National Park Service Southeast Region
Long Range Transportation Plan

Funding & Financial Analysis Technical Report

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CONTENTS

1 Introduction

This Funding and Financial Analysis technical report is the fourth in a series of interim deliverables that inform the development of the Southeast Region (SER) Long Range Transportation Plan (LRTP). It presents the SER LRTP investment strategy, the strategy that will shape the future of transportation in the region and support sustainment of that infrastructure. This report revisits and refines data and analysis previously presented in three preceding draft SER LRTP interim deliverables: the Baseline Conditions report, the Future Conditions report, and the Needs Assessment report. In addition, it incorporates initial and refined strategic scenario planning efforts to support the selection of the SER LRTP financial investment strategy. That investment strategy is presented here, along with elements of the prior draft reports to provide the necessary context for discussing the selection of that recommended strategy.

Approach and Summary of Findings

APPROACH

The financial planning process that has been followed for the development of the initial versions of the most recent National Park Service regional LRTPs generates a fiscally constrained, preferred investment strategy. The SER has followed that same process for the development of its initial regional LRTP and took the following steps:

- Identified key planning elements for the SER LRTP: Asset Management, Visitor Experience, Resource Protection, Sustainable Operations and Safety.
- Established for each element specific goals, objectives and performance measures.
- Documented baseline transportation inventory and financial conditions.
- Developed a forecast of expected future funding levels.
- Identified financially unconstrained investment needs and priorities.
- Calculated the total unmet unconstrained need (i.e., a financially unconstrained funding gap).
- Identified and modeled potential investment strategies in light of goals, objectives, performance measures, needs and available funding.
- Selected a preferred investment strategy and refined models using updated fiscal and project data to better assess expected outcomes.

Note that the unconstrained funding gap, defined as the difference between the total annual forecasted investment needs and the anticipated average annual amount of forecast available funding, helped to inform the development of the potential investment strategies and the selection of the SER LRTP investment strategy from those candidates. Ultimately, the SER LRTP investment strategy will enable the region to best manage its transportation funding over the foreseeable future, addressing the agreed upon priorities set forth in the plan.

APPROACH TO FORECASTING

Although LRTPs are intended to set priorities and provide guidance for a 20-year horizon, it should be noted that results from the analysis of financial investment scenarios reflects a 6-year horizon. A 6-year horizon is used because of the limited data and quality of data for analysis beyond a 6-year horizon. A 6-year horizon is consistent with NPS multiyear project planning and the NPS National LRTP's financial analyses.

Assuming that funding were to remain consistent over the next 20 years, asset condition trends will remain consistent relative to the forecasted funding.

SUMMARY FINDINGS

Through the financial planning process, the SER documented its historical expenditures, estimated future available funding, identified total investment need, and calculated the associated unconstrained funding "gap."

From fiscal year (FY) 2006 through FY 2013, the SER expended on average $71.9 million per year (adjusted to 2014 dollars) on its transportation inventory.[1] Using historical data in conjunction with subject matter expertise on the current fiscal environment, the region estimates that it will have $61.7 million available annually for transportation spending over the period FY 2016 to FY 2020. Contrasted against an identified total transportation funding need of $182.2 million per year over that same period, the SER faces annual unmet needs of $120.5 million. This resulting estimated funding "gap" is more than twice the estimated average annual funding amount. Figure 1-1 illustrates this anticipated average annual funding summary.

Figure 1-1: SER LRTP Average Annual Fiscal Funding Summary ($ in 2014 Millions)

Note: The available funding of $61.7 million includes $53.3 million to be invested in NPS assets and $8.4 million reallocated to the Tamiami Trail megaproject (a non-NPS asset).

The SER developed four candidate investment strategies that were informed by this financial assessment. The region considered the pros and cons of each candidate in terms of potential impact on the condition of priority transportation infrastructure. From those four alternatives, the SER LRTP Core Management Team and regional management selected one investment strategy for the SER LRTP, the **Highest Priority Investment** strategy.

This strategy identifies how the SER will prioritize limited transportation funding in the immediate future, (i.e., with a heightened focus on those assets deemed to be of the greatest importance to the SER transportation network). This investment strategy is anticipated to optimally expend and maximize the benefits returned in terms of financial sustainability and other goal areas of the SER LRTP.

ASSET PRIORITY

The SER defines its highest priority transportation assets as:

- Roads and Parking with a functional class (FC) of 1, 2, and 7
- All bridges
- Other transportation assets with an optimizer band (OB) of 1 and 2.

Transportation assets that do not meet this criteria are considered lower in priority and designated as "other" priority in the LRTP.

The **Highest Priority Investment** strategy also reflects the current investment practices of the region's transportation network but with a keener application of those funds to ensure funding continues to address longer term financial sustainability of the transportation portfolio priority assets. The strategy targets the region's highest priority assets (see inset), heavily emphasizing investments that will improve asset condition. The region anticipates that, over the next six years (FY2016-FY2020), the plan will generate the following outcomes:

- Deferred Maintenance (DM) on highest priority assets will continue to be addressed and improve condition on those highest priority assets that receive funding. Despite the forecasted achievement, the total estimated transportation system DM value will still grow by approximately 68 percent from the DM associated with these highest priority assets today.

[1] Unless otherwise indicated, all dollar figures in this report are in 2014 dollars, which were calculated using the White House gross domestic product (GDP) inflator factors (https://www.whitehouse.gov/omb/budget/Historicals, table 10-1.)

- The overall average condition of the highest priority paved roads and parking will be held relatively steady. In terms of the Pavement Condition Rating (PCR) performance measure, the condition of these assets are anticipated to modestly decline by six percentage points, from a regional PCR today of 84 to a forecasted PCR of 78 in FY2020. This would represent a perceived change in the overall pavement condition from a current state of "good" today to a rating of "fair" in a period of only six years. More than one-half of O&M needs will also be funded for these priority paved assets helping to ensure vital ongoing support is provided to that infrastructure.
- Condition of the entire bridge portfolio—all of which are considered highest priority assets—will be sustained at a "fair" (bordering on "good") condition, with a Bridge Health Index (BHI) of 90.6 percent.
- The typical or average condition of the highest priority "Other (multimodal)" transportation assets are projected to remain in a "poor" condition rating according to the Facility Condition Index (FCI), declining from a regional FCI today of 0.30 to a forecasted FCI of .49 in FY2020.
- Infrastructure not considered to be of the highest priority will see its condition at best remain unchanged if not worsen slightly in the coming years. This is an expected near-term outcome given the strategic emphasis on focusing the vast majority of available funding to only the highest priority assets. Investment needs for this type of infrastructure represent about a quarter of all needs.
- NPS-owned transit assets will be funded at a level such that nearly one-half (47 percent) of the estimated average annual investment needs, including O&M, are covered. While the specific impacts on transit asset condition are unknown at this time, this level of future funding will be consistent with historical levels for these systems.
- Across the entire SER transportation asset portfolio, only about 36 percent of the total estimated annual O&M need for even the highest priorities assets will be fully funded.

The investment strategy also explicitly recognizes and accounts for the added constraints being placed on the region over the period of FY2016 to FY2020. This reflects a previously established commitment by the NPS Washington Office and the Department of the Interior Secretary to provide an estimated average of $8.4 million per year in FLTP funds historically allocated to the SER to the Tamiami Trail (US Highway 41) project in partnership with the Florida State Department of Transportation (FDOT). This commitment of NPS funds to the improvements of a non-NPS asset are anticipated to continue each year over the period of FY2016 through FY2020. The implications of this funding transfer on the condition of the SER's transportation assets are described later in this report,

Overall, the SER will be challenged to maintain, let alone to improve, the condition of its highest priority transportation assets under any of the investment strategies evaluated relative to current condition as of 2014. The plan, however, will serve to sustain the transportation asset portfolio in as close to current condition as possible given highly constrained funding. More importantly, because the strategy clearly segregates the portfolio by priority and asset category, the region will now be better able to track condition and other performance metrics on priority subsets of its portfolio. Over time and through subsequent plan updates and performance tracking, the region will thus be able to refine and be more exacting with how it prioritizes transportation investments and improves and maintains those subsets that are most critically important to the operation of the SER transportation network. The region will now also be better informed and prepared to communicate its needs and gaps to both internal and external stakeholders and partners. This may assist in paving the way for the identification of alternative funding opportunities and new creative partnerships that can help to close the projected annual funding gap.

Capital Investment Strategy and Total Cost of Facility Ownership

As a best practice and formal policy, the National Park Service (NPS) incorporates strategic facility planning into its asset management decision-making processes, including LRTPs. Two fundamental concepts, the NPS Capital Investment Strategy (CIS) and Total Cost of Facility Ownership (TCFO), underlie those best practices and are drivers of the investment planning and decision-making reflected in the SER LRTP.

THE NPS CAPITAL INVESTMENT STRATEGY

The CIS is an NPS strategy for prioritizing project investment to ensure effective and responsible project funding. The CIS is a tool that decision makers at all levels of the NPS have available to them to inform project investments and other asset management needs.

The purpose of the CIS is to help prioritize investments, focus on mission-critical assets, manage operations and maintenance, and ensure that the greatest impact can be made with available capital, maintenance and operational funds. The CIS uses a scoring strategy to evaluate projects on a number of different criteria in four categories: Financial Sustainability, Visitor Experience, Resource Protection, and Health & Safety. The four categories are weighted using a predefined algorithm to arrive at an overall project score. Projects can then be compared by score as needed; in theory, the greater the score the higher the priority. The scoring strategy supports an asset management approach that emphasizes maintaining key assets and reducing the estimated value of deferred maintenance cost against those key assets.

Some of the key objectives in the Financial Sustainability strategy are to build only what can be maintained, right-size the asset portfolio, reduce liabilities, reduce resource consumption to promote sustainability, and eliminate non-essential development in order to emphasize the essential natural and cultural experience. The Health and Safety strategy places an emphasis on correcting unsafe or hazardous conditions within park units that pose a threat to visitors or staff. The Resource Protection strategy focuses on those historic, cultural, and natural resources that the NPS is tasked with protecting and preserving. Such tasks supported by the CIS could include preservation, repair, and restoration of assets. Visitor Use efforts would include investment in assets or resources that enable recreation, and serve as gateways to park units, contact stations, and interpretive assets.

Optimization of assets is another important aspect of the CIS. Park units prioritize transportation assets for investment and O&M based on a ranking that incorporates asset condition and the criticality of that asset to the park's mission. These rankings, known as Optimizer Bands (OB), range from 1 to 5, with OB 1 representing highest priority assets and OB 5 representing lowest. Assignment of assets to bands 1–3 not only signals the priority of the assets, but also entails a commitment by the park to dedicate a minimum amount of preventive maintenance (PM) funding to those assets (Table 1-1).

Table 1-1: Priority and PM Investment Floor by Optimizer Band

Optimizer Band	Priority	Minimum PM Investment
OB 1	Highest	55%
OB 2	High	50%
OB 3	Medium	25%
OB 4	Low	No minimum
OB 5	Lowest	No minimum

TOTAL COST OF FACILITY OWNERSHIP

Applying Total Cost of Facility Ownership (TCFO) concepts is considered by the NPS to be a vital part of financially sustainable infrastructure strategies and practices including transportation asset management.[2] It aligns closely with the intentions behind the CIS, especially the CIS Financial Sustainability component. TCFO is the full life-cycle cost of building, maintaining, and operating an asset until it needs replacement or decommissioning. This concept recognizes that assets require investment throughout their service lives until they need replacement or disposition and that preventive maintenance and facility operations activities are key to minimizing long-term costs. Implementation of the TCFO concept involves a shift-away from a "just fix it" or "run to failure" mentality to more holistic planning, making cost estimates and decisions that consider not just the maintenance backlog (DM) of an asset but the ongoing O&M need over its service life, need for replacement, and ultimately disposition.

