FLORIDA TRANSPORTATION ASSET MANAGEMENT PLAN

Technical Report

Florida Department of Transportation

September 3, 2015

Florida Transportation Asset Management Plan

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1.0 Introduction

The Florida Transportation Asset Management Plan (TAMP) includes supplemental information generated during the course of the Plan's development. A series of technical memoranda were prepared to assist the Core Working Group develop the final TAMP. This technical report summarizes the technical memoranda that were used to support the Core Working Group's efforts.

This report contains the following sections:

- 1.0 Performance Gap Analysis
- 2.0 Risk Management and Mitigation
- 3.0 Detailed Process Information
- 4.0 Systemwide Valuations
- 5.0 TAMP Governance and Principles

2.0 Performance Gap Analysis

This section includes the result of the TAMP Performance Gap Analysis.

A Performance Gap Analysis was completed in three primary areas based on the guidance of the Asset Management Core Working Group. These three areas were:

- Existing Practices and Policies,
- Financial Processes and Funding Levels, and
- Risk Management and Assessment.

2.1 Existing Practices and Policies

Florida's mandated preservation and maintenance condition principles establish a strong foundation for department asset management policies and approaches. Using the background information and asset management self-assessment as a guide, consultant staff completed a series of interviews with pavement, bridge, financial, and maintenance personnel. Consultants also reviewed dozens of documents, plans, operating policies, and previously completed research. During the course of these interviews and literature reviews, several observations were made on potential improvements in asset management practices for the department.

In no particular order, the following opportunities exist to continue effective efforts or improve asset management practices within the department. These will be considered by the Asset Management Steering Committee going forward.

- Responsibility for the formal asset management plan and department asset management implementation resides in shared duties between the Office of Policy Planning and the Office of Maintenance. As such, the department will continue to provide for open communication among all personnel involved in implementing the asset management program.
- In Florida, there are several actively involved participants in the asset management program and the policies for including resurfacing, bridge, and maintenance funding in programs have involved multiple people for several years.
- The establishment of the Asset Management Steering Committee as a governing body over the TAMP will ensure the TAM process continues to be well managed within the department.
- There appears to be some opportunity for maintenance and preservation efforts to better coordinate with capacity projects in the programming process. Based on staff interviews, the opportunity to identify long-term preventive maintenance activities in

connection with programmed projects is not considered strongly in the current processes. There may be opportunities for more formal communication in this area. This will be addressed by the Asset Management Steering Committee going forward.

- For preservation focused bridge activity, deterministic approaches to maintenance activities are programmed for bridges in the system. This network-level approach may be modeled more accurately to portray complete information for project prioritization.

- Increased pressure for inspectors, maintenance professionals, and managers to complete evaluations on an aging and an increasingly complex transportation network creates a potential for workforce capacity issues in the department. This is not dissimilar to other state agencies and other Departments of Transportation nationally. The department will continue to ensure workforce resources are adequate in the future.

- Data collection processes are adequate to meet MAP-21 requirements for pavements and bridges. Once the Florida TAMP is expanded to include other assets, it is likely that new data collection processes and techniques would be required. This could include updates for information technology resources. In addition, future developments in the automated and connected vehicle environment may allow increased and potentially improved data collection information for all assets.

2.2 Financial Processes and Funding Levels

The department's open, transparent, and thorough approach to project selection and work program development, coupled with statutory guidance requiring investment in maintenance and preservation before capacity programs, positions the department well to meet all pavement and bridge related performance requirements under MAP-21.

This section details observations on financial processes and funding levels that were part of the performance gap assessment completed as part of the TAMP process. The Asset Management Steering Committee will consider these opportunities:

- A more detailed document outlining the processes for budget distribution, project selection, project tracking, and similar information would be useful for asset managers in the agency outside of the office of work program and budget. Opportunities exist to allow asset managers better understanding and provide training to their staff members on these processes.

- Stronger tools to assess budget tradeoffs and scenarios may enhance the efficiency of the work program development process. In general, cross-asset optimization is a capability that can be improved with stronger analytic tools and cross-department communication. Specifically, there is an opportunity to better understand the implications of trading off investment dollars in one program versus another program, and comparing the associated performance gains and losses.

- There is not a consistent method to introduce standalone funding categories to specifically pursue priority efforts. In many cases this may be viewed as a positive aspect to ensure consistency of processes. However, there may be opportunities for new funding sources to support new technology areas such as operations on arterials. Development of a process for adding funding categories could benefit the department as new technologies and funding areas emerge.

2.3 Risk Management and Assessment

Based on strong legislative guidance requiring minimum conditions to be met, the department has minimized its financial and budget risks associated with maintaining a state of good repair for the state's pavements and bridges.

Project level risk management strategies are well established and very strong in the department while enterprise wide or programmatic risks are not as well understood. The department's Project Manager's Toolbox includes an entire section detailing risk and its application in the field. The toolbox includes a quick risk based "graded approach analysis" used to determine requirements for planning and control of the project work effort.

The Florida Transportation Plan further states that the department should incorporate the risk of service interruption (e.g., extreme events, asset failures, bridge scour, etc.) into its priority-setting process. The department also considers risks associated with delivering asset management programs and projects (e.g., loss of funding, uncertainty of quality of materials, project costs, unknown bridge depths, risky bid types, etc.)

During the development of the Florida TAMP, a series of project, programmatic, and enterprise wide risks were identified. More information on this process is included in 6.2: Risk Management and Mitigation. The following observations were generated during the gap assessment effort. The Asset Management Steering Committee will consider these opportunities.

- Due to the expected federal rulemaking focusing on risk, the department should adopt a formal risk-based approach to asset management. Existing policies for bridges and pavements fulfill the minimum requirements necessary to meet federal guidance.

- Mechanisms may be formalized to identify regular updates to the risk register, reclassification of risk likelihood or prioritization, or inclusion of new risks requiring mitigation or other treatment. An overall framework to consider mitigation strategies for various risk events/sites is desired, as well as for comparing and trading off investments across various risk opportunities.

- At present, project identification is based on a number of engineering criteria or responses to condition changes. There is an opportunity to establish policy or procedure to formally insert risk based analysis in the project selection process.

- Department staff expressed a great deal of interest in understanding how risk related analysis could improve the project identification and selection processes. Additional training and discussion may be valuable.

3.0 Risk Management and Mitigation

The Florida Transportation Plan states that the department should incorporate the risk of service interruption (e.g., extreme events, asset failures, bridge scour, etc.) into its priority-setting process. The department also considers risks associated with delivering asset management programs and projects (e.g., loss of funding, uncertainty of quality of materials, project costs, unknown bridge depths, risky bid types, etc.). The question that remains is how best to incorporate these unknowns and how to systematically address them in a repeatable manner.

Preparation for the risk workshops included summarization of key trends affecting maintenance and operations in the coming years. This work summarized key issues associated with the provision of transportation services in the coming years.

This section also captures the risk register used in the Florida TAMP Risk focused workshops and core working group meetings to develop the priority items noted in the TAMP. The document also includes the proposed mitigation approaches to be considered.

3.1 Trends Affecting Maintenance and Operations

Several emerging trends in public sector management for transportation assets will substantially alter the department's processes for delivering programs in the coming years. The trend assessment effort did not present them as individual risks in the sense that they require mitigation approaches, but rather as context for the FDOT risk register and risk plans.

Emerging trends discussed included design, construction, and construction management area concerns followed by operations trends. On the construction side, the following trends were assessed:

- Mechanistic Empirical Design,
- 6D Design,
- Design Build Operate Maintain Contract Mechanisms, and
- Materials Technology.

