

GOOD REPAIR NEEDS ASSESSMENT



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Metropolitan Planning
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GOOD REPAIR NEEDS ASSESSMENT

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Introduction

The State of Good Repair Needs Assessment aims to ensure that a significant percentage of roadways will meet pavement and structure standards and that transit system performance will not be jeopardized by fleet age. Although the federal performance measures promulgated by the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America’s Surface Transportation (FAST) Act do not require MPOs to forecast long-term performance, the measures used for this analysis attempt to support the Federal Performance Measures consistent with the requirements that became effective on May 20, 2017.^{1,2,3}

Well-maintained highways and bridges are critical not only to Hillsborough County, but also to the United States, since people rely on this infrastructure for economic and recreational purposes, national security, and movement of people and goods.

From the 1960s through the 1980s, most Federal and State funding went to building new roadways and bridges. That investment is now in jeopardy because of increased traffic volume, aging infrastructure, and limited budgets. With the recognition of these limitations and needs for maintaining the transportation system, system preservation is now formally adopted into the metropolitan planning process with the incorporation of performance reporting and target-setting. With the passage of the federal transportation authorizations of MAP-21 and the FAST Act, MPOs and State DOTs are now required to establish targets and measure system performance for pavement and bridge conditions. Additionally, MPOs are required to develop targets for transit assets in coordination with transit providers, such as the Hillsborough Area Regional Transit Authority (HART). As a response to this legislation and awareness, Federal, State, and local governments recognize the importance of focusing resources toward maintaining and preserving infrastructure and transit assets in a state of good repair.

Pavement management programs seek to identify roadway pavement conditions and estimate the timing of when rehabilitation or replacement activities are necessary. For more than four decades, pavement management activities have worked under the presumption that:

- Pavements deteriorate slowly during the first few years after application and, once a particular condition threshold has been crossed, pavements deteriorate at an accelerated rate.
- Pavement management activities may incur higher costs as a result of poorly-timed (delayed) maintenance decisions.⁴

Each year, the process of planning, preparing, and approving operating budgets becomes more difficult. Investment programs for funding road and street maintenance can often be deferred during the budget development process. Consequences for failing to provide adequate annual funding for pavement maintenance include:

- Pavements begin aging and deteriorating the day they are constructed or applied.
- On average, most asphalt pavements have a cost-effective useful life of 15 years. Some will have a cost-effective life of only 10 to 15 years, while others will last longer depending on design,

¹ <https://www.fhwa.dot.gov/tpm/pubs/PM2PavementFactSheet.pdf>

² <https://www.fhwa.dot.gov/tpm/pubs/PM2BridgeFactSheet.pdf>

³ https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/TAMFactSheet_2017-04-03.pdf

⁴ FHWA Pavement Management Primer (<https://www.fhwa.dot.gov/infrastructure/asstmgmt/pmprimer.pdf>)

structure, traffic volumes, traffic weights, and climate.

- Cities and communities need to resurface 6 percent of their streets annually to keep up with the average rate of deterioration and have pavements on a 17-year cycle.
- One dollar spent using proper preventive maintenance during a pavement’s first five years of life can save three to four dollars over the pavement’s next 10 to 15 years of life.
- There are many time proven and cost-effective preventive maintenance activities that can be used during a pavement’s first five years of life to extend its useful life from 15 to 25 years.

A bridge is considered in good condition if the deck, superstructure, and substructure are rated at least 7 on a 0-to-9 scale. A bridge is considered in poor condition if any element is rated 4 or less. Bridges are considered structurally deficient “if significant load-carrying elements are in poor condition due to deterioration or damage.” A bridge classified as structurally deficient is not necessarily unsafe but may require the posting of a vehicle weight restriction. When officials determine that a bridge is unsafe, they close it to traffic immediately.⁵

MAP-21 mandated the Federal Transit Administration to develop a rule establishing a strategic and systematic process of operating, maintaining, and improving public capital assets effectively through their entire life cycle. The Transit Asset Management (TAM) Final Rule established four performance measures:

- Rolling Stock: The percentage of revenue vehicles (by type) that exceed the useful life benchmark (ULB).
- Equipment: The percentage of non-revenue service vehicles (by type) that exceed the ULB.
- Facilities: The percentage of facilities (by group) that are rated less than 3.0 on the Transit Economic Requirements Model (TERM) Scale.
- Infrastructure: The percentage of track segments (by mode) that have performance restrictions. Track segments are measured to the nearest one-hundredth of a mile.⁶

