developed as part of the Procurement Phase of the project.

## **13.4 Independent Verification & Validation (IV&V)**

The IV&V Vendor will be brought on board as part of the Procurement Phase of the project.



## 14 DELIVERABLE ACCEPTANCE PLAN

### 14.1 Deliverable Review Team

The Functional Coordinators will act as the Deliverable Review Team.

#### Roles and Responsibilities

The roles and responsibilities relating to the Deliverable Review and Approval process are presented in the table below.

ROLE	RESPONSIBILITIES
Deliverable Review Team	<ul style="list-style-type: none"> <li>• Actively participate in Draft Deliverable Walkthrough session</li> <li>• Review draft deliverables for review consistent with deliverable acceptance criteria</li> <li>• Participate in Escalation Process, if needed</li> </ul>
Contract Manager and Project Director	<ul style="list-style-type: none"> <li>• Acknowledge receipt of deliverables</li> <li>• Coordinate a draft deliverable walkthrough (optional)</li> <li>• Distribute draft deliverable, review feedback spreadsheet and review instructions to Deliverable Review Team</li> <li>• Coordinate a feedback review meeting to review and consolidate comments (optional).</li> <li>• Consolidate draft Deliverable Review Team comments and return them to the Vendor Project Manager</li> <li>• Notify Vendor Project Manager whether deliverable is accepted or rejected</li> <li>• Coordinate issue escalation of a Deliverable not approved</li> <li>• Sign the Deliverable Acceptance Statement</li> </ul>
Vendor Project Manager	<ul style="list-style-type: none"> <li>• Submit draft deliverable to Contract Manager for review consistent with acceptance criteria</li> <li>• Facilitate Draft Deliverable Walkthrough session</li> <li>• Address FDOT feedback and revise deliverable</li> <li>• Submit final deliverable to Contract Manager</li> <li>• Participate in Escalation Process, if needed</li> </ul>

### 14.2 Deliverable Acceptance Criteria

A Deliverable Expectation Document (DED) will be developed and approved for each Vendor Project Deliverable. The DED will define the process to review the Deliverable for quality in terms of the following criteria (as applicable):

- Content
- Correctness
- Completeness
- Clarity

- Contractual concerns
- Functional content and accuracy
- Performance impact
- Project standards/format
- Scope
- Technical content
- Value/benefit to the client

Example: Deliverable Acceptance Criteria:

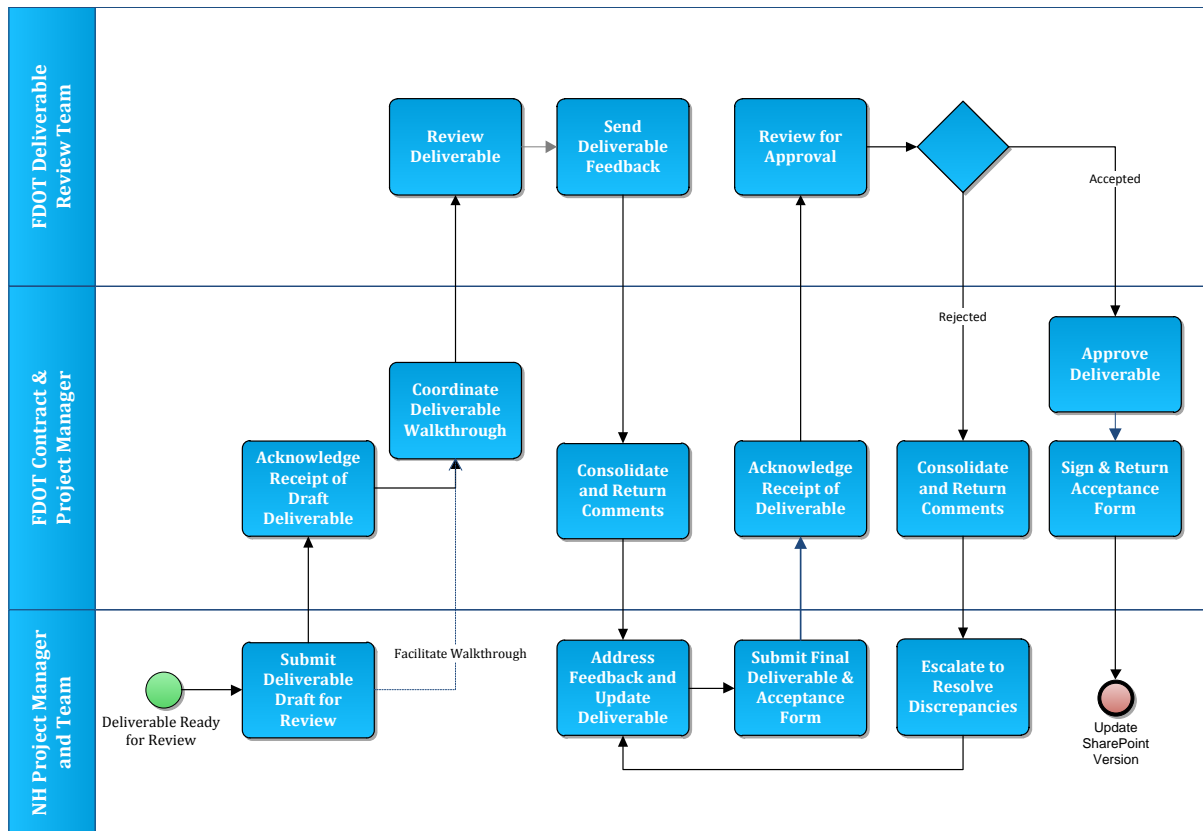
Criteria	Description
Content	<p>Ensure that the content is appropriate and meets the intent.</p> <p>Verify the document meets the requirements specified in the contract/Statement of Work.</p> <p>If applicable, verify the document conforms to the specified industry and/or government standards, statutes, rules, policies and procedures.</p>
Correctness	<p>Ensure the deliverable is technically correct, clear, consistent, and testable or verifiable (if appropriate).</p> <p>Although typographical errors found during the analysis will be identified, the emphasis of the review is technical issues, not editorial issues.</p>
Completeness	<p>Ensure the topic is covered in a comprehensive fashion and no sections are incomplete.</p>

### 14.3 Deliverable Review and Approval Process

#### Deliverable Review and Approval

Once a deliverable has been developed and completed the internal Vendor deliverable review process, it is ready to enter the deliverable review and approval process. The deliverable review and approval process follows a predefined set of steps and set of time standards detailed in the sections below.

Each deliverable submitted to the PMO for review and approval will follow the process flow illustrated below. The exhibit depicts the process that a deliverable will proceed through as well as identify the team responsible for the process step.



As depicted above, once a deliverable has been fully developed and drafted, it is ready to be submitted to the Contract Manager to acknowledge receipt of the deliverable and to disseminate the document to the Deliverable Review Team for review. The Project Director will coordinate a Deliverable Walkthrough session facilitated by the Vendor to complete the deliverable handoff and familiarize the Deliverable Review Team. The session is important, since it allows the Vendor project team to provide an overview of the submitted draft and its content. It also enables the Deliverable Review Team members to ask clarifying questions prior starting their review. The Project Team and the Vendor will identify which deliverables require a Deliverable Walkthrough meeting.

Once the Walkthrough session concludes, the Deliverable Review Team will start their review of the deliverable. Deliverable Review Team will evaluate the deliverable content and compare it to the pre-defined acceptance criteria within the prescribed turnaround time denoted.

The Project Director and Contract Manager will consolidate Deliverable Review Team’s feedback on the deliverable into a single document and submit it to the Vendor Project Manager. The Project Director may choose to hold a Feedback Review Meeting to aid in review and consolidation of feedback on select deliverables. The Vendor Project Manager will deploy the Vendor project team to develop a resolution and address the FDOT feedback within the predefined turnaround time. Once all FDOT feedback has been resolved, the Vendor Project Manager will re-submit the deliverable as final to the Contract Manager. The Review Team will review the deliverable again to confirm the comments were addressed and determine whether the deliverable is approved or rejected. The Contract Manager is responsible for communicating the review team’s decision to the Vendor Project Manager.

If the deliverable is not accepted, the project escalation procedure will be launched. The Vendor Project Manager will work with the Project Director and the Contract Manager to define the appropriate next steps and review contractual obligations.

### **Deliverable Requirements and Turnaround Time Standards**

The steps in the Deliverable Review and Approval process will depend on the deliverable being submitted. These requirements and time standards are as follows:

- Each deliverable will be submitted to the Project Director, in electronic format. The Project Director will ensure the deliverables are distributed as necessary.
- Along with each deliverable submission, the Vendor will provide a Deliverable Review Form to capture comments and revisions.
- Once the deliverable has been submitted, FDOT will complete their review
  - FDOT will provide one consolidated written summary of recommended changes for revisions, utilizing the Deliverable Review Form. Feedback should be clear and actionable.
  - The turnaround time for deliverable reviews may be extended on an exception basis by agreement between the Vendor Project Manager and the Contract Manager unless the change in the review period requires an amendment to the contract.

Any conflict arising from the deliverable review and acceptance process will be addressed via the Issue Escalation Process.

### **FDOT Approval**

A Deliverable Acceptance Form will be submitted, to the Contract Manager, along with any deliverable being submitted as final to FDOT. This form captures the signature of the Contract Manager signifying acceptance of the associated deliverable document.

## **15 RISK MANAGEMENT**

### **15.1 Risk & Complexity Assessment**

Since WPPI will have a total project cost of greater than \$10 million and is under AST oversight the project will be managed as Risk and Complexity Category 4 project.

### **15.2 Risk Management Plan**

Risk management will be an on-going process conducted throughout the life of the project. The process begins with identifying, assessing, and developing response plans for significant risks. It continues with regular risk monitoring, ongoing identification of new risks, and timely implementation of mitigation plans.

This Risk Management Process addresses identified risks that require visibility at the highest levels of the project and will be managed by the Project Management Teams.

The project team will use a straightforward method that includes identifying and categorizing project risks (Identify), assessing and prioritizing the risks (Analyze) so they are manageable, developing a response strategy and assigning responsibility (Plan), tracking the risks by reviewing them at key project milestones (Track), implementing the defined response strategies as required (Control) and most importantly, communicating the risks and strategies on an ongoing basis throughout the life of the project. Risk management processes address internal risks (those under the control or influence of the project team, such as quality of deliverables, cost, schedule, or technical risks) as well as external risks (those outside the control of the project team such as governmental legislation or weather).

The exhibit below illustrates the high-level Risk Management Process Flow.

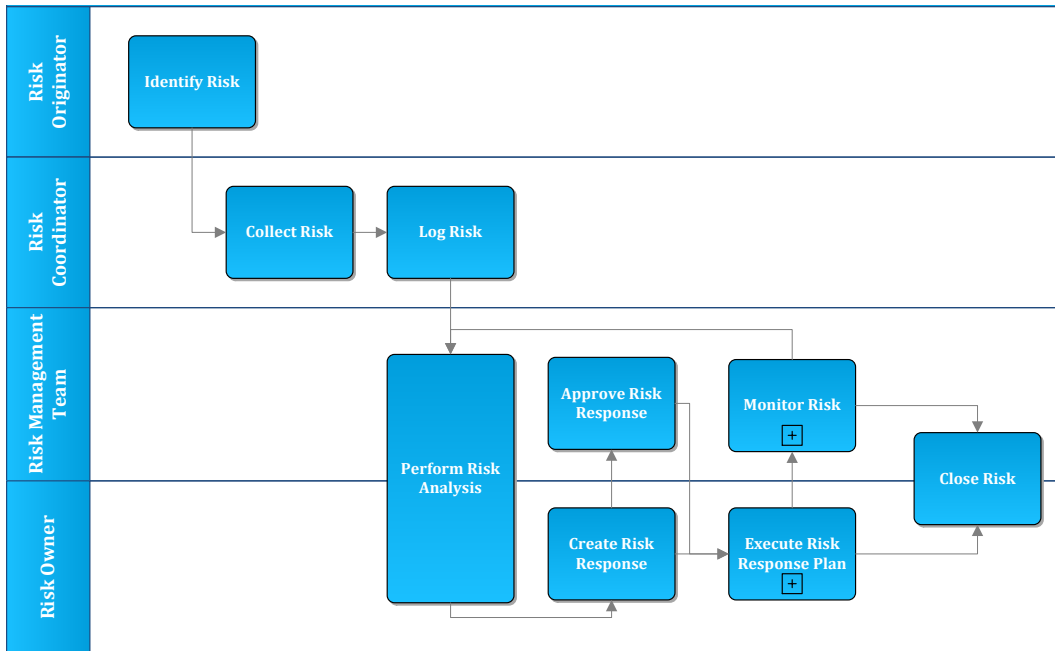


### 15.3 Risk Identification

The roles and responsibilities relating to Risk Management are presented as follows. In many cases, the Project Director and Vendor Project Managers will play one or more of these roles:

ROLE	RESPONSIBILITIES
Risk Originator (anyone)	<ul style="list-style-type: none"> <li>Identifies risk</li> </ul>
Risk Coordinator (Vendor Project Manager)	<ul style="list-style-type: none"> <li>Collects, formats and registers risks in the Risk Log (eliminates duplicates as identified)</li> <li>Manages and facilitates risk mitigation acceptance, and resolution</li> <li>Maintains the Risk Log in the PTB</li> </ul>
Risk Management Team (Contract Manager, Project Director and Vendor Project Management or designees)	<ul style="list-style-type: none"> <li>Performs risk analysis</li> <li>Approves risk response plans</li> <li>Monitors risk</li> <li>Approves closure of risk</li> </ul>
Risk Owner (Assigned by Risk Management Team)	<ul style="list-style-type: none"> <li>Formulates and executes risk response plan</li> </ul>

The exhibit below is a graphical representation of the risk management workflow. The exhibit depicts the processes that a risk will proceed through during risk management as well as the identification of the individual or team responsible for the process step.



## 15.4 Risk Analysis

Once project risks have been identified, analysis will be performed to determine relative priorities and to develop a prioritized risk list for planning the appropriate level of response to the risks. An analysis will be performed on each risk using a probability and impact rating.

## 15.5 Risk Mitigation

### Risk Response

Risk Response Planning is the process for determining the set of actions intended to reduce the negative and adverse impact on the objectives of the FDOT WPII Project. The risk responses must be relevant to the significance (probability and impact) of the impact.

### Risk Monitoring

Risk monitoring is an iterative process of reviewing, re-assessing, and tracking risks as well as maintaining risk response plans. The objective of this step is to regularly reassess the disposition of identified risks and to verify the project team is actively managing and controlling risks. The Risk Coordinator and Risk Management Team will discuss risks in the weekly status meetings, and ad-hoc as necessary, to review and re-examine risks and review mitigation effectiveness.

### Risk Escalation

The Risk Management Team will work together, during the weekly status meeting, to identify risks that warrant escalation to Project Sponsors. Risks that are either increasing in their likelihood (i.e., becoming imminent) will automatically be raised to the Project Sponsors.

**Risk Closure**

The Risk Management Team will be responsible for approving the closure of any identified risks. Once the Risk Management Team determines that a risk has occurred causing the risk to become an issue or considers a risk to have been sufficiently mitigated or no longer a factor, the risk owner may close the risk on the Risk Log. The Risk Coordinator can then remove it from future status reports if currently listed. Closed risks will remain on the Risk Log to provide a historical record.

**16 ISSUE MANAGEMENT PLAN**

Disciplined management of Issues and Action Items enables a project team to effectively resolve the issues and complete action items in a timely manner in order to keep a project on track. A formal Issue / Action Item Management process provides the mechanism throughout the life cycle of the project to bring issues and action items to resolution.

- Issue - An ISSUE is an existing constraint that is negatively impacting project timeliness, quality, resources, or budget.
- Action item - An ACTION is a proactive task identified by the project team to address a known issue, problem or situation. Actions may also come from a risk or issue item. Incomplete or overdue action items may create additional issues.

The Issue / Action item high-level workflow depicted in the exhibit below shows the various stages of the Issue/Action Item management process.



**Plan Issue/Action item Management**

The first step in creating an effective Issue/Action Item (IA) management process is defining how the process should work. The following table describes the Project Team’s roles and responsibilities for reporting issues and action items:

TEAM ROLE	ISSUE AND ACTION ITEM RESPONSIBILITIES
Project Director	<ul style="list-style-type: none"> <li>• Make decisions to resolve issues or escalate to the Executive Project Sponsor.</li> </ul>

TEAM ROLE	ISSUE AND ACTION ITEM RESPONSIBILITIES
IA Coordinator (Vendor Project Manager)	<ul style="list-style-type: none"> <li>• Ownership of Issue / Action Item Tracking Logs in the PTB</li> <li>• Monitoring and management of open issues and action items</li> <li>• Logging action items identified during the course of the project</li> <li>• Including issues and action item status within the Project Status Report</li> <li>• Reviewing issues and action items to prevent duplication</li> </ul>
IA Item Identifier	<ul style="list-style-type: none"> <li>• Identifying an issue requiring resolution</li> <li>• Defining the issue / action item further as required</li> <li>• Reviewing and approving action plan/resolution to ensure issue as originally defined will be resolved</li> </ul>
IA Item Named Owner	<ul style="list-style-type: none"> <li>• Participating in discussions with the Issue or Action Item Originator to fully understand the issue or action item</li> <li>• Researching and drafting the Action plan/resolution</li> <li>• Driving the issue / action items to resolution and closure</li> </ul>

**Identify Issue/Action Items**

The first step in the IA process starts with the identification of a project issue by an Identifier. The Identifier contacts the Issue Coordinator (Vendor Project Manager) who will review the issue for structure and verify the issue has not already been reported and possibly resolved.

The Identifier must describe the issue and include any other information that could be helpful to whoever is assigned the issue to resolve. Updates to issues or action items already captured in the PTB can be made by project team members or issue/action named owners; and, the Issue Coordinator (Vendor Project Manager) or designee is the responsible for maintenance of items in the PTB.