These trends influence the context under which construction and maintenance occur and must be considered for long-term planning.

Operations focused trends included:

- Growth in alternative transportation usage, including shared ride and transportation network providers,

- Residential location behaviors,
- Vehicle connectivity and automation, and
- Data-related changes, including the availability of new data sets for real-time system management and operations.

These trends were discussed to establish an initial risk register. The initial risk register included 26 areas to consider across agency, program, and asset level categorizations. These risks were defined as follows:

- **Agency (Strategic, Corporate) Risks.** These affect mission, vision, and overall results of the asset management program. Examples include politics, public perception, reputation, levels of available revenue, etc.
- **Programmatic (Business Line) Risks.** Affects the department's ability to deliver projects and meet targets within a program. These may include organizational and systemic issues as well as revenue and economic uncertainties that in general cause projects to be delayed. These causes are not related to any specific projects. Examples include project delivery risks, revenue uncertainties, cost-estimating processes, revenue and inflation projection inaccuracies, construction cost variations, materials price volatility, data quality, retirements, etc.
- **Project/Asset Risks.** Affects scope, cost, schedule, and quality of projects. In contrast to programmatic risks, project risks are related to specific projects. Examples include hazardous materials, geology, environmental issues, right-of-way issues, utilities, project development timeline/delays, scope growth, cost overruns, project delays, etc.

3.2 Risk Register

Although the concept of risk management sometimes is viewed as esoteric, tools to identify and evaluate risks are simple. The department chose to develop a risk register based on best practices developed by the FHWA and other state DOTs. An initial risk register was developed and refined by subsequent efforts The final risk register is presented here. The risk register scores presented herein are based on a consequence score multiplied by a likelihood score. Each is rated on a score of 1-5 with five being the most catastrophic or most likely. The consequence score is based on an average of four consequences: safety, mobility, asset damage, and other financial impact. The maximum score based on this scoring would be 25. To differentiate between risks, and highlight key issues of importance to the department, a bonus score was included for other considerations, including funding, insurance, regulations, political, and reputation. 0.2 points were awarded across each consideration, allowing for a maximum enhancement of 1.0. Scores were rounded up to simplify the tiering process. With the bonus included, the maximum score would be 26.

Table 1 Revised Risk Register

	Event/Occurrence	Likelihood	Consequence Score				Other Considerations					Risk Score
			Safety	Mobility	Asset Damage	Other Financial Impact	Funding	Insurance	Regulatory	Political	Reputation	
Agency Risks												
A	State and Federal funding are significantly reduced across the board for transportation.	2	3	4	3	4	√		√	√		8
B	State funding is reduced to FDOT due to poor public perception of the agency.	1	2	4	1	3	√		√	√	√	3
C	Flexibility with Federal funding is reduced due to failure to meet regulatory standards (MAP-21).	1	2	2	2	2	√		√	√	√	2
D	Funds are not sufficient for capital and maintenance projects due to inflation in construction costs.	2	2	4	3	4	√	√	√	√	√	7
E	Funds are not sufficient for capital and maintenance projects due to failure to accurately predict funding.	2	2	4	3	3	√			√	√	7
F	Funds are not sufficient for capital and maintenance projects due to failure to accurately predict costs.	1	2	4	3	3		√		√	√	3
G	Asset management at FDOT is inefficient or ineffective due to a lack of communication with staff.	1	2	1	1	1	√			√	√	1
Program Risks												
H	FDOT's ability to efficiently deliver programs is undermined due to unfunded Federal mandates.	2	3	4	2	3	√		√		√	7
I	FDOT's ability to efficiently deliver programs is undermined due to diversion of funds to high-profile projects.	1	3	3	3	3	√	√		√	√	4
J	FDOT's ability to efficiently deliver programs is undermined due to staff turnover and loss of expertise/experience.	3	3	3	2	3				√	√	9
K	FDOT's ability to efficiently deliver programs is undermined due to poor data management systems and strategies.	1	3	3	3	3						3
L	FDOT's ability to efficiently deliver programs is undermined due to poor management.	2	3	3	3	3			√		√	7

	Event/Occurrence	Likelihood	Consequence Score				Other Considerations					Risk Score
			Safety	Mobility	Asset Damage	Other Financial Impact	Funding	Insurance	Regulatory	Political	Reputation	
M	FDOT's ability to deliver programs is impacted by a new statute requiring capacity-related investment.	2	3	3	2	3	√	√		√	√	6
N	FDOT's ability to efficiently deliver programs is undermined due to unpredicted variation in construction costs.	2	3	3	2	3	√	√			√	6
Asset Risks												
O	Assets are damaged or destroyed due to hurricanes.	4	4	4	4	4		√		√	√	18
P	Assets are damaged or destroyed due to flooding (often associated with hurricanes).	4	4	4	4	4		√		√	√	18
Q	Assets are damaged or destroyed due to tornadoes.	2	1	2	3	2		√			√	5
R	Assets are damaged or destroyed due to wildfires.	2	2	2	3	1	√	√		√	√	5
S	Assets are damaged or destroyed due to vehicle impacts and/or hazardous materials spill.	3	2	2	3	2	√	√			√	8
T	Assets are damaged or destroyed due to retaining wall failure, landslides, or rockfalls.	1	1	2	2	1		√	√		√	2
U	Bridges are damaged or destroyed due to scour.	2	2	3	4	3	√	√			√	7
V	Assets are damaged or destroyed due to failure of ITS and traffic safety equipment.	1	2	2	1	1		√			√	2
W	Bridges fail for reasons other than impacts and scour.	1	3	3	4	2	√	√		√	√	4
X	Culverts and other drainage facilities fail (blockages or overtopping) unexpectedly.	3	2	3	4	2	√	√			√	9
Y	Sinkholes emerge under or near roadway sections compromising foundation.	3	3	3	3	2				√	√	9
Z	FDOT'S ability to construct/maintain assets is compromised due to unanticipated increase of project scope.	2	1	2	1	3	√	√			√	4

At an August 2014 workshop, the following risks were prioritized as most important for inclusion in the TAMP. During the development of proposed asset management enhancements, mitigation activities were reviewed and presented for consideration by the Asset Management Steering Committee.

3.3 Risk Related Strategies

Agency Level Risks

1. **State and Federal funding are significantly reduced across the board for transportation.** In the event that state or federal funding is significantly reduced, the department would need to reallocate funding and/or reprioritize projects. This risk could be caused by either policy decisions or federal inactivity.

   External risk. Given the department's limited control over legislative funding priorities (and even more marginal control over total federal funding), the department will mitigate this risk by:

   - Prioritization. The department already prioritizes projects based on general importance and overall impact to the transportation system. This approach would ensure that should funding reductions occur, projects critical to achieving agency objectives and performance goals are eliminated last.

   - Performance reporting. The department does project expected reductions in performance related to key agency objectives under funding-constrained scenarios and convey results to lawmakers and/or the public (thereby making a case for sustaining or expanding current funding levels).

2. **Funds are not sufficient for capital and maintenance projects due to inflation in construction costs.** Inflation in construction costs would increase the budgetary load of projects and reduce the number of projects the department could fund. This would inhibit the completion of the Work Program.

   External risk: The department cannot control the broader forces contributing to construction cost inflation. However, FDOT will manage its programs and contracts to minimize these risks as follows:

   - Prioritization. As with the previous risk, the department considers approaches that tier programs and projects by relative priority. This ensures that, should significant cost inflation occur, construction projects critical to achieving agency objectives and performance goals are eliminated last.