The SER took the concepts inherent to the CIS and TCFO and embedded them into all of its LRTP analyses and planning activities. Consequently, the resulting investment strategy selected by the SER is consistent with the approaches and practices used across the National Park Service to develop, for example, the National LRTP and other regional LRTPs.

Explanation of Differences in Datasets and Incongruities in Findings

Geared to reflect the principles of both the CIS and TCFO asset management best practices, the SER developed its LRTP investment scenarios in two steps. Initial scenarios (e.g., Highest Priority Investment, O&M, DM and Multimodal, as will be discussed later) used preliminary forecasted funding data and potential investment approaches. With those scenarios built out, the region identified what it believed would be the most optimal strategy: the Highest Priority Investment strategy. The region then discussed this strategy in greater detail with LRTP stakeholders internal and external to the NPS and updated the analysis using revised estimates of forecasted funding, prioritized project needs, and modeled outcomes (i.e., condition forecasts). This enhanced analysis, and the processes and data used to develop that analysis, are the subject of this report.

[2] For example, reference "Memorandum: Guidance for Addressing Facilities in Planning Documents", Associate Director, Park Planning, Facilities, and Lands, National Park Service, US Department of the Interior, January 4, 2016.

2 Historical Expenditures

Establishing a financial baseline of the historical, average annual level of regional transportation spending provides a foundation for forecasting the likely future available funding levels which can be anticipated for application to the region's transportation assets. This is important information for developing a fiscally constrained LRTP. The SER analyzed all of the transportation fund sources that had been utilized by the region from FY 2006 through FY 2013. Those results provided vital context for developing the SER LRTP investment strategy.

Summary of Findings

Over the eight years from FY2006 through FY2013, the Southeast region invested $575 million, or on average, $71.9 million annually (adjusted to 2014 dollars). In addition, the region received $43.0 million in American Recovery and Reinvestment Act (ARRA) funding in 2009; however, the value of these ARRA funds has been excluded from these totals since it was a one-time funding source.

The region's annual transportation investment level peaked at $90.0 million in FY 2009 and decreased to roughly $55 million during both FY 2012 and FY 2013. The $54.8 million investment in FY 2013 was the smallest amount allocated to the SER's transportation assets during this eight-year period. As shown on Figure 2-1, Title 23 fund programs provided most of the transportation funds ($54.5 million or about 76 percent) in any given year. Title 54 Non-Fee and Title 16 and Title 54 Fee accounts were the other major fund sources. Collectively, these represented approximately $16.4 million or about 23 percent of the average annual transportation related expenditures over the FY 2006-FY 2013 period. Other smaller fund sources comprised one percent of total historical expenditures.

Funding for Transportation in the SER

Transportation funding for the SER primarily comes from Title 23, Title 54 and Title 16 fund sources.

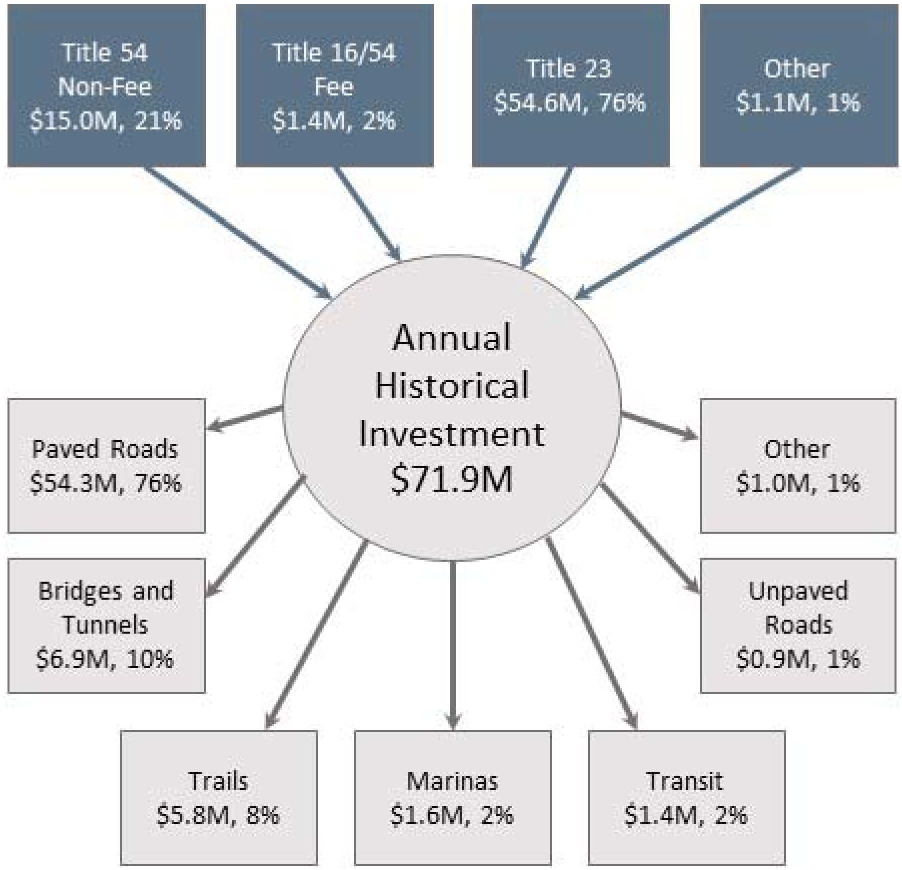
Title 23 includes the Federal Lands Transportation Program or FLTP. This program is the largest contributor to transportation funding servicewide.

Title 54 funding consists of six primary and many other smaller fund programs that Congress authorizes for application only to the National Park Service. Those programs include: Operational Park Base, Cyclic Maintenance, Repair/Rehabilitation, Line Item Construction, Concession Franchise Fees and Transportation Fees.

Title 16 includes the Recreation Fee program.

None of the Title 54 or 16 sources except for Transportation Fee are dedicated solely to transportation.

Figure 2-1: SER Historical Average Annual Investments by Fund Sources and Asset Types, FY 2006 – FY 2013 ($ in 2014 Millions)



Methodology

The financial data was extracted from various financial and project management data tracking systems.[3] More specifically, the region:

- Identified historical obligations, awards and authorizations for transportation assets
- Adjusted those prior year dollar values to equivalent 2014 values using GDP inflation factors, and
- Calculated an annualized average transportation funding expenditure rate for the period FY 2006 – FY 2013.

To simplify reporting, the dataset was consolidated, coded and grouped by funding authorizations, funding programs, work types, and asset types. All identifiable American Recovery and Reinvestment Act (ARRA) investments, a one-time, unusual circumstance set of projects, were removed from further consideration as a potential future funding source; however, the implications of these ARRA funded improvements were reflected in the regional baseline asset condition assessments.

Fund Sources

Table 2-1, organized by funding authorization, program and account, shows the make-up of the $71.9 million average annual transportation funding for the region in decreasing amounts. Each program is shown with its parent fund source (i.e., Title 23, Title 54, Title 16, or Other).

[3] Systems used included the NPS Administrative Financial System (i.e., AFS Versions 3 and 4) and the joint Federal Highway Administration (FHWA)/NPS Park Roads and Parkways Transportation Allocation and Tracking System, a.k.a. PTATS.

Table 2-1: SER Historical Average Annual Transportation Funding by Fund Source and Program, FY 2006 – FY 2013 ($ in 2014 Millions)

Fund Source and Program	Fund Administration	Annual Average (FY 2006-FY 2013)	Percentage of Total Funds
Title 23 FHWA Cat I - 3R & 4R	WASO / SER	$ 40.7	56.6%
Title 23 FHWA Cat II	WASO / SER	$ 8.1	11.3%
Title 54 Non-Fee Operational Park Base	Park Unit	$ 5.5	7.6%
Title 54 Non-Fee Cyclic Maintenance	SER	$ 4.6	6.4%
Title 23 Transportation Earmarks	WASO / SER	$ 2.5	3.4%
Title 54 Non-Fee Repair/Rehab	WASO	$ 1.9	2.6%
Title 54 Non-Fee Emergency Storm & Flood Damage	WASO	$ 1.3	1.8%
Title 54 Non-Fee Line Item Construction	DOI	$ 1.0	1.5%
Title 23 FHWA Cat III - ATP	WASO / SER	$ 1.0	1.3%
Title 23 Other FHWA Programs	FHWA	$ 0.9	1.2%
Other/External TRIP/ATPPL	DOI / FHWA / FTA	$ 0.8	1.0%
Title 23 Public Lands Highway - Discretionary	FHWA	$ 0.7	1.0%
Title 16 Recreation Fee 80%	Park Unit	$ 0.8	1.0%
Title 54 Non-Fee Other	NPS (Varies)	$ 0.7	1.0%
Title 23 Scenic Byways	FHWA	$ 0.5	0.7%
Title 54 Transportation Fee	Park Unit	$ 0.4	0.5%
Other/External Reimbursable Agreements and Donations	Park Unit	$ 0.3	0.4%
Title 23 FHWA Emergency Relief for Federally Owned Roads	FHWA	$ 0.2	0.3%
Title 16 Recreation Fee 20% and Other Recreation Fees	SER / Park Unit	$ 0.1	0.2%
Title 54 Concession Franchise Fee 80%	Park Unit	< $ 0.1	0.0%
SER Total		**$ 71.9**	**100.0%**

Note: Sums may not equal totals due to rounding.

TITLE 23

Over the period FY2006 to FY2013, approximately 94 percent of the total average annual Title 23 funding of about $54.6 million was spent on infrastructure improvement (e.g., capital improvement and component renewal) projects. A majority of the total Title 23 funding, (an average of about $40.7 million annually) was provided through what is now termed the Federal Lands Transportation Program or the FLTP. Formerly known as the Federal Lands Highway Program or FLHP, the FLTP is somewhat different from other

Title 23 federal aid highway programs in that it is jointly administered by the National Park Service and the FHWA Office of Federal Lands Highway. The FLTP was the most significant transportation funding source for the SER from FY 2006 through FY 2013. The FLTP constituted 69 percent ($49.7 million) of the overall historical transportation investment made by the region, with these funds being dedicated solely for transportation assets. On average, the region has received $8.1 million per year in FLTP Category II funds, or 11 percent of the overall annual transportation investment. In the Southeast Region, these Category II funds are restricted to congressionally authorized parkways. In the SER, that includes Foothills Parkway at Great Smoky Mountains National Park, Natchez Trace Parkway, and Blue Ridge Parkway; during the period FY2006 to FY 2013, investment of Category II funds in the SER were limited to Foothills Parkway and Natchez Trace Parkway.

FHWA discretionary programs, such as the Scenic Byways, Transit in Parks Program (TRIP), and the Public Lands Highway Discretionary (or PLHD) Program, were discontinued in 2013 under the Moving Ahead for Progress in the 21st Century (MAP-21) surface transportation reauthorization legislation. MAP-21 was the successor bill to the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A

Legacy for Users (SAFETEA-LU). Historically those Title 23 fund programs authorized by SAFETEA-LU or earlier legislative acts provided a total of about $2.2 million per year to the Southeast Region.

TITLE 54 AND TITLE 16

The Title 54 and Title 16 programs administered by NPS historically have been divided between the non-fee and fee programs. Together, they provided 23 percent ($16.4 million) of the historical average annual transportation funding for the region over the FY2006-FY2013 period. Approximately 75 percent ($12.2 million) of Title 54 funding supported the transportation asset operations and maintenance (O&M).