An issue may be identified in any number of ways for example:

- A problem for which there is no apparent answer.
- A risk that has escalated into an issue.
- A current situation or event that cannot be answered immediately but requires some research and analysis to provide insight into actions that should be taken.
- An inability of two project entities or functional groups to come to an agreement on a particular item or process.
- The need for information external to the project inhibits or stops the development of the project solution until resolved.

The Issue Coordinator will enter the pertinent information about the issue into the PTB issue tracking log. The information will include but not be limited to:

- Detailed description of the issue.
- Assessment of the potential impact to the project if the issue is not resolved.
- Resolution due date.
- Information identifying the Owner of the issue.



- Assignment of the resolution plan as the named owner.

### **Issue Escalation Process**

In the event an issue or issues remain unresolved at a certain level of project governance responsibility, the established governance process is to be used.

Project issues that cannot be resolved within a reasonable timeframe or deemed to cause project delay will need to be escalated to the next level in the governance structure. The project will follow the following escalation trigger timeframes when an issue resolution plan is not agreed:

- Level 1 to Level 2 – 2 business days
- Level 2 to Level 3 – 4 business days

Exhausting options for resolution at the project level can also be considered a reason to escalate. The Project Director and Vendor Project Manager will agree to escalate the given issue or issues prior to escalation. Issues that are not resolved within five calendar days of their due date will automatically result in a specific discussion between the Vendor Project Manager and the Project Director on whether the issue warrants being escalated to the Project Sponsor, even only for awareness. Escalated issues are to be documented in the Issue Log, should indicate “Escalated” under the Status column, and the appropriate name of the assigned new owner is entered under the “Named Owner” column.

Issues that cannot be resolved at Level 3 will follow the Dispute Resolution process defined in the appropriate contract in place for that Vendor.

### **Sample Issue Log**

The Project Team will utilize an Issue Log to document and track issues. In cases, the focus will be on speedy resolution of issues in order to maintain the project schedule and quality of deliverables. The Issue Log will be part of the PTB and will serve as a template for identifying and managing issues for this project:

### **Plan Issue/Action Item Responses**

Once the Issue/Action Item has been documented the Vendor Project Manager and Project Director will review the IA and assign responsibility for developing and implementing an action plan/resolution to an IA owner. The Issue/Action owner will analyze the Issue/Action Item and develop an Issue/Action plan/resolution that describes the activities that need to be completed in order to address the Issue/Action.

## Monitoring and Controlling Issues/Action Items

This task completes the process and involves implementing the IA Item action plan/resolution, tracking progress, identifying new Issue/Action, and evaluating the Issue/Action management process throughout the project life cycle.

From time to time issues need to be resolved by escalating them to a more senior level. Criteria for escalating issues include:

- An issue or action item's resolution is more than seven calendar days past due.
- An issue has reached an impasse and cannot be resolved within the current level.
- An agreement cannot be reached on the severity of an issue.
- An issue or action item is not making adequate progress toward resolution or completion.
- An impact analysis reveals the resolution of a given issue would be costly to the project in terms of resources or potential impact to other components of the project.

The criteria above are guidelines and should be evaluated within the project context. Prior to any issue or action item being escalated, the Project Director and the Vendor Project Manager will discuss the item and come to consensus on the appropriate next step (i.e., escalate vs. not escalating). If an issue or action item is deemed as requiring escalation, the Project Director will immediately escalate to the Executive Project Sponsor.

### Decision Log

Throughout the project, the need for decisions will arise. The Decision Log will capture questions that need to be answered and may have an impact on the project's scope, schedule, budget and/or quality depending on the answer. Questions will be recorded in the Decision Log and documented on the weekly status report, assuming that they remain unanswered or open. Questions that have been answered (i.e., decision made) will be removed from the Status Report but retained on the Decision Log with the answer documented and a reference to who provided the answer so that the information is available for future reference if needed.

The Vendor Project Manager (or designee) will identify and document decisions made by Project Leadership, the Vendor Project Team or by others using the project Decision Log. The Vendor and Project Director will work together to determine how and to whom the decision needs to be communicated to minimize future surprises and at what point a decision can be marked as closed.

## **17 SYSTEM SECURITY PLAN**

The System Security Plan will be created and maintained once the non-functional and technical requirements are defined as part of the Requirements Definition phase of the project

## Appendix H: Glossary of Terms

Acronym	Definition
BPA	Business Process Analysis
Ca-Gen	Computer Aided Software Engineering (CASE) application tool used to generate COBOL code
CFR	Code of Federal Regulations
CICS	Customer Information Control System
CITS	Consultant Invoice Transmittal System
CMIA	Cash Management Improvement Act
COBOL	Common Business-Oriented Language
COTS	Custom-Off-The-Shelf
DB2	DB2 is a family of database server products developed by IBM
DFS	Department of Financial Services
DOT	Department of Transportation (generic)
ERP	Enterprise Resource Planning
FACTS	Florida Accountability Contract Tracking System
FAMS	Federal Aid Management System
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FLAIR	Florida Accounting Information Resource
FM	Financial Management
FMIS 5.0	Financial Management Information System 5.0
FPM	Federal Programs Management
FS	Florida Statutes
FTC	Florida Transportation Commission
FTP	Florida Transportation Plan
LAS/PBS	Legislative Appropriation System/Planning Budget Subsystem
LBR	Legislative Budget Request
OIT	Office of Information Technology
PALM	Planning, Accounting and Ledger Management
PCM	Project Cost Management System
ROI	Return on Investment
SAS	Statistical Analysis System (Software)
SIS	Strategic Intermodal System
SSRC	Southwood Shared Resource Center
SWOT	Strengths, Weaknesses, Opportunities and Threats
TSO	Time Sharing Option (IBM Mainframe interactive interface session with Z/OS)
WPA	Work Program Administration System
WPPI	Work Program Integration Initiative
Z/OS Processing	IBM Z Series Operating System

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entities:** 55100100 - Transportation Systems Development  
 55150200 - Highway Operations

**Budget Period 2017 - 2018**

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	78,609,862	89,198,303	97,836,753
Principal (B)	80,140,000	87,070,000	97,455,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	196,864	265,753	282,043
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>158,946,726</b>	<b>176,534,055</b>	<b>195,573,795</b>

Explanation:

Total combined debt service for outstanding Alligator Alley, ROW Acquisition, Seaport, and State-funded Infrastructure Bank, and proposed issuance of ROW Acquisition.

**SECTION II**

\*Note: Does not include interest credited from Debt Service Reserve Account.

(1) ISSUE:

(2)	(3)	(4)	(5)	(6)
INTEREST RATE	MATURITY DATE	ISSUE AMOUNT	June 30, 2017	June 30, 2018
		(7)	(8)	(9)
		ACTUAL FY 2015-2016	ESTIMATED FY 2016-2017	REQUEST FY 2017-2018
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) ISSUE:

INTEREST RATE	MATURITY DATE	ISSUE AMOUNT	June 30, 2017	June 30, 2018
		ACTUAL FY 2015-2016	ESTIMATED FY 2016-2017	REQUEST FY 2017-2018
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55100100 - Transportation Systems Development

**Budget Period** 2017 - 2018

(1)	(2) ACTUAL FY 2015-2016	(3) ESTIMATED FY 2016-2017	(4) REQUEST FY 2017-2018
<b>SECTION I</b>			
Interest on Debt	(A) 1,528,750	1,432,750	1,332,000
Principal	(B) 1,920,000	2,015,000	2,120,000
Repayment of Loans	(C) 0	0	0
Fiscal Agent or Other Fees	(D) 3,057	3,593	3,381
Other Debt Service	(E) 0	0	0
<b>Total Debt Service</b>	<b>(F) 3,451,807</b>	<b>3,451,343</b>	<b>3,455,381</b>

Explanation: Combined total debt service for outstanding Alligator Alley bonds and proposed bond sales.

**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2) INTEREST RATE	(3) MATURITY DATE	(4) ISSUE AMOUNT	(5) June 30, 2017	(6) June 30, 2018
		(7) ACTUAL FY 2015-2016	(8) ESTIMATED FY 2016-2017	(9) REQUEST FY 2017-2018
Interest on Debt		(G) 0	0	0
Principal		(H) 0	0	0
Fiscal Agent or Other Fees		(I) 0	0	0
Other		(J) 0	0	0
<b>Total Debt Service</b>		<b>(K) 0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

INTEREST RATE	MATURITY DATE	ISSUE AMOUNT	June 30, 2017	June 30, 2018
		ACTUAL FY 2015-2016	ESTIMATED FY 2016-2017	REQUEST FY 2017-2018
Interest on Debt		(G) 0	0	0
Principal		(H) 0	0	0
Fiscal Agent or Other Fees		(I) 0	0	0
Other		(J) 0	0	0
<b>Total Debt Service</b>		<b>(K) 0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55100100 - Transportation Systems Development

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	1,528,750	1,432,750	1,332,000
Principal (B)	1,920,000	2,015,000	2,120,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	3,057	3,593	3,381
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>3,451,807</b>	<b>3,451,343</b>	<b>3,455,381</b>

Explanation:

Total debt service requirements for outstanding Alligator Alley bonds, pursuant to s. 215.57-215.83 (3), F.S., s. 338.165(3), F.S., and s. 11(d), Article VII of the Florida Constitution.

**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55100100 - Transportation Systems Development

**Budget Period** 2017 - 2018

(1) <b>SECTION I</b>	(2) <b>ACTUAL FY 2015-2016</b>	(3) <b>ESTIMATED FY 2016-2017</b>	(4) <b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	0	0	0
Principal (B)	0	0	0
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	0	0	0
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>0</b>	<b>0</b>	<b>0</b>

Explanation: Total debt service for proposed Alligator Alley bond sales.

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**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2) <b>INTEREST RATE</b>	(3) <b>MATURITY DATE</b>	(4) <b>ISSUE AMOUNT</b>	(5) <b>June 30, 2017</b>	(6) <b>June 30, 2018</b>
		(7) <b>ACTUAL FY 2015-2016</b>	(8) <b>ESTIMATED FY 2016-2017</b>	(9) <b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

Department: 55 Transportation  
 Budget Entity: 55150200 - Highway Operations

Budget Period 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	0	0	0
Principal (B)	0	0	0
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	0	0	0
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>0</b>	<b>0</b>	<b>0</b>

Explanation:

Combined total debt service for outstanding GARVEE bonds and proposed bond sales.

\*Note: Does not include interest credited from Debt Service Reserve Account.

**SECTION II**

(1) ISSUE: \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) ISSUE: \_\_\_\_\_

<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>



**SCHEDULE VI: DETAIL OF DEBT SERVICE**

Department: 55 Transportation  
 Budget Entity: 55150200 - Highway Operations

Budget Period 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	0	0	0
Principal (B)	0	0	0
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	0	0	0
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>0</b>	<b>0</b>	<b>0</b>

Explanation: Total debt service requirements for outstanding GARVEE bonds.

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**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

Department: 55 Transportation  
 Budget Entity: 55150200 - Highway Operations

Budget Period 2017 - 2018

(1) <b>SECTION I</b>	(2) <b>ACTUAL FY 2015-2016</b>	(3) <b>ESTIMATED FY 2016-2017</b>	(4) <b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	0	0	0
Principal (B)	0	0	0
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	0	0	0
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>0</b>	<b>0</b>	<b>0</b>

Explanation:

Total debt service for proposed GARVEE bond sales, as authorized  
 by Section 215.616, Florida Statutes.

\*Note: Does not include interest credited from Debt Service Reserve Account.

**SECTION II**

(1) ISSUE: \_\_\_\_\_

(2) <b>INTEREST RATE</b>	(3) <b>MATURITY DATE</b>	(4) <b>ISSUE AMOUNT</b>	(5) <b>June 30, 2017</b>	(6) <b>June 30, 2018</b>
		(7) <b>ACTUAL FY 2015-2016</b>	(8) <b>ESTIMATED FY 2016-2017</b>	(9) <b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) ISSUE: \_\_\_\_\_

<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55100100 - Transportation Systems Development

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	68,301,206	79,540,396	88,830,596
Principal (B)	67,125,000	74,035,000	84,690,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	171,044	235,303	252,870
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>135,597,249</b>	<b>153,810,700</b>	<b>173,773,466</b>

Explanation:

Combined total debt service for outstanding Right-of-Way Acquisition  
and Bridge Construction bonds and proposed bond sales.

**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55100100 - Transportation Systems Development

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	68,301,206	71,848,896	68,433,346
Principal (B)	67,125,000	71,770,000	78,450,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	171,044	219,920	212,075
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>135,597,249</b>	<b>143,838,817</b>	<b>147,095,422</b>

Explanation: Total debt service requirements for outstanding Right-of-Way Acquisition and Bridge Construction bonds.

**SECTION II**

(1) ISSUE: \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
INTEREST RATE	MATURITY DATE	ISSUE AMOUNT	June 30, 2017	June 30, 2018
		(7)	(8)	(9)
		ACTUAL FY 2015-2016	ESTIMATED FY 2016-2017	REQUEST FY 2017-2018
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) ISSUE: \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
INTEREST RATE	MATURITY DATE	ISSUE AMOUNT	June 30, 2017	June 30, 2018
		ACTUAL FY 2015-2016	ESTIMATED FY 2016-2017	REQUEST FY 2017-2018
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55100100 - Transportation Systems Development

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	0	7,691,500	20,397,250
Principal (B)	0	2,265,000	6,240,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	0	15,383	40,795
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>0</b>	<b>9,971,883</b>	<b>26,678,045</b>

Explanation: Total debt service for proposed Right-of-Way Acquisition and Bridge Construction bond sales.

**SECTION II**

**(1) ISSUE:** Proposed Right-of-Way and Bridge Construction bond sale 1/1/2017 (ROW2017A)

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
5.000%	1/1/2047	153,830,000	151,565,000	149,185,000
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	7,691,500	7,578,250
Principal (H)		0	2,265,000	2,380,000
Fiscal Agent or Other Fees (I)		0	15,383	15,157
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>9,971,883</b>	<b>9,973,407</b>

**(1) ISSUE:** Proposed Right-of-Way and Bridge Construction bond sale 7/1/2017 (ROW2017B)

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
5.000%	7/1/2047	256,380,000	0	252,520,000
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	12,819,000
Principal (H)		0	0	3,860,000
Fiscal Agent or Other Fees (I)		0	0	25,638
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>16,704,638</b>

## TRUTH-IN-BONDING WORKSHEET

1. A listing of the purpose of the debt or obligation: Advanced Right-of-Way Acquisition and Bridge Construction, pursuant to Section 337.276, Florida Statutes.
2. The source of repayment of the debt or obligation: Funded from monies transferred from the State Transportation Trust Fund, pursuant to Section 206.46 and 215.605, Florida Statutes.
3. The principal amount of the debt or obligation: \$153,830,000
4. The interest rate on the debt or obligation (per EEC): 5.000%
5. A schedule of annual debt service payments (attached)
6. The method of sale of the debt or obligation, as determined by the Governing Board of the Division of Bond Finance.
7. The costs of issuance of the debt or obligation, including a detailed listing of the amounts of the major costs of issuance:

<u>Underwriter Discount</u>	<u>\$3,076,600</u>
<u>Rating Agency Fees</u>	<u>\$75,000</u>
<u>Other Costs of Issuance</u>	<u>\$675,000</u>

## TRUTH-IN-BONDING STATEMENT

The State of Florida is proposing to issue \$153,830,000 of debt or obligation for the purpose of the Right-of-Way Acquisition and Bridge Construction, pursuant to Section 337.276, Florida Statutes.

This debt or obligation is expected to be repaid over a period of 30 years. At a forecasted interest rate of 5.000%, total interest paid over the life of the debt or obligation will be \$147,016,500.

The proposed issuance date is 1/1/2017.