⁵ <https://fas.org/sgp/crs/misc/R44459.pdf>

⁶ https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/Factsheet%20TAM%20Performance%20Measures_041117.pdf

Data Collection

Pavement and Bridges

Meetings with transportation agency stakeholders provided data on pavement and bridge maintenance, available funding, and budgetary shortfalls for the Cities of Plant City, Tampa, and Temple Terrace; Hillsborough County; and the Florida Department of Transportation (FDOT) District Seven (D7).

Consistent with federally-required asset management planning, FDOT prioritizes safety and roadway preservation. To meet established goals and objectives in these areas, FDOT D7 provides adequate funding in its long range revenue forecast in these important areas before allocating funds to capacity programs. FDOT has included sufficient funding in its 2045 Revenue Forecast to meet the following statewide objectives and policies:⁷

- **Resurfacing program:** Ensure that 80% of state highway system pavement meets Department standards;
- **Bridge program:** Ensure that 90% of FDOT-maintained bridges meet Department standards while keeping all FDOT-maintained bridges open to the public safe;
- **Operations and maintenance program:** Achieve 100% of acceptable maintenance condition standard on the state highway system.

FDOT has reserved funds in its 2045 Revenue Forecast to carry out its responsibilities and achieve its objectives for the non-capacity programs on the state highway system in each district and metropolitan area. For the 2045 Revenue forecast, FDOT provided an estimate by District for the Resurfacing, Bridge and Operations & Maintenance Programs. For District 7, this totals \$6.8 billion between FYs 2026-2045. The MPO's Funding Technical Memorandum includes an estimate of \$2.9 billion that could be spent in Hillsborough County. Of that amount, it was estimated that 63%(\$1.8 billion) would be available for safety, resurfacing and operations & maintenance programs.⁸

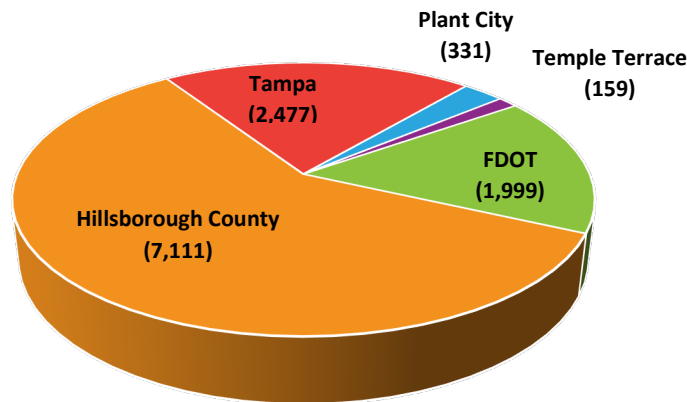
As of 2019, Hillsborough County has a total of 12,078 lane miles. A breakdown of maintenance responsibilities and jurisdictional lane miles are shown in **Figure 1**.

⁷ FDOT Office of Policy Planning, 2045 Revenue Forecast Hillsborough County MPO, November 2018. FDOT Established targets for the federally required pavement and bridge conditions under the Performance Measure Rule 2 include:

- 60% or more of the interstate pavement in good condition
- 40% or more of the non-interstate national highway system pavement in good condition
- 50% or more of the national highway system bridges in good condition, by deck area

⁸ Hillsborough MPO 2045 Long Range Transportation Plan Funding Technical Memorandum.

Figure 1 – 2019 Jurisdictional Roadway Lane Miles



The Florida Department of Transportation has committed to fully funding their resurfacing needs which are managed at a district-wide level. In District 7, this includes the five counties of Citrus, Hernando, Hillsborough, Pasco and Pinellas. During the annual Work Program update cycle, District 7 submits a list of maintenance needs and the related budget request to Central Office in Tallahassee. Through the statewide prioritization process, Districts receive a budgeted allocation and a related number of lane miles for resurfacing and maintenance. For Fiscal Year 2022, District 7 received a total of \$48 million for 113 lane miles. Those amounts increased to \$57 million and 117 lane miles for FY 2023. FDOT bases its projected distribution of future expenditures on necessary maintenance activities and the inventory of assets, including sidewalks, landscaping, roadways, and others.