Title 54 Non-Fee funding represented 21 percent ($15.1 million) of the Region's average annual transportation funding. The primary Title 54 Non-Fee programs include: Operations of the National Park Service (ONPS) base funding, Cyclic Maintenance, Repair/Rehabilitation, Emergency Storm and Flood Damage and Line Item Construction. ONPS base was the largest Title 54 program for the SER and funded nearly 8 percent ($5.5 million) of the total average annual transportation investment. Combined, those other sources, including Cyclic Maintenance, Repair/Rehabilitation and Emergency Storm and Flood Damage, represent $9.6 million (or about 13 percent) of total annual spending.

Recreation Fee authorization falls under Title 16 as it is part of the Federal Lands Recreation Enhancement Act. This Recreation Fee funding has in the past comprised a combined $0.9 million per year or about 1 percent of SER transportation funding.

Other NPS programs (e.g., Equipment Replacement, Cultural Resource Preservation) have contributed a small portion (one percent or $0.7 million per year for transportation assets) of the $16.4 million annual total available funding for the region provided from these NPS program accounts.

OTHER SOURCES

The SER received only about one percent ($1.0 million) of its average annual historical funding for transportation investments from sources outside of Title 23 and Title 54. The three other sources include TRIP, donations and reimbursable agreements.

Historical Spending by Priority

The region obligates its funding based on its defined "highest," "high," and "other" priority groups, as defined in Table 2-2. The highest and high-priority classified assets are typically Optimizer Band (OB) 1 and 2 assets, or equivalent in terms of NPS PFMD Transportation program priority standards. These priorities are the same as those prioritized for funding under the NPS CIS.

Among all regional transportation assets, 47 percent, 13 percent, and 41 percent by count are categorized as highest, high and other (i.e., lower) priority assets, respectively. During FY 2006 through FY 2013, an estimated $54.6 million (76%) was spent annually on highest priority assets, $7.9 million (11%) on High priority assets, and $9.3 million (13%) on Other priority assets. In recent years, the SER has moved to more targeted spending on highest and high-priority assets.

Table 2-2: Priority Level Groupings for SER Transportation Assets and Projects

Priority Level	Roads and Parking	Bridges	All Other Assets	Percentage of Transportation Assets	Percentage of Historical Funding
Highest	FC 1, 2, & 7	All Bridges	OB 1	47%	76%
High			OB 2	13%	11%
Other	FC 3, 4, 5, 6, & 8		OB 3, 4, 5	41%	13%

Notes: (1) To proxy for functional class priority, each parking area was assigned the same functional class as the primary park road leading to that parking area.
(2) Sums may not add to 100% due to rounding.

Historical Spending by Asset Type and Program

Examining how funding has previously been spent on different asset types is an indication of past spending priorities. Those historical trends can inform future investment strategies. As shown in Table 2-3, a couple of asset types received most of the past investment spending. Paved roads (76%) and road bridges (9%) received the vast majority of transportation investment during the eight-year period. Paved roads received the largest amount of funding for any asset type from any one fund source; of the $54.5 million total Title 23 funds, $43.5 million (80 percent) was spent on paved roads. FLTP funding represents $39.6 million of the $43.5 million in Title 23 funding spent on paved roads (not shown[4]).

Table 2-3: SER Transportation Funding by Fund Source and Asset Type ($ in 2014 Millions)

Fund Source	Roads (paved)	Roads (unpaved)	Road Bridges	Trails	Marina	Transit	Other	Total
Title 16 / 54	$10.7	$0.9	$0.8	$2.4	$1.1	$0.5	$0.0	$16.4
Title 54 Non-Fee	$10.3	$0.9	$0.7	$2.4	$0.7	$0.1	$0.0	$15.1
Title 16 / 54 Fee	$0.4	$0.0	$0.1	$0.0	$0.4	$0.4	$0.0	$1.3
Title 23	$43.5		$5.7	$3.4	$0.1	$0.7	$1.0	$54.5
Other/External	$0.1	$0.0	$0.0	$0.0	$0.4	$0.2	$0.3	$1.0
Total	**$54.3**	**$0.9**	**$6.5**	**$5.8**	**$1.6**	**$1.4**	**$1.3**	**$71.9**
Percent of Total	**76%**	**1%**	**9%**	**8%**	**2%**	**2%**	**2%**	**100%**

Historical Spending by Life-Cycle Stage

An asset life cycle is captured in seven stages: planning and administration, capital improvement, operations, preventive maintenance, recurring maintenance, component renewal and disposition.[5] Per TCFO best practices, the SER considers all life cycle stages when choosing to invest in a new asset or rehabilitate an existing asset. Life cycle stages definitions follow:

- **Planning and Administration (PL)** includes both planning and administrative costs used to identify challenges, needs and alternative solutions prior to implementing a solution.
- **Capital Investment and New Construction (CI)** includes major new construction projects and investments where none previously existed to address a need.
- **Facility Operations (FO)** includes activities that ensure the day-to-day facility operation of a transportation asset and system (e.g., snow plowing, transit operations, mowing).
- **Preventative Maintenance (PM)** includes maintenance tasks performed at least annually to keep an asset in working order (e.g., inspections, cleaning culverts, vegetation control).
- **Recurring Maintenance (RM)** includes maintenance tasks performed on a cycle of 1 to 10 years to address deterioration that has occurred over time (e.g., chip sealing, mill and overlays, restriping).
- **Component Renewal/Recapitalization (CR)** includes the planned replacement of a component or system that will reach the end of its useful life based on condition and life-cycle analysis within the facility's lifetime. For roadways, an example would be regular sign replacement or scheduled replacements of culverts.
- **Disposition** includes the demolition (dismantling and removal) or surplussing of a deteriorated or otherwise unneeded asset, including necessary clean-up work, during the year the need occurred.[6]

[4] For additional details on past spending by fund program for each fund source, broken down by asset category and priority, see the SER LRTP Baseline Conditions Assessment technical report.

[5] For more information on the NPS asset life cycles, refer to the NPS Park Facility Management Division's Life-Cycle Business Practices, Volumes I – III.

[6] Although an integral part of the life-cycle management of an asset, the information needed to tie historical spending to asset disposition was not readily available. Consequently, the region did not explicitly identify disposition targets as part of the LRTP development process so further discussion on asset removal is limited. Identifying a funding strategy for demolition projects represents an ongoing challenge service-wide. Future updates to the Southeast Region LRTP will reflect national guidance regarding asset decommissioning or disposal and the associated funding strategy.

To simplify the discussion and analysis of investment strategies, the region further grouped work types into categories reflecting the intended outcome of the expenditure.

- **Improves Condition**. This category includes CI, CR and RM work types.
- **Maintains Condition**. This grouping is for ongoing annual spending, e.g., FO and PM.
- **Non-condition**. This grouping is for PL, which includes both planning and administration costs.

Table 2-4 summarizes historical funding by fund source and work type. Title 16 / 54 amounts include both project and ONPS base funding. Improves Condition investments comprised the largest share of spending, representing 88 percent ($63.7 million) of total historical average annual investment. The Title 23 program was the primary funding source for these expenditures.

Maintains Condition spending averaged $5.4 million annually, or 7.5 percent of total spending. More notably, minimal funds were directed to PM: just $0.8 million per year, just over one percent of all funding. Title 54 has covered most of the regional spending focused on Maintains Condition, providing $5.3 of the $5.4 million of identified spending.

Table 2-4: Transportation Average Annual Funding by Funding Programs and Work Type ($ in 2014 Millions)

Fund Source	PL	CI	FO	PM	RM	CR	Misc.	Total
Title 16 / 54	<$0.1	$0.4	$4.5	$0.8	$7.0	$3.1	$0.6	$16.4
Title 54 Non-Fee	$0.0	$0.2	$4.1	$0.8	$6.6	$2.8	$0.6	$15.1
Title 16 / 54 Fee	$0.0	$0.2	$0.4	$0.0	$0.3	$0.3		$1.3
Title 23	$1.5	$13.8	$0.0	$0.0	$1.5	$37.5	$0.2	$54.5
FLTP	$0.7	$10.6			$0.9	$37.5		$49.7
Other Title 23 Programs	$0.8	$3.2			$0.6		$0.2	$4.8
Other/External	$0.2	$0.6	$0.1				$0.2	$1.0
Total	**$1.7**	**$14.7**	**$4.6**	**$0.8**	**$8.4**	**$40.6**	**$1.0**	**$71.9**
Percent of Total	**2.4%**	**20.4%**	**6.4%**	**1.1%**	**11.7%**	**56.5%**	**1.4%**	**100.0%**

<$0.1 represents values less than $0.5M
"Misc." includes assets that did not have sufficient data to be associated with a work type.

3 Funding Forecast

This section documents the SER financial forecast for its LRTP based on anticipated future funding levels that can be reasonably assumed to be available for allocation to meet the defined transportation needs. The forecast of available funding provides the principal financial constraint against which future investment plans must be prioritized.

Methodology

The SER leveraged the approach applied in the development of the NPS National LRTP to forecast anticipated funding availability for transportation spending in the next five years.[7] Sources included:

- **The NPS budget office.** It conducts forecast exercises servicewide and with individual units and suggested a one-time reduction to Title 54 (DOI) Non-Fee program fund sources of three percent for ONPS and Cyclic Maintenance programs in the NPS National LRTP. The SER LRTP forecast was based on a combination of actual funding program investment plans where possible and the three percent cut when it wasn't. The three percent reduction only applied to programs for which the SER LRTP project team did not have access to an investment plan (Emergency Storm & Flooding Damage, Operational Base, and Other NPS Programs). For the remaining programs (Cyclic Maintenance, Line Item Construction, and Repair/Rehab), the forecast was based on the available investment plans.
- **Moving Ahead for Progress in the 21st Century Act (MAP-21).** When reauthorized in July 2013, MAP-21 held the NPS share of the total annual FLTP (under Title 23) funding constant at $240 million per year for fiscal years 2013 and 2014. MAP-21 also eliminated or consolidated many discretionary fund programs that the NPS had previously used to fund transportation investments. Thus, the future anticipated level of Title 23 funding for the NPS is expected to decline dramatically and funding forecasts were lowered accordingly. In addition, MAP-21 eliminated the Title 49 FTA Transit in Parks (TRIP) program, from which the NPS received funding for its transit systems. MAP-21 and other recently enacted transportation funding legislation such as the FAST Act legislation do not include specific earmarks, from which the NPS historically received funding for large-scale transportation improvements. Forecasted funding has been adjusted accordingly to reflect these changes.
- **Regional Funding Programs**. The SER project team consulted several regional-level programs to acquire the region-specific planned investment levels: Title 54 Non-Fee programs for Cyclic Maintenance, Repair/Rehabilitation, and Line Item Construction; Title 16 / 54 Fee programs for Recreation Fee, Transportation Fee, and Concession Franchise Fees; and, the Title 23 Federal Lands Transportation Program. These forecasts replaced the National LRTP-style (i.e., three percent reduction) forecasts for these programs as they provide more certainty than broad program-level authorizations and appropriation amounts.

[7] For additional information, refer to: *White Paper: Financial Baseline Methodology for the National LRTP*, NPS Park Facility Management Division, Facilities Planning Branch, 2015.

Findings and Analysis

The SER forecasts $61.7 million of available annual funding for its transportation network (Table 3-1). This figure is 14 percent, or $10.2 million, lower than the average annual historical funding of $71.9 million. The bulk of this decrease comes from the $13.7 million reduction in Title 23 funding for programs eliminated under MAP-21. The cutting of the TRIP program under Title 49 accounts for another $0.8 million reduction.

An anticipated increase of $4.3 million in Title 54 Non-Fee Repair/Rehabilitation and Line Item Construction program funding and Title 16/54 Fee funding will partially offset the reduction in Title 23 and Title 54 ONPS and Cyclic program funding. The Non-fee and Fee programs within Title 54 are projected to increase of $3.1 million and $1.2 million, respectively.