   - Risk reallocation. The department currently institutes contract mechanisms that control or stabilize costs throughout the duration of the project, shifting the burden of some risks to contractors (although bids reflect this risk reallocation).

3. **Funds are not sufficient for capital and maintenance projects due to failure to accurately predict funding.** The Work Program is presented over five years, but the horizon on budgeting is only one year. It is possible that in years two through four the state might not appropriate the funding that the department anticipates, forcing some elements of the Work Program to be postponed.

   External Risk: Due to a wide variety of factors beyond the department's direct control, even informed predictions of future funding can prove to be inaccurate, particularly during the latter years of the Work Program. The department could address this risk by:

   - Prioritization. The department allocates resources by relative priority to ensure that, should funding predictions fall short, projects critical to achieving agency objectives and performance goals are eliminated last. Particularly in the latter years of the Work Program, when significant variances from funding predictions are most likely, the department develops contingency plans (to supplement funding, cut projects, or both) to address potential funding shortfalls.

Program Level

1. **The department's ability to efficiently deliver programs is undermined due to unfunded Federal mandates.** Unfunded mandates put a strain on state budgets by imposing sanctions if money is not diverted to cover them.

   External risk: The department has minimal control over the timing and nature of Federal mandates, but may manage this risk (to a limited degree) by:

   - Staying abreast of Federal developments. If the department is able to anticipate the timing and nature of Federal mandates well in advance, it may buy time to better prepare for the impacts (or, to a limited degree, shape the mandate through its Federal representation). The department currently maintains strong relationships with Federal officials and key Congressional representatives to maintain high levels of knowledge to anticipate such policy changes.

   - Engaging Florida's national representation. Florida has a large legislative contingent in Washington, which, if proactively engaged by the department (or, through the State's administration), may be able to help shape Federal mandates to better reflect the realities facing Florida and other state departments of transportation.

2. **The department's ability to efficiently deliver programs is undermined due to staff turnover and loss of expertise/experience.** Expertise and experience could be lost when leader or subject matter expert leaves.

Internal risk: Although attrition is a workplace reality, the department manages this risk through strategies intended to retain high performing employees and attract promising new employees, including:

- Rewards. Although the department's ability to reward employees is limited by statutory requirements, the department has considered bolstering programs meant to identify high-performing staff early on and develop managerial and non-managerial job descriptions that correspond with higher salary grades (i.e., linking financial rewards with incremental promotions). Among these are flexible scheduling and workplace accommodation programs.

- Workplace. Fostering a welcoming, high-quality workplace is critical to retaining employees. The department should continue to work with its Human Resources and Facilities groups to explore opportunities for improvement.

- Post-employment restrictions. The department already prohibits certain categories of former department employees (Selected Exempt Service or Senior Management Service) from representing a private firm before the department for a two-year period after leaving the department. This restriction limits the incentive of the senior department staff to resign to seek employment with private contractors serving the department.

3. **The department's ability to efficiently deliver programs is undermined due to poor management.** Poor management could create an unproductive or inefficient atmosphere in the department. In addition, poor management could affect the tracking of asset condition and project spending.

   Internal risk: The department minimizes the opportunities for and impacts of poor management by employing strategies that include:

   - Institutional controls. Building on its strong institutional controls and protocols, the department can further eliminate opportunities for poor management. This includes mandatory management training programs; strategic cross checks relating to key management decisions; the development of monitoring and performance measurement protocols for staff and project managers; and removal of authority if a history of poor management becomes evident.

4. **The department's ability to efficiently deliver programs is undermined due to diversion of funds to high-profile projects.** Though the department currently has a positive relationship with the state legislature, politics or publicity could lead the legislature to overrule the department's prioritization of projects. Alternatively, a high-profile project exceeding its budget could lead to the diversion of funds from other projects.

   External risk: Although the department has a limited ability to prevent the diversion of funding to high profile projects, it can partially manage this risk by:

- Performance reporting. The department will forecast expected reductions in performance related to key agency objectives if funding for the Work Program is reallocated to high-profile projects, and convey these projected results to lawmakers and/or the public.

- Prioritization. The department will continue to develop conservative cost-affordable plans (or plan alternatives) that tier programs and projects by relative priority. This will ensure that, should significant funding reallocation occur (due to high-profile projects or other reasons), elements of the program critical to achieving agency objectives and performance goals are eliminated last.

- Alternative funding. In some instances, high-profile projects are candidates for Public-Private Partnerships/concessions. When appropriate, the department will consider alternative mechanisms and advise legislators on potential options for alternative funding.

Asset Level Risks

1. **Assets are damaged or destroyed due to flooding (often associated with hurricanes).** Flooding can undermine roadways and bridges, can increase scour on bridge piers, and can carry debris which causes impact damage to assets.

   External risk: Although hurricanes and other intense storm events are endemic to Florida and cannot be prevented, the department manages the impacts of flooding and other extreme weather risks on the department assets—particularly those deemed most critical to mobility, economy, evacuation, etc. Potential risk management strategies adopted in Florida currently include:

   - Protect/Harden. Enhance the resilience of infrastructure by developing or enhancing natural (e.g., wetlands) buffers; building engineered protection (e.g., levees); or updating design standards (e.g., higher capacity drainage, greater freeboard requirements, etc.). The department regularly considers hurricane probability in bridge design and this could be incorporated in its pavement selection processes as well.

   - Manage/Maintain. The department will continue to prioritize operations and maintenance activities that contribute to risk mitigation (e.g., culvert maintenance) and develop emergency response plans that emphasize active monitoring and management (e.g., bridge scour monitoring) before, during, and after flooding events. The 2013 State of Florida Enhanced Hazard Mitigation Plan addresses the prioritization of operations in the event of a hurricane.

   - Develop redundancy. The department will continue to prepare for intermittent loss of service by developing alternate routes or services through system expansion and/or by instituting emergency detour plans and support

infrastructure (such as ITS). In most current infrastructure development planning efforts, redundancy is considered.

- Abandon/Relocate. In accordance with federal rulemaking, the department will develop a policy to address the most vulnerable infrastructure, including the possibility of relocating roadways, bridges, or other assets to lower risk areas.

- These strategies are most cost-effective when integrated into capital investment and asset management plans and coinciding with normal asset renewal cycles.

2. **Bridges are damaged or destroyed due to scour.** Scour is the wearing and erosion of soil around bridge piers through the movement of water.

   Internal risk: Although the high-velocity flooding events that lead to scour-related failure are external (beyond the department's direct control), scour-related failure risk is significantly amplified when facilities are already scour critical. The department manages its inventory of bridges to aggressively mitigate existing scour critical facilities (through scour countermeasures or replacements) and to minimize the proportion of non-scour critical bridges that deteriorate to scour critical status. These risk management strategies include:

   - Monitoring and inspections. Particularly for bridges known to be scour critical or approaching scour critical status, an aggressive program of monitoring and inspections (beyond the normal bridge inspection frequency) is already in place. This facilitates the early identification of significant problems, allowing the department to take preemptive action before a failure event occurs.

   - Bridge management and replacement. Although monitoring and inspections provide essential information to FDOT, a successful scour mitigation program requires a management plan that balances issues of condition with the estimated degree of failure risk (related to anticipated flood velocities, angle of attack, debris, etc.), cost to mitigate or stabilize the problem, and anticipated funding—resulting in a prioritized treatment program. The department will consider adopting a scour-specific mitigation program.

3. **Culverts and other drainage facilities fail (blockages or overtopping) unexpectedly.** Severe blockages or immense rainfall can cause failures in pavement. In addition, the potential for collapse due to loading or structural failure can impact roadway networks.