SBA-FDOT

Dated: 01/01/2017

ROW2017A

Delivered: 01/01/2017

Construction Draws

\$153,830,000.00

Draw #	Date	Beginning Fund Balance	Transaction Type	DSR Receipts	Interest Earnings	Int. Earnings in Constr Fund	Draw Requirement	Draw Debt Service	Net Balance	Ending
ROW2017A ROW2017A yielding 2.00000000% : Net-Fundea										
0	01/01/2017		DEPOSIT						149,999,991.06	
1	01/01/2017	0/0	DRAWS			150,000,000.00	150,000,000.00		-8.94	
<b>Totals For ROW2017A</b>				<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>150,000,000.00</b>	<b>150,000,000.00</b>		
<b>Prior Project Costs:</b>				<b>0.00</b>						
<b>Grand Totals For All Projects:</b>					<b>0.00</b>	<b>0.00</b>	<b>150,000,000.00</b>	<b>150,000,000.00</b>		
<b>Total Prior Costs:</b>				<b>0.00</b>						

SBA-FDOT

ROW2017A

Sizing Debt Service Schedule

\$153,830,000.00

Dated: 01/01/2017

Delivered: 01/01/2017

Fiscal Yr	Coupon Date	Zer Cpn	Cpn Rate	Maturing Principal	Periodic Interest	Gross Semi-Annl Dbt Svc	Cap Int	DbtSvcRsv Int & Prin	Constr. Fund Interest	Net Semi-Annl Dbt Svc	Net Fiscal Dbt Svc
17	7/1/2017				3,845,750.00	3,845,750.00				3,845,750.00	3,845,750.00
18	1/1/2018	N	5.000	2,265,000.00	3,845,750.00	6,110,750.00				6,110,750.00	6,110,750.00
18	7/1/2018				3,789,125.00	3,789,125.00				3,789,125.00	9,899,875.00
19	1/1/2019	N	5.000	2,380,000.00	3,789,125.00	6,169,125.00				6,169,125.00	6,169,125.00
19	7/1/2019				3,729,625.00	3,729,625.00				3,729,625.00	9,898,750.00
20	1/1/2020	N	5.000	2,505,000.00	3,729,625.00	6,234,625.00				6,234,625.00	6,234,625.00
20	7/1/2020				3,667,000.00	3,667,000.00				3,667,000.00	9,901,625.00
21	1/1/2021	N	5.000	2,630,000.00	3,667,000.00	6,297,000.00				6,297,000.00	6,297,000.00
21	7/1/2021				3,601,250.00	3,601,250.00				3,601,250.00	9,898,250.00
22	1/1/2022	N	5.000	2,765,000.00	3,601,250.00	6,366,250.00				6,366,250.00	6,366,250.00
22	7/1/2022				3,532,125.00	3,532,125.00				3,532,125.00	9,898,375.00
23	1/1/2023	N	5.000	2,910,000.00	3,532,125.00	6,442,125.00				6,442,125.00	6,442,125.00
23	7/1/2023				3,459,375.00	3,459,375.00				3,459,375.00	9,901,500.00
24	1/1/2024	N	5.000	3,055,000.00	3,459,375.00	6,514,375.00				6,514,375.00	6,514,375.00
24	7/1/2024				3,383,000.00	3,383,000.00				3,383,000.00	9,897,375.00
25	1/1/2025	N	5.000	3,215,000.00	3,383,000.00	6,598,000.00				6,598,000.00	6,598,000.00
25	7/1/2025				3,302,625.00	3,302,625.00				3,302,625.00	9,900,625.00
26	1/1/2026	N	5.000	3,380,000.00	3,302,625.00	6,682,625.00				6,682,625.00	6,682,625.00
26	7/1/2026				3,218,125.00	3,218,125.00				3,218,125.00	9,900,750.00
27	1/1/2027	N	5.000	3,550,000.00	3,218,125.00	6,768,125.00				6,768,125.00	6,768,125.00
27	7/1/2027				3,129,375.00	3,129,375.00				3,129,375.00	9,897,500.00
28	1/1/2028	N	5.000	3,735,000.00	3,129,375.00	6,864,375.00				6,864,375.00	6,864,375.00
28	7/1/2028				3,036,000.00	3,036,000.00				3,036,000.00	9,900,375.00
29	1/1/2029	N	5.000	3,925,000.00	3,036,000.00	6,961,000.00				6,961,000.00	6,961,000.00
29	7/1/2029				2,937,875.00	2,937,875.00				2,937,875.00	9,898,875.00
30	1/1/2030	N	5.000	4,125,000.00	2,937,875.00	7,062,875.00				7,062,875.00	7,062,875.00
30	7/1/2030				2,834,750.00	2,834,750.00				2,834,750.00	9,897,625.00
31	1/1/2031	N	5.000	4,340,000.00	2,834,750.00	7,174,750.00				7,174,750.00	7,174,750.00
31	7/1/2031				2,726,250.00	2,726,250.00				2,726,250.00	9,901,000.00
32	1/1/2032	N	5.000	4,560,000.00	2,726,250.00	7,286,250.00				7,286,250.00	7,286,250.00
32	7/1/2032				2,612,250.00	2,612,250.00				2,612,250.00	9,898,500.00
33	1/1/2033	N	5.000	4,795,000.00	2,612,250.00	7,407,250.00				7,407,250.00	7,407,250.00
33	7/1/2033				2,492,375.00	2,492,375.00				2,492,375.00	9,899,625.00
34	1/1/2034	N	5.000	5,040,000.00	2,492,375.00	7,532,375.00				7,532,375.00	7,532,375.00
34	7/1/2034				2,366,375.00	2,366,375.00				2,366,375.00	9,898,750.00
35	1/1/2035	N	5.000	5,300,000.00	2,366,375.00	7,666,375.00				7,666,375.00	7,666,375.00
35	7/1/2035				2,233,875.00	2,233,875.00				2,233,875.00	9,900,250.00
36	1/1/2036	N	5.000	5,570,000.00	2,233,875.00	7,803,875.00				7,803,875.00	7,803,875.00
36	7/1/2036				2,094,625.00	2,094,625.00				2,094,625.00	9,898,500.00
37	1/1/2037	N	5.000	5,855,000.00	2,094,625.00	7,949,625.00				7,949,625.00	7,949,625.00
37	7/1/2037				1,948,250.00	1,948,250.00				1,948,250.00	9,897,875.00
38	1/1/2038	N	5.000	6,160,000.00	1,948,250.00	8,108,250.00				8,108,250.00	8,108,250.00
38	7/1/2038				1,794,250.00	1,794,250.00				1,794,250.00	9,902,500.00
39	1/1/2039	N	5.000	6,475,000.00	1,794,250.00	8,269,250.00				8,269,250.00	8,269,250.00
39	7/1/2039				1,632,375.00	1,632,375.00				1,632,375.00	9,901,625.00
40	1/1/2040	N	5.000	6,805,000.00	1,632,375.00	8,437,375.00				8,437,375.00	8,437,375.00
40	7/1/2040				1,462,250.00	1,462,250.00				1,462,250.00	9,899,625.00
41	1/1/2041	N	5.000	7,155,000.00	1,462,250.00	8,617,250.00				8,617,250.00	8,617,250.00
41	7/1/2041				1,283,375.00	1,283,375.00				1,283,375.00	9,900,625.00
42	1/1/2042	N	5.000	7,520,000.00	1,283,375.00	8,803,375.00				8,803,375.00	8,803,375.00
42	7/1/2042				1,095,375.00	1,095,375.00				1,095,375.00	9,898,750.00
43	1/1/2043	N	5.000	7,905,000.00	1,095,375.00	9,000,375.00				9,000,375.00	9,000,375.00
43	7/1/2043				897,750.00	897,750.00				897,750.00	9,898,125.00
44	1/1/2044	N	5.000	8,315,000.00	897,750.00	9,212,750.00				9,212,750.00	9,212,750.00



SBA-FDOT

ROW2017A

Sizing Debt Service Schedule

\$153,830,000.00

Dated: 01/01/2017

Delivered: 01/01/2017

Fiscal Yr	Coupon Date	Zer Cpn	Cpn Rate	Maturing Principal	Periodic Interest	Gross Semi-Annl Dbt Svc	Cap Int	DbtSvcRsv Int & Prin	Constr. Fund Interest	Net Semi-Annl Dbt Svc	Net Fiscal Dbt Svc
44	7/1/2044				689,875.00	689,875.00				689,875.00	9,902,625.00
45	1/1/2045	N	5.000	8,740,000.00	689,875.00	9,429,875.00				9,429,875.00	
45	7/1/2045				471,375.00	471,375.00				471,375.00	9,901,250.00
46	1/1/2046	N	5.000	9,190,000.00	471,375.00	9,661,375.00				9,661,375.00	
46	7/1/2046				241,625.00	241,625.00				241,625.00	9,903,000.00
47	1/1/2047	N	5.000	9,665,000.00	241,625.00	9,906,625.00				9,906,625.00	
				153,830,000.00	147,016,500.00	300,846,500.00	0.00	0.00	0.00	300,846,500.00	
<i>True Interest Cost (TIC)</i> .....						<b>5.1763905</b>	<i>Arbitrage Yield Limit (AYL)</i> .....				<b>5.0000000</b>
<i>Net Interest Cost (NIC)</i> .....						<b>5.1046345</b>	<i>Arbitrage Net Interest Cost (ANIC)</i> .....				<b>5.0000000</b>

Summary of Sizing Inputs

\$153,830,000.00

General Information

1st Month in FY: 1  
Denomination: 5000.  
Rate scale: 5.00%  
Issue type: REVENUE  
Sizing Rule 1: Level debt service - yearly principal payments. You input the gross construction costs (or a draw schedule) and the size of the bond issue is computed to cover the construction draws, reserves, and the various costs of issuance.  
-> Proportionally level debt service in stub period.

Dates

01/01/2017-> Dated (bond issue) date  
01/01/2017-> Delivery date  
07/01/2017-> 1st coupon date  
01/01/2018-> First principal payment  
01/01/2047-> Last maturity date  
No CABS in bond issue

Gross Construction Costs

Total project costs	150,000,000.00
Total prior costs	
Less: interest earned & applied to project draws	-8.94
Net total project costs:	149,999,991.06
Total number of projects = 1	

Restricted Accounts

DSR rule: No debt service reserve fund	
No capitalized interest	
Restricted yield = 2.000000%	
Net deposit to Debt Service Reserve Fund	
Net deposit to Contingency Fund	3,407.55

Costs of Issuance

Underwriter spread: 20.000/\$1,000	-3,076.600.00
Bond insurance: 0.000% (net of accrued & cap. interest)	
Other TIC costs:	750,000.00

ROW2017A

## Summary of Sizing Calculations

\$153,830,000.00

Sources of Funds

Par amount of bonds	153,830,000.00
Original Issue Premium	
Accrued Interest	

Construction Costs

Costs to complete construction	150,000,000.00
Less: interest earned in fund & applied to project draws	-8.94
Prior costs to be paid from bond proceeds	
Gross Construction Costs	149,999,991.06

Restricted Funds

Gross capitalized interest	
Less: Interest earned on Capitalized Interest Fund @ 2.000%	
Net deposit to Capitalized Interest Fund	
Net deposit to Debt Service Reserve Fund	
Net deposit to Contingency Fund	3,407.55

Costs of Issuance

Underwriter spread: 20.000/\$1,000	-3,076,600.00
Bond insurance: 0.000%	
Other issuance costs	750,000.00

Calculations

Net Interest Cost (NIC)	5.1046345
True Interest Cost (TIC)	5.1763905
All-Inclusive TIC:	5.2202315
Arbitrage Net Interest Cost (NIC)	5.0000000
Arbitrage Yield Limit (AYL)	5.0000000
Total Bond Years (delivery date)	2,940,330,000.00
Average Bond Years (Delivery date)	19.11
Level debt service calculation	9,899,588.97

## TRUTH-IN-BONDING WORKSHEET

1. A listing of the purpose of the debt or obligation: Advanced Right-of-Way Acquisition and Bridge Construction, pursuant to Section 337.276, Florida Statutes.
2. The source of repayment of the debt or obligation: Funded from monies transferred from the State Transportation Trust Fund, pursuant to Section 206.46 and 215.605, Florida Statutes.
3. The principal amount of the debt or obligation: \$256,380,000
4. The interest rate on the debt or obligation (per EEC): 5.000%
5. A schedule of annual debt service payments (attached)
6. The method of sale of the debt or obligation, as determined by the Governing Board of the Division of Bond Finance.
7. The costs of issuance of the debt or obligation, including a detailed listing of the amounts of the major costs of issuance:

<u>Underwriter Discount</u>	<u>\$5,127,600</u>
<u>Rating Agency Fees</u>	<u>\$75,000</u>
<u>Other Costs of Issuance</u>	<u>\$1,175,000</u>

## TRUTH-IN-BONDING STATEMENT

The State of Florida is proposing to issue \$256,380,000 of debt or obligation for the purpose of the Right-of-Way Acquisition and Bridge Construction, pursuant to Section 337.276, Florida Statutes.

This debt or obligation is expected to be repaid over a period of 30 years. At a forecasted interest rate of 5.000%, total interest paid over the life of the debt or obligation will be \$243,966,500.

The proposed issuance date is 7/1/2017.

SBA-FDOT

Dated: 07/01/2017

ROW2017B

Delivered: 07/01/2017

Construction Draws  
\$256,380,000.00

Draw #	Date	Beginning Fund Balance	Draw Type	DSR Receipts	Interest Earnings	Int. Earnings in Constr Fund	Draw Requirement	Draw Debt Service	Net Balance	Ending
ROW2017B ROW2017B yielding 2.00000000% : Net-Funded										
0	07/01/2017		DEPOSIT						249,999,992.55	
1	07/01/2017	0.0	DRAWS			250,000,000.00	250,000,000.00		-7.45	
<b>Totals For ROW2017B</b>				<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>250,000,000.00</b>	<b>250,000,000.00</b>		
<b>Prior Project Costs:</b>				<b>0.00</b>						
<b>Grand Totals For All Projects:</b>					<b>0.00</b>	<b>0.00</b>	<b>250,000,000.00</b>	<b>250,000,000.00</b>		
<b>Total Prior Costs:</b>				<b>0.00</b>						

Sizing Debt Service Schedule

\$256,380,000.00

Dated: 07/01/2017

Delivered: 07/01/2017

Fiscal Yr	Coupon Date	Zer Cpn	Cpn Rate	Maturing Principal	Periodic Interest	Gross Semi-Annl Dbt Svc	Cap Int	DbtSvcrsv Int & Prin	Constr. Fund Interest	Net Semi-Annl Dbt Svc	Net Fiscal Dbt Svc
18	1/1/2018				6,409,500.00	6,409,500.00				6,409,500.00	
18	7/1/2018	N	5.000	3,860,000.00	6,409,500.00	10,269,500.00				10,269,500.00	16,679,000.00
19	1/1/2019				6,313,000.00	6,313,000.00				6,313,000.00	
19	7/1/2019	N	5.000	4,050,000.00	6,313,000.00	10,363,000.00				10,363,000.00	16,676,000.00
20	1/1/2020				6,211,750.00	6,211,750.00				6,211,750.00	
20	7/1/2020	N	5.000	4,255,000.00	6,211,750.00	10,466,750.00				10,466,750.00	16,678,500.00
21	1/1/2021				6,105,375.00	6,105,375.00				6,105,375.00	
21	7/1/2021	N	5.000	4,465,000.00	6,105,375.00	10,570,375.00				10,570,375.00	16,675,750.00
22	1/1/2022				5,993,750.00	5,993,750.00				5,993,750.00	
22	7/1/2022	N	5.000	4,690,000.00	5,993,750.00	10,683,750.00				10,683,750.00	16,677,500.00
23	1/1/2023				5,876,500.00	5,876,500.00				5,876,500.00	
23	7/1/2023	N	5.000	4,925,000.00	5,876,500.00	10,801,500.00				10,801,500.00	16,678,000.00
24	1/1/2024				5,753,375.00	5,753,375.00				5,753,375.00	
24	7/1/2024	N	5.000	5,170,000.00	5,753,375.00	10,923,375.00				10,923,375.00	16,676,750.00
25	1/1/2025				5,624,125.00	5,624,125.00				5,624,125.00	
25	7/1/2025	N	5.000	5,430,000.00	5,624,125.00	11,054,125.00				11,054,125.00	16,678,250.00
26	1/1/2026				5,488,375.00	5,488,375.00				5,488,375.00	
26	7/1/2026	N	5.000	5,700,000.00	5,488,375.00	11,188,375.00				11,188,375.00	16,676,750.00
27	1/1/2027				5,345,875.00	5,345,875.00				5,345,875.00	
27	7/1/2027	N	5.000	5,985,000.00	5,345,875.00	11,330,875.00				11,330,875.00	16,676,750.00
28	1/1/2028				5,196,250.00	5,196,250.00				5,196,250.00	
28	7/1/2028	N	5.000	6,285,000.00	5,196,250.00	11,481,250.00				11,481,250.00	16,677,500.00
29	1/1/2029				5,039,125.00	5,039,125.00				5,039,125.00	
29	7/1/2029	N	5.000	6,600,000.00	5,039,125.00	11,639,125.00				11,639,125.00	16,678,250.00
30	1/1/2030				4,874,125.00	4,874,125.00				4,874,125.00	
30	7/1/2030	N	5.000	6,930,000.00	4,874,125.00	11,804,125.00				11,804,125.00	16,678,250.00
31	1/1/2031				4,700,875.00	4,700,875.00				4,700,875.00	
31	7/1/2031	N	5.000	7,275,000.00	4,700,875.00	11,975,875.00				11,975,875.00	16,676,750.00
32	1/1/2032				4,519,000.00	4,519,000.00				4,519,000.00	
32	7/1/2032	N	5.000	7,640,000.00	4,519,000.00	12,159,000.00				12,159,000.00	16,678,000.00
33	1/1/2033				4,328,000.00	4,328,000.00				4,328,000.00	
33	7/1/2033	N	5.000	8,020,000.00	4,328,000.00	12,348,000.00				12,348,000.00	16,676,000.00
34	1/1/2034				4,127,500.00	4,127,500.00				4,127,500.00	
34	7/1/2034	N	5.000	8,425,000.00	4,127,500.00	12,552,500.00				12,552,500.00	16,680,000.00
35	1/1/2035				3,916,875.00	3,916,875.00				3,916,875.00	
35	7/1/2035	N	5.000	8,845,000.00	3,916,875.00	12,761,875.00				12,761,875.00	16,678,750.00
36	1/1/2036				3,695,750.00	3,695,750.00				3,695,750.00	
36	7/1/2036	N	5.000	9,285,000.00	3,695,750.00	12,980,750.00				12,980,750.00	16,676,500.00
37	1/1/2037				3,463,625.00	3,463,625.00				3,463,625.00	
37	7/1/2037	N	5.000	9,750,000.00	3,463,625.00	13,213,625.00				13,213,625.00	16,677,250.00
38	1/1/2038				3,219,875.00	3,219,875.00				3,219,875.00	
38	7/1/2038	N	5.000	10,240,000.00	3,219,875.00	13,459,875.00				13,459,875.00	16,679,750.00
39	1/1/2039				2,963,875.00	2,963,875.00				2,963,875.00	
39	7/1/2039	N	5.000	10,750,000.00	2,963,875.00	13,713,875.00				13,713,875.00	16,677,750.00
40	1/1/2040				2,695,125.00	2,695,125.00				2,695,125.00	
40	7/1/2040	N	5.000	11,290,000.00	2,695,125.00	13,985,125.00				13,985,125.00	16,680,250.00
41	1/1/2041				2,412,875.00	2,412,875.00				2,412,875.00	
41	7/1/2041	N	5.000	11,855,000.00	2,412,875.00	14,267,875.00				14,267,875.00	16,680,750.00
42	1/1/2042				2,116,500.00	2,116,500.00				2,116,500.00	
42	7/1/2042	N	5.000	12,445,000.00	2,116,500.00	14,561,500.00				14,561,500.00	16,678,000.00
43	1/1/2043				1,805,375.00	1,805,375.00				1,805,375.00	
43	7/1/2043	N	5.000	13,065,000.00	1,805,375.00	14,870,375.00				14,870,375.00	16,675,750.00
44	1/1/2044				1,478,750.00	1,478,750.00				1,478,750.00	
44	7/1/2044	N	5.000	13,725,000.00	1,478,750.00	15,203,750.00				15,203,750.00	16,682,500.00

SBA-FDOT

ROW2017B

Sizing Debt Service Schedule

\$256,380,000.00

Dated: 07/01/2017

Delivered: 07/01/2017

Fiscal Yr	Coupon Date	Zer Cpn	Cpn Rate	Maturing Principal	Periodic Interest	Gross Semi-Annl Dbt Svc	Cap Int	DbtSvcRsv Int & Prin	Constr. Fund Interest	Net Semi-Annl Dbt Svc	Net Fiscal Dbt Svc
45	1/1/2045				1,135,625.00	1,135,625.00				1,135,625.00	
45	7/1/2045	N	5.000	14,410,000.00	1,135,625.00	15,545,625.00				15,545,625.00	16,681,250.00
46	1/1/2046				775,375.00	775,375.00				775,375.00	
46	7/1/2046	N	5.000	15,130,000.00	775,375.00	15,905,375.00				15,905,375.00	16,680,750.00
47	1/1/2047				397,125.00	397,125.00				397,125.00	
47	7/1/2047	N	5.000	15,885,000.00	397,125.00	16,282,125.00				16,282,125.00	16,679,250.00
				256,380,000.00	243,966,500.00	500,346,500.00	0.00	0.00	0.00	500,346,500.00	
<i>True Interest Cost (TIC)</i> .....						<b>5.1769642</b>	<i>Arbitrage Yield Limit (AYL)</i> .....				<b>5.0000000</b>
<i>Net Interest Cost (NIC)</i> .....						<b>5.1050882</b>	<i>Arbitrage Net Interest Cost (ANIC)</i> .....				<b>5.0000000</b>

Summary of Sizing Inputs

\$256,380,000.00

General Information

1st Month in FY: 1  
 Denomination: 5000.  
 Rate scale: 5.00%  
 Issue type: REVENUE  
 Sizing Rule 1: Level debt service - yearly principal payments. You input the gross construction costs (or a draw schedule) and the size of the bond issue is computed to cover the construction draws, reserves, and the various costs of issuance.  
 -> Proportionally level debt service in stub period.