Table 3-1: SER Historical Average Annual Spending (FY 2006 – FY 2013) and Annual Funding Forecast (FY 2016 -- FY 2020) ($ in 2014 Millions)

Funding Title/Program	Historical Average Annual Spending	Forecasted Annual Available Funding	Difference	Rationale
Title 16 / 54	**$16.4**	**$20.7**	**$4.3**	**Mix of planned investment and projections**
Title 54 Non-Fee	**$15.1**	**$18.2**	**$3.1**	**Mix of planned investment and projections**
Operational Base	$5.5	$5.3	-$0.2	Based on national-level projections
Cyclic Maintenance	$4.6	$2.7	-$2.0	Planned Investment
Repair/Rehab	$1.9	$4.0	$2.1	Planned Investment
Emergency Storm & Flood Damage	$1.3	$1.3	$0.0	Based on national-level projections
Line Item Construction	$1.0	$4.2	$3.2	Planned Investment
Other NPS Programs	$0.7	$0.7	$0.0	Based on national-level projections
Title 16/54 Fee	**$1.3**	**$2.5**	**$1.2**	**Mix of planned investment and projections**
Title 16 Recreation Fee	$0.9	$1.8	$0.9	Planned investment
Title 54 Transportation Fee	$0.4	$0.5	$0.1	Based on national-level projections
Title 54 Concessions Franchise Fees	<$0.0	$0.2	$0.2	Based on national-level projections
Title 23	**$54.5**	**$40.8**	**-$13.7**	**Many programs eliminated**
FLTP	$49.7	$40.1	-$9.6	Planned investment
Earmarks	$2.5	$0.0	-$2.5	Moratorium on earmarks
Other FHWA Programs	$0.9	$0.5	-$0.4	Most programs eliminated
Public Lands Highway - Discretionary	$0.7	$0.0	-$0.7	Program eliminated
Scenic Byways	$0.5	$0.0	-$0.5	Program eliminated
Emer. Relief for Federally Owned Roads	$0.2	$0.2	$0.0	Based on national-level projections
Other/External	**$1.0**	**$0.3**	**-$0.8**	**TRIP eliminated**
FTA TRIP/ATPPL	$0.8	$0.0	-$0.8	Program eliminated
Reimbursable Agreements	$0.3	$0.3	$0.0	Based on national-level projections
Total	**$71.9**	**$61.7**	**-$10.2**	

4 Projected Financial Need and Funding Gap

This section identifies the currently estimated TCFO-based, unconstrained investment needs for the SER transportation portfolio. With these needs identified and compared against the funding forecast, funding shortfalls or "gaps" are identified. This unconstrained funding gap, which can be parsed by asset priority, asset category and fund source, provides a baseline for and informs the subsequent exploration and development of potential investment strategies for the LRTP.

Summary of Findings

The SER LRTP is a fiscally constrained plan. With an estimated annualized need of $182.2 million, and a forecast of $61.7 million in annual available transportation funding, the region faces an annual funding gap of $120.5 million (Table 4-1). Of that total gap, 70 percent ($90.7 million) is tied to the region's highest priority assets, a gap representing more than twice the available funds ($37.5 million) that are presently anticipated to be available for allocation for those same assets.

Table 4-1: Estimated Annual SER Transportation Funding Gap by Priority Grouping (FY 2016 – FY 2020) ($ in 2014 Millions)

Project Priority	Forecasted Annual Available Funding	Total Needs	Gap	Percentage of Total Gap
Highest	$37.5	$128.3	($90.7)	70%
High	$3.6	$12.3	($8.7)	7%
Other	$12.2	$41.7	($29.5)	23%
Tamiami Trail (non-NPS Asset)	$8.4	--	$8.4	--
Total	**$61.7**	**$182.2**	**($120.5)**	**100%**

If at any point the SER shifted the $8.4 million in funding for the Tamiami Trail to, for example, highest priority NPS assets in the region, the gap for highest priority assets would drop to $82.2 million or 68 percent of the total gap.

Additional needs such as safety, visitor use and resource protection that fall outside of typical transportation portfolio maintenance and management needs add to the funding gap and will further challenge the region in the implementation of its investment strategy.

IMPACTS OF THE TAMIAMI TRAIL

The NPS is committed to providing a portion of FLTP funds—$8.4 million per year—to planned capital improvements to the Tamiami Trail, a non-NPS owned highway owned and managed by FDOT. That investment amount represents 13 percent of the region's total available annual funding. The entire $8.4 million per year over the period of FY 2016 – FY 2020 will be funded out of the FLTP annual allocation to the SER.

Unconstrained Financial Need

Investment needs are the unconstrained amount of fiscally-derived funding required to bring SER transportation assets to a state of good repair. Investment needs also include programmatic requirements to address legislated needs such as code compliance, structural fire and accessibility. Other goal area needs such as resource protection may overlap with asset management (TCFO) needs or may be additional, potentially unfunded requirements.

METHODOLOGY

To arrive at the total annual estimated investment need, the SER applied three condition targets consistent with the National LRTP, each of which represents a state of good repair or better:

- Pavement Condition Rating (PCR) of 85 for all NPS owned and maintained public roadways
- Bridge Health Index (BHI) of 92 percent for all NPS owned and maintained bridges
- Facility Condition Index (FCI) of 'Good' condition (FCI <= 0.109) for all other NPS owned and maintained transportation assets.

Calculated need was then grouped by work type category: Improves Condition, Maintains Condition or Non-condition investment (e.g., planning and administration support).

NEED BY ASSET CATEGORY

Assessing need in terms of transportation system asset category shows intense requirements for the existing paved road network. Paved roads alone account for over half (52 percent) of the total unconstrained need, or $95.0 million per year (Table 4-3). Bridges and tunnels make up 24 percent or $43.0 million of annual need. By comparison, parking and transit systems and other transportation assets each comprise about $21 million or 12 percent of annual need each.

Table 4-3: SER Transportation Needs by Asset Category ($ in 2014 Millions)

Funding Title	Improves Condition	Maintains Condition	Administrative and Planning	Total Need	Percentage of Total Need
Paved Roads	$87.7	$7.2	<$0.1	$95.0	52%
Unpaved Roads	$1.2	$1.0	<$0.1	$2.2	1%
Parking	$17.4	$2.9	$0.8	$21.1	12%
Bridges and Tunnels	$42.0	$1.0	--	$43.0	24%
Other Assets	$16.7	$3.5	$0.7	$20.9	11%
Total	**$165.0**	**$15.7**	**$1.5**	**$182.2**	**100%**

NEED BY WORK TYPE

By breaking down the total estimated unconstrained annual need by work type and intended investment outcome, the region found context for more precisely directing funding to achieve intended outcomes. For example, CR represents the largest portion of need that Improves Condition. The total funding of $165.1 million needed to bring infrastructure into a state of good condition (i.e., CR, RM and CI), is more than 10 times the $15.7 million needed for Maintain Condition activities (i.e., FO and PM) (Table 4-4). Overall, planning and administrative dollars represent less than one percent of the total estimated annual need, $1.5 million out of $182.2 million.

Table 4-4: SER Transportation Needs by Work Type (FY 2016–FY 2020) ($ in 2014 Millions)

Investment Outcome and Work Type	Total Need	Percentage of Total Need
Improves Condition	$165.1	91%
Capital Improvement (CI)	$32.0	18%
Recurring Maintenance (RM)	$40.4	22%
Component Renewal (CR)	$92.7	51%
Maintain Condition	$15.7	9%
Facility Operations (FO)	$10.9	6%
Preventive Maintenance (PM)	$4.8	3%
Planning and Administrative	$1.5	<1%
Planning (PL)	$1.5	<1%
Total	**$182.2**	**100%**

NEED BY PRIORITY

Needs have also been determined in terms of highest, high and other priority assets (see Table 2-2). The region identified need in terms of these set priorities (Table 4-5) using FMSS and project data. The highest priority SER transportation assets represent an annual need of $128.3 million, or 70 percent of total need.

Table 4-5: SER Transportation Needs by Priority Group ($ in 2014 Millions)

Priority	Total Need	Percentage of Total Need
Highest	$128.3	70%
High	$12.3	7%
Other	$41.7	23%
Total	**$182.2**	**100%**

Funding Gap

With both forecasted funding and investment need identified, the region next calculated the shortfall in transportation funding to quantify how fiscal constraints will impact strategy development. This estimated funding gap totals $120.5 million each year, on average, over the period of FY2016 – FY2020. The estimated cumulative gap over this five-year period is thus approximately $603 million.

METHODOLOGY

The region calculated its average annual funding gap as the estimated annualized baseline investment needs minus annualized forecasted transportation funding. The gap calculation relied solely, and simply, on the data developed in the funding forecasts and the investment needs assessment. The gap was then broken down in terms of fund sources, work types, asset categories and priority.

GAP BY FUND SOURCE

The region estimated its average annual funding gap according to the historically observed distribution of primary fund sources (Table 4-6). Of the total $120.5 million gap, Title 23 represents the bulk, $77.2 million or 57 percent. Titles 16 and 54 represent nearly the full remainder of the gap: $47.5 million or 37 percent. Title 16 / 54 Non-fee (versus Title 54 Fee), comprises $37.4 million of that $47.5 million shortfall for those funding titles. A few aspects of the gap attributable to each title worth noting are referenced below. For additional details on funding gap by program, refer to the *SER LRTP Needs Assessment technical report, April 2016*.

- Other FHWA funding programs outside of Title 23 (e.g., Title 49 FTA TRIP/ATPPL and Reimbursable Agreements) do not project to have any impact on either available funding or the funding gap for the region at this time. Title 49 TRIP funding was eliminate with MAP-21. Reimbursable agreements are not predictable or large enough in magnitude to substantially increase expected available funding.
- Within Title 54, Non-fee programs gaps in the Cyclic Maintenance, Repair/Rehabilitation and Operational Park Base programs affect not only project planning but ongoing annual maintenance needed to sustain core transportation infrastructure. Ensuring that adequate funding is available to sustain highest and high-priority infrastructure will be an important part of an optimal strategy.
- The gap in Title 54 Non-Fee and Title 16 / 54 Fee program funding also becomes a challenge for sustaining infrastructure other than paved assets (roads, bridges, parking and tunnels), which Title 23 primarily funds. With the exception of FLTP Category III funds, which are dedicated to alternative transportation system improvements and planning, FLTP funding does not go to support other transportation assets such as buildings, trails, fleet, docks, and marinas. Values presented for the Title 23 funds represent available FLTP Category I and Category III funds. Category II funds were not included in the funding forecast, which is in alignment with the regional TIP. There likely will be FLTP funds invested in construction of federally-mandated parkways in the SER.
- Some SER park units collect entrance fees as well as some transit system user fees that can be used to fund ongoing operations of core visitor transportation systems. However, the projected available Title 16 and 54 Fee funding falls well short of identified needs. Transportation and recreation related fees fall $10.1 million short, a gap that exceeds the forecasted available funding of $2.5 million by more than four times.

Table 4-6: SER Average Annual Transportation Funding Gap, by Funding Title and Program (FY 2016–FY 2020) ($ in 2014 Millions)

Funding Title/Program	Forecasted Annual Available Funding	Needs	Gap	Percentage of Total Gap
Title 16 / 54	**$20.7**	**$68.2**	**($47.5)**	**37%**
Title 54 Non-Fee	$18.2	$55.6	($37.4)	31%
Title 16 / 54 Fee	$2.5	$12.6	($10.1)	8%
Title 23	**$32.4***	**$109.6***	**($77.2)**	**57%**
Other/External	**$0.3**	**$4.5**	**($4.2)**	**3%**
Reallocated Funds - Tamiami Trail	**$8.4**		**$8.4**	
Total	**$61.7**	**$182.2**	**($120.5)**	**100%**

*Excludes $8.4 million of annual available funding planned for the Tamiami Trail, which is included as a separate line item in this table in order to reconcile total identified annual available funding for the region of $61.7 million.