With primary inspection responsibilities for bridges listed on the National Bridge Inventory (NBI), FDOT provided a list of current bridge inspection results and conditions. This list was compared against current bridge rehabilitation and replacement projects to check for consistency. Currently, there are 5 structurally deficient bridges in Hillsborough County in need of repairs.

Hillsborough County Public Works Department reported that its roadway resurfacing program is underfunded. It was estimated that the County needs approximately \$35 million each year to maintain the pavement in unincorporated Hillsborough County. Funding currently allocated to the County’s resurfacing program is \$24.5 million not including the recently passed All for Transportation Surtax Referendum. If the current funding trend holds through to 2045, it will produce a deficit of nearly \$1 billion required to bring local and major roadways up to its desired Pavement Condition Index (PCI) value.

Hillsborough County annually budgets \$4.4 million for bridge maintenance activities through the Bridge and Guardrail Rehabilitation and Repair Program. In addition to the NBI bridges, Hillsborough County’s bridge asset management program includes local bridges and pedestrian overpasses. Major bridge repair and rehabilitation projects, up to this point, have been budgeted on an as-needed basis without a dedicated funding source or program.

The City of Tampa reported that \$13.5 million is needed each year to reach the goal of bringing city-maintained roadways up to a minimum PCI value of 55. The approximately \$3.5 million allocated each year has created a funding deficiency. This, in combination with a \$193 million backlog to overcome, contributes to the City’s current pavement cycle schedule of resurfacing a road every 78 years, on average.

The City of Plant City reported needing \$2.5 million each year to maintain its roadway pavement, yet only \$2 million is allocated each year for resurfacing and other maintenance activities. This funding deficit has contributed to a current backlog of \$46 million required to bring roads up to a state of good repair. Absent proper maintenance of roadways, the lifespan of high-volume roads may be significantly reduced. Unless funding is made available to regularly mill and resurface, over time, high-volume roads may require progressively more expensive treatments and perhaps concluding in full reconstruction. At the time of data collection, Plant City was undertaking a Pavement Management Program that is anticipated to provide guidance and insight into the future ongoing pavement needs.

In the City of Temple Terrace, many of the roadways are maintained by the FDOT or Hillsborough County. The cost to preserve only those roadways maintained by the City is estimated at \$650,000 per year. The resurfacing budget allocated each year has increased from \$300,000 in 2016 to \$600,000 in the current FY 18/19 budget. Temple Terrace has been able to resurface several roadways in recent years in an effort to restore its pavement condition and City engineers anticipate being able to soon update the 2012 Pavement Management Program with a current inventory and investment plan.

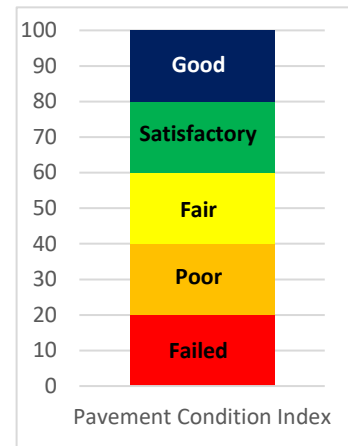
Transit Preservation

The analysis of transit system preservation focuses on maintaining the existing fixed-route vehicle fleet size until the horizon year of 2045 and ensuring its continued safety and functionality. Fleet expansion identified through the Needs Analysis includes the cost of the first vehicle as part of the Real Choices When Not Driving investment program with subsequent replacement vehicles included in the State of Good Repair program through 2045. This assessment was performed based upon HART’s April 2019 vehicle inventory, found in Appendix A. HART also developed a Transit Asset Management Plan and Public Transportation Agency Safety Plan consistent with the requirements of MAP-21 in 2018. HART’s Transit Development Plan (TDP) details the vehicle replacement schedule by year through the TDP horizon year of 2027. In addition, the TDP details the fleet capital cost projections through 2027. The fleet cost projections include unit costs for vehicles as well as expected sources of funding revenues.