   Internal risk: As with scour critical bridges, although the department cannot prevent the intense precipitation events that may instigate culvert failure, the agency does manage its culverts to mitigate the risk of failure, including:

   - Maintenance. Even when properly sized, culverts may fail if they are clogged with silt or debris or fail structurally, potentially resulting in overtopping, erosion,

and washouts. An aggressive program of culvert management—including inventories, monitoring/inspections, preventative maintenance, and proactive replacements—can help reduce the incidence of failure. The department is developing a culvert-focused maintenance program.

- Drainage design guidelines. Particularly for higher functional classification facilities, design guidelines will be modified for the installation of drainage infrastructure intended to handle more significant (lower recurrence interval) flooding events and/or for the substitution of more resilient designs (such as box culverts or bridges in place of cylindrical culverts). Upgrades could be performed during the normal asset renewal cycle, or, for example, as a component of projects to enhance fish passage.

4. Sinkholes emerge under or near roadway sections compromising foundations. Sinkholes, either naturally occurring or due to infrastructure issues (water pipe seepage), compromise pavement integrity and are potentially catastrophic events.

   External risk: Depending on whether sinkholes are natural or artificial in origin, the department will employ various strategies to help manage risk. Options differ depending on whether sinkholes are natural or artificial:

   - Natural sinkholes. Natural sinkholes form most commonly where karst geology is present—typically associated with soluble rocks such as limestone or gypsum. Soluble subsurface rocks can, over time, erode due to percolation of surface water or underground flows. The department will mitigate natural sinkhole risk by monitoring conditions where assets sit atop karst geology (and, presumably, where sinkholes have appeared in the past)—although this strategy is likely only sustainable for a select few critical assets. Systemwide, the department will consider integrating sinkhole evaluation into design guidelines to ensure that risks are minimized for new or reconstructed facilities. The Florida Geological Survey has been identified as a partner in this endeavor.

   - Artificial sinkholes. Artificial sinkholes occur most frequently in urbanized areas due to sewer or water pipe leaks, which erode subsurface stabilizing materials, or when large diameter pipes fail structurally. Over time, the department manages these risks by developing additional information on the subsurface elements. Communities with subsurface water and wastewater pipes can be encouraged to develop a robust inventory of subsurface infrastructure, with information on age and condition, that—with knowledge of typical deterioration curves—could help identify high risk facilities. Large diameter pipes beneath critical infrastructure may be monitored remotely, by camera, and major new pipes could feature fiber optics or other nano-sensing technology to alert the department of significant leaks or imminent structural failures.

5. **Assets are damaged or destroyed due to vehicle impacts and/or hazardous materials spill.** Hazardous materials can include both those which are explosive or combustible as well as those which are corrosive.

   External risk: The department can exert control over aspects of the HAZMAT transportation process, including:

   - Endorsements. The Florida Department of Highway Safety and Motor Vehicles already has a process in place for providing HAZMAT endorsements to CDL holders. If warranted, this process will be reevaluated and made more stringent.

   - Registration. Currently, under the Hazardous Materials Transportation Authorization Act (HMTAA), anyone who transports a highway-route controlled quantity of hazardous materials must register with FDOT. The department (the Secretary, specifically) has the discretionary power to require anyone transporting *any* quantity of hazardous materials to register with FDOT, meaning that the department can, in principle, lower the hazardous materials quantity thresholds to reduce spill risks.

   - National Hazardous Materials Route Registry (NHMRR). Currently, routes designated for the transport of hazardous materials are available from the National Hazardous Materials Route Registry (created by the Federal Motor Carrier Safety Administration). The department could further restrict routes, selecting a subset of the NHMRR—potentially with different routes for different types of materials—that reduce risk and exposure.

   - Penalties. Currently, fines for violating the HMTAA are limited to $55,000 per day, and imprisonment is limited to 5 years in the instance that a violation results in bodily injury (10 years if it results in death). The department could explore options for increasing the maximum allowable fine and/or recategorizing the associated criminal penalties to permit longer sentences.

   - Enforcement. The department could work with local, state, and federal law enforcement to more aggressively identify and prosecute violators, with particular emphasis on protecting critical facilities and/or high population areas.

These collective mitigation approaches will enhance the investment strategies described above and strengthen the department's ability to achieve and maintain a state of good repair for pavements and bridges.

4.0 Detailed Process Information

This section includes information on detailed process information. It includes background information including the roles and responsibilities of department offices as they relate to the financial planning and programming processes. The associated technical memorandum discussed how modeling is used to set priorities for pavements and bridges.

4.1 Role Descriptions

FDOT Executive Team

The FDOT Executive Team serves as the highest level policy advisory body for the department and provides a forum to address statewide issues, including the annual legislative budget request, the annual program planning workshops and the Florida Transportation Plan (FTP). The Executive Team serves as the principal advisory group to the Secretary. The Executive Team includes the Secretary, Assistant Secretaries, District Secretaries, Executive Director of the Turnpike Enterprise, and the Chief of Staff.

FDOT Office of Comptroller

The FDOT Office of Comptroller consists of four offices: General Accounting, Disbursement Operations, Project Finance, and Financial Management. The General Accounting Office (GAO) is responsible for the department's financial reporting in accordance with generally acceptable accounting practices, representing the department at the Revenue Estimating Conferences, and administering bond-related financing programs, among other responsibilities. The Disbursement Operations Office administers and manages the department's disbursement process and information. The Project Finance Office provides and coordinates alternative financial tools and solutions, analysis and reporting for transportation projects. The Financial Management Office is responsible for the development of the department's monthly cash forecast, oversight of cost accounting functions, funding approval processes, and the administration of federal billings and reimbursement for federally funded transportation projects. In addition, the staff provides reporting and inquiry support for the department's actual commitments.

FDOT Office of Work Program and Budget

The Office of Work Program and Budget develops and manages the department's Five-Year Adopted Work Program and provides additional financial planning services for department management. The office contains six functional areas: Budget Office; Federal Aid Management; Financial Management Support; Finance, Program and Resource Allocation; Production Management; and Work Program Development and Operations. For the purposes of this document the Budget Office, Finance, Program and Resource Allocation, Production Management, and Work Program Development and Operations functional areas hold the most relevance to the Transportation Asset Management Plan.

The Budget Office is responsible for development of the Legislative Budget Request (LBR) as well as administration of appropriations throughout the fiscal year. In addition to other responsibilities, the Budget Office develops the LBR, oversees allocation of appropriations to program areas, and communicates with budget coordinators within districts and central office units.

The Finance, Program and Resource Allocation Office is responsible for allocating and managing the resources available to the department for transportation programs in a manner that is consistent with the Florida Transportation Plan, Florida Statutes, and the mission and vision of the department. The office coordinates the annual program planning workshops. The office also develops five-year finance plans that are coordinated with the Comptroller's cash forecasts and the Program and Resource Plan, which documents planned commitment levels over a 10-year period for each of the department's programs.

The Production Management Office prepares, monitors, and reports production-related performance by all major product categories within the department's Work Program. Performance and Production Reports are presented each month at the Executive Board Meetings to track accomplishments.

The Work Program Development and Operations Office is responsible for developing Work Program Instructions and for coordinating the development, review, and administration of the work program consistent with the Work Program Instructions, department policies and procedures, and federal and state laws. The office also facilitates the development of the statewide programs to include Strategic Intermodal System (SIS), safety, bridge, and other statewide program areas.

Other Offices

Individual asset-related offices, including the Office of Maintenance, Office of Design, and the Office of Materials are responsible for developing initial budget requests and meeting statutory and performance guidelines.