Dates

07/01/2017-> Dated (bond issue) date  
 07/01/2017-> Delivery date  
 01/01/2018-> 1st coupon date  
 07/01/2018-> First principal payment  
 07/01/2047-> Last maturity date  
 No CABS in bond issue

Gross Construction Costs

Total project costs	250,000,000.00
Total prior costs	
Less: interest earned & applied to project draws	-7.45
Net total project costs:	249,999,992.55
Total number of projects = 1	

Restricted Accounts

DSR rule: No debt service reserve fund	
No capitalized interest	
Restricted yield = 2.000000%	
Net deposit to Debt Service Reserve Fund	
Net deposit to Contingency Fund	2,406.47

Costs of Issuance

Underwriter spread: 20.000/51,000	-5,127,600.00
Bond insurance: 0.000% (net of accrued & cap. interest)	
Other TIC costs:	1,250,000.00



## ROW2017B

## Summary of Sizing Calculations

\$256,380,000.00

Sources of Funds

Par amount of bonds	256,380,000.00
Original Issue Premium	
Accrued Interest	

Construction Costs

Costs to complete construction	250,000,000.00
Less: interest earned in fund & applied to project draws	-7.45
Prior costs to be paid from bond proceeds	
Gross Construction Costs	249,999,992.55

Restricted Funds

Gross capitalized interest	
Less: Interest earned on Capitalized Interest Fund @ 2.000%	
Net deposit to Capitalized Interest Fund	
Net deposit to Debt Service Reserve Fund	
Net deposit to Contingency Fund	2,406.47

Costs of Issuance

Underwriter spread: 20.000/\$1,000	-5,127,600.00
Bond insurance: 0.000%	
Other issuance costs	1,250,000.00

Calculations

Net Interest Cost (NIC)	5.1050882
True Interest Cost (TIC)	5.1769642
All-Inclusive TIC:	5.2209493
Arbitrage Net Interest Cost (NIC)	5.0000000
Arbitrage Yield Limit (AYL)	5.0000000
Total Bond Years (delivery date)	4,879,330,000.00
Average Bond Years (Delivery date)	19.03
Level debt service calculation	16,677,748.10

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55100100 - Transportation Systems Development

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
	FY 2015-2016	FY 2016-2017	FY 2017-2018
Interest on Debt (A)	6,329,050	6,216,550	6,098,300
Principal (B)	2,250,000	2,365,000	2,485,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	12,980	22,936	22,687
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>8,592,030</b>	<b>8,604,486</b>	<b>8,605,987</b>

Explanation:

**Combined total debt service of up to \$10 million annually for proposed Seaport bond sales, as authorized by Laws of Florida, Chapter 2012-128.**

**\*Note: Does not include interest credited from Debt Service Reserve Account.**

**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
		FY 2015-2016	FY 2016-2017	FY 2017-2018
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
		FY 2015-2016	FY 2016-2017	FY 2017-2018
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55100100 - Transportation Systems Dev

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt	(A) 6,329,050	6,216,550	6,098,300
Principal	(B) 2,250,000	2,365,000	2,485,000
Repayment of Loans	(C) 0	0	0
Fiscal Agent or Other Fees	(D) 12,980	22,936	22,687
Other Debt Service	(E) 0	0	0
<b>Total Debt Service</b>	<b>(F) 8,592,030</b>	<b>8,604,486</b>	<b>8,605,987</b>

Explanation: Total debt service requirements for outstanding Seaport bonds.

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**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt		(G) 0	0	0
Principal		(H) 0	0	0
Fiscal Agent or Other Fees		(I) 0	0	0
Other		(J) 0	0	0
<b>Total Debt Service</b>		<b>(K) 0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		ACTUAL	ESTIMATED	REQUEST
		<b>FY 2015-2016</b>	<b>FY 2016-2017</b>	<b>FY 2017-2018</b>
Interest on Debt		(G) 0	0	0
Principal		(H) 0	0	0
Fiscal Agent or Other Fees		(I) 0	0	0
Other		(J) 0	0	0
<b>Total Debt Service</b>		<b>(K) 0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55100100 - Transportation Systems Dev

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
	<b>FY 2015-2016</b>	<b>FY 2016-2017</b>	<b>FY 2017-2018</b>
Interest on Debt	(A) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Principal	(B) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Repayment of Loans	(C) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Fiscal Agent or Other Fees	(D) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Other Debt Service	(E) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
<b>Total Debt Service</b>	<b>(F) <input type="text" value="0"/></b>	<b><input type="text" value="0"/></b>	<b><input type="text" value="0"/></b>

Explanation: Total debt service for proposed Seaport bond sales, as authorized by  
Laws of Florida, Chapter 2012-128.

**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
		(7)	(8)	(9)
		<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
		<b>FY 2015-2016</b>	<b>FY 2016-2017</b>	<b>FY 2017-2018</b>
Interest on Debt		(G) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Principal		(H) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Fiscal Agent or Other Fees		(I) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Other		(J) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
<b>Total Debt Service</b>		<b>(K) <input type="text" value="0"/></b>	<b><input type="text" value="0"/></b>	<b><input type="text" value="0"/></b>

(1) **ISSUE:** \_\_\_\_\_

<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
		<b>FY 2015-2016</b>	<b>FY 2016-2017</b>	<b>FY 2017-2018</b>
Interest on Debt		(G) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Principal		(H) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Fiscal Agent or Other Fees		(I) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Other		(J) <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
<b>Total Debt Service</b>		<b>(K) <input type="text" value="0"/></b>	<b><input type="text" value="0"/></b>	<b><input type="text" value="0"/></b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55150200 - Highway Operations

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
	<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
<b>SECTION I</b>	<b>FY 2015-2016</b>	<b>FY 2016-2017</b>	<b>FY 2017-2018</b>
Interest on Debt (A)	2,450,856	2,008,606	1,575,856
Principal (B)	8,845,000	8,655,000	8,160,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	9,783	3,921	3,105
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>11,305,639</b>	<b>10,667,527</b>	<b>9,738,961</b>

Explanation:

Combined total debt service for outstanding State-funded Infrastructure Bank bonds and proposed bond sales.

\*Note: Does not include interest credited from Debt Service Reserve Account.

**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
		<b>FY 2015-2016</b>	<b>FY 2016-2017</b>	<b>FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
		<b>FY 2015-2016</b>	<b>FY 2016-2017</b>	<b>FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55150200 - Highway Operations

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	2,450,856	2,008,606	1,575,856
Principal (B)	8,845,000	8,655,000	8,160,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	9,783	3,921	3,105
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>11,305,639</b>	<b>10,667,527</b>	<b>9,738,961</b>

Explanation:

Total debt service requirements for outstanding State-funded  
Infrastructure Bank bonds.

**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55150200 - Highway Operations

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
	ACTUAL	ESTIMATED	REQUEST
<b>SECTION I</b>	FY 2015-2016	FY 2016-2017	FY 2017-2018
Interest on Debt (A)	0	0	0
Principal (B)	0	0	0
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	0	0	0
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>0</b>	<b>0</b>	<b>0</b>

Explanation:

Total debt service for proposed State-funded Infrastructure Bank bond sales,  
as authorized by Section 339.55, Florida Statutes.

\*Note: Does not include interest credited from Debt Service Reserve Account.

**SECTION II**

(1) ISSUE:

(2)	(3)	(4)	(5)	(6)
INTEREST RATE	MATURITY DATE	ISSUE AMOUNT	June 30, 2017	June 30, 2018
		(7)	(8)	(9)
		ACTUAL	ESTIMATED	REQUEST
		FY 2015-2016	FY 2016-2017	FY 2017-2018
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) ISSUE:

INTEREST RATE	MATURITY DATE	ISSUE AMOUNT	June 30, 2017	June 30, 2018
		ACTUAL	ESTIMATED	REQUEST
		FY 2015-2016	FY 2016-2017	FY 2017-2018
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55180100 - Florida Turnpike Enterprise

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
	<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
<b>SECTION I</b>	<b>FY 2015-2016</b>	<b>FY 2016-2017</b>	<b>FY 2017-2018</b>
Interest on Debt (A)	135,679,494	139,287,003	146,875,966
Principal (B)	129,620,000	136,030,000	148,160,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	520,235	457,460	453,310
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>265,819,728</b>	<b>275,774,463</b>	<b>295,489,276</b>

Explanation: Combined total debt service for outstanding Turnpike bonds and proposed bond sales.

\*Note: Does not include interest credited from Debt Service Reserve Account.

\*Note: Amounts are not adjusted for BABs subsidies.

**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
		<b>FY 2015-2016</b>	<b>FY 2016-2017</b>	<b>FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		(7)	(8)	(9)
		<b>ACTUAL</b>	<b>ESTIMATED</b>	<b>REQUEST</b>
		<b>FY 2015-2016</b>	<b>FY 2016-2017</b>	<b>FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>



**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55180100 - Florida Turnpike Enterprise

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL</b> FY 2015-2016	<b>ESTIMATED</b> FY 2016-2017	<b>REQUEST</b> FY 2017-2018
Interest on Debt (A)	135,679,494	129,830,149	123,234,549
Principal (B)	129,620,000	133,590,000	141,075,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	520,235	411,494	397,386
Other Debt Service (E)			
<b>Total Debt Service (F)</b>	<b>265,819,728</b>	<b>263,831,643</b>	<b>264,706,935</b>

Explanation: Total debt service requirements for outstanding Florida Turnpike bonds.  
\*Note: Does not include interest credited from Debt Service Reserve Account.  
\*Note: Amounts are not adjusted for BABs subsidies.

**SECTION II**

(1) **ISSUE:** \_\_\_\_\_

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
(7)	(8)	(9)		
<b>ACTUAL</b> FY 2015-2016	<b>ESTIMATED</b> FY 2016-2017	<b>REQUEST</b> FY 2017-2018		
Interest on Debt (G)	0	0	0	0
Principal (H)	0	0	0	0
Fiscal Agent or Other Fees (I)	0	0	0	0
Other (J)	0	0	0	0
<b>Total Debt Service (K)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

(1) **ISSUE:** \_\_\_\_\_

<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
<b>ACTUAL</b> FY 2015-2016	<b>ESTIMATED</b> FY 2016-2017	<b>REQUEST</b> FY 2017-2018		
Interest on Debt (G)	0	0	0	0
Principal (H)	0	0	0	0
Fiscal Agent or Other Fees (I)	0	0	0	0
Other (J)	0	0	0	0
<b>Total Debt Service (K)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55180100 - Florida Turnpike Enterprise

**Budget Period** 2017 - 2018

(1) <b>SECTION I</b>	(2) <b>ACTUAL FY 2015-2016</b>	(3) <b>ESTIMATED FY 2016-2017</b>	(4) <b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	0	9,456,854	23,641,417
Principal (B)	0	2,440,000	7,085,000
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	0	45,966	55,924
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>0</b>	<b>11,942,820</b>	<b>30,782,341</b>

Explanation: Total debt service requirements for proposed Turnpike bond sales.  
\*Note: Does not include interest credited from Debt Service Reserve Account.

**SECTION II**

(1) **ISSUE:** Proposed Turnpike bond sale 12/1/2016 (TPK2016C)

(2) <b>INTEREST RATE</b>	(3) <b>MATURITY DATE</b>	(4) <b>ISSUE AMOUNT</b>	(5) <b>June 30, 2017</b>	(6) <b>June 30, 2018</b>
5.000%	7/1/2046	270,065,000	267,625,000	263,330,000
		(7) <b>ACTUAL FY 2015-2016</b>	(8) <b>ESTIMATED FY 2016-2017</b>	(9) <b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	7,876,896	13,381,250
Principal (H)		0	2,440,000	4,295,000
Fiscal Agent or Other Fees (I)		0	27,007	26,763
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>10,343,902</b>	<b>17,703,013</b>

(1) **ISSUE:** Proposed Turnpike bond sale 5/1/2017 (TPK2017A)

<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
5.000%	1/1/2047	189,595,000	189,595,000	186,805,000
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	1,579,958	9,410,000
Principal (H)		0	0	2,790,000
Fiscal Agent or Other Fees (I)		0	18,960	18,960
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>1,598,918</b>	<b>12,218,960</b>

**SCHEDULE VI: DETAIL OF DEBT SERVICE**

**Department:** 55 Transportation  
**Budget Entity:** 55180100 - Florida Turnpike Enterprise

**Budget Period** 2017 - 2018

(1)	(2)	(3)	(4)
<b>SECTION I</b>	<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (A)	0	0	850,167
Principal (B)	0	0	0
Repayment of Loans (C)	0	0	0
Fiscal Agent or Other Fees (D)	0	0	10,202
Other Debt Service (E)	0	0	0
<b>Total Debt Service (F)</b>	<b>0</b>	<b>0</b>	<b>860,369</b>

Explanation:

**Total debt service requirements for proposed Turnpike bond sales.**  
**\*Note: Does not include interest credited from Debt Service Reserve Account.**

**SECTION II**

(1) **ISSUE:** Proposed Turnpike bond sale 5/1/2018 (TPK2018A)

(2)	(3)	(4)	(5)	(6)
<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
5.000%	1/1/2048	102,020,000	0	102,020,000
		(7)	(8)	(9)
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	850,167
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	10,202
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>860,369</b>

(1) **ISSUE:** \_\_\_\_\_

<b>INTEREST RATE</b>	<b>MATURITY DATE</b>	<b>ISSUE AMOUNT</b>	<b>June 30, 2017</b>	<b>June 30, 2018</b>
		<b>ACTUAL FY 2015-2016</b>	<b>ESTIMATED FY 2016-2017</b>	<b>REQUEST FY 2017-2018</b>
Interest on Debt (G)		0	0	0
Principal (H)		0	0	0
Fiscal Agent or Other Fees (I)		0	0	0
Other (J)		0	0	0
<b>Total Debt Service (K)</b>		<b>0</b>	<b>0</b>	<b>0</b>

## TRUTH-IN-BONDING WORKSHEET

1. A listing of the purpose of the debt or obligation: The Florida Turnpike Program, as authorized by Chapter 338, Florida Statutes.
2. The source of repayment of the debt or obligation: Net revenues of the Florida Turnpike System.
3. The principal amount of the debt or obligation: \$270,065,000
4. The interest rate on the debt or obligation (per EEC): 5.000%
5. A schedule of annual debt service payments (attached)
6. The method of sale of the debt or obligation, as determined by the Governing Board of the Division of Bond Finance.
7. The costs of issuance of the debt or obligation, including a detailed listing of the amounts of the major costs of issuance:

<u>Underwriter Discount</u>	<u>\$5,401,300</u>
<u>Rating Agency Fees</u>	<u>\$75,000</u>
<u>Other Costs of Issuance</u>	<u>\$1,158,500</u>
<u>Deposit into DSR Account</u>	<u>\$17,679,250</u>

## TRUTH-IN-BONDING STATEMENT

The State of Florida is proposing to issue \$270,065,000 of debt or obligation for the purpose of the Florida Turnpike Program, as authorized by Chapter 338, Florida Statutes.

This debt or obligation is expected to be repaid over a period of 30 years. At a forecasted interest rate of 5.000%, total interest paid over the life of the debt or obligation will be \$252,845,146.

The proposed issuance date is 12/1/2016.