GAP BY ASSET CATEGORY

Identifying a baseline forecasted gap requires making assumptions about the application of available funding to certain asset categories, work types and even asset priorities. Gaps were identified and compared for seven groups of transportation assets: paved roads, parking, bridges and tunnels, trails, transit and other assets (Table 4-7).

In absolute terms, paved roads, despite the available FLTP funding being the largest source for the region, faces the largest estimated annual funding gap, $59.1 million. In relative terms, parking faces the largest annual funding gap on a percentage basis, with only about four percent of the total anticipated annual need ($21.1 million) projected to be covered by forecasted available funding ($0.8 million).

Table 4-7: SER Average Annual Program Funding Gap, by Asset Type (FY 2016–FY 2020) ($ in 2014 Millions)

Asset Category	Forecasted Annual Available Funding	Total Needs	Gap	Asset Category Needs met by Forecasted Funding
Paved Roads	$35.0	$95.0	($59.1)	37%
Parking	$0.8	$21.1	($20.3)	4%
Bridges and Tunnels	$6.2	$42.5	($36.3)	15%
Trails	$3.7	$12.2	($8.5)	30%
Transit	$2.1	$4.5	($2.4)	47%
Other Assets	$4.6	$6.9	($2.3)	67%
Reallocated Funds - Tamiami Trail	$8.4*		$8.4	
Total	**$61.7**	**$182.2**	**($120.5)**	**29%**

*Reflects an agreed contribution or commitment to fund the Tamiami Trail project managed by FDOT. This commitment reduces available funds for NPS-owned assets and impacts projected amount of met needs.

GAP BY WORK TYPE

The region determined its funding gap by work type (Table 4-8) and showed that by far the greatest annual funding gap is for $118.1 million to address project needs that Improve Condition of the portfolio up to a rating of "good." Another $10.0 million is needed annually to cover project gaps in operations and preventive maintenance needed to sustain good condition in perpetuity. This gap in funding to Maintain Condition is consistent with the gap noted in Operational Park Base, the primary funding for FO and PM as documented in the *SER LRTP Needs Assessment technical report, April 2016*.

Despite absolute gaps in funding levels, all three categories of work type need fall substantially short on a percentage basis. Forecasted funding will cover 28 percent of Improves Condition need, 36 percent of Maintains Condition need and 40 percent of Non-condition planning and administrative needs.

Table 4-8: SER Transportation Needs, by Work Type ($ in 2014 Millions)

Work Type Grouping	Forecasted Annual Available Funding	Total Needs	Gap	Needs met by Forecasted Funding
Improves Condition	**$47.0**	**$165.1**	**($118.1)**	**28%**
Capital Improvement (CI)	$2.2	$32.0	($29.8)	7%
Recurring Maintenance (RM)	$27.3	$40.4	($13.1)	68%
Component Renewal (CR)	$17.5	$92.7	($75.2)	19%
Maintains Condition	**$5.6**	**$15.7**	**($10.0)**	**36%**
Facility Operations (FO)	$4.4	$10.9	($6.5)	40%
Preventive Maintenance (PM)	$1.2	$4.8	($3.5)	25%
Non-condition (Planning and Administrative)	**$0.6**	**$1.5**	**($0.8)**	**40%**
Planning (PL)	$0.6	$1.5	($0.8)	40%
Reallocated Funds - Tamiami Trail	$8.4*		$8.4	
Total	**$61.7**	**$182.2**	**($120.5)**	**29%**

*Reflects an agreed contribution or commitment to fund the Tamiami Trail project managed by FDOT. This commitment reduces available funds for NPS-owned assets and impacts projected amount of met needs.

GAP BY PRIORITY

Table 4-9 summarizes the identified gaps by asset priority. This summary reflects the previously identified needs and funding anticipated for the SER's highest, high and other priority assets. It is consistent with an historical approach for the SER in terms of how it has allocated funding to priority assets in the past. The estimated gap by project priority shows a $90.7 million annual gap for just the highest priority assets by themselves, representing 70 percent of the total gap. As previously discussed, the $8.4 million of FLTP funds the region will contribute to the state of Florida to support the Tamiami Trail construction projects affects the region's ability to further address the funding gap on its highest priority transportation assets.

Table 4-9: Funding Gap Summary for the SER Transportation Portfolio, by Priority ($ in 2014 Millions)

Priority Grouping	Available Annual Funding	Funding Gap	Total Needs
Highest	$37.5	($90.7)	$128.3
High	$3.6	($8.7)	$12.3
Other	$12.2	($29.5)	$41.7
Non-NPS (Tamiami Trail)	$8.4	$8.4	
Total	**$61.7**	**($120.5)**	**$182.3**

While this dollar amount and relative size of the gap for highest priority assets might seem large, it is expected:

- Thirty-nine percent of SER paved roads are classified as highest priority, by quantity that amounts to 81 percent of the region's paved road network. Parkways such as Natchez Trace Parkway and Blue Ridge Parkway are large contributors to this count-quantity dichotomy.
- The SER maintains more bridges than any other NPS region. Consistent with the National LRTP, the SER classifies all bridges as highest priority.
- All transit systems, which require intensive operational support, are designated highest priority.

Thus, the types and quantities of transportation assets that are of the highest priority are critical to the safe and enjoyable visitor experience of and access to SER parks. It would be unreasonable to expect many, if any, of these highest priority assets to be lowered in priority for the sake of trying to balance the distribution of asset priorities across the highest, high and other priority groups.[8]

[8] For additional details on the SER LRTP inventory and prioritization of assets by count and quantity, refer to the SER LRTP Baseline Conditions Assessment Report (updated September 2016).

5 Investment Strategy

The culmination of the LRTP development process occurs when an investment strategy is identified and selected. It represents a synthesis of the plan's goals and objectives, agreed upon investment and other transportation-related needs, and the reality of the constraints that exist in the current funding environment. This section of the report describes the process used by the SER to identify several potential investment strategies, select its preferred investment strategy from that mix and refine that selected strategy for inclusion in the final plan.

Process for Identifying Candidate Strategies and Selecting the SER LRTP Investment Strategy

Identification of potential investment strategies and the final recommended strategy was a collaborative, involved endeavor that required input from many sources. Care was taken to ensure proper attention was given to SER's past investment practices while incorporating current NPS policies into any recommended investment strategy. While the SER LRTP identifies an investment strategy that best fits its circumstances and needs, the region did incorporate analyses and discussions used in developing the NPS National LRTP investment strategy as appropriate. Going forward, as the regional and national LRTPs continue to inform one another, the "gap" between the regional and national LRTP efforts will narrow.

The SER held several workshops and follow-up discussions with the SER LRTP Core Team and Advisory Committee, as well as other internal and external NPS stakeholders in order to identify candidate strategies and select the SER LRTP investment strategy. Internal NPS stakeholders included park staff representatives, regional staff members (including fund program managers, transportation branch leadership, and other regional office executives) as well as representatives from across the NPS Park Facility Management Division Washington Support Office. External to NPS, engaged stakeholders included the FHWA Eastern Federal Lands Highway Division, the U.S. Department of Transportation's John A. Volpe National Transportation Systems Center and other subject matter experts in federal, state and metropolitan planning.

Stepwise, stakeholders were first briefed on the baseline SER transportation conditions, trends, and needs. A preliminary forecast of future conditions based on historical expenditures was also developed to set the stage for identifying new strategies. From there, the region worked with stakeholders to identify potential candidate strategies in light of CIS and TCFO policies and best practices as well as pre-established asset priorities (shown prior in Table 2-2). For example, to shape potential strategies, the SER considered whether or not to:

- Continue primarily investing in high priority assets
- Alter existing balance between capital and O&M spending
- Prioritize or alter spending across asset categories

Once potential strategies were identified—the SER identified four candidates—analytical models predicted outcomes of each strategy on transportation portfolio condition. The SER used three models to:

- Evaluate impacts of planned investments on paved roads and parking; the region modeled changes in PCR using the FHWA Highway Pavement Management Application (HPMA) for each candidate.
- Evaluate impacts of planned investments on bridges; the region modeled changes in Bridge Health Index (BHI) using the FHWA PONTIS software for each candidate strategy.
- Evaluate impacts of planned investments on all other transportation assets; the region used a Deferred Maintenance (DM) and Facility Condition Index (FCI)-based MS Excel model for each candidate strategy.[9]

Summary of Candidate Investment Strategies for the SER LRTP

Investment strategies identified by the SER directly reflected key principles of the CIS and TCFO, ensuring that the resultant SER LRTP strategy would be consistent with the NPS focus on financial sustainability of its most important infrastructure. Any candidate strategy was defined in terms of:

- **Asset priority.** A specific percentage of available funding was set that would be invested in "highest," "high," and "other" priority assets for a given strategy.
- **Life cycle.** An amount of funding was designated that would address the three LRTP work type categories, i.e., Improve Condition, Maintain Condition and Non-condition investments.
- **Asset category.** An amount of funding was designated for investment in each LRTP asset category.
- **Tradeoffs.** Each strategy clearly benefitted a certain aspect of the SER transportation portfolio but at the cost another aspect; those tradeoffs for each strategy were highlighted during discussions.

With these parameters in mind, using a preliminary forecast of available funding and other asset portfolio data, the SER modeled different potential strategies, including the four most likely or candidate strategies listed below, and as summarized in Table 5-1.

- **Highest Priority Investment.** This strategy reflects current investment practices of the region's FLTP program. It targets the region's highest priority assets for funding with a heavy emphasis on investments that will improve asset condition.
- **DM Emphasis.** Parameters of the DM Emphasis strategy closely mimic HPI, except that six percent more funding is diverted to improving asset condition and away from PM and FO activities.
- **O&M Emphasis.** This strategy is the converse to the DM emphasis. Seven percent of funding is diverted away from CI, RM and CR activities and toward PM and FO, activities that are intended to sustain asset condition throughout its life cycle.
- **Multimodal.** Investment guidelines for asset priority and life cycle are the same as the HPI strategy but the mix of asset categories places an increased focus on assets that promote multimodal transport and away from paved roads and bridges. Funding is shifted from roads and bridges to all other transportation assets, such as multiuse trails, shuttle stops and other transit features.

[9] Modeled FCI values are adjusted to include not only DM but also NPS programmatic work orders, backlogged need that includes among others regulatory requirements, identified accessibility and fire safety needs.

Table 5-1: SER LRTP Candidate Investment Strategies

Strategy & Context	Highest Priority Investment*	DM Emphasis	O&M Emphasis	Multimodal
Priority	• 98% Highest • 2% Other	• 98% Highest • 2% Other	• 98% Highest • 2% Other	• 98% Highest • 2% Other
Life cycle	• 89% Improves • 10% Maintains • 1% Non-Condition	• 95% Improves** • 4% Maintains • 1% Non-Condition	• 82% Improves*** • 17% Maintains • 1% Non-Condition	• 89% Improves • 10% Maintains • 1% Non-Condition
Asset Category	• 55% Roads • 30% Bridges • 3% Transit • 12% All Other	• 55% Roads • 30% Bridges • 3% Transit • 12% All Other	• 55% Roads • 30% Bridges • 3% Transit • 12% All Other	• 42% Roads • 26% Bridges • 3% Transit • 28% All Other
Invests in…	• Highest priority assets	• Reducing the DM backlog	• Day-to-day O&M	• More high-priority trails and other multimodal assets
…at the expense of…	• Lower priority assets	• Day-to-day O&M	• DM backlog, planning, capital	• Roads, parking, bridges

* Representative of the SER FLTP program's current investment practices
** Shifts two-thirds of funding from work types that help to maintain condition to those that improve condition
*** Targeted spending meets 100 percent of identified needs for maintaining asset condition (i.e., FO and PM)

For each candidate, the SER used the preliminary forecast data and financial models (i.e., HPMA, PONTIS and other database software) to evaluate projected condition improvements. The region then compared outcomes for each candidate to inform the selection of the SER LRTP investment strategy.[10] Each candidate strategy's modeled outcome reflects the change in condition of the SER transportation portfolio from the current portfolio baseline to six years from now (Table 5-2). While different condition metrics are used for different asset category groups (i.e., PCR for roads, BHI for bridges and FCI for other infrastructure), each can be evaluated in terms of relative condition (like new, good, fair, poor or serious). Table 5-2 color codes those results accordingly.