Florida Transportation Commission

The Florida Transportation Commission (FTC) is a nine-member oversight board for the Florida department of Transportation. The FTC is responsible for evaluating, reviewing, and making recommendations on matters pertaining to Florida transportation policies, initiatives or revisions.

The FTC is required by statute to review the tentative Work Program and conduct a statewide public hearing annually. As part of the public hearing, it evaluates whether the tentative Work Program complies with all applicable laws and departmental policies but does not comment on individual construction projects. As part of the Work Program review process, the FTC assesses the progress that the department and its transportation partners have made in realizing the goals of economic development, improved mobility, and

increased intermodal connectivity of the SIS. The FTC also evaluates and monitors the implementation of the 2005 Growth Management Legislation. If the FTC determines that the Work Program is not in compliance with any laws or departmental policies it must report its findings and recommendations to the Florida Legislature and the Executive Office of the Governor.

Among the criteria that the FTC also considers are the Work Program's feasibility from a production capacity perspective and stability of the overall program. The FTC considers both preliminary engineering and construction management capacity in this review.

Metropolitan Planning Organizations

There currently are 27 Metropolitan Planning Organizations (MPO) in the State of Florida. The Federal Highway Administration (FHWA) apportions a lump sum amount of metropolitan planning funds each year to the State of Florida, and Florida DOT is responsible for administering the appropriation based on a base annual apportionment amount, as well as additional funds proportionate to the population of the urbanized area relative to the total urbanized area population in the State.

District/Turnpike Enterprise work programs are required to be consistent, to the maximum extent feasible, with MPO's Transportation Improvement Programs. By statute, MPOs may request that the department review-specific projects not included (or included) in the Work Program. The MPOs also can request information on projects that do not appear to be adequately addressed.

In addition, the districts hold a public hearing on projects in an urbanized area in the district to obtain input on the district's work program. The district determines the necessity of making any changes to projects included in their district work program and to hear requests for new projects to be added to, or existing projects to be deleted from, the work program. In some cases, project timelines are altered to meet important regional needs.

Other Partners

The department also engages several additional partners in the transportation development process. For example, in areas not represented by formal MPO designation, counties serve as local partners on project activities. Municipalities, federal lands, and other jurisdictions are also engaged as projects warrant.

4.2 Processes and Critical Documents

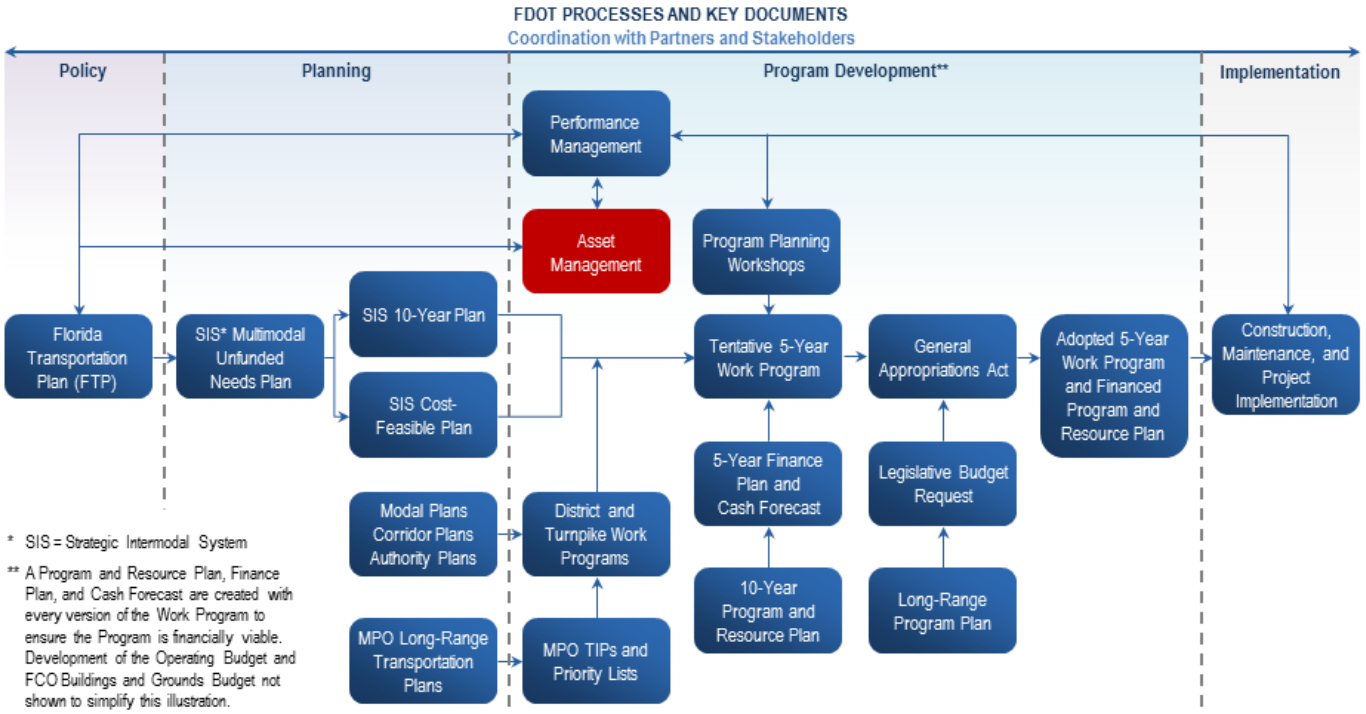
There are five critical processes and documents generated to provide overall financial guidance for the department. The **Florida Transportation Plan** provides long-term vision for the State. This Plan sets the broad policy guidance for all future department initiatives. The **Program and Resource Plan (PRP)** is a 10-year projected annual budget for all departmental programs, including the new capital and maintenance programs. The PRP

provides program funding levels that form the basis for the department's Finance Plan, Five-Year Work Program, and Legislative Budget Request. The most important document for project development is the **Work Program**, which is a five-year outlook that identifies which projects and services will be provided, when and where such projects and services will be provided, and how these projects and services will be funded using available revenue. The **Five-year Finance Plan** provides the legislature and department managers with expected revenue forecasts and assurance that the department's planned program is financed (balanced with anticipated revenues). A separate **36-month Cash Forecast** provides a model for ensuring that acceptable cash flow is available for project activity and operations over the time period.

A separate **Florida Long-Range Program Plan**, which is developed on an annual basis as required by section 216.013, Florida Statutes, provides the framework and context for preparing the annual legislative budget request and includes performance indicators for evaluating the impact of programs and agency performance.

The Systems Planning Office produces an additional document set known as the SIS Funding Strategy, which includes three inter-related sequential documents that identify potential Strategic Intermodal System (SIS) capacity improvement projects in various stages of development. The combined document set illustrates projects that are funded (Year 1), programmed for proposed funding (Years 2 through 5), planned to be funded (Years 6 through 10), and considered financially feasible based on projected state revenues (Years 11 through 25). The figure presented in the TAMP illustrates the relationship between these financial processes and documents. It is presented here again for clarity.

Figure 1 Department Processes and Key Documents



Florida Transportation Plan

The Florida Transportation Plan (FTP) establishes the policy framework for the use of state and federal transportation funds in the department's work program. The 2060 FTP goals and objectives also provide guidance to all other transportation partners as they develop and implement future policies, plans, and projects. Working together toward a common vision will ensure Florida's future transportation system supports the state's economic, community, and environmental goals.

The FTP includes:

- Key trends, issues, and opportunities shaping Florida's transportation past and future;
- Six long range goals to guide Florida's transportation decisions, along with objectives, strategies, and indicators to support each goal; and
- Key actions to implement the 2060 FTP, with emphasis on transportation decision making, funding and finance, and progress tracking and reporting.