Performance Measures Methodology

The performance measures used in this analysis consist of the following:

Pavement Preservation: Using the standardized pavement condition index (PCI), data from the local jurisdictions were reviewed to identify deficient conditions. Deficient pavement is defined as a segment with PCI value \leq the target PCI value, as identified by the jurisdiction’s pavement engineer. The PCI is a graded scale of zero to 100 as shown in the chart to the right. The analysis also includes an evaluation of the number of lane miles to be maintained; estimates the annual cost for optimum maintenance; identifies the current funding resources available to stakeholders for pavement maintenance; and, forecasts the amount of funding necessary to improve pavement conditions from a countywide average resurfacing cycle of *once every 28 years* to *once every 17 years*. The following PCI target values were identified by each jurisdiction:



- Hillsborough County – 55
- City of Tampa – 55
- City of Plant City – 70
- City of Temple Terrace – 65

Consistent with the methodology for developing system performance targets for system preservation, FDOT measures pavement condition using the International Roughness Index (IRI) and does not report measures based on PCI values. Scaled differently than the PCI, an IRI value of 95 or less is considered a good pavement rating. Conversely, a PCI rating of 81 – 100 is considered a good rating.

Bridges: Determining future funding needs for bridge maintenance was evaluated as two metrics based on current activities and budgeting practices. These include the ongoing routine maintenance of bridges for preserving their useful life and the ability to allocate funding for rehabilitation and replacement activities.

Transit: Using data provided by HART in its FY2019-2028 Transit Development Plan Update⁹, including the vehicle replacement plan, performance of transit assets was measured by average fleet age and the number of new vehicles required to maintain the current fleet size. Since HART’s vehicle replacement plan only runs through the TDP horizon year of 2027, forecasting out to the LRTP horizon year of 2045 was necessary. It was assumed that HART’s desired bus replacement age (12 years for low-floor 40’ CNG buses) and the fleet size for revenue vehicles would remain at 196 vehicles throughout the 2045 horizon year. For this analysis, average fleet age is defined as the cumulative age of the transit fleet divided by the total number of fleet vehicles. Furthermore, number of new vehicles required is defined as the sum of the yearly vehicle replacements through 2045.

Investment Levels & Benefit Analysis

Pavement Preservation

Two investment levels (trend and trend + sales tax revenue) were developed for this needs assessment and are summarized in **Table 1**. A breakdown of performance by jurisdiction is listed in Appendix B. The investment levels, estimated annual costs to achieve each level of performance, and annual benefits are defined as follows:

- **Trend Investment Scenario:** The Trend investment level is based on all stakeholders’ current annual funding level, as identified in the respective Capital Improvement Programs. The current investment indicates a funding shortfall to resurface roadways across Hillsborough County. Funding at this investment level results in a 28-year resurfacing schedule; only meeting 60% of the desired 17-year goal.
- **Trend + Sales Tax Revenue Investment Scenario:** The Trend + Sales Tax Revenue investment level is based on a 17-year standard for resurfacing and means that all roads in the county (local, collector, arterials, etc.) would be resurfaced once every 17 years, on average.

Table 1: Summary of Pavement Preservation Investment

Investment Level	Annual Cost for Resurfacing	Total Cost for Resurfacing (through 2045)	Lane Miles Resurfaced Annually	Percentage of Roads Resurfaced Annually	Percent to Goal of 17 year Cycle	Resurfacing Cycle
Trend	\$64,440,000	\$1,289,000,000	420 - 430	3.5%	60% to goal	Every 28 years
	Based on current annual funding.					
Trend + Sales Tax Revenue	\$95,250,000	\$1,905,000,000	710	6%	100% to goal	Every 17 years
	Annual funding required to meet 17 year resurfacing standard.					

⁹ <http://gohart.org/PlanningDocuments/TDP%202019%20Report%20-%20final.pdf>

Bridge Preservation

It is assumed that bridge maintenance is essential. Current spending on bridge maintenance in this county, as shown in the five-year work programs and capital improvement programs of Hillsborough County, the three cities, and FDOT District 7, comes to an average of \$9.75 million annually.

Stakeholders indicated that the current funding does not adequately address all of the needs for bridge major repairs and/or replacements.

The list of bridges of current bridge replacement and rehabilitation projects listed in the five-year capital improvement programs were identified as representative projects for determining needs. In addition to the five structurally deficient bridges, one additional bridge project was listed in the Hillsborough County Capital Improvement Program. These six bridges were categorized as major rehab/replacement or minor rehab/replacement projects for identifying program performance measures as shown in Table 2.