SBA-FDOT  
 TPK2016C  
 Construction Draws  
 \$270,065,000.00

Dated: 12/01/2016

Delivered: 12/01/2016

Drw #	Date	Beginning Fund Balance	Tran Type	DSR Receipts	Interest Earnings	Int. Earnings n Constr Funct Requirement	Draw Debt Service	Net Balance	Ending
<i>TPK2016C, TPK2016C, yielding 2.00000000% : Net-Funded</i>									
0	12/01/2016		DEPOSIT					245,748,797.51	
1	12/01/2016	0/0	DRAWS			82,233,333.33	82,233,333.33	163,515,464.18	
2	01/01/2017	0/30	DRAWS		271,397.14	27,411,111.11	27,139,713.97	136,375,750.21	
3	02/01/2017	0/30	DRAWS		226,351.61	27,411,111.11	27,184,759.50	109,190,990.71	
4	03/01/2017	0/30	DRAWS		181,231.32	27,411,111.11	27,229,879.79	81,961,110.91	
5	04/01/2017	0/30	DRAWS		136,036.13	27,411,111.11	27,275,074.98	54,686,035.93	
6	05/01/2017	0/30	DRAWS		90,765.93	27,411,111.11	27,320,345.18	27,365,690.76	
7	06/01/2017	0/30	DRAWS		45,420.60	27,411,111.11	27,365,690.51	0.24	
<b>Totals For TPK2016C</b>				<b>0.00</b>	<b>951,202.73</b>	<b>0.00</b>	<b>246,699,999.99</b>	<b>245,748,797.26</b>	
<b>Prior Project Costs:</b>				<b>0.00</b>					
<b>Grand Totals For All Projects:</b>					<b>951,202.73</b>	<b>0.00</b>	<b>246,699,999.99</b>	<b>245,748,797.26</b>	
<b>Total Prior Costs:</b>				<b>0.00</b>					

SBA-FDOT

TPK2016C

Sizing Debt Service Schedule

\$270,065,000.00

Dated:

12/01/2016

Delivered:

12/01/2016

Fiscal Yr	Coupon Date	Zer Cpn	Cpn Rate	Maturing Principal	Periodic Interest	Gross Semi-Annl Dbt Svc	Cap Int	DbtSvcrsv Int & Prin	Constr. Fund Interest	Net Semi-Annl Dbt Svc	Net Fiscal Dbt Svc
17	1/1/2017				1,125,270.84	1,125,270.84		29,343.39		1,095,927.45	
17	7/1/2017	N	5.000	2,440,000.00	6,751,625.00	9,191,625.00		176,792.50		9,014,832.50	10,110,759.95
18	1/1/2018				6,690,625.00	6,690,625.00		176,792.50		6,513,832.50	
18	7/1/2018	N	5.000	4,295,000.00	6,690,625.00	10,985,625.00		176,792.50		10,808,832.50	17,322,665.00
19	1/1/2019				6,583,250.00	6,583,250.00		176,792.50		6,406,457.50	
19	7/1/2019	N	5.000	4,510,000.00	6,583,250.00	11,093,250.00		176,792.50		10,916,457.50	17,322,915.00
20	1/1/2020				6,470,500.00	6,470,500.00		176,792.50		6,293,707.50	
20	7/1/2020	N	5.000	4,735,000.00	6,470,500.00	11,205,500.00		176,792.50		11,028,707.50	17,322,415.00
21	1/1/2021				6,352,125.00	6,352,125.00		176,792.50		6,175,332.50	
21	7/1/2021	N	5.000	4,970,000.00	6,352,125.00	11,322,125.00		176,792.50		11,145,332.50	17,320,665.00
22	1/1/2022				6,227,875.00	6,227,875.00		176,792.50		6,051,082.50	
22	7/1/2022	N	5.000	5,220,000.00	6,227,875.00	11,447,875.00		176,792.50		11,271,082.50	17,322,165.00
23	1/1/2023				6,097,375.00	6,097,375.00		176,792.50		5,920,582.50	
23	7/1/2023	N	5.000	5,480,000.00	6,097,375.00	11,577,375.00		176,792.50		11,400,582.50	17,321,165.00
24	1/1/2024				5,960,375.00	5,960,375.00		176,792.50		5,783,582.50	
24	7/1/2024	N	5.000	5,755,000.00	5,960,375.00	11,715,375.00		176,792.50		11,538,582.50	17,322,165.00
25	1/1/2025				5,816,500.00	5,816,500.00		176,792.50		5,639,707.50	
25	7/1/2025	N	5.000	6,040,000.00	5,816,500.00	11,856,500.00		176,792.50		11,679,707.50	17,319,415.00
26	1/1/2026				5,665,500.00	5,665,500.00		176,792.50		5,488,707.50	
26	7/1/2026	N	5.000	6,345,000.00	5,665,500.00	12,010,500.00		176,792.50		11,833,707.50	17,322,415.00
					5,506,875.00	5,506,875.00		176,792.50		5,330,082.50	
27	7/1/2027	N	5.000	6,660,000.00	5,506,875.00	12,166,875.00		176,792.50		11,990,082.50	17,320,165.00
28	1/1/2028				5,340,375.00	5,340,375.00		176,792.50		5,163,582.50	
28	7/1/2028	N	5.000	6,995,000.00	5,340,375.00	12,335,375.00		176,792.50		12,158,582.50	17,322,165.00
29	1/1/2029				5,165,500.00	5,165,500.00		176,792.50		4,988,707.50	
29	7/1/2029	N	5.000	7,345,000.00	5,165,500.00	12,510,500.00		176,792.50		12,333,707.50	17,322,415.00
30	1/1/2030				4,981,875.00	4,981,875.00		176,792.50		4,805,082.50	
30	7/1/2030	N	5.000	7,710,000.00	4,981,875.00	12,691,875.00		176,792.50		12,515,082.50	17,320,165.00
31	1/1/2031				4,789,125.00	4,789,125.00		176,792.50		4,612,332.50	
31	7/1/2031	N	5.000	8,095,000.00	4,789,125.00	12,884,125.00		176,792.50		12,707,332.50	17,319,665.00
32	1/1/2032				4,586,750.00	4,586,750.00		176,792.50		4,409,957.50	
32	7/1/2032	N	5.000	8,500,000.00	4,586,750.00	13,086,750.00		176,792.50		12,909,957.50	17,319,915.00
33	1/1/2033				4,374,250.00	4,374,250.00		176,792.50		4,197,457.50	
33	7/1/2033	N	5.000	8,925,000.00	4,374,250.00	13,299,250.00		176,792.50		13,122,457.50	17,319,915.00
34	1/1/2034				4,151,125.00	4,151,125.00		176,792.50		3,974,332.50	
34	7/1/2034	N	5.000	9,375,000.00	4,151,125.00	13,526,125.00		176,792.50		13,349,332.50	17,323,665.00
35	1/1/2035				3,916,750.00	3,916,750.00		176,792.50		3,739,957.50	
35	7/1/2035	N	5.000	9,840,000.00	3,916,750.00	13,756,750.00		176,792.50		13,579,957.50	17,319,915.00
36	1/1/2036				3,670,750.00	3,670,750.00		176,792.50		3,493,957.50	
36	7/1/2036	N	5.000	10,335,000.00	3,670,750.00	14,005,750.00		176,792.50		13,828,957.50	17,322,915.00
37	1/1/2037				3,412,375.00	3,412,375.00		176,792.50		3,235,582.50	
37	7/1/2037	N	5.000	10,850,000.00	3,412,375.00	14,262,375.00		176,792.50		14,085,582.50	17,321,165.00
38	1/1/2038				3,141,125.00	3,141,125.00		176,792.50		2,964,332.50	
38	7/1/2038	N	5.000	11,395,000.00	3,141,125.00	14,536,125.00		176,792.50		14,359,332.50	17,323,665.00
39	1/1/2039				2,856,250.00	2,856,250.00		176,792.50		2,679,457.50	
39	7/1/2039	N	5.000	11,965,000.00	2,856,250.00	14,821,250.00		176,792.50		14,644,457.50	17,323,915.00
40	1/1/2040				2,557,125.00	2,557,125.00		176,792.50		2,380,332.50	
40	7/1/2040	N	5.000	12,560,000.00	2,557,125.00	15,117,125.00		176,792.50		14,940,332.50	17,320,665.00
41	1/1/2041				2,243,125.00	2,243,125.00		176,792.50		2,066,332.50	
41	7/1/2041	N	5.000	13,190,000.00	2,243,125.00	15,433,125.00		176,792.50		15,256,332.50	17,322,665.00
42	1/1/2042				1,913,375.00	1,913,375.00		176,792.50		1,736,582.50	
42	7/1/2042	N	5.000	13,850,000.00	1,913,375.00	15,763,375.00		176,792.50		15,586,582.50	17,323,165.00
43	1/1/2043				1,567,125.00	1,567,125.00		176,792.50		1,390,332.50	
43	7/1/2043	N	5.000	14,545,000.00	1,567,125.00	16,112,125.00		176,792.50		15,935,332.50	17,325,665.00

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TPK2016C

Sizing Debt Service Schedule

\$270,065,000.00

Dated: 12/01/2016

Delivered: 12/01/2016

Fiscal Yr	Coupon Date	Zer Cpn	Rate	Maturing Principal	Periodic Interest	Gross Semi-Annl Dbt Svc	Cap Int	DbtSvcRsv Int & Prin	Constr. Fund Interest	Net Semi-Annl Dbt Svc	Net Fiscal Dbt Svc
44	1/1/2044				1,203,500.00	1,203,500.00		176,792.50		1,026,707.50	
44	7/1/2044	N	5.000	15,270,000.00	1,203,500.00	16,473,500.00		176,792.50		16,296,707.50	17,323,415.00
45	1/1/2045				821,750.00	821,750.00		176,792.50		644,957.50	
45	7/1/2045	N	5.000	16,035,000.00	821,750.00	16,856,750.00		176,792.50		16,679,957.50	17,324,915.00
46	1/1/2046				420,875.00	420,875.00		176,792.50		244,082.50	
46	7/1/2046	N	5.000	16,835,000.00	420,875.00	17,255,875.00		17,856,042.50		-600,167.50	-356,085.00
				<b>270,065,000.00</b>	<b>252,845,145.84</b>	<b>522,910,145.84</b>	<b>0.00</b>	<b>28,139,350.89</b>	<b>0.00</b>	<b>494,770,794.95</b>	

<i>True Interest Cost (TIC)</i> .....	<b>5.1790979</b>	<i>Arbitrage Yield Limit (AYL)</i> .....	<b>5.0003746</b>
<i>Net Interest Cost (NIC)</i> .....	<b>5.1068085</b>	<i>Arbitrage Net Interest Cost (ANIC)</i> .....	<b>5.0000000</b>

Summary of Sizing Inputs

\$270,065,000.00

General Information

1st Month in FY: 1  
 Denomination: 5000.  
 Rate scale: 5.00%  
 Issue type: REVENUE  
 Sizing Rule 1: Level debt service - yearly principal payments. You input the gross construction costs (or a draw schedule) and the size of the bond issue is computed to cover the construction draws, reserves, and the various costs of issuance.  
 -> Proportionally level debt service in stub period.

Dates

12/01/2016-> Dated (bond issue) date  
 12/01/2016-> Delivery date  
 01/01/2017-> 1st coupon date  
 07/01/2017-> First principal payment  
 07/01/2046-> Last maturity date

Gross Construction Costs

Total project costs	246,699,999.99
Total prior costs	
Less: interest earned & applied to project draws	-951,202.48
Net total project costs:	245,748,797.51
Total number of projects = 1	

Restricted Accounts

DSR rule: Maximum yearly debt service	
No capitalized interest	
Restricted yield = 2.000000%	
Net deposit to Debt Service Reserve Fund	17,679,250.00
Net deposit to Contingency Fund	2,129.00

Costs of Issuance

Underwriter spread: 20.000/\$1,000	-5,401,300.00
Bond insurance: 0.000% (net of accrued & cap. interest)	
Other TIC costs:	1,233,500.00



TPK2016C

## Summary of Sizing Calculations

\$270,065,000.00

Sources of Funds

Par amount of bonds	270,065,000.00
Original Issue Premium	
Accrued Interest	

Construction Costs

Costs to complete construction	246,699,999.99
Less: interest earned in fund & applied to project draws	-951,202.48
Prior costs to be paid from bond proceeds	
Gross Construction Costs	245,748,797.51

Restricted Funds

Gross capitalized interest	
Less: Interest earned on Capitalized Interest Fund @ 2.000%	
Net deposit to Capitalized Interest Fund	
Net deposit to Debt Service Reserve Fund	17,679,250.00
Net deposit to Contingency Fund	2,129.00

Costs of Issuance

Underwriter spread: 20.000/\$1,000	-5,401,300.00
Bond insurance: 0.000%	
Other issuance costs	1,233,500.00
Rounding due to denomination size	23.50

Calculations

Net Interest Cost (NIC)	5.1068085
True Interest Cost (TIC)	5.1790979
All-Inclusive TIC:	5.2207024
Arbitrage Net Interest Cost (NIC)	5.0000000
Arbitrage Yield Limit (AYL)	5.0003746
Total Bond Years (delivery date)	5,056,902,916.67

## TRUTH-IN-BONDING WORKSHEET

1. A listing of the purpose of the debt or obligation: The Florida Turnpike Program, as authorized by Chapter 338, Florida Statutes.
2. The source of repayment of the debt or obligation: Net revenues of the Florida Turnpike System.
3. The principal amount of the debt or obligation: \$189,595,000
4. The interest rate on the debt or obligation (per EEC): 5.000%
5. A schedule of annual debt service payments (attached)
6. The method of sale of the debt or obligation, as determined by the Governing Board of the Division of Bond Finance.
7. The costs of issuance of the debt or obligation, including a detailed listing of the amounts of the major costs of issuance:

<u>Underwriter Discount</u>	<u>\$3,791,900</u>
<u>Rating Agency Fees</u>	<u>\$75,000</u>
<u>Other Costs of Issuance</u>	<u>\$792,000</u>
<u>Deposit into DSR Account</u>	<u>\$12,203,375</u>

## TRUTH-IN-BONDING STATEMENT

The State of Florida is proposing to issue \$189,595,000 of debt or obligation for the purpose of the Florida Turnpike Program, as authorized by Chapter 338, Florida Statutes.

This debt or obligation is expected to be repaid over a period of 30 years. At a forecasted interest rate of 5.000%, total interest paid over the life of the debt or obligation will be \$178,022,333.

The proposed issuance date is 5/1/2017.

SBA-FDOT

TPK2017A

Construction Draws

\$189,595,000.00

Dated: 05/01/2017

Delivered: 05/01/2017

Drw #	Date	Beginning Fund Balance	Tran Type	DSR Receipts	Interest Earnings	Int. Earnings in Constr Fund	Requirement	Draw Debt Service	Net Balance	Ending
<i>TPK2017A TPK2017A yielding 2.00000000% : Net-Funded</i>										
0	05/01/2017		DEPOSIT							172,731,420.73
1	05/01/2017	0/0	DRAWS				57,800,000.00	57,800,000.00		114,931,420.73
2	06/01/2017	0/30	DRAWS		190,759.08		19,266,666.67	19,075,907.59	95,855,513.14	
3	07/01/2017	0/30	DRAWS		159,097.56		19,266,666.67	19,107,569.11	76,747,944.03	
4	08/01/2017	0/30	DRAWS		127,383.50		19,266,666.67	19,139,283.17	57,608,660.86	
5	09/01/2017	0/30	DRAWS		95,616.80		19,266,666.67	19,171,049.87	38,437,611.00	
6	10/01/2017	0/30	DRAWS		63,797.38		19,266,666.67	19,202,869.29	19,234,741.70	
7	11/01/2017	0/30	DRAWS		31,925.14		19,266,666.67	19,234,741.53	0.17	
<b>Totals For TPK2017A</b>				<b>0.00</b>	<b>668,579.46</b>	<b>0.00</b>	<b>173,400,000.02</b>	<b>172,731,420.56</b>		
<b>Prior Project Costs:</b>				<b>0.00</b>						
<b>Grand Totals For All Projects:</b>					<b>668,579.46</b>	<b>0.00</b>	<b>173,400,000.02</b>	<b>172,731,420.56</b>		
<b>Total Prior Costs:</b>				<b>0.00</b>						