The department is currently updating the plan.

Annual Program and Resource Plan

The department produces annually a Program and Resource Plan (PRP), which consists of a complete 10-year projected budget for all major agency functions and programs. The PRP is a summary document that contains the approved program alternatives and funding levels by fiscal year to accomplish program goals and objectives within expected revenue. The PRP combines the department's operating budget, fixed capital outlay buildings and grounds budget, debt service budget and work program details into a summary document. The document reports the department's planned budget in a number of different ways including by product area, product support, operations and maintenance, administration, etc. It also provides summary information by funding source. While an annual document, the PRP can be modified over a dozen times during the course of a Fiscal Year as the work program is being developed.

The PRP serves as a link between the FTP, a planning document, and the Adopted and Tentative Work Programs, documents listing all FDOT projects and expected spending out to a five-year horizon. The PRP establishes the programming framework by which the work program is developed. Fund allocations and program targets are published in Schedule A and Schedule B and are included in the work program instructions.

To develop the fund allocations and program targets, the department conducts a series of workshops statewide typically in May, June, and July. At these workshops, the district Secretaries and central office management establish funding requirements for the needs-based programs. For example, they determine the level of funding which should be allocated for pavement resurfacing based on current and projected pavement condition.

Each year the Materials Laboratory conducts a pavement condition survey for all the roads on the State Highway System. During this process, data is objectively gathered to determine the existing pavement condition. The Florida Analysis System for Targets (FAST) combines existing pavement condition data with planned construction data to help set lane-mile allocations for each district. Each individual district is provided a lane-mile allocation through the outcomes of these workshops. Each district however does have flexibility within its allocation to program projects in the Work Program.

Allocations for bridge repair and replacement, as well as routine maintenance, follow a similar process. Bridge inspection information is fed into the process and traditionally engineers' recommendations to fund needed repairs or replacement are followed.

The PRP is continually reviewed as programs change and new priorities emerge. The workshops establish policy directions and explore all needs-based programs. After the July workshop, all policy-related issues are settled and cash flow rates and available roll-forward funding is included in the plan. These figures are used in the fall for programming discretionary projects in the Tentative Work Program.

Following the completion of the legislative session, new fund codes or priority programs could be brought forward. These are fed into updated PRPs and form the basis for the following year's Tentative Work Program.

The Work Program

As noted previously, the Work Program is the five-year outlook that identifies which projects and services will be provided by the department during the relevant five-year period. It provides details on when and where such projects and services will be provided and how these projects and services will be funded using available revenue. The Work Program is developed jointly each year by FDOT with the metropolitan planning organizations, local governments, and the FHWA. The purpose of the Work Program is to maximize the department's production and service capabilities through innovative use of resources, increased productivity, reduced cost, and strengthened organizational effectiveness and efficiency. A Tentative Work Program is provided to the legislature and becomes the guiding Adopted Work Program following legislative approval. Both the Tentative and Adopted Work Programs are based on a complete, balanced financial plan for the State Transportation Trust Fund and other department funds.

4.3 Developing the Work Program: Process

The process of developing the Tentative Work Program begins with the Summer Executive Program Planning Workshops, during which policy and preliminary funding decisions are made.

The Office of Work Program and Budget updates the Work Program Instructions annually. The Work Program Instructions reflect any policy changes approved by the Executive Team and reflect changes in technical guidelines arising from system modifications and/or revisions to applicable federal and state laws, regulations and administrative rules. Changes to the Work Program Instructions are reviewed at workshops held in late August or early September, after which the instructions are finalized.

A gaming period is opened from July to January for Districts/Turnpike and Rail Enterprises and Central Office to update or add to the projects currently programmed in the Work Program Administration System within the Tentative Work Program years. The gaming cycle allows districts to make modifications that reflect the most up-to-date factual information. This could include emergency responses, changes to legislation, or project scheduling. District level reviews by District Secretaries, followed by district-wide public hearings, are conducted prior to final closing of the gaming period.

After the closing of the gaming period, the Central Office Work Program staff reviews the District and Statewide Work Programs for compliance with the Work Program Instructions, federal and state laws and regulations, administrative rules, and any other applicable guidelines. Other offices such as Intermodal Systems Development, Engineering and Operations, and Production Management also participate in the Central Office review.

Review results are discussed with the districts and statewide program managers, and the Work Program Administration system is opened to allow Central Office staff to make necessary changes. Conferences or teleconferences are then scheduled for District Secretaries to review the district work programs with the Secretary. Additional modifications may take place as a result of these reviews.

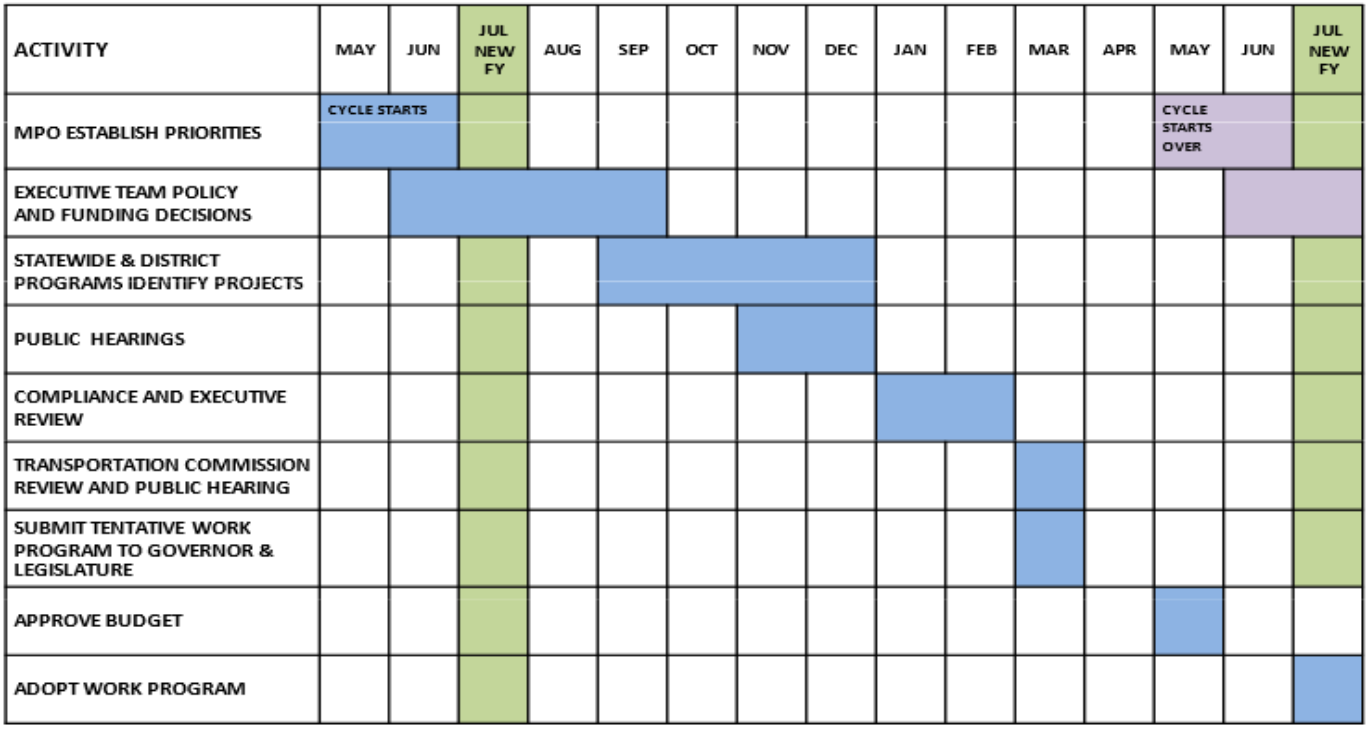
The Tentative Work Program is developed by the central office based on the submissions of the seven districts and the Turnpike and Rail Enterprises. A preliminary version is submitted to the Executive Office of the Governor and the Legislature at least 14 days prior to the start of the legislative session (as required by section 339.135(4)(f), F.S.). This typically takes place in February.