Table 2: Representative Bridge Rehab/Replacement Projects

Bridge Name	Cost Estimate	Cost Source
Major Rehab/Replacement		
Maydell Drive over Palm River	\$10,860,000	FDOT Work Program
Keysville Rd over Alafia River	\$2,744,000	Hillsborough County CIP
2 nd Street NE at Ruskin Inlet	\$2,000,000	Hillsborough County CIP
Minor Rehab/Replacement		
Big Bend Rd at Bullfrog Creek	\$155,000	FDOT Work Program
Newberger Rd at Kell Creek	\$82,100	Florida NBI Non-NHS average cost *
Boyette Rd at Fishhawk Creek	\$128,000	Florida NBI Non-NHS average cost *

*The Federal Highway Administration maintains a list by state of the replacement and rehabilitation costs of structurally deficient bridges. The Bridge Replacement Unit Costs 2018 (<https://www.fhwa.dot.gov/bridge/nbi/sd2018cfm>) includes a cost estimate of \$149/ft² of deck area for non-NHS bridges in Florida. This unit cost estimate was applied to these bridges based on the calculated deck area from the National Bridge Inventory.

Using these representative cost estimates, an average cost of \$5.2 million per bridge for major rehab/replacement bridges and \$122,000 for minor rehab/replacement bridges was calculated.

Trend Investment Scenario: The Trend investment level is based on continued annual funding of bridge maintenance with one major rehab/replacement and one minor rehab/replacement per year. Through 2045, the total cost for this scenario is \$301 million.

Trend + Sales Tax Revenue Investment Scenario: Hillsborough County Public Works recently prepared a list of additional bridge rehab/replacement projects needed for bridges reaching the end of their useful

service life. This expanded list of bridge projects was prepared in anticipation of the funding availability through the transportation surtax for the 2020 fiscal year. These projects were added to the trend investment scenario to create performance metrics for the trend + sales tax revenue investment scenario. This one year list totals \$14.23 million for 12 projects. It is assumed that 2 are major and 10 are minor. Performance of this scenario includes three major rehab/replacement and 11 minor rehab/replacements annually for a total cost of \$586 million through 2045.

Transit Preservation

Two investment levels (Trend and Trend + Sales Tax Revenue) were developed for this needs assessment and are summarized in **Table 2** and **Table 3** below. Both investment levels are based upon HART’s current vehicle inventory, which can be found in Appendix A. The investment levels, estimated annual costs to achieve each level of performance, and annual benefits are defined as follows:

- Trend Investment Scenario:** HART’s vehicle replacement plan developed for this scenario indicates a funding shortfall, which will prevent the agency from achieving its goal to replace buses every 12 years. If this trend continues, by 2045, 20 buses will be in service which are older than 12 years. For this scenario, the vehicle replacement schedule was adjusted to reconcile with available funding. Specifically, the revenue sources identified in HART’s TDP financial plan, totaling \$5.2 million per year for vehicle replacements, were extended out to the horizon year 2045. The total funding available was compared against the total cost for vehicle replacement through 2045. In years where the schedule indicated a greater need for vehicle replacements than the budget would allow, the replacement need was carried forward until revenues are sufficient to fund the vehicle cost. Capital cost estimates for this scenario were estimated by applying the unit costs provided by HART to the yearly new vehicle purchases in 2026 through 2045.

The trend investment scenario assumes a fleet capital requirement of 202 low floor 40ft Compressed Natural Gas (CNG) fixed-route vehicles from 2026 through 2045. The total capital cost for the 202 vehicles is \$104,030,000 (or \$5,200,000 annually). Per the TDP, it is assumed that the unit cost for each replacement bus is \$515,000. The replacement schedule by year and cost information can be found in Appendix C.

As transit vehicles age, the likelihood of mechanical failures increases. Based on a survey of transit agencies conducted on behalf of the Federal Transit Administration (FTA)¹⁰, a positive relationship was correlated between vehicle age and the number of road calls per vehicle revenue mile. Road calls are defined as an in-service vehicle failure resulting in a disruption of service. This trend investment scenario analysis assumed the same relationship curve between vehicle age and road calls. With an average fleet age of nine years, approximately eight road calls per weekday may be expected. The results of the analysis are shown in **Table 3**.