[10] While each strategy will also help sustain those assets [i.e., fund operations and PM], those benefits were not – and could not – be modeled at this time due to a lack of empirical data that can be used to predict the effect of regular, recurring O&M on asset condition over time.

Table 5-2: SER LRTP Candidate Investment Strategies' Modeled Condition Outcomes (Preliminary)

Preliminary Modeled Resulting Conditions*	Current Portfolio Baseline	Highest Priority Investment	DM Emphasis	O&M Emphasis	Multimodal
Roads & Parking					
FC 1, 2, 7 PCR	84	78	79	77	77
FC 3, 4, 5, 6, 8 PCR	65	65	65	65	65
Maintains Needs (% Met)		51%	17%	84%	40%
Bridges					
Overall Condition BHI	95.1	93.1	93.1	93.0	92.8
Maintains Needs (% Met)		10%	10%	70%	10%
Transit					
Improve Needs (% Met)		45%	50%	45%	45%
Maintains Needs (% Met)		37%	37%	47%	68%
Other (Multimodal) Facilities					
Overall Condition FCI	0.201	0.337	0.332	0.346	0.263
Highest Priority FCI	0.304	0.485	0.449	0.474	0.315
High Priority FCI	0.144	0.188	0.246	0.246	0.246
Other Priority FCI	0.073	0.175	0.196	0.196	0.196
Maintains Needs (% Met)		50%	14%	100%	100%

Condition Key
Like New
Good
Fair
Poor
Serious

*Three condition metrics are used by the NPS to reflect infrastructure condition: pavement condition rating (PCR), bridge health index (BHI) and facility condition index (FCI). PCR ranges include: perfect (100), good (85 - 99), fair (61 - 84) and poor (<61). BHI ranges include: good (>91%), fair (80% to 91%) and poor (< 80%). FCI ranges include: good (0.000 – 0.109), fair (0.110 – 0.149), poor (0.150 – 0.499) and serious (>= 0.500).

Several trends were apparent in the modeled results for each candidate that shaped the SER decision making and eventual selection of the singular LRTP investment strategy:

- In these scenarios, no assets are predicted to end up in serious condition, nor in like new condition. The road network will remain in fair, borderline good condition in all scenarios. Bridges will remain in good condition across the board.
- For roads more specifically, all four scenarios result in an ending PCR of between 77 and 79 for the highest priority roads and parking (FC 1, 2 and 7), considered to be fair—if not borderline good—condition. Interestingly, all Other priority roads (FC 3, 4, 5, 6 and 8) have an identical resultant PCR of 65, also fair condition, under each of the four candidate strategies.
- All bridges will remain in good condition after the investment horizon as all strategies place equal importance on bridge structures given visitor safety needs. Any percentage change in funding invested minimally impacts overall BHI. The O&M Emphasis strategy may result in better condition outcomes given the increased emphasis on identified O&M needs, which in turn can assume to have a greater impact on maintaining current good bridge condition over time. But that perceived effect is could not be determined from the models.

- None of the models directly address transit systems; all strategies will address at a minimum 45 percent of investment need but no more than 50 percent per the DM Emphasis strategy. The perceived difference in condition of the transit portfolio under the DM Emphasis strategy over the other three strategies cannot be known at this time.
- Under all four strategies, the condition outcome after six years of all Other transportation facilities will be poor (i.e., FCI falls between 0.150 and 0.499); even under the Multimodal strategy, the ending FCI is 0.263, poor condition. All priority subsets of Other assets are poor, too, in all four scenarios, whether highest, high or other priority assets.

With these outcomes in hand and weighing the tradeoffs, the SER determined that the investment strategy for the SER LRTP is the Highest Priority Investment strategy. It closely reflects how the SER has managed its investment portfolio in the past and results in the best possible outcomes given highly constrained transportation funding for the SER.

REFINEMENT OF THE SER INVESTMENT STRATEGY (HIGHEST PRIORITY INVESTMENT)

In order to better illustrate the benefits and potential outcomes of the Highest Priority Investment strategy, the region obtained updated funding and project information and reran the three models (HPMA, PONTIS and MS Excel). Specifically, for modeling purposes, the region obtained updated:

- Expected available funding for transportation expenditures,
- Transportation Improvement Program (TIP) project information, and
- Megaproject details for the Tamiami Trail.

The region identified the mega project for the Tamiami Trail, a non-NPS owned roadway, as essential for breaking out in the modeling of its investment strategy as it turns out to be a key driver of model outcomes given its nature (i.e., partnership with FL DOT on a non-NPS road) and extent (i.e., extended duration and large funding requirements for the region). The next section describes the selected investment strategy in greater detail and discusses its projected outcomes using updated model outputs.

The SER LRTP Investment Strategy: Highest Priority Investment

The SER selected as its strategy the Highest Priority Investment strategy. That strategy takes the estimated available regional transportation funds of $61.7 million per year and:

- Invests 98 percent of available funding in the region's highest priority transportation assets.
- Invests 89 percent of available funding on needed work that will improve asset condition (i.e., reduce or avoid DM through timely CI, CR and RM), 10 percent on maintaining condition (i.e., FO and PM) and one percent on planning and administrative activities.
- Targets roads for 55 percent of available funding, bridges for 30 percent, transit for 3 percent and other multimodal facilities for 12 percent.

JUSTIFICATION FOR HIGHEST PRIORITY INVESTMENT STRATEGY AS THE SER LRTP INVESTMENT STRATEGY

In comparing candidate strategies, the region selected the Highest Priority Investment strategy because it addresses a number of SER interests: it ensures bridge safety; prioritizes network infrastructure of greatest importance such as primary park roads, key connector roads and parkways; and continues the same level of investment in NPS-owned, current transit assets ensuring their continued operation.

The Highest Priority Investment strategy also reflects the current practices already adopted by the region's FLTP program. Thus choosing this strategy will enable the region to continue on its current investment course, with few modifications to how it programs transportation funding. As a result, the projected outcomes of this strategy shown with the condition models are feasible and likely to be achieved.

IMPLICATIONS FOR THE SER LRTP INVESTMENT STRATEGY

Given the highly constrained funding environment in which the SER must operate, some tradeoffs were inevitable in the selection of an investment strategy. In light of this reality, the Highest Priority Investment strategy represents the best combination of outcomes among the candidate strategies. Even with the best combination of outcomes there is not enough funding to meet needs, and the region will still face increasing DM backlogs and slight deterioration of even its highest priority roads and other (non-bridge) transportation assets.

The biggest tradeoff for the region is that under this strategy, lower priority transportation assets may be at risk for increased deferred maintenance and degradation of condition outside the five-year investment forecast period (FY 2021 and beyond).

Also a potential concern, Other transportation assets—many of which are support facilities and include trails, marinas, unpaved roads and unpaved parking—are expected to continue to deteriorate under this strategy, even those highest priority (i.e., OB 1) Other facilities; however, these same assets would similarly decline under other candidate strategies. All four candidate strategies produce an overall Other facilities condition of poor, per adjusted FCI modeled results.

When modeling the final projected financial outcomes of the Highest Priority Investment strategy, the SER made an effort to discretely identify funding for the Tamiami Trail. Doing so provides a clear segregation of investment needs for that project and shows its effect on the fiscal constraints of the SER transportation portfolio investment strategy.

In order to show the significance of the Tamiami Trail funds to the SER FLTP pool of funds, the region mapped its plan for expending its estimated available $61.7 million of annual funds under the Highest Priority Investment strategy with and without the Tamiami Trail project. Table 5-3 and Table 5-4 document those relationships. Doing so enabled the region to document how its funding capacity—and the benefits generated from the Highest Priority Investment strategy—might improve were alternative funding or additional partners available to support Tamiami Trail improvements in the FY 2016 – FY 2020 time period and beyond.

The final allocation of funding, in terms of priority, remained unchanged from the initial scoping of the Highest Priority Investment strategy; however, the life-cycle needs and asset category were refined slightly to properly account for the investment in the Tamiami Trail. Table 5-3 shows that to account for the $8.4 million of funding for the Tamiami Trail, which all goes toward Improves Condition work types, $6.6 million comes from what might otherwise be invested in SER paved roads and $1.8 million from SER bridges. Those amounts are an additional 20 percent ($8.4 million on top of $37.6 million) of the annual funding planned for FY 2016 to FY 2020 to improve condition of SER owned roads ($30.8 million) and bridges ($6.8 million).

Table 5-3: Highest Priority Investment Strategy Planned Annual Expenditures (FY 2016—FY 2020) ($ in 2014 Millions)

Investment Levels	Highest Priority Investment*	Highest Priority Investment without Tamiami Trail	Difference in Funding to SER Owned Assets
TOTAL FUNDING	**$61.7**	**$61.7**	--
Paved Roads & Parking	**$36.1**	**$42.7**	**$6.6**
Improves Condition	$30.8	$37.4	$6.6
Maintains Condition	$5.2	$5.2	
Non-Condition Investment	$0.1	$0.1	
Bridges	**$7.3**	**$9.0**	**$1.8**
Improves Condition	$6.8	$8.6	$1.8
Maintains Condition	$0.1	$0.1	
Non-Condition Investment	$0.3	$0.3	
Transit	**$2.1**	**$2.1**	
Improves Condition	$1.5	$1.5	
Maintains Condition	$0.6	$0.6	
Non-Condition Investment	$0.0	$0.0	
Other Facilities	**$7.9**	**$7.9**	
Improves Condition	$6.9	$6.9	
Maintains Condition	$0.7	$0.7	
Non-Condition Investment	$0.2	$0.2	
Reallocated Funds - Tamiami Trail	**$8.4**	**$0.0**	**($8.4)**

*The Highest Priority Investment is the investment strategy for the SER LRTP. The region has agreed to provide $8.4 million per year ($42 million total) to FDOT between FY 2016 and FY 2020 for that project. After FY 2020 any continued funding for that project or similar projects is unknown.

By more clearly defining the annual funding that will be dedicated to the Tamiami Trail each year over the period of FY 2016 through FY 2020, the SER refined the accounting for its investment strategy. Table 5-4 shows the strategy as revised to reflect additional information about the TIP and Tamiami Trail mega project, i.e., the Highest Priority Investment *with the Tamiami Trail project being funded* (shown in Column B). It compares those planned allocations by strategy element to the preliminary version of the modeled strategy (Column A) as well as a scenario in which funding was not reallocated to the Tamiami Trail (Column C).

The strategy outcomes summarized in Table 5-4 Column B is the same in definition as preliminarily scoped against the other candidates (Table 5-4 Column A) but the allocations presented more accurately reflect funding realities given the $8.4 million annually dedicated to the Tamiami Trail from FY 2016 through FY 2020.

For example, Column B in Table 5-4 shows that the funding allocated to NPS-owned roads under the strategy is 59 percent ($36.1 million) of total available funding ($61.7 million) and bridges is 11 percent. And, while 89 percent ($54.4 million) of funding will still go toward Improves Condition work types, 75 percent ($46.0 million) is for NPS-owned roads and 14 percent ($8.4 million) for the Tamiami Trail capital improvements.