The Florida Transportation Commission also is charged with reviewing the draft submission. The FTC is required to hold a statewide public hearing on the Tentative Work Program prior to submission to the legislature.

Fourteen days after the start of the session (typically in March), the department must submit the tentative Work Program for legislative consideration based on comments and review. The legislature ultimately approves or modifies the Work Program through the General Appropriations Act. Prior to the start of the new Fiscal Year on July 1st, the department will adopt a final Work Program. The adopted work program may include only those projects submitted as part of the tentative work program plus any projects that are separately identified by specific appropriation in the General Appropriations Act and any roll forwards.

Figure 2 shows the Work Program development schedule.

Figure 2 Work Program Development Schedule



Source: Work Program 101 Computer-Based Training (http://wbt.dot.state.fl.us/ois/WorkProgram101CBT/index.shtm).

The Finance Plan

The department regularly produces four finance plans, one each for the State Transportation Trust Fund (STTF), the Right of Way Acquisition and Bridge Construction Trust Fund, the Turnpike Enterprise Revenue Funds, and the Turnpike Enterprise Bond Funds. The purpose of the Finance Plans is to show that projected revenues are sufficient to cover planned expenditures for the ensuing five year period. Submitted formally in October of each year with the department's Legislative Budget Request, the Office of Work Program and Budget updates the Finance Plans on an ongoing basis. The Five-Year Finance Plans provide a general snapshot of the financial health of the department by testing whether the existing and planned commitments can be financed based on a comparison of revenue estimates and expenditures for a five-year period. They are used to establish capacity related fund allocations for the department and help show that the department is fully utilizing the resources which are available. The Finance Plans provide summary level revenue estimates and planned expenditures across high-categorical levels, including Administration/In-House Operations, Maintenance, Consultant Support, Right-of-Way, Construction, Freight Logistics and Passenger Operations, Miscellaneous Expenditures, and Fixed Capital Outlay.

The Finance Plans include federal aid reimbursements, state and bond funded programs so as to provide a complete funding perspective.

An essential input for the STTF Finance Plan formulation is the estimate of state revenues which is officially provided by the state Revenue Estimating Conferences. The conferences are generally held each November and March, but may be held more frequently if actual revenues differ significantly from projections.

Legislative Budget Request

The Legislative Budget Request is the department's request to the Governor and Legislature for spending authority to do the work of the agency for the next fiscal year. The request includes proposed revenues and expenditures for operational and fixed capital outlay needs to accomplish the department's objectives in the ensuing fiscal year. This LBR requests legislative authority to finance the first year of the Five-Year Work Program. The LBR also includes a balanced 36-month forecast of cash and expenditures and a five-year finance plan.

The budget request conforms to the tentative Work Program, also submitted to the legislature for approval.

Florida Long-Range Program Plan

This plan provides the framework and context for preparing the annual legislative budget request and includes performance indicators for evaluating the impact of programs and agency performance. This plan is developed by the Office of Policy and Planning.

Annual Performance Report

A Performance-Based Planning and Programming Process is used to evaluate performance results in relation to the FDOT mission and the Florida Transportation Plan. The Annual Performance Report includes performance measures and objectives for:

- **Safety and Security** – Fatality and serious injuries related to aggressive driving, intersection crashes, vulnerable road users, lane departure crashes, impaired driving, at-risk driving, and distracted driving;
- **Maintenance and Operations** – Percent of pavement and bridges meeting condition standards, percent of maintenance activities (such as roadway striping, guardrail repair and mowing) that meet department standards;
- **Mobility and Economic Competitiveness** – Strategic Intermodal System implementation, freight and port access, transit ridership, hours of delay, facilitation of economic development opportunities, benefit-cost ratio of FDOT programs; and
- **Quality of Life and Environmental Stewardship** – Community values and visions; travel experience; impacts to the physical, natural and cultural environment.

5.0 Systemwide Valuation

This section includes information on the processes that the department follows to provide a systemwide valuation. The Notice of Proposed Rulemaking for asset management practices requires agencies to develop an estimate of the value of the agency's pavements and bridge assets and the needed investment on an annual basis to maintain the value of these assets. Florida currently has calculated a value for its transportation infrastructure to follow Government Accounting Standards Board (GASB) Statement 34. This information will be used and reported to meet the details of the rulemaking as required. The department follows GASB's modified approach and reports a net value of assets. A more detailed accounting at various system levels (SIS, Interstate, NHS, Non-Interstate NHS) may be valuable.

5.1 Current Calculations for GASB 34

The state has elected to use the modified approach for accounting for its roadways, bridges, and other infrastructure assets included in the State Highway System. Under this approach, the department has made the commitment to maintain highway and bridge assets at levels established by the U.S. Department of Transportation and approved by the Florida Legislature. No depreciation expense is reported for such assets, nor are amounts capitalized in connection with improvements that lengthen the lives of such assets, unless the improvements also increase their service potential. The department maintains an inventory of these assets and performs periodic condition assessments to establish that the predetermined condition level is being maintained. In addition, the department makes annual estimates of the amounts that must be expended to maintain these assets at the predetermined condition levels. The Office of Work Program and Budget provides annual updates for GASB-34 compliance. This approach is commonly referred to as the "modified" approach.

In the 2014 State of Florida Comprehensive Annual Financial Report, the state reported the following programs for its 12,109 centerline miles of roads and 6,974 bridges.

Condition and Maintenance Programs

Resurfacing Program: Road pavements require periodic resurfacing. The frequency of resurfacing depends on the volume of traffic, type of traffic, pavement material variability, and weather conditions. Resurfacing preserves the structural integrity of highway pavements and includes pavement resurfacing, pavement rehabilitation, and minor reconstruction.

The department conducts an annual Pavement Condition Survey. Pavements are rated on a scale of 0 to 10 (with 10 being the best) in each of three criteria: ride smoothness, pavement cracking, and wheel path rutting. Ride smoothness is what the motorist experiences. It directly affects motor vehicle operation costs. Pavement cracking refers to

the structural deterioration of the pavement, which leads to loss of smoothness and deterioration of the road base by water seepage if not corrected. Wheel path rutting refers to depressions in pavement caused by heavy use. Ride smoothness and wheel path rutting are measured mechanically using lasers. Pavement cracking is determined through visual observation by experienced survey crews.

The condition rating scales were set by a statewide committee of pavement engineers, so that a pavement segment receiving a rating of six or less in any of the three rating criteria is designated a deficient pavement segment. In low-speed areas, the ride rating must drop to five or less before a pavement segment is considered deficient due to ride. The department standard is to ensure that 80% of the pavement on the State Highway System remains non-deficient.

Bridge Repair/Replacement Program: The Bridge Repair Program places primary emphasis on periodic maintenance and specified rehabilitation work activities on State Highway System bridge structures. The department Bridge Replacement Program's primary focus is on the replacement of structurally deficient or weight restricted bridges on the State Highway System. In addition, the Bridge Replacement Program addresses bridges that require structural repair but which are more cost effective to replace.