Table 3: Transit Trend Investment Scenario Summary

Investment Program	Statistics	Total
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¹⁰ https://www.transitwiki.org/TransitWiki/images/6/64/Useful_Life_of_Buses.pdf

	Total capital required for fleet plan	\$104,030,000
	Average fleet age (2045)	9 years
	Number of new vehicles	202
	Road calls per year	2,071
	Road calls each weekday	8

- Trend + Sales Tax Revenue Investment Scenario:** The vehicle replacement plan developed for this scenario indicates that fixed-route vehicles are scheduled for replacement every twelve years. This replacement schedule represents the most aggressive replacement rate possible. In other words, it adheres to FTA’s minimum vehicle life requirement of 12 years. Capital cost estimates for this scenario were estimated by applying the unit costs provided by HART to the yearly new vehicle purchases from 2026 through 2045.

Under the trend + sales tax revenue investment scenario, there is a fleet capital requirement of 283 low floor 40ft CNG fixed route vehicles from 2026 through 2045, amounting to a total capital cost of \$145,745,000 (or \$7,287,250 annually). It is assumed that the unit cost for each replacement bus is \$515,000. The replacement schedule by year and cost information can be found in Appendix C.

As transit vehicles age, the likelihood of mechanical failures increases. With an average fleet age of seven years, approximately six road calls per weekday may be expected. The results of the analysis are shown in **Table 4** below.

Table 4: Transit Trend + Sales Tax Revenue Investment Scenario Summary

Investment Program	Statistics	Total
	Total capital required for fleet plan	\$145,745,000
	Average fleet age (2045)	7 years
	Number of new vehicles	283
	Road calls per year	1,553
	Road calls each weekday	6

Summary

Maintaining roads, bridges, and basic transit service in Hillsborough County is an expensive undertaking, but the benefits are tangible.


Preserving the Hillsborough County's transportation system at the current spending levels would cost \$1.69 billion over 20 years, in 2019 dollars. That level of investment could result in:

- Roads resurfaced every 28 years; 420 - 430 lane-miles annually
- Basic bridge maintenance and annually rehabilitating/replacing one major and one minor bridge
- HART fleet average age 9 years, 8 breakdowns/weekday typical

Increasing the investment in system preservation would meet most of the maintenance needs and would cost \$2.64 billion over 20 years, in 2019 dollars. This level of investment could result in:

- Roads resurfaced every 17 years; 710 lane-miles annually
- Basic bridge maintenance and annually rehabilitating/replacing two major and 11 minor bridges
- HART fleet average age 7 years, 6 breakdowns/weekday typical

Appendix A: HART Fixed-Route Vehicle Inventory

CONT - DIESEL	BUS- DIESEL	BUS- DIESEL	BUS- DIESEL	BUS- DIESEL	BUS- DIESEL	BUS- DIESEL	BUS- DIESEL	BUS- DIESEL	BUS- DIESEL	BUS- DIESEL	BUS- DIESEL	BUS- CNG	BUS- CNG	BUS- CNG	BUS- CNG	
2005	2005	2006	2007	2009	2010	2011	2012	2013	2014	2015	2016	2017	2019			
2502	2512	2601	2701	2901	1001	1101	1201	1301	1401	1501	1601	1701	1960			
2504		2602	2702	2902	1002	1102	1202	1302	1402	1502	1602	1702	1961			
2505		2603	2703	2903	1003	1103	1203	1303	1403	1503	1603	1703	1962			
2506		2604	2704	2904	1004	1104	1204	1304	1404	1504	1604	1704	1963			
2507		2605	2705	2905	1005	1105	1205	1305	1405	1505	1605	1705	1964			
2508		2606		2906	1006	1106	1206	1306	1406	1506	1606	1706	1965			
2509		2607		2907	1007		1207	1307		1507	1607	1707	1966			
2510		2608		2908	1008		1208	1308		1508	1608	1708	1967			
2511		2609		2909	1009		1209	1309		1509	1609	1709	1968			
2611		2610		2910	1010		1210	1310		1510	1610	1710	1969			
2612				2911	1011		1211	1311		1511	1611	1711				
				2912	1012		1212	1312		1512	1612	1712				
				2913	1013		1215			1513	1613	1713				
				2914	1014		1216			1514		1714				
				2915	1015		1217			1515		1715				
				2916	1016		1218			1516		1716				
				2917	1017					1517		1717				
				2918	1018					1518		1718				
				2919	1019					1519		1719				
				2920	1020					1520		1720				
				2921	1021					1521		1721				
				2922	1022					1522		1722				
				2923	1023							1723				
				2924	1024							1724				
				2925	1025							1725				
				2926	1026											
				2927	1027											
				2928	1028											
				2929	1029											
				2930												
11	1	10	5	30	29	6	16	12	6	22	13	25	10			
TOTAL ACTIVE FLEET				196	TOTAL FUEL BREAKDOWN				196							
BUS				185	DIESEL				126							
CONTINGENCY				11	CNG				70							
										Bus Active Fleet						
										NEW FLEET NOT IN SERVICE						