The scenario in which funding was not reallocated to the Tamiami Trail (Table 5-4 Column C) shows the potential for increased investment in NPS-owned assets from what is expected under the strategy in FY 2016 – FY 2020 (Column B) if the region were able to dedicate all of its available funding to NPS-owned infrastructure. Investments in highest priority assets could increase to $60.5 million from $52.2 million. Funding to roads and parking might increase to $42.7 million from $36.1 million and funding to bridges might increase to $9.0 million from $7.3 million.

Table 5-4: Allocation of Funding under the Highest Priority Investment Strategy, Preliminary (Column A), Revised (Column B) and Scenario without Tamiami Trail (Column C) ($ in 2014 Millions)

Strategy Element and Category		COLUMN A Preliminary FY 2016 – FY 2020 Highest Priority Investment Strategy Candidate* ($69.2 million)		COLUMN B Revised FY 2016 – FY 2020 Highest Priority Investment with Tamiami Trail** ($61.7 million)		COLUMN C Scenario for FY 2016 – FY 2020 without Tamiami Trail ($61.7 million)	
Element	**Category**	**Amount**	**Percentage**	**Amount**	**Percentage**	**Amount**	**Percentage**
Priority	Highest	$67.8	98%	$52.2	84%***	$60.5	98%
	Other	$1.4	2%	$1.1	2%	$1.2	2%
	Tamiami Trail	--	--	$8.4	14%	--	0%
Life Cycle	Improves Condition	$61.6	89%	$46.0	75%	$54.4	87%
	Maintains Condition	$6.7	10%	$6.6	10%	$6.6	12%
	Non-Condition	$0.9	1%	$0.6	1%	$0.6	1%
	Tamiami Trail	--	--	$8.4	14%	--	0%
Asset Category	Roads and Parking	$38.4	55%	$36.1	59%	$42.7	69%
	Bridges	$20,7	30%	$7.3	11%	$9.0	12%
	Transit	$1.8	3%	$2.1	3%	$2.1	4%
	All Other	$8.4	12%	$7.9	13%	$7.9	15%
	Tamiami Trail	--	--	$8.4	14%	--	0%

*Information as first presented in Table 5-1.
**Updated to show more clearly the split of the $61.7 million (revised downward from $69.2 million) of planned available funding with $8.4 million funding planned for the Tamiami Trail and the $53.3 million planned for allocation to the broader NPS-owned SER LRTP transportation portfolio.
***Although 98% of funding does go to highest priority assets under the Highest Priority Investment strategy from FY 2016 to FY 2020, it is 98% of available funding ($53.3 million) after commitments to the Tamiami Trail ($8.4 million) are applied to the total available funding balance ($61.7 million).

MODELED OUTCOMES

Having selected the Highest Priority Investment strategy as its LRTP strategy, the SER refined the financial and condition models to incorporate additional information about anticipated funding, changes to its TIP and the estimated Tamiami Trail project needs not available for the preliminary four candidate strategy models.

Financial Outcomes

The condition models used (HPMA for paved roads and parking, PONTIS for bridges and MS Excel for Other facilities) project DM percentage increases at the end of FY 2020 that can help communicate expected outcomes of the Highest Priority Investment strategy. Modeled DM increases are shown in Table 5-5.

The Highest Priority Investment strategy focuses on sustaining the region's most critical transportation assets. Even so, the DM backlog for those highest priority assets is projected to increase by 70 percent between now and FY 2020.[11] That figure combines the projected growth in DM for highest priority roads and parking, bridges and highest priority other facilities. The SER's transportation portfolio DM is anticipated to increase in total by 62 percent; all asset types and all priority groupings are forecast to show increases in DM, with no apparent pattern explaining the total increase.

The Highest Priority Investment strategy captures the essence of the NPS CIS and TCFO. But as projections show, application of the strategy may need refining to achieve improved performance on at least a subset of SER's highest priority assets. The nature of the SER transportation infrastructure is such that there are so many high priority, critically important assets that the region cannot reasonably afford to sustain all of it with available transportation funding. The projected increased DM on highest priority assets represents 90% of the total increased DM forecast for the entire portfolio.

Table 5-5: Summary Forecast of FY 2020 Year-End DM per the SER LRTP (Highest Priority Investment) Strategy

Transportation Asset Category / Priority Grouping	Percentage Increase in DM
Roads and Parking	**52%**
FC 1, 2, 7 PCR	65%
FC 3, 4, 5, 6, 8 PCR	13%
Bridges	**92%**
Other Facilities	**76%**
Highest Priority	64%
High Priority	40%
Other Priority	157%
Total Transportation DM	**62%**

As evident in Table 5-6, by reallocating funds to non-NPS transportation asset projects, there is a measurable cost to the SER transportation asset portfolio of about four percent in additional DM backlog. Comparing projections of DM when the SER provides Tamiami project funding (as currently planned) and when the SER does not (a hypothetical scenario) shows that roads and parking as well as bridges will have four and five percent more in expected DM, respectively, by FY 2020 under the planned versus hypothetical case.

[11] Note that all four preliminary candidate strategies' models showed a projected increase in DM, so the Highest Priority Investment strategy is not deficient in these terms to any other strategy considered for the SER LRTP.

Table 5-6: Change in FY 2020 Year-End DM outcomes when removing Tamiami Trail funding reallocation

Transportation Asset Category / Priority Grouping	Percentage Change in DM without Tamiami Trail
Roads and Parking	**-4%**
FC 1, 2, 7 PCR	-5%
FC 3, 4, 5, 6, 8 PCR	-3%
Bridges	**-5%**
Other Facilities	**0%**
Highest Priority	0%
High Priority	0%
Other Priority	0%
Total Transportation DM	**-4%**

Asset Condition Outcomes

The SER forecasts significant growth in transportation portfolio DM under the Highest Priority Investment strategy for all priority groupings. Accordingly, the region recognizes that a parallel worsening in portfolio condition may occur, as shown in Table 5-8. However, by selecting the Highest Priority Investment strategy, the region will be able to:

- Maintain its road network in as close to current condition as possible given highly constrained funding.
- Ensure good condition of all of its bridges, vital to transportation network safety and no small feat given that the SER has the largest portfolio of bridges relative to all other NPS regions.
- Continue to fund more than two-thirds of improvement needs and nearly one-third of ongoing operations and maintenance needs of all transit assets.

The region will need to be proactive with managing and investing in its other multimodal assets. That portfolio subset does face an overall decline in condition under this (as well as each preliminary candidate) strategy.

Also as shown in Table 5-7, were the region in the future to use funding currently planned for Tamiami on its own portfolio of roads and bridges, modest improvement in those condition ratings would be achieved.

Table 5-7: Projected Infrastructure Conditions per the Highest Priority Investment Strategy, Comparing Outcomes with and Without Programmed Funding for the Tamiami Trail

Modeled Resulting Conditions*	Current Portfolio Baseline Conditions (2014)	Highest Priority Investment Future Conditions (FY 2020 Year-End)	Highest Priority Investment without Funding Tamiami Future Conditions (FY 2020 Year-End)
Roads & Parking			
FC 1, 2, 7 PCR	84	78	79
FC 3, 4, 5, 6, 8 PCR	65	65	66
Maintains Needs (% Met)		52%	52%
Bridges			
Overall Condition BHI	95.1	90.6	91.0
Maintains Needs (% Met)		11%	11%
Transit			
Improve Needs (% Met)		68%	68%
Maintains Needs (% Met)		29%	29%
Other (Multimodal) Facilities			
Overall Condition FCI	0.201	0.337	0.337
Highest Priority FCI	0.304	0.485	0.485
High Priority FCI	0.144	0.188	0.188
Other Priority FCI	0.073	0.175	0.175
Maintains Needs (% Met)		28%	28%

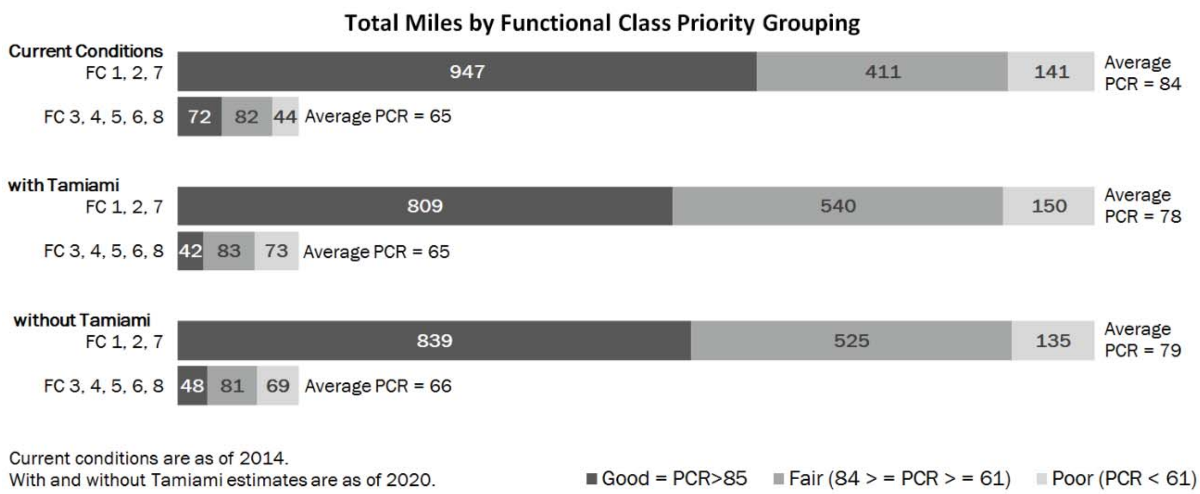
Condition Key
Like New
Good
Fair
Poor
Serious

*Three condition metrics are used by the NPS to reflect infrastructure condition: PCR, BHI and FCI. PCR ranges include: perfect (100), good (85 - 99), fair (61 - 84) and poor (<61). BHI ranges include: good (>91%), fair (80% to 91%) and poor (< 80%). FCI ranges include: good (0.000 – 0.109), fair (0.110 – 0.149), poor (0.150 – 0.499) and serious (>= 0.500).

The region recognizes the challenge of bringing and keeping its highest priority assets in a state of good condition. Armed with information on how its LRTP investment strategy might affect portfolio condition, the SER will pay close attention to three specific projected outcomes during its implementation.

Outcome 1. Highest priority roads and parking PCR will decrease from 84 to 78, but the perceived condition of these roads will remain the same, in fair condition. Figure 5-1 details exactly how the expected condition will change under the new scenario compared to current conditions. It also demonstrates the role the investment strategy plays in pulling funding into non-NPS owned transportation assets on condition and projects a slightly better outcome were funding to be reprogrammed away from Tamiami Trail to NPS pavement at any future date prior to FY 2020.

Figure 5-1: Projected Road Network Condition per the Highest Priority Investment Strategy, Comparing Outcomes with and without Directing Funding to the Tamiami Trail



Outcome 2. For SER bridges, all considered to be highest priority, the regional BHI is projected to decline from 95.1 to 90.6 percent. This result means that the SER under this strategy will have its bridge portfolio fall from a current situation of being in "good" condition (a BHI of greater than 91 percent) to a future of being on the margin of only "fair" condition (a BHI of 80 to 91 percent). Note that were funding programmed for the Tamiami Trail reprogrammed to SER-owned bridges, it is forecast that the regional BHI would modestly improve to 91 percent, exactly meeting that threshold considered to be a state of "good" condition.