The department conducts bridge condition surveys using the National Bridge Inspection (NBI) Standards to determine condition ratings. Each bridge is inspected at least once every two years. During the inspection process, the major components such as deck, superstructure, and substructure are assigned a condition rating. The condition rating ranges from 0 to 9. By policy, a rating of 8 to 9 is excellent. A rating of 6 to 7 is good. A rating of 5 indicates fair condition. A rating of 4 or less identifies bridges in poor condition requiring major repairs or replacement per department policy. A rating of 2 indicates a critical bridge condition, and a rating of 1 indicates imminent bridge failure and is used for a bridge that is closed, but with corrective action may be put back into light service. A rating of 0 indicates that the bridge is out of service and beyond corrective action. Per policy, bridges rated fair or poor do not meet performance standards.

The department standard is to ensure that 90% of all department maintained bridges meet department standards (are in good condition).

Routine Maintenance Program: The department is responsible for managing and performing routine maintenance on the State Highway System to help preserve the condition of the system. Routine maintenance includes many activities, such as highway repair, roadside upkeep, emergency response, maintaining signs, roadway striping, and keeping storm drains clear and structurally sound.

The quality and effectiveness of the routine maintenance program is monitored by periodic surveys, using the Maintenance Rating Program (MRP), which results in an annual assessment. The MRP has been used since 1985 to evaluate routine maintenance of the transportation system in five broad categories or elements. The five rating elements are

roadway, roadside, vegetation/aesthetics, traffic services, and drainage. The MRP provides a maintenance rating of 1 to 100 for each category and overall. The standard is to achieve and maintain an overall maintenance rating of 80.

6.0 Governance and Principles

This section details a proposed TAMP governance structure. The TAMP governance structure defines who carries primary responsibility for the TAMP; how it is used in the budgeting and project selection processes; how it relates to other planning and operations documents; when it will be updated; and how the process includes other stakeholders.

6.1 Florida TAMP General Principles

The TAMP is a planning document written for pavement and bridge infrastructure owners and made available to the public that documents:

- The performance of bridges and pavements on the National Highway System (NHS);
- The business management practices for bridges and pavements funded through the Federal-Aid Highway Program and state revenues (e.g., risk management, performance gap assessment, and objectives and measures); and
- The financial planning data and practices for bridges and pavements (e.g., revenue forecasts, life cycle cost analysis, and investment strategies).

The TAMP has influence beyond those directly involved with its development. There are many factors within the department and its stakeholder community that impact Florida's pavements and bridges and influence the TAMP. The TAMP and TAM decision making and business practices will affect policy and legislative leadership, operations staff, emergency management staff, and others throughout the State.

The TAMP is championed by representatives from both the Office of Maintenance and the Office of Policy Planning; these champions chaired a Core Working Group tasked with developing the TAMP. The Core Working Group included the Office of Work Program and Budget, the Pavement Management Office, the Public Transit Office, the Safety Office, the Transportation Statistics Office, the Pavement Condition Survey, the Bridge Office, and the Office of Information Systems. The Core Working Group participated in the development of and reviewed the supporting material for the TAMP. It will dissolve and key members will reconvene to become the TAM Steering Committee, a group that will be responsible for ongoing implementation of TAM within the department.

6.2 Asset Management Business Model

As the Core Working Group dissolves, it is critical to establish a formal Asset Management Steering Committee to guide and own the TAM process. The Steering Committee process will recommend enhancements, modify existing practices based on the TAMP enhancement plan, and meet federal reporting requirements.

Process for Defining Governance

The proposed Asset Management Steering Committee structure and roles were developed during discussions with executive leadership in November 2014 and confirmed by the Core Working Group assigned to support the development of the TAMP in January 2015. The executive team recommended that with the strong preservation and maintenance philosophy already permeating departmental processes, there was not a need to develop a stand-alone organization to implement asset management approaches. The Steering Committee approach spreads responsibility across the organization and brings together the necessary department personnel to maintain and update the TAMP. By not recommending an institutional reorganization to oversee the TAMP, the executive team recognizes the effectiveness of the current working group, and the ability to transition to a steering committee function.

Steering Committee Roles and Responsibilities

Table 2 describes the proposed TAM Steering Committee members and roles. The Steering Committee includes representation from across the department in order to reflect the financial, planning, and technical areas TAM influences.

Table 2 Proposed TAM Steering Committee

Role	Title, Organization
TAM Co-Champion	Director, Office of Maintenance
TAM Co-Champion	Administrator, Statewide Planning and Policy Analysis, Office of Policy Planning
Intelligent Transportation Systems (ITS)	State Traffic Operations Engineer, Traffic Engineering and Operations Office
Finance and Programming	Director, Office of Work Program and Budget
Pavement	Pavement Management Engineer, Pavement Management
Bridge	State Structures Maintenance Engineer, Bridge Office
Transit	Transit Planning Administrator, Freight, Logistics, and Passenger Operations
Safety	Transportation Safety Engineer, Safety Office
MPO	Executive Director, Metropolitan Planning Organization Advisory Council

The proposed Steering Committee, co-chaired by the designated offices of Maintenance and Policy Planning, will provide an advisory role on all TAM related activities. The committee should operate by consensus and consist of a diverse group of personnel. It is not anticipated that any organizational restructuring should occur to deliver TAM enhancements. The mission of the committee will be to update and modify the TAMP as necessary; bring leaders from across the department together to direct asset management policies and effort; and confirm definitions, descriptions, roles and responsibilities in accordance with federal rulemaking processes and executive direction.

The proposed Steering Committee will be appointed by the Secretary and meet twice annually to review progress.

6.3 TAMP Update Cycles

The TAMP will be updated per MAP-21 requirements or as needed to ensure that the long term investment strategies, risk register, mitigation approaches, and inventory and condition remain current. This update cycle should coincide with the FTP to ensure close coordination with long-term policy development and establish the TAMP as a critical member of the Florida family of plans. The TAMP Core Working Group will dissolve and many members will reconvene to staff the standing TAM Steering Committee. Between update cycles, the Steering Committee will:

- Communicate TAM practices within the department and to partner agencies, including MPOs, municipalities, passenger and freight rail owners, transit agencies, airports, seaports, and waterways;
- Develop strategies for incorporating additional assets and programs in the asset management business model;
- Evaluate the need for a standard asset management business structure and process using existing titles to staff permanent asset/goal teams as necessary for further implementation efforts;
- Assist with managing communications with external stakeholders;
- Gather feedback on how TAM should evolve over time;
- Update the inventory and condition information for TAM purposes on schedule with regular performance reports;[1]
- Assess progress on implementing the TAMP including the enhancement plan and risk mitigation strategies, and report to the executive board; and
- Monitor the progress of FHWA certification of the TAMP.

To update the TAMP itself, the Steering Committee will review partner feedback and consider how it should influence the objectives and measures included in the TAMP and how this integrates with the FTP. The Steering Committee also will review the following information to support the development of further iterations of the TAMP:

[1] FHWA expects that Florida and other states will keep current data and information on facilities and monitor condition outside of this update cycle. The intention of the TAMP update cycle is to maintain a clear understanding and knowledge of the overall preservation and maintenance activities throughout the decision making cycle, including Work Program Development and updates to the Florida Transportation Plan.

- Pavement and bridge performance and trends;
- Population, economic, environmental, climate, or technology trends that are likely to impact TAM practices;
- The influence of a changing state on the risk register, including assessing whether risks have changed and whether the likelihood and consequence scores should be updated; and
- Pavement and bridge planning and management practices, including whether there are new data, systems, or practices in place that would influence TAM.