SBA-FDOT

TPK2017A

Sizing Debt Service Schedule

\$189,595,000.00

Dated: 05/01/2017

Delivered: 05/01/2017

Fiscal Yr	Coupon Date	Zer Cpn	Cpn Rate	Maturing Principal	Periodic Interest	Gross Semi-Annl Dbt Svc	Cap Int	DbtSvcRsv Int & Prin	Constr. Fund Interest	Net Semi-Annl Dbt Svc	Net Fiscal Dbt Svc
17	7/1/2017				1,579,958.32	1,579,958.32		40,543.07		1,539,415.25	1,539,415.25
18	1/1/2018	N	5.000	2,790,000.00	4,739,875.00	7,529,875.00		122,033.75		7,407,841.25	
18	7/1/2018				4,670,125.00	4,670,125.00		122,033.75		4,548,091.25	11,955,932.50
19	1/1/2019	N	5.000	2,935,000.00	4,670,125.00	7,605,125.00		122,033.75		7,483,091.25	
19	7/1/2019				4,596,750.00	4,596,750.00		122,033.75		4,474,716.25	11,957,807.50
20	1/1/2020	N	5.000	3,085,000.00	4,596,750.00	7,681,750.00		122,033.75		7,559,716.25	
20	7/1/2020				4,519,625.00	4,519,625.00		122,033.75		4,397,591.25	11,957,307.50
21	1/1/2021	N	5.000	3,245,000.00	4,519,625.00	7,764,625.00		122,033.75		7,642,591.25	
21	7/1/2021				4,438,500.00	4,438,500.00		122,033.75		4,316,466.25	11,959,057.50
22	1/1/2022	N	5.000	3,410,000.00	4,438,500.00	7,848,500.00		122,033.75		7,726,466.25	
22	7/1/2022				4,353,250.00	4,353,250.00		122,033.75		4,231,216.25	11,957,682.50
23	1/1/2023	N	5.000	3,585,000.00	4,353,250.00	7,938,250.00		122,033.75		7,816,216.25	
23	7/1/2023				4,263,625.00	4,263,625.00		122,033.75		4,141,591.25	11,957,807.50
24	1/1/2024	N	5.000	3,770,000.00	4,263,625.00	8,033,625.00		122,033.75		7,911,591.25	
24	7/1/2024				4,169,375.00	4,169,375.00		122,033.75		4,047,341.25	11,958,932.50
25	1/1/2025	N	5.000	3,960,000.00	4,169,375.00	8,129,375.00		122,033.75		8,007,341.25	
25	7/1/2025				4,070,375.00	4,070,375.00		122,033.75		3,948,341.25	11,955,682.50
26	1/1/2026	N	5.000	4,165,000.00	4,070,375.00	8,235,375.00		122,033.75		8,113,341.25	
26	7/1/2026				3,966,250.00	3,966,250.00		122,033.75		3,844,216.25	11,957,557.50
27	1/1/2027	N	5.000	4,380,000.00	3,966,250.00	8,346,250.00		122,033.75		8,224,216.25	
27	7/1/2027				3,856,750.00	3,856,750.00		122,033.75		3,734,716.25	11,958,932.50
28	1/1/2028	N	5.000	4,605,000.00	3,856,750.00	8,461,750.00		122,033.75		8,339,716.25	
28	7/1/2028				3,741,625.00	3,741,625.00		122,033.75		3,619,591.25	11,959,307.50
29	1/1/2029	N	5.000	4,840,000.00	3,741,625.00	8,581,625.00		122,033.75		8,459,591.25	
29	7/1/2029				3,620,625.00	3,620,625.00		122,033.75		3,498,591.25	11,958,182.50
30	1/1/2030	N	5.000	5,085,000.00	3,620,625.00	8,705,625.00		122,033.75		8,583,591.25	
30	7/1/2030				3,493,500.00	3,493,500.00		122,033.75		3,371,466.25	11,955,057.50
31	1/1/2031	N	5.000	5,350,000.00	3,493,500.00	8,843,500.00		122,033.75		8,721,466.25	
31	7/1/2031				3,359,750.00	3,359,750.00		122,033.75		3,237,716.25	11,959,182.50
32	1/1/2032	N	5.000	5,620,000.00	3,359,750.00	8,979,750.00		122,033.75		8,857,716.25	
32	7/1/2032				3,219,250.00	3,219,250.00		122,033.75		3,097,216.25	11,954,932.50
33	1/1/2033	N	5.000	5,910,000.00	3,219,250.00	9,129,250.00		122,033.75		9,007,216.25	
33	7/1/2033				3,071,500.00	3,071,500.00		122,033.75		2,949,466.25	11,956,682.50
34	1/1/2034	N	5.000	6,215,000.00	3,071,500.00	9,286,500.00		122,033.75		9,164,466.25	
34	7/1/2034				2,916,125.00	2,916,125.00		122,033.75		2,794,091.25	11,958,557.50
35	1/1/2035	N	5.000	6,530,000.00	2,916,125.00	9,446,125.00		122,033.75		9,324,091.25	
35	7/1/2035				2,752,875.00	2,752,875.00		122,033.75		2,630,841.25	11,954,932.50
36	1/1/2036	N	5.000	6,865,000.00	2,752,875.00	9,617,875.00		122,033.75		9,495,841.25	
36	7/1/2036				2,581,250.00	2,581,250.00		122,033.75		2,459,216.25	11,955,057.50
37	1/1/2037	N	5.000	7,220,000.00	2,581,250.00	9,801,250.00		122,033.75		9,679,216.25	
37	7/1/2037				2,400,750.00	2,400,750.00		122,033.75		2,278,716.25	11,957,932.50
38	1/1/2038	N	5.000	7,590,000.00	2,400,750.00	9,990,750.00		122,033.75		9,868,716.25	
38	7/1/2038				2,211,000.00	2,211,000.00		122,033.75		2,088,966.25	11,957,682.50
39	1/1/2039	N	5.000	7,980,000.00	2,211,000.00	10,191,000.00		122,033.75		10,068,966.25	
39	7/1/2039				2,011,500.00	2,011,500.00		122,033.75		1,889,466.25	11,958,432.50
40	1/1/2040	N	5.000	8,390,000.00	2,011,500.00	10,401,500.00		122,033.75		10,279,466.25	
40	7/1/2040				1,801,750.00	1,801,750.00		122,033.75		1,679,716.25	11,959,182.50
41	1/1/2041	N	5.000	8,815,000.00	1,801,750.00	10,616,750.00		122,033.75		10,494,716.25	
41	7/1/2041				1,581,375.00	1,581,375.00		122,033.75		1,459,341.25	11,954,057.50
42	1/1/2042	N	5.000	9,270,000.00	1,581,375.00	10,851,375.00		122,033.75		10,729,341.25	
42	7/1/2042				1,349,625.00	1,349,625.00		122,033.75		1,227,591.25	11,956,932.50
43	1/1/2043	N	5.000	9,745,000.00	1,349,625.00	11,094,625.00		122,033.75		10,972,591.25	
43	7/1/2043				1,106,000.00	1,106,000.00		122,033.75		983,966.25	11,956,557.50
44	1/1/2044	N	5.000	10,245,000.00	1,106,000.00	11,351,000.00		122,033.75		11,228,966.25	

SBA-FDOT

TPK2017A

Sizing Debt Service Schedule

\$189,595,000.00

Dated: 05/01/2017

Delivered: 05/01/2017

Fiscal Yr	Coupon Date	Zer Cpn	Rate	Maturing Principal	Periodic Interest	Gross Semi-Annl Dbt Svc	Cap Int	DbtSvcrsv Int & Prin	Constr. Fund Interest	Net Semi-Annl Dbt Svc	Net Fiscal Dbt Svc
44	7/1/2044				849,875.00	849,875.00		122,033.75		727,841.25	11,956,807.50
45	1/1/2045	N	5.000	10,770,000.00	849,875.00	11,619,875.00		122,033.75		11,497,841.25	
45	7/1/2045				580,625.00	580,625.00		122,033.75		458,591.25	11,956,432.50
46	1/1/2046	N	5.000	11,320,000.00	580,625.00	11,900,625.00		122,033.75		11,778,591.25	
46	7/1/2046				297,625.00	297,625.00		122,033.75		175,591.25	11,954,182.50
47	1/1/2047	N	5.000	11,905,000.00	297,625.00	12,202,625.00		12,325,408.75		-122,783.75	-
					<b>189,595,000.00</b>	<b>178,022,333.32</b>	<b>367,617,333.32</b>	<b>0.00</b>	<b>19,443,909.32</b>	<b>0.00</b>	<b>348,173,424.00</b>
<i>True Interest Cost (TIC) .....</i>						<b>5.1792310</b>	<i>Arbitrage Yield Limit (AYL) .....</i>				<b>5.0005974</b>
<i>Net Interest Cost (NIC) .....</i>						<b>5.1065007</b>	<i>Arbitrage Net Interest Cost (ANIC) .....</i>				<b>5.0000000</b>

## Summary of Sizing Inputs

\$189,595,000.00

### General Information

1st Month in FY: 1  
Denomination: 5000.  
Rate scale: 5.00%  
Issue type: REVENUE  
Sizing Rule 1: Level debt service - yearly principal payments. You input the gross construction costs (or a draw schedule) and the size of the bond issue is computed to cover the construction draws, reserves, and the various costs of issuance.  
-> Proportionally level debt service in stub period.

### Dates

05/01/2017-> Dated (bond issue) date  
05/01/2017-> Delivery date  
07/01/2017-> 1st coupon date  
01/01/2018-> First principal payment  
01/01/2047-> Last maturity date

### Gross Construction Costs

Total project costs	173,400,000.02
Total prior costs	
Less: interest earned & applied to project draws	-668,579.29
Net total project costs:	172,731,420.73
Total number of projects = 1	

### Restricted Accounts

DSR rule: Maximum yearly debt service	
No capitalized interest	
Restricted yield = 2.000000%	
Net deposit to Debt Service Reserve Fund	12,203,375.00
Net deposit to Contingency Fund	1,259.50

### Costs of Issuance

Underwriter spread: 20.000/\$1,000	-3,791,900.00
Bond insurance: 0.000% (net of accrued & cap. interest)	
Other TIC costs:	867,000.00

TPK2017A

## Summary of Sizing Calculations

\$189,595,000.00

Sources of Funds

Par amount of bonds	189,595,000.00
Original Issue Premium	
Accrued Interest	

Construction Costs

Costs to complete construction	173,400,000.02
Less: interest earned in fund & applied to project draws	-668,579.29
Prior costs to be paid from bond proceeds	
Gross Construction Costs	172,731,420.73

Restricted Funds

Gross capitalized interest	
Less: Interest earned on Capitalized Interest Fund @ 2.000%	
Net deposit to Capitalized Interest Fund	
Net deposit to Debt Service Reserve Fund	12,203,375.00
Net deposit to Contingency Fund	1,259.50

Costs of Issuance

Underwriter spread: 20.000/\$1,000	-3,791,900.00
Bond insurance: 0.000%	
Other issuance costs	867,000.00
Rounding due to denomination size	44.76

Calculations

Net Interest Cost (NIC)	5.1065007
True Interest Cost (TIC)	5.1792310
All-Inclusive TIC:	5.2208668
Arbitrage Net Interest Cost (NIC)	5.0000000
Arbitrage Yield Limit (AYL)	5.0005974
Total Bond Years (delivery date)	3,560,446,666.67
Average Bond Years (Delivery date)	18.78

## TRUTH-IN-BONDING WORKSHEET

1. A listing of the purpose of the debt or obligation: The Florida Turnpike Program, as authorized by Chapter 338, Florida Statutes.
2. The source of repayment of the debt or obligation: Net revenues of the Florida Turnpike System.
3. The principal amount of the debt or obligation: \$102,020,000
4. The interest rate on the debt or obligation (per EEC): 5.000%
5. A schedule of annual debt service payments (attached)
6. The method of sale of the debt or obligation, as determined by the Governing Board of the Division of Bond Finance.
7. The costs of issuance of the debt or obligation, including a detailed listing of the amounts of the major costs of issuance:

<u>Underwriter Discount</u>	<u>\$2,040,400</u>
<u>Rating Agency Fees</u>	<u>\$75,000</u>
<u>Other Costs of Issuance</u>	<u>\$391,500</u>
<u>Deposit into DSR Account</u>	<u>\$6,570,250</u>

## TRUTH-IN-BONDING STATEMENT

The State of Florida is proposing to issue \$102,020,000 of debt or obligation for the purpose of the Florida Turnpike Program, as authorized by Chapter 338, Florida Statutes.

This debt or obligation is expected to be repaid over a period of 30 years. At a forecasted interest rate of 5.000%, total interest paid over the life of the debt or obligation will be \$95,792,417.

The proposed issuance date is 5/1/2018.



SBA-FDOT

TPK2018A

Construction Draws

\$102,020,000.00

Dated: 05/01/2018

Delivered: 05/01/2018

Drw #	Date	Beginning Fund Balance	Tran Type	DSR Receipts	Interest Earnings	Int. Earnings n Constr Func Requirement	Draw Debt Service	Net Balance	Ending
<i>TPK2018.A TPK2018.A yielding 2.00000000% : Net-Funded</i>									
0	05/01/2018		DEPOSIT					92,940,262.72	
1	05/01/2018	0/0	DRAWS			31,100,000.00	31,100,000.00	61,840,262.72	
2	06/01/2018	0/30	DRAWS		102,640.26	10,366,666.67	10,264,026.41	51,576,236.32	
3	07/01/2018	0/30	DRAWS		85,604.40	10,366,666.67	10,281,062.27	41,295,174.05	
4	08/01/2018	0/30	DRAWS		68,540.26	10,366,666.67	10,298,126.41	30,997,047.63	
5	09/01/2018	0/30	DRAWS		51,447.79	10,366,666.67	10,315,218.88	20,681,828.76	
6	10/01/2018	0/30	DRAWS		34,326.96	10,366,666.67	10,332,339.71	10,349,489.05	
7	11/01/2018	0/30	DRAWS		17,177.71	10,366,666.67	10,349,488.96	0.09	
<b>Totals For TPK2018A</b>				<b>0.00</b>	<b>359,737.39</b>	<b>0.00</b>	<b>93,300,000.02</b>	<b>92,940,262.63</b>	
<b>Prior Project Costs:</b>				<b>0.00</b>					
<b>Grand Totals For All Projects:</b>					<b>359,737.39</b>	<b>0.00</b>	<b>93,300,000.02</b>	<b>92,940,262.63</b>	
<b>Total Prior Costs:</b>				<b>0.00</b>					

SBA-FDOT

TPK2018A

Sizing Debt Service Schedule

\$102,020,000.00

Dated: 05/01/2018

Delivered: 05/01/2018

Fiscal Yr	Coupon Date	Zer Cpn	Cpn Rate	Maturing Principal	Periodic Interest	Gross Semi-Annl Dbt Svc	Cap Int	DbtSvcRsv Int & Prin	Constr. Fund Interest	Net Semi-Annl Dbt Svc	Net Fiscal Dbt Svc
18	7/1/2018				850,166.70	850,166.70		21,828.23		828,338.47	828,338.47
19	1/1/2019	N	5.000	1,505,000.00	2,550,500.00	4,055,500.00		65,702.50		3,989,797.50	
19	7/1/2019				2,512,875.00	2,512,875.00		65,702.50		2,447,172.50	6,436,970.00
20	1/1/2020	N	5.000	1,580,000.00	2,512,875.00	4,092,875.00		65,702.50		4,027,172.50	
20	7/1/2020				2,473,375.00	2,473,375.00		65,702.50		2,407,672.50	6,434,845.00
21	1/1/2021	N	5.000	1,660,000.00	2,473,375.00	4,133,375.00		65,702.50		4,067,672.50	
21	7/1/2021				2,431,875.00	2,431,875.00		65,702.50		2,366,172.50	6,433,845.00
22	1/1/2022	N	5.000	1,745,000.00	2,431,875.00	4,176,875.00		65,702.50		4,111,172.50	
22	7/1/2022				2,388,250.00	2,388,250.00		65,702.50		2,322,547.50	6,433,720.00
23	1/1/2023	N	5.000	1,835,000.00	2,388,250.00	4,223,250.00		65,702.50		4,157,547.50	
23	7/1/2023				2,342,375.00	2,342,375.00		65,702.50		2,276,672.50	6,434,220.00
24	1/1/2024	N	5.000	1,930,000.00	2,342,375.00	4,272,375.00		65,702.50		4,206,672.50	
24	7/1/2024				2,294,125.00	2,294,125.00		65,702.50		2,228,422.50	6,435,095.00
25	1/1/2025	N	5.000	2,030,000.00	2,294,125.00	4,324,125.00		65,702.50		4,258,422.50	
25	7/1/2025				2,243,375.00	2,243,375.00		65,702.50		2,177,672.50	6,436,095.00
26	1/1/2026	N	5.000	2,130,000.00	2,243,375.00	4,373,375.00		65,702.50		4,307,672.50	
26	7/1/2026				2,190,125.00	2,190,125.00		65,702.50		2,124,422.50	6,432,095.00
27	1/1/2027	N	5.000	2,240,000.00	2,190,125.00	4,430,125.00		65,702.50		4,364,422.50	
27	7/1/2027				2,134,125.00	2,134,125.00		65,702.50		2,068,422.50	6,432,845.00
28	1/1/2028	N	5.000	2,355,000.00	2,134,125.00	4,489,125.00		65,702.50		4,423,422.50	
28	7/1/2028				2,075,250.00	2,075,250.00		65,702.50		2,009,547.50	6,432,970.00
29	1/1/2029	N	5.000	2,475,000.00	2,075,250.00	4,550,250.00		65,702.50		4,484,547.50	
29	7/1/2029				2,013,375.00	2,013,375.00		65,702.50		1,947,672.50	6,432,220.00
30	1/1/2030	N	5.000	2,605,000.00	2,013,375.00	4,618,375.00		65,702.50		4,552,672.50	
30	7/1/2030				1,948,250.00	1,948,250.00		65,702.50		1,882,547.50	6,435,220.00
31	1/1/2031	N	5.000	2,735,000.00	1,948,250.00	4,683,250.00		65,702.50		4,617,547.50	
31	7/1/2031				1,879,875.00	1,879,875.00		65,702.50		1,814,172.50	6,431,720.00
32	1/1/2032	N	5.000	2,875,000.00	1,879,875.00	4,754,875.00		65,702.50		4,689,172.50	
32	7/1/2032				1,808,000.00	1,808,000.00		65,702.50		1,742,297.50	6,431,470.00
33	1/1/2033	N	5.000	3,025,000.00	1,808,000.00	4,833,000.00		65,702.50		4,767,297.50	
33	7/1/2033				1,732,375.00	1,732,375.00		65,702.50		1,666,672.50	6,433,970.00
34	1/1/2034	N	5.000	3,180,000.00	1,732,375.00	4,912,375.00		65,702.50		4,846,672.50	
34	7/1/2034				1,652,875.00	1,652,875.00		65,702.50		1,587,172.50	6,433,845.00
35	1/1/2035	N	5.000	3,345,000.00	1,652,875.00	4,997,875.00		65,702.50		4,932,172.50	
35	7/1/2035				1,569,250.00	1,569,250.00		65,702.50		1,503,547.50	6,435,720.00
36	1/1/2036	N	5.000	3,515,000.00	1,569,250.00	5,084,250.00		65,702.50		5,018,547.50	
36	7/1/2036				1,481,375.00	1,481,375.00		65,702.50		1,415,672.50	6,434,220.00
37	1/1/2037	N	5.000	3,695,000.00	1,481,375.00	5,176,375.00		65,702.50		5,110,672.50	
37	7/1/2037				1,389,000.00	1,389,000.00		65,702.50		1,323,297.50	6,433,970.00
38	1/1/2038	N	5.000	3,885,000.00	1,389,000.00	5,274,000.00		65,702.50		5,208,297.50	
38	7/1/2038				1,291,875.00	1,291,875.00		65,702.50		1,226,172.50	6,434,470.00
39	1/1/2039	N	5.000	4,085,000.00	1,291,875.00	5,376,875.00		65,702.50		5,311,172.50	
39	7/1/2039				1,189,750.00	1,189,750.00		65,702.50		1,124,047.50	6,435,220.00
40	1/1/2040	N	5.000	4,295,000.00	1,189,750.00	5,484,750.00		65,702.50		5,419,047.50	
40	7/1/2040				1,082,375.00	1,082,375.00		65,702.50		1,016,672.50	6,435,720.00
41	1/1/2041	N	5.000	4,515,000.00	1,082,375.00	5,597,375.00		65,702.50		5,531,672.50	
41	7/1/2041				969,500.00	969,500.00		65,702.50		903,797.50	6,435,470.00
42	1/1/2042	N	5.000	4,745,000.00	969,500.00	5,714,500.00		65,702.50		5,648,797.50	
42	7/1/2042				850,875.00	850,875.00		65,702.50		785,172.50	6,433,970.00
43	1/1/2043	N	5.000	4,990,000.00	850,875.00	5,840,875.00		65,702.50		5,775,172.50	
43	7/1/2043				726,125.00	726,125.00		65,702.50		660,422.50	6,435,595.00
44	1/1/2044	N	5.000	5,240,000.00	726,125.00	5,966,125.00		65,702.50		5,900,422.50	
44	7/1/2044				595,125.00	595,125.00		65,702.50		529,422.50	6,429,845.00
45	1/1/2045	N	5.000	5,510,000.00	595,125.00	6,105,125.00		65,702.50		6,039,422.50	