Appendix B: Pavement Condition Jurisdiction Summary

Existing Pavement Conditions and Budgeted Funding

Measure	FDOT		County	Tampa	Plant City	Temple Terrace	Total
	Interstate	Arterials					
Centerline Miles ⁽¹⁾	130	313	3,279	1,257	160	79	5,219
Lane Miles	745	1,254	7,111	2,477	331	159	12,078
Pavement Threshold (PCI)	N/A	N/A	55	55	70	65	N/A
% of Lanes Miles below Threshold	0%	0%	51%	23%	41%	40%	36%
Backlog Lane Miles	N/A	N/A	3,609.0	560.6	134.7	62.8	4,367.1
Annual Budget	\$11,905,466	\$21,970,739	\$24,500,000	\$3,466,667	\$2,000,000	\$600,000	\$64,442,872
Lane miles annually resurfaced	30	103	245	32	13	4	427
Life Cycle (Years)	25	12	29	78	25	39	28
Backlog Cost	0	0	\$953,263,625	\$193,401,060	\$46,484,255	\$23,986,926	\$1,217,135,866

Jurisdiction Performance for Trend + Sales Tax Revenue Investment Level

Jurisdiction	Annual Cost for Resurfacing	Total Cost for Resurfacing (through 2045)	Lane Miles Resurfaced Annually	Percentage of Roads Resurfaced Annually
FDOT	\$33,194,000	\$663,876,000	118	6%
Hillsborough County	\$41,830,000	\$836,588,000	418	6%
Tampa	\$15,915,000	\$318,309,000	146	6%
Plant City	\$2,925,000	\$58,492,000	19	6%
Temple Terrace	\$1,373,672	\$27,473,000	9	6%

Appendix C: Vehicle Replacement Plans

Trend Investment Vehicle Replacement Plan

Year	Number of Vehicles	Total Cost
2026	10	\$5,150,000
2027	10	\$5,150,000
2028	10	\$5,150,000
2029	11	\$5,665,000
2030	10	\$5,150,000
2031	10	\$5,150,000
2032	10	\$5,150,000
2033	10	\$5,150,000
2034	10	\$5,150,000
2035	10	\$5,150,000
2036	10	\$5,150,000
2037	10	\$5,150,000
2038	10	\$5,150,000
2039	11	\$5,665,000
2040	10	\$5,150,000
2041	10	\$5,150,000
2042	10	\$5,150,000
2043	10	\$5,150,000
2044	10	\$5,150,000
2045	10	\$5,150,000
20-Year Total	202	\$104,030,000
Cost per Year		\$5,201,500
Allocated Vehicle Funding per Year		\$5,200,000

Trend + Sales Tax Revenue Investment Vehicle Replacement Plan

Year	Number of Vehicles	Total Cost
2026	12	\$6,180,000
2027	6	\$3,090,000
2028	22	\$11,330,000
2029	13	\$6,695,000
2030	25	\$12,875,000
2031	0	\$0
2032	10	\$5,150,000
2033	27	\$13,905,000
2034	0	\$0
2035	30	\$15,450,000
2036	29	\$14,935,000
2037	6	\$3,090,000
2038	16	\$8,240,000
2039	12	\$6,180,000
2040	6	\$3,090,000
2041	22	\$11,330,000
2042	13	\$6,695,000
2043	25	\$12,875,000
2044	0	\$0
2045	9	\$4,635,000
20-Year Total	283	\$145,745,000
Cost per Year		\$7,287,250



Hillsborough MPO
Metropolitan Planning
for Transportation

Hillsborough County Metropolitan Planning Organization

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