Outcome 3. For Other transportation assets deemed to be highest priority, FCI will worsen from 0.304 to 0.485. So while the perceived condition of these assets will remain "poor" under the Highest Priority Investment strategy, the forecasted FCI of 0.485 at the end of six-years is borderline "serious" condition (i.e., FCI of 0.500 or higher).

By closely monitoring its asset portfolio during implementation of the strategy, the SER will be better equipped to find opportunities to mitigate or avoid negative expected trends. For example, the SER may reconsider how it prioritizes some of its transportation asset portfolio during subsequent plan updates.

6 Going Forward

The SER selected its investment strategy through a thoughtful analysis of all available information related to its transportation inventory, portfolio condition, fiscal funding constraints, national policies and directives, regional priorities and its goals for its transportation network over the near, medium and long terms. Implementing the Highest Priority Investment strategy will require frequent checks on performance as well as adaptive management by the region. The transportation planning, investment, operational and maintenance environments are dynamic. Funding sources change over time as do policies that affect transportation. The region needs to keep a close eye on these types of changes to ensure the success of its investment strategy and broader implementation of its LRTP.

Funding Challenges for NPS and SER

The SER, like the entirety of the National Park Service, will continue to be challenged to find the funding necessary to sustain its transportation asset portfolio at an acceptable condition. As documented through the detailed analyses and modeling of past funding, future forecasted available funding, transportation system needs, funding gaps and investment strategies, even maintaining the subset of highest priority assets for the region at acceptable condition levels will be challenging over the next six years, let alone in perpetuity.

The expected decrease in available funding to $61.7 million per year from the average of $71.9 million per year for FY2006 to FY 2013 will not be easy to overcome. In fact, even if the average available transportation funding in future years were to remain at historical levels, it is reasonable to assume that $71.9 million per year would likely still not be enough to improve the condition of even the highest priority transportation assets.

This LRTP represents a first cut at prioritizing the SER transportation portfolio to best utilize that shrinking source of transportation funds. Further iterations or updates of the LRTP will require a finer look at priority assets and afford the region an opportunity to be even more specific with which of its highest priority assets should be first in line for funding.

In the meantime, the SER should work with its stakeholders, regional and national, to look for other ways to fund transportation needs. Options such as tapping new or different funding sources and engaging in public-public or public-private partnerships should be further investigated.

For example, FHWA discretionary programs, such as the Scenic Byways, Transit in Parks Program (TRIP), and Public Lands Highway Discretionary (PLHD), were discontinued under Moving Ahead for Progress in the 21st Century (MAP-21), the successor bill to the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The MAP-21 created Federal Lands Transportation Program (FLTP) essentially absorbed these previous funding sources but is providing other avenues for funding activities going forward.

The following fund sources could potentially be accessed to replace some of the funding lost from those discontinued programs:

- **Federal Lands Access Program (FLAP).** FLAP is a competitive, state level program administered by the FHWA Office of Federal Lands Highway. The program provides funds for use by state or local government agencies for application to projects which would enhance access to one or more federal land units. These access-enhancing transportation facilities can be located on, be adjacent to, or provide direct access to federal lands, such as national park units. Coordination with State DOTs and Metropolitan Planning Organizations is a basic requirement for the receipt of FLAP funds; the funding is not directly granted to the NPS. More information is available at https://flh.fhwa.dot.gov/programs/flap/.
- **Transportation Alternatives Program (TAP).** TAP is a new program to provide for a variety of alternative transportation projects, including many that were previously eligible activities under separately funded programs, such as Transportation Enhancements and Recreational Trails. Federal land management agencies are eligible. (Note: Under the FAST Act, the TAP program has been combined into the Surface Transportation Block Grant program, but the TAP objectives and policies are essentially unchanged). More information is available at https://www.fhwa.dot.gov/map21/guidance/guidetap.cfm.
- **Construction of Ferry Boats and Ferry Terminal Facilities Program (FBP).** This program funds ferry boat and ferry terminal construction. FBP funds can be used for both new and existing ferry boat and ferry terminal facility projects, including capital, construction, and engineering costs. FBP funds are designated for operators listed in the National Census of Ferry Operators. Park units should ensure appropriate ferry services are included in the most up-to-date ferry census to ensure funding eligibility. Park units should also engage state DOTs to identify potential projects and access FBP funds. FBP requires a 20 percent local match to secure funding; park units can use FLTP and ONPS funds as a match. More information is available at http://www.fhwa.dot.gov/specialfunding/fbp/.

Fixing America's Surface Transportation (FAST) Act

The FAST Act was signed into law by President Obama in December 2015 and replaces the 2012 Moving Ahead for Progress in the 21st Century Act (MAP-21) as the federal multiyear surface transportation program legislation. The FAST Act continues the MAP-21 established new initiatives, such as more focus on multimodal transportation and data-driven investment decisions, and provides a modest amount of additional funding.

At the time of the writing of this technical report, WASO was still working to more precisely determine the impact of the FAST Act on projected available NPS funding and to identify a strategy for the investment of any additional funding made available through the FAST Act. The Southeast Region will coordinate with WASO to incorporate relevant information and financial projections related to the FAST Act into future updates to the SER LRTP.

The FAST Act includes several changes to the Federal Lands Transportation Program (FLTP).

- The National Park Service's total national level allocation of the annual authorized FLTP funding increases by 12 percent in the first year (FY16) compared to the FY15 funding level, and then increases 3 percent each year thereafter through FY2020.
- The performance-based program initiatives in MAP-21 have been codified.
- The $10 million FLTP environmental mitigation cap is lifted for all but wildlife vehicle collision countermeasures.
- The legislative cap for planning and "programmatic activities" was kept at 5 percent of total authorizations under FLTP. However, the cap was expanded to include the costs associated with Cooperative Research and Technology Deployment and the inspections on all federally owned bridges.
- The identification of "Transit System Capital Expenses" as an eligible use of funds was specified.

The FAST Act authorizes two new programs relevant to the NPS: the Nationally Significant Federal Lands and Tribal Transportation Project Program, and the Nationally Significant Freight and Highway Project Grant Program. These two programs have the potential to assist the SER in funding some of its larger infrastructure needs such as the Blue Ridge Parkway road and bridge reconstruction and construction of the Foothills Parkway at Great Smoky Mountains National Park.

NATIONALLY SIGNIFICANT FEDERAL LANDS AND TRIBAL TRANSPORTATION PROJECT PROGRAM (FAST ACT, SECTION 1123)

This new competitive national program provides $100 million in annual funding to construct, reconstruct, or rehabilitate nationally significant Federal lands and tribal transportation projects. It is administered by the USDOT and available to Federal Land Management Agencies (FLMA) and Tribal Governments. States, counties, and local governments may apply with the sponsorship from an eligible federal partner. Program highlights include:

- **Priorities.** Projects need to have an estimated cost of a minimum of $25 million, with priority given to projects with total estimated costs that are equal to or greater than $50 million.
- **Eligible Project Activities:** Only construction, reconstruction, and rehabilitation activities are eligible. Project design costs are not eligible for funding under this program.
- **Match Requirement:** There is a need for at least a 10 percent match from non-transportation trust fund dollars such as state and federal agency appropriations.

NATIONALLY SIGNIFICANT FREIGHT AND HIGHWAY PROJECT GRANT PROGRAM (FASTLANE) (FAST ACT, SECTION 1105)

This discretionary grant program provides the USDOT Secretary $4.5 billion over five years for projects of national or regional significance that meet seven goal areas. The NPS has the opportunity to partner with eligible applicants (states, counties, and MPOs) and to develop joint projects of mutual interest and benefit. Program highlights include:

- **Eligible Project Types**: The most relevant project types to the NPS are highway or bridge projects on the National Highway System.
- **Eligible Project Activities:** Preplanning, planning, environmental compliance, design and construction activities are eligible for funding under this program.
- **Local Match Requirement:** Grants cannot exceed 60 percent of project costs. Funding matches of no greater than 20 percent can be from other Title 23 programs (including FLTP and Federal Aid Programs). The remaining 20 percent matching funds can be generated from a combination of state, county and MPO funds and/or FMLA appropriated funds.

Both of these new programs encourage the NPS to build partnerships with states, metropolitan areas and counties to develop projects that help the agency achieve common objectives.

Other Potential Funding Programs

There are many programs from prior legislation, with relevance to the NPS, which have experienced few changes as a result of the FAST Act legislation. A summary of these programs is as follows:

- **Federal Lands Access Program (FLAP) (Title 23, section 204)**. The basic characteristics of the FLAP remain unchanged from MAP-21. The most notable change is that the $250 million authorization in FY 2016 increases by $5 million each FY through 2020, topping out at $270 million. Eligible projects under FLAP are diverse, and could be a significant source of funding for: transportation planning, research, engineering; preventive maintenance, rehabilitation, restoration, construction, and reconstruction of Federal Lands Access Transportation Facilities located on or adjacent to, or that provide access to, Federal land and adjacent vehicular parking areas; acquisition of necessary scenic easements and scenic or historic sites; provisions for pedestrians and bicycles; operation and maintenance of transit facilities; and several other project types. Most states require a 20 percent match and NPS FLTP funds are eligible to count toward that match. Park units must coordinate with State and Federal highway coordinators. While standard eligibility and project selection criteria exist for FLAP, the plan and guidance for distributing the authorized additional $5 million per year is not yet established. Note also that $200 million of the funding is dedicated to 13 Western US states, leaving $50 million for the remainder of states including those in the SER.
- **Surface Transportation Block Grant Program (FAST Act 1109 amends Title 23, section 133)**. The Surface Transportation Program (STP) and Transportation Alternatives Program (TAP) were combined by the FAST Act into what is now a block grant program to maximize the flexibility of the program for states and local governments. Administered by the State DOTs and MPOs, the block grant program receives a $1 billion increase in FY 2016 and an additional increase of $200 million annually in FY2017 – 2020.
- **Highway Safety Improvement Program (FAST Act 1113 amends Title 23, section 148)**. This program addresses projects with safety considerations that achieve a significant reduction in traffic fatalities and serious injuries on all public roads. Significant changes incorporated into this program by the FAST Act include:
  - No longer eligible to fund most non-construction activities (e.g., enforcement and education).
  - Discontinues collection and analyzing comprehensive safety data for unpaved roads.
- **Emergency Relief for Federally Owned Roads (ERFO) (FAST Act 1107 amends Title 23, section 125)**. ERFO continues largely unchanged but with slightly broader eligibility for Federal agencies to apply. The definition for roads changes to “open to public travel,” which means open to general public, maintained, can accommodate standard passenger vehicles and free of restrictive gates, prohibitive signs or regulations other than traffic control.
- **Ferry Boat Program (FAST Act 1112 amends Title 23, section 147)**. This program continues with a 25 percent increase in overall funding and changes to the funding allocation formula through the States. The formula is revised to give greater weight to the number of passengers carried over vehicle carried and nautical miles serviced and it provides 3 years for allocation to be obligated. To be eligible for funding, data must be submitted to the national ferry database. The maximum allowable Federal share of eligible costs is 80 percent.
- **Congestion Mitigation and Air Quality Improvement Program (CMAQ) (FAST Act 1112 amends Title 23, section 149)**. CMAQ continues with very few changes to provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. The CMAQ program improves air quality by funding transportation projects and programs that reduce emissions from on-road mobile sources (cars, trucks, buses, etc.) and certain non-road mobile sources (such as construction equipment and marine or rail projects) in both designated air quality nonattainment and maintenance areas. There is a $50 million increase in FY2016 and small annual increases in the following years. The maximum allowable Federal share for eligible costs can be 100 percent for activities undertaken in National Parks and Monuments. Within the SER, the requirements vary across states. For example, Tennessee DOT puts out competitive funding opportunities that includes alternative fuels as an option for the applications. In contrast, some states exclude alternative fuels from CMAQ eligibility.