SBA-FDOT

TPK2018A

Sizing Debt Service Schedule

\$102,020,000.00

Dated: 05/01/2018

Delivered: 05/01/2018

Fiscal Yr	Coupon Date	Zer Cpn	Rate	Maturing Principal	Periodic Interest	Gross Semi-Annl Dbt Svc	Cap Int	DbtSvcRsv Int & Prin	Constr. Fund Interest	Net Semi-Annl Dbt Svc	Net Fiscal Dbt Svc
45	7/1/2045				457,375.00	457,375.00		65,702.50		391,672.50	6,431,095.00
46	1/1/2046	N	5.000	5,795,000.00	457,375.00	6,252,375.00		65,702.50		6,186,672.50	
46	7/1/2046				312,500.00	312,500.00		65,702.50		246,797.50	6,433,470.00
47	1/1/2047	N	5.000	6,090,000.00	312,500.00	6,402,500.00		65,702.50		6,336,797.50	
47	7/1/2047				160,250.00	160,250.00		65,702.50		94,547.50	6,431,345.00
48	1/1/2048	N	5.000	6,410,000.00	160,250.00	6,570,250.00		6,635,952.50		-65,702.50	
					102,020,000.00	95,792,416.70	197,812,416.70	0.00	10,468,525.73	0.00	187,343,890.97
<i>True Interest Cost (TIC)</i> .....						<b>5.1792248</b>	<i>Arbitrage Yield Limit (AYL)</i> .....				<b>5.0005974</b>
<i>Net Interest Cost (NIC)</i> .....						<b>5.1064959</b>	<i>Arbitrage Net Interest Cost (ANIC)</i> .....				<b>5.0000000</b>

Summary of Sizing Inputs

\$102,020,000.00

General Information

1st Month in FY: 1  
Denomination: 5000.  
Rate scale: 5.00%  
Issue type: REVENUE  
Sizing Rule 1: Level debt service - yearly principal payments. You input the gross construction costs (or a draw schedule) and the size of the bond issue is computed to cover the construction draws, reserves, and the various costs of issuance.  
-> Proportionally level debt service in stub period.

Dates

05/01/2018-> Dated (bond issue) date  
05/01/2018-> Delivery date  
07/01/2018-> 1st coupon date  
01/01/2019-> First principal payment  
01/01/2048-> Last maturity date

Gross Construction Costs

Total project costs	93,300,000.02
Total prior costs	
Less: interest earned & applied to project draws	-359,737.30
Net total project costs:	92,940,262.72
Total number of projects = 1	

Restricted Accounts

DSR rule: Maximum yearly debt service	
No capitalized interest	
Restricted yield = 2.000000%	
Net deposit to Debt Service Reserve Fund	6,570,250.00
Net deposit to Contingency Fund	2,527.53

Costs of Issuance

Underwriter spread: 20.000/\$1,000	-2,040,400.00
Bond insurance: 0.000% (net of accrued & cap. interest)	
Other TIC costs:	466,500.00

TPK2018A

## Summary of Sizing Calculations

\$102,020,000.00

Sources of Funds

Par amount of bonds	102,020,000.00
Original Issue Premium	
Accrued Interest	

Construction Costs

Costs to complete construction	93,300,000.02
Less: interest earned in fund & applied to project draws	-359,737.30
Prior costs to be paid from bond proceeds	
Gross Construction Costs	92,940,262.72

Restricted Funds

Gross capitalized interest	
Less: Interest earned on Capitalized Interest Fund @ 2.000%	
Net deposit to Capitalized Interest Fund	
Net deposit to Debt Service Reserve Fund	6,570,250.00
Net deposit to Contingency Fund	2,527.53

Costs of Issuance

Underwriter spread: 20.000/\$1,000	-2,040,400.00
Bond insurance: 0.000%	
Other issuance costs	466,500.00
Rounding due to denomination size	59.75

Calculations

Net Interest Cost (NIC)	5.1064959
True Interest Cost (TIC)	5.1792248
All-Inclusive TIC:	5.2208587
Arbitrage Net Interest Cost (NIC)	5.0000000
Arbitrage Yield Limit (AYL)	5.0005974
Total Bond Years (delivery date)	1,915,848,333.33
Average Bond Years (Delivery date)	18.78

**SCHEDULE IX: MAJOR AUDIT FINDINGS AND RECOMMENDATIONS**

**Budget Period: 2017- 2018**

**Department:** Transportation

**Chief Internal Auditor:** Kris Sullivan

**Budget Entity:** Highway Operations

**Phone Number:** 850-410-5506

(1)	(2)	(3)	(4)	(5)	(6)
REPORT NUMBER	PERIOD ENDING	UNIT/AREA	SUMMARY OF FINDINGS AND RECOMMENDATIONS	SUMMARY OF CORRECTIVE ACTION TAKEN	ISSUE CODE
2016-159	6/30/2015	OWPB- Federal Aid Management Office	<p><b>Finding: Highway Planning and Construction Cluster</b></p> <p>The FDOT did not always meet the Federal matching requirement for Highway Planning and Construction Cluster funded projects and incorrectly reported matching amounts to the Federal Highway Administration (FHWA).</p>	<p>FDOT concurs. Federal Aid Management Office (FAMO) has revised closing procedures to ensure that all funds on a project, not just federal funds, are reconciled to the total expenditures on the project before the final project data is reported to FHWA. The Office has also made programmatic changes to FAMS which will automatically adjust the final project transaction to report the final expenditure amounts consistent with this revised closing procedure. The Office has also corrected the 8 sample projects by adding additional toll credits, as soft match, to satisfy the identified shortfall. The Office is currently reviewing all projects that closed over the past several years to determine the cumulative shortfall in required matching due to previous overstatements of associated hard match funds. The FAMO anticipates having preliminary reports available for discussion with FHWA by the end of October 2016.</p>	
2016-159-02A			<p><b>Recommendation:</b> The Auditor General recommends that the FDOT revise its procedures to ensure that state and local funds are reconciled and appropriately deobligated before the final project data is reported to the FHWA.</p>	<p><b>Current Status:</b> In progress, corrective action to be reviewed with FHWA by the end of October 2016.</p>	

## Fiscal Year 2017-18 LBR Technical Review Checklist

Department/Budget Entity (Service): Department of Transportation
Agency Budget Officer/OPB Analyst Name: Mechelle Marcum/Tonja Webb

A "Y" indicates "YES" and is acceptable, an "N/J" indicates "NO/Justification Provided" - these require further explanation/justification (additional sheets can be used as necessary), and "TIPS" are other areas to consider.

Action	Program or Service (Budget Entity Codes)					
	55100100	55100500	55150200	55150500	55150600	55180100

<b>1. GENERAL</b>						
1.1 Are Columns A01, A02, A04, A05, A23, A24, A25, A36, A93, IA1, IA5, IA6, IP1, IV1, IV3 and NV1 set to TRANSFER CONTROL for DISPLAY status and MANAGEMENT CONTROL for UPDATE status for both the Budget and Trust Fund columns (no trust fund files for narrative columns)? Are Columns A06, A07, A08 and A09 for Fixed Capital Outlay (FCO) set to TRANSFER CONTROL for DISPLAY status only (UPDATE status remains on OWNER)? <b>(CSDI)</b>	Y	Y	Y	Y	Y	Y
1.2 Is Column A03 set to TRANSFER CONTROL for DISPLAY and UPDATE status for both the Budget and Trust Fund columns? <b>(CSDI)</b>	Y	Y	Y	Y	Y	Y
<b>AUDITS:</b>						
1.3 Has Column A03 been copied to Column A12? Run the Exhibit B Audit Comparison Report to verify. <b>(EXBR, EXBA)</b>	Y	Y	Y	Y	Y	Y
1.4 Has security been set correctly to TRANSFER CONTROL for DISPLAY status and MANAGEMENT CONTROL for UPDATE status? <b>(CSDR, CSA)</b>	Y	Y	Y	Y	Y	Y
<b>TIP</b> The agency should prepare the budget request for submission in this order: 1) Lock columns as described above; 2) copy Column A03 to Column A12; and 3) set Column A12 column security to ALL for DISPLAY status and MANAGEMENT CONTROL for UPDATE status. <b>A security control feature has been added to the LAS/PBS Web upload process that will require columns to be in the proper status before uploading.</b>						
<b>2. EXHIBIT A (EADR, EXA)</b>						
2.1 Is the budget entity authority and description consistent with the agency's LRPP and does it conform to the directives provided on page 59 of the LBR Instructions?	Y	Y	Y	Y	Y	Y
2.2 Are the statewide issues generated systematically (estimated expenditures, nonrecurring expenditures, etc.) included?	Y	Y	Y	Y	Y	Y
2.3 Are the issue codes and titles consistent with <i>Section 3</i> of the LBR Instructions (pages 15 through 29)? Do they clearly describe the issue?	Y	Y	Y	Y	Y	Y
<b>3. EXHIBIT B (EXBR, EXB)</b>						
3.1 Is it apparent that there is a fund shift where an appropriation category's funding source is different between A02 and A03? Were the issues entered into LAS/PBS correctly? Check D-3A funding shift issue 340XXX0 - a unique deduct and unique add back issue should be used to ensure fund shifts display correctly on the LBR exhibits.	N/A	N/A	N/A	N/A	N/A	N/A
<b>AUDITS:</b>						
3.2 Negative Appropriation Category Audit for Agency Request (Columns A03 and A04): Are all appropriation categories positive by budget entity at the FSI level? Are all nonrecurring amounts less than requested amounts? <b>(NACR, NAC - Report should print "No Negative Appropriation Categories Found")</b>	Y	Y	Y	Y	Y	Y
3.3 Current Year Estimated Verification Comparison Report: Is Column A02 equal to Column B07? <b>(EXBR, EXBC - Report should print "Records Selected Net To Zero")</b>	Y	Y	Y	Y	Y	Y
<b>TIP</b> Generally look for and be able to fully explain significant differences between A02 and A03.						
<b>TIP</b> Exhibit B - A02 equal to B07: Compares Current Year Estimated column to a backup of A02. This audit is necessary to ensure that the historical detail records have not been adjusted. Records selected should net to zero.						

		Program or Service (Budget Entity Codes)					
Action		55100100	55100500	55150200	55150500	55150600	55180100
TIP	Requests for appropriations which require advance payment authority must use the sub-title "Grants and Aids". For advance payment authority to local units of government, the Aid to Local Government appropriation category (05XXXX) should be used. For advance payment authority to non-profit organizations or other units of state government, a Special Categories appropriation category (10XXXX) should be used.						
<b>4. EXHIBIT D (EADR, EXD)</b>							
4.1	Is the program component objective statement consistent with the agency LRPP, and does it conform to the directives provided on page 62 of the LBR Instructions?	Y	Y	Y	Y	Y	Y
4.2	Is the program component code and title used correct?	Y	Y	Y	Y	Y	Y
TIP	Fund shifts or transfers of services or activities between program components will be displayed on an Exhibit D whereas it may not be visible on an Exhibit A.						
<b>5. EXHIBIT D-1 (ED1R, EXD1)</b>							
5.1	Are all object of expenditures positive amounts? (This is a manual check.)	Y	Y	Y	Y	Y	Y
<b>AUDITS:</b>							
5.2	Do the fund totals agree with the object category totals within each appropriation category? ( <b>ED1R, XD1A - Report should print "No Differences Found For This Report"</b> )	Y	Y	Y	Y	Y	Y
5.3	FLAIR Expenditure/Appropriation Ledger Comparison Report: Is Column A01 less than Column B04? ( <b>EXBR, EXBB - Negative differences [with a \$5,000 allowance] need to be corrected in Column A01.</b> )	Y	Y	Y	Y	Y	Y
5.4	A01/State Accounts Disbursements and Carry Forward Comparison Report: Does Column A01 equal Column B08? ( <b>EXBR, EXBD - Differences [with a \$5,000 allowance at the department level] need to be corrected in Column A01.</b> )	Y	Y	Y	Y	Y	Y
TIP	If objects are negative amounts, the agency must make adjustments to Column A01 to correct the object amounts. In addition, the fund totals must be adjusted to reflect the adjustment made to the object data.						
TIP	If fund totals and object totals do not agree or negative object amounts exist, the agency must adjust Column A01.						
TIP	Exhibit B - A01 less than B04: This audit is to ensure that the disbursements and carry/certifications forward in A01 are less than FY 2015-16 approved budget. Amounts should be positive.						
TIP	If B08 is not equal to A01, check the following: 1) the initial FLAIR disbursements or carry forward data load was corrected appropriately in A01; 2) the disbursement data from departmental FLAIR was reconciled to State Accounts; and 3) the FLAIR disbursements did not change after Column B08 was created.						
<b>6. EXHIBIT D-3 (ED3R, ED3) (Not required to be submitted in the LBR - for analytical purposes only.)</b>							
6.1	Are issues appropriately aligned with appropriation categories?	Y	Y	Y	Y	Y	Y
TIP	Exhibit D-3 is no longer required in the budget submission but may be needed for this particular appropriation category/issue sort. Exhibit D-3 is also a useful report when identifying negative appropriation category problems.						
<b>7. EXHIBIT D-3A (EADR, ED3A)</b>							
7.1	Are the issue titles correct and do they clearly identify the issue? (See pages 15 through 29 of the LBR Instructions.)	Y	Y	Y	Y	Y	Y
7.2	Does the issue narrative adequately explain the agency's request and is the explanation consistent with the LRPP? (See pages 67 through 69 of the LBR Instructions.)	Y	Y	Y	Y	Y	Y
7.3	Does the narrative for Information Technology (IT) issue follow the additional narrative requirements described on pages 69 through 72 of the LBR Instructions?	Y	N/A	Y	Y	Y	N/A
7.4	Are all issues with an IT component identified with a "Y" in the "IT COMPONENT?" field? If the issue contains an IT component, has that component been identified and documented?	Y	N/A	Y	Y	Y	N/A



Action		Program or Service (Budget Entity Codes)					
		55100100	55100500	55150200	55150500	55150600	55180100
7.5	Does the issue narrative explain any variances from the Standard Expense and Human Resource Services Assessments package? Is the nonrecurring portion in the nonrecurring column? (See pages E.4 through E.6 of the LBR Instructions.)	N/A	N/A	N/A	N/A	N/A	N/A
7.6	Does the salary rate request amount accurately reflect any new requests and are the amounts proportionate to the Salaries and Benefits request? Note: Salary rate should always be annualized.	N/A	N/A	N/A	N/A	N/A	N/A
7.7	Does the issue narrative thoroughly explain/justify all Salaries and Benefits amounts entered into the Other Salary Amounts transactions (OADA/C)? Amounts entered into OAD are reflected in the Position Detail of Salaries and Benefits section of the Exhibit D-3A.	N/A	N/A	N/A	N/A	N/A	N/A
7.8	Does the issue narrative include the Consensus Estimating Conference forecast, where appropriate?	Y	Y	Y	Y	Y	Y
7.9	Does the issue narrative reference the specific county(ies) where applicable?	Y	Y	Y	Y	Y	Y
7.10	Do the 160XXX0 issues reflect budget amendments that have been approved (or in the process of being approved) and that have a recurring impact (including Lump Sums)? Have the approved budget amendments been entered in Column A18 as instructed in Memo #17-001?	N/A	N/A	N/A	N/A	N/A	N/A
7.11	When appropriate are there any 160XXX0 issues included to delete positions placed in reserve in the OPB Position and Rate Ledger (e.g. unfunded grants)? Note: Lump sum appropriations not yet allocated should <u>not</u> be deleted. <b>(PLRR, PLMO)</b>	N/A	N/A	N/A	N/A	N/A	N/A
7.12	Does the issue narrative include plans to satisfy additional space requirements when requesting additional positions?	N/A	N/A	N/A	N/A	N/A	N/A
7.13	Has the agency included a 160XXX0 issue and 210XXXX and 260XXX0 issues as required for lump sum distributions?	N/A	N/A	N/A	N/A	N/A	N/A
7.14	Do the amounts reflect appropriate FSI assignments?	Y	Y	Y	Y	Y	Y
7.15	Are the 33XXXX0 issues negative amounts only and do not restore nonrecurring cuts from a prior year or fund any issues that net to a positive or zero amount? Check D-3A issues 33XXXX0 - a unique issue should be used for issues that net to zero or a positive amount.	Y	N/A	Y	N/A	Y	Y
7.16	Do the issue codes relating to special <i>salary and benefits</i> issues (e.g., position reclassification, pay grade adjustment, overtime/on-call pay, etc.) have an "A" in the fifth position of the issue code (XXXXAXX) and are they self-contained (not combined with other issues)? (See pages 28 and 90 of the LBR Instructions.)	N/A	N/A	N/A	N/A	N/A	N/A
7.17	Do the issues relating to <i>Information Technology (IT)</i> have a "C" in the sixth position of the issue code (36XXXXCX) and are the correct issue codes used (361XXC0, 362XXC0, 363XXC0, 17C01C0, 17C02C0, 17C03C0, 24010C0, 33001C0, 30010C0, 33011C0, 160E470, 160E480 or 55C01C0)?	Y	N/A	Y	Y	Y	N/A
7.18	Are the issues relating to <i>major audit findings and recommendations</i> properly coded (4A0XXX0, 4B0XXX0)?	N/A	N/A	N/A	N/A	N/A	N/A
7.19	Does the issue narrative identify the strategy or strategies in the Five Year Statewide Strategic Plan for Economic Development?	Y	Y	Y	Y	Y	Y
<b>AUDIT:</b>							
7.20	Are all FSI's equal to '1', '2', '3', or '9'? There should be no FSI's equal to '0'. <b>(EADR, FSIA - Report should print "No Records Selected For Reporting")</b>	Y	Y	Y	Y	Y	Y
7.21	Does the General Revenue for 160XXXX (Adjustments to Current Year Expenditures) issues net to zero? <b>(GENR, LBR1)</b>	N/A	N/A	N/A	N/A	N/A	N/A
7.22	Does the General Revenue for 180XXXX (Intra-Agency Reorganizations) issues net to zero? <b>(GENR, LBR2)</b>	N/A	N/A	N/A	N/A	N/A	N/A
7.23	Does the General Revenue for 200XXXX (Estimated Expenditures Realignment) issues net to zero? <b>(GENR, LBR3)</b>	N/A	N/A	N/A	N/A	N/A	N/A

Action		Program or Service (Budget Entity Codes)					
		55100100	55100500	55150200	55150500	55150600	55180100
7.24	Have FCO appropriations been entered into the nonrecurring column (A04)? <b>(GENR, LBR4 - Report should print "No Records Selected For Reporting" or a listing of D-3A issue(s) assigned to Debt Service (IOE N) or in some cases State Capital Outlay - Public Education Capital Outlay (IOE L))</b>	Y	Y	Y	Y	N/A	Y
TIP	Salaries and Benefits amounts entered using the OADA/C transactions must be thoroughly justified in the D-3A issue narrative. Agencies can run <b>OADA/OADR</b> from STAM to identify the amounts entered into OAD and ensure these entries have been thoroughly explained in the D-3A issue narrative.						
TIP	The issue narrative must completely and thoroughly explain and justify each D-3A issue. Agencies must ensure it provides the information necessary for the OPB and legislative analysts to have a complete understanding of the issue submitted. Thoroughly review pages 67 through 71 of the LBR Instructions.						
TIP	Check BAPS to verify status of budget amendments. Check for reapprovals not picked up in the General Appropriations Act. Verify that Lump Sum appropriations in Column A02 do not appear in Column A03. Review budget amendments to verify that 160XXX0 issue amounts correspond accurately and net to zero for General Revenue funds.						
TIP	If an agency is receiving federal funds from another agency the FSI should = 9 (Transfer - Recipient of Federal Funds). The agency that originally receives the funds directly from the federal agency should use FSI = 3 (Federal Funds).						
TIP	If a state agency needs to include in its LBR a realignment or workload request issue to align its data processing services category with its projected FY 2017-18 data center costs, this can be completed by using the State Data Center data processing services category (210001).						
TIP	If an appropriation made in the FY 2016-17 General Appropriations Act duplicates an appropriation made in substantive legislation, the agency must create a unique deduct nonrecurring issue to eliminate the duplicated appropriation. Normally this is taken care of through line item veto.						
<b>8. SCHEDULE I &amp; RELATED DOCUMENTS (SC1R, SC1 - Budget Entity Level or SC1R, SC1D - Department Level)</b>							
8.1	Has a separate department level Schedule I and supporting documents package been submitted by the agency?				Y		
8.2	Has a Schedule I and Schedule IB been completed in LAS/PBS for each operating trust fund?				Y		
8.3	Have the appropriate Schedule I supporting documents been included for the trust funds (Schedule IA, Schedule IC, and Reconciliation to Trial Balance)?				Y		
8.4	Have the Examination of Regulatory Fees Part I and Part II forms been included for the applicable regulatory programs?				Y		
8.5	Have the required detailed narratives been provided (5% trust fund reserve narrative; method for computing the distribution of cost for general management and administrative services narrative; adjustments narrative; revenue estimating methodology narrative; fixed capital outlay adjustment narrative)?				Y		
8.6	Has the Inter-Agency Transfers Reported on Schedule I form been included as applicable for transfers totaling \$100,000 or more for the fiscal year?				Y		
8.7	If the agency is scheduled for the annual trust fund review this year, have the Schedule ID and applicable draft legislation been included for recreation, modification or termination of existing trust funds?				N/A		
8.8	If the agency is scheduled for the annual trust fund review this year, have the necessary trust funds been requested for creation pursuant to section 215.32(2)(b), Florida Statutes - including the Schedule ID and applicable legislation?				N/A		
8.9	Are the revenue codes correct? In the case of federal revenues, has the agency appropriately identified direct versus indirect receipts (object codes 000700, 000750, 000799, 001510 and 001599)? For non-grant federal revenues, is the correct revenue code identified (codes 000504, 000119, 001270, 001870, 001970)?				Y		

Action		Program or Service (Budget Entity Codes)					
		55100100	55100500	55150200	55150500	55150600	55180100
8.10	Are the statutory authority references correct?						Y
8.11	Are the General Revenue Service Charge percentage rates used for each revenue source correct? (Refer to section 215.20, Florida Statutes, for appropriate General Revenue Service Charge percentage rates.)						Y
8.12	Is this an accurate representation of revenues based on the most recent Consensus Estimating Conference forecasts?						Y
8.13	If there is no Consensus Estimating Conference forecast available, do the revenue estimates appear to be reasonable?						Y
8.14	Are the federal funds revenues reported in Section I broken out by individual grant? Are the correct CFDA codes used?						Y
8.15	Are anticipated grants included and based on the state fiscal year (rather than federal fiscal year)?						Y
8.16	Are the Schedule I revenues consistent with the FSI's reported in the Exhibit D-3A?						Y
8.17	If applicable, are nonrecurring revenues entered into Column A04?						Y
8.18	Has the agency certified the revenue estimates in columns A02 and A03 to be the latest and most accurate available? Does the certification include a statement that the agency will notify OPB of any significant changes in revenue estimates that occur prior to the Governor's Budget Recommendations being issued?						Y
8.19	Is a 5% trust fund reserve reflected in Section II? If not, is sufficient justification provided for exemption? Are the additional narrative requirements provided?						Y
8.20	Are appropriate General Revenue Service Charge nonoperating amounts included in Section II?						Y
8.21	Are nonoperating expenditures to other budget entities/departments cross-referenced accurately?						Y
8.22	Do transfers balance between funds (within the agency as well as between agencies)? (See also 8.6 for required transfer confirmation of amounts totaling \$100,000 or						Y
8.23	Are nonoperating expenditures recorded in Section II and adjustments recorded in Section III?						Y
8.24	Are prior year September operating reversions appropriately shown in column A01?						Y
8.25	Are current year September operating reversions appropriately shown in column A02?						Y
8.26	Does the Schedule IC properly reflect the unreserved fund balance for each trust fund as defined by the LBR Instructions, and is it reconciled to the agency						Y
8.27	Has the agency properly accounted for continuing appropriations (category 13XXXX) in column A01, Section III?						Y
8.28	Does Column A01 of the Schedule I accurately represent the actual prior year accounting data as reflected in the agency accounting records, and is it provided in sufficient detail for analysis?						Y
8.29	Does Line I of Column A01 (Schedule I) equal Line K of the Schedule IC?						Y
<b>AUDITS:</b>							
8.30	Is Line I a positive number? (If not, the agency must adjust the budget request to eliminate the deficit).						Y
8.31	Is the June 30 Adjusted Unreserved Fund Balance (Line I) equal to the July 1 Unreserved Fund Balance (Line A) of the following year? If a Schedule IB was prepared, do the totals agree with the Schedule I, Line I? ( <b>SC1R, SC1A - Report should print "No Discrepancies Exist For This Report"</b> )						Y
8.32	Has a Department Level Reconciliation been provided for each trust fund and does Line A of the Schedule I equal the CFO amount? If not, the agency must correct Line A. ( <b>SC1R, DEPT</b> )						Y
8.33	Has a Schedule IB been provided for ALL trust funds having an unreserved fund balance in columns A01, A02 and/or A03, and if so, does each column's total agree						Y

Action		Program or Service (Budget Entity Codes)					
		55100100	55100500	55150200	55150500	55150600	55180100
8.34	Have A/R been properly analyzed and any allowances for doubtful accounts been properly recorded on the Schedule IC?	Y					
TIP	The Schedule I is the most reliable source of data concerning the trust funds. It is very important that this schedule is as accurate as possible!						
TIP	Determine if the agency is scheduled for trust fund review. (See page 130 of the LBR Instructions.) Transaction DFTR in LAS/PBS is also available and provides an LBR review date for each trust fund.						
TIP	Review the unreserved fund balances and compare revenue totals to expenditure totals to determine and understand the trust fund status.						
TIP	Typically nonoperating expenditures and revenues should not be a negative number. Any negative numbers must be fully justified.						
<b>9. SCHEDULE II (PSCR, SC2)</b>							
AUDIT:							
9.1	Is the pay grade minimum for salary rate utilized for positions in segments 2 and 3? <b>(BRAR, BRAA - Report should print "No Records Selected For This Request")</b> Note: Amounts other than the pay grade minimum should be fully justified in the D-3A issue narrative. (See <i>Base Rate Audit</i> on page 161 of the LBR Instructions.)	Those position transfer issues with the vacant positions requested to transfer at the broadband minimum.					
<b>10. SCHEDULE III (PSCR, SC3)</b>							
10.1	Is the appropriate lapse amount applied? (See page 92 of the LBR Instructions.)	N/A	N/A	N/A	N/A	N/A	N/A
10.2	Are amounts in <i>Other Salary Amount</i> appropriate and fully justified? (See page 99 of the LBR Instructions for appropriate use of the OAD transaction.) Use <b>OADI</b> or <b>OADR</b> to identify agency other salary amounts requested.	N/A	N/A	N/A	N/A	N/A	N/A
<b>11. SCHEDULE IV (EADR, SC4)</b>							
11.1	Are the correct Information Technology (IT) issue codes used?	Y	N/A	Y	Y	Y	N/A
TIP	If IT issues are not coded (with "C" in 6th position or within a program component of 1603000000), they will not appear in the Schedule IV.						
<b>12. SCHEDULE VIIIA (EADR, SC8A)</b>							
12.1	Is there only one #1 priority, one #2 priority, one #3 priority, etc. reported on the Schedule VIII-A? Are the priority narrative explanations adequate? Note: FCO issues can now be included in the priority listing.	Y	Y	Y	Y	Y	Y
<b>13. SCHEDULE VIIIB-1 (EADR, S8B1)</b>							
13.1	<b>NOT REQUIRED FOR THIS YEAR</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>14. SCHEDULE VIIIB-2 (EADR, S8B2)</b>							
14.1	Do the reductions comply with the instructions provided on pages 104 through 106 of the LBR Instructions regarding a 10% reduction in recurring General Revenue and Trust Funds, including the verification that the 33BXXX0 issue has NOT been used?	Y	Y	Y	Y	Y	Y
<b>15. SCHEDULE VIIIC (EADR, S8C)</b> (LAS/PBS Web - see page 107-109 of the LBR Instructions for detailed instructions)							
15.1	Agencies are required to generate this schedule via the LAS/PBS Web.	Y	Y	Y	Y	Y	Y
15.2	Does the schedule include at least three and no more than 10 unique reprioritization issues, in priority order? Manual Check.	Y	Y	Y	Y	Y	Y
15.3	Does the schedule display reprioritization issues that are each comprised of two unique issues - a deduct component and an add-back component which net to zero at the department level?	Y	Y	Y	Y	Y	Y
15.4	Are the priority narrative explanations adequate and do they follow the guidelines on pages 107-109 of the LBR instructions?	Y	Y	Y	Y	Y	Y
15.5	Does the issue narrative in A6 address the following: Does the state have the authority to implement the reprioritization issues independent of other entities (federal and local governments, private donors, etc.)? Are the reprioritization issues an allowable use of the recommended funding source?	Y	Y	Y	Y	Y	Y
AUDIT:							

		Program or Service (Budget Entity Codes)					
Action		55100100	55100500	55150200	55150500	55150600	55180100
15.6	Do the issues net to zero at the department level? ( <b>GENR, LBR5</b> )	Y					
<b>16. SCHEDULE XI (USCR,SCXI) (LAS/PBS Web - see page 110-114 of the LBR Instructions for detailed instructions)</b>							
16.1	Agencies are required to generate this spreadsheet via the LAS/PBS Web. <b>The Final Excel version no longer has to be submitted to OPB for inclusion on the Governor's Florida Performs Website.</b> (Note: Pursuant to section 216.023(4) (b), Florida Statutes, the Legislature can reduce the funding level for any agency that does not provide this information.)	Y	Y	Y	Y	Y	Y
16.2	Do the PDF files uploaded to the Florida Fiscal Portal for the LRPP and LBR match?	Y	Y	Y	Y	Y	Y
<b>AUDITS INCLUDED IN THE SCHEDULE XI REPORT:</b>							
16.3	Does the FY 2015-16 Actual (prior year) Expenditures in Column A36 reconcile to Column A01? ( <b>GENR, ACT1</b> )	Y					
16.4	None of the executive direction, administrative support and information technology statewide activities (ACT0010 thru ACT0490) have output standards (Record Type 5)? ( <b>Audit #1 should print "No Activities Found"</b> )	Y					
16.5	Does the Fixed Capital Outlay (FCO) statewide activity (ACT0210) only contain 08XXXX or 14XXXX appropriation categories? ( <b>Audit #2 should print "No Operating Categories Found"</b> )	Y					
16.6	Has the agency provided the necessary standard (Record Type 5) for all activities which <u>should</u> appear in Section II? (Note: <b>Audit #3</b> will identify those activities that do NOT have a Record Type '5' and have not been identified as a 'Pass Through' activity. These activities will be displayed in Section III with the 'Payment of Pensions, Benefits and Claims' activity and 'Other' activities. Verify if these activities should be displayed in Section III. If not, an output standard would need to be added for that activity and the Schedule XI submitted again.)	Y					
16.7	Does Section I (Final Budget for Agency) and Section III (Total Budget for Agency) equal? ( <b>Audit #4 should print "No Discrepancies Found"</b> )	Y					
TIP	If Section I and Section III have a small difference, it may be due to rounding and therefore will be acceptable.						
<b>17. MANUALLY PREPARED EXHIBITS &amp; SCHEDULES</b>							
17.1	Do exhibits and schedules comply with LBR Instructions (pages 115 through 158 of the LBR Instructions), and are they accurate and complete?	Y					
17.2	Does manual exhibits tie to LAS/PBS where applicable?	Y					
17.3	Are agency organization charts (Schedule X) provided and at the appropriate level of detail?	Y					
17.4	Does the LBR include a separate Schedule IV-B for each IT project over \$1 million (see page 134 of the LBR instructions for exceptions to this rule)? Have all IV-Bs been emailed to: <b>IT@LASPBS.STATE.FL.US?</b>	Y					
17.5	Are all forms relating to Fixed Capital Outlay (FCO) funding requests submitted in the proper form, including a Truth in Bonding statement (if applicable) ?	Y	Y	Y	Y	N/A	Y
<b>AUDITS - GENERAL INFORMATION</b>							
TIP	Review <i>Section 6: Audits</i> of the LBR Instructions (pages 160-162) for a list of audits and their descriptions.						
TIP	Reorganizations may cause audit errors. Agencies must indicate that these errors are due to an agency reorganization to justify the audit error.						
<b>18. CAPITAL IMPROVEMENTS PROGRAM (CIP)</b>							
18.1	Are the CIP-2, CIP-3, CIP-A and CIP-B forms included?	N/A	N/A	Y	Y	N/A	Y
18.2	Are the CIP-4 and CIP-5 forms submitted when applicable (see CIP Instructions)?	N/A	N/A	Y	Y	N/A	Y
18.3	Do all CIP forms comply with CIP Instructions where applicable (see CIP	N/A	N/A	Y	Y	N/A	Y
18.4	Does the agency request include 5 year projections (Columns A03, A06, A07, A08 and A09)?	N/A	N/A	Y	Y	N/A	Y

Action		Program or Service (Budget Entity Codes)					
		55100100	55100500	55150200	55150500	55150600	55180100
18.5	Are the appropriate counties identified in the narrative?	N/A	N/A	Y	Y	N/A	Y
18.6	Has the CIP-2 form (Exhibit B) been modified to include the agency priority for each project and the modified form saved as a PDF document?	N/A	N/A	Y	Y	N/A	Y
TIP	Requests for Fixed Capital Outlay appropriations which are Grants and Aids to Local Governments and Non-Profit Organizations must use the Grants and Aids to Local Governments and Non-Profit Organizations - Fixed Capital Outlay major appropriation category (140XXX) and include the sub-title "Grants and Aids". These appropriations utilize a CIP-B form as justification.						
<b>19. FLORIDA FISCAL PORTAL</b>							
19.1	Have all files been assembled correctly and posted to the Florida Fiscal Portal as outlined in the Florida Fiscal Portal Submittal Process?	Y	Y	Y	Y	Y	Y