

# Chapter 9: Financial Plan & Prioritization of Needs

*An inventory of transportation system needs, or “Needs Assessment” was prepared based on the issues of growth, traffic, safety, economic activity, and other considerations discussed in the previous chapters. The Needs Assessment draws on previous plans, recommendations of state and local agencies, needs and the suggestions of advisory groups and the public at large through the MPO’s outreach program.*

*The focus of the Needs Assessment is on the major transportation network, including roadways, paved facilities for pedestrians and bicyclists, public transit services and facilities and off-road multi-use trails. The Needs Assessment also focuses on improvements that connect the County to the larger West Central Florida region, understanding that mobility needs do not start and stop at county lines.*

*These needs are not constrained by the affordability of the system, but instead focus on facilities and services that could improve and benefit the community, given policy constraints.*

*Federal regulations, however, require Metropolitan Planning Organizations (MPOs) to ensure that their long-range plans are cost affordable. This means that expected funding must be sufficient to cover all projected capital, operating and maintenance costs for the entire transportation system. This must encompass both existing and new facilities and services, through the year 2035.*

*Since funding is not available for all of the identified needs, priorities were established for the candidate projects.*

*Balancing the project priorities against the future available funding was an iterative process. This chapter presents funding assumed to be reasonably available through 2035 and discusses the prioritization process used to allocate that funding to specific projects.*



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## Existing Revenue Projections

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Transportation funding, or revenue, comes from a variety of federal, state and local sources. Some funding, from federal sources in particular, is allocated by formula and passed down to the state. It comes through the Florida Department of Transportation (FDOT) and is, therefore, included with state funding.

All of the MPO's member governments and agencies, including FDOT, provided revenue projections through the year 2035. These projections were developed in close consultation with these agencies, generally based on historical trends for existing sources. A separate technical memorandum entitled *Reasonably Available and New and Additional Projected Revenue Sources in Hillsborough County: 2035 Long-Range Transportation Plan Update* explains the methodology and resulting revenue projections in more detail. The technical memorandum also discusses potential new and additional funding sources that could become available should the county decide to exercise currently untapped local funding sources. (The technical memorandum is available as a PDF document among the other supporting documents for the 2035 Plan.)

Revenues through 2014 are already committed as part of local Capital Improvement Programs and/or the MPO's Transportation Improvement Program. Therefore, this analysis identifies funding for transportation improvements from 2015 through 2035.

Some revenues have restrictions on the type or jurisdiction of facilities on which they can be spent. For example, impact fee revenue must be spent in the impact fee zone where it was collected. Other revenues can only be spent on certain facilities such as Florida's Strategic Intermodal System (SIS) or other arterial roadways that are part of the state highway system.

Additionally, transportation revenues are based on legislative authority at the federal, state and local levels that must be renewed from time to time. The projections of revenues available for transportation improvements in Hillsborough County are based on current legislative policy and assume no change in these policies.

All revenue projections are in "Year of Expenditure" (YOE) dollars, meaning that they are adjusted for the impact of inflation.

## Federal and State Funding Sources

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Federal and state funding for transportation comes from taxes on motor fuel and truck-related taxes on truck tires, sales of trucks and trailers and heavy vehicle use. The federal tax currently is 18.4 cents per gallon on gasoline and 24.4 cents per gallon on diesel. The state fuel sales tax is currently 12.1 cents per gallon.

The FDOT has forecast state and federal transportation funding available through 2035. The forecast collapses FDOT's many programs into capacity and non-capacity categories. Non-capacity categories include safety, resurfacing, bridge, product support, operations and maintenance and administration. Capacity programs include:

- ◆ Strategic Intermodal System (SIS) Highways/ Federal Interstate Highway System (FIHS) Construction and Right of Way (ROW)
- ◆ Other Arterial Construction and ROW funds, made available to improve state highways that are not part of the SIS.
- ◆ Transportation Management Area funds, made available to address MPO priorities under the federal Surface Transportation Program.
- ◆ Transportation Enhancement funds, made available to MPOs to address enhancements to metropolitan area transportation systems – such as walking, cycling, safety education, or historic preservation.
- ◆ Transit program funds, to provide operating and capital support and technical assistance to public transit systems, paratransit services, and commuter assistance programs.
- ◆ Aviation, Rail, Seaport, and Intermodal Access projects considered part of the SIS.
- ◆ Transportation Regional Incentive Program, provides state matching funds for projects serving regional needs.

The FDOT takes the lead in identifying planned projects and programs for the SIS program funds. The MPO recommends priorities for the use of funding under the Other Arterial, Transportation Management Area, Transportation Enhancement, and Transit programs. The West Florida MPO Chairs Coordinating Committee (CCC) recommends priorities for funding under the Transportation Regional Incentive Program.

## Local Funding Sources

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### *Fuel Taxes*

Local governments fund transportation systems through a variety of taxes and fees, some of which are collected and distributed to local governments by the state, and others of which are imposed and collected locally.

The state collects a four-cent per gallon motor fuel tax that is distributed to local governments by formula. There are also local-option gas taxes that may be levied by local ordinance. Hillsborough County currently levies seven cents out of a maximum of twelve cents per gallon available to it. This levy is scheduled to expire by 2013, and the 2035 Plan does not assume that it will be renewed.

Revenues from local fuel taxes are largely used by local governments for the operation and maintenance of the transportation network.

### *Ad Valorem Property Tax*

Historically, the property tax has been used for transportation projects on a limited basis. The Hillsborough Area Regional Transit (HART) is assumed to continue to have available to it a ½ mill ad valorem property tax, which was approved in 1979 by voters in Tampa, Temple Terrace and unincorporated Hillsborough County to support transit operations and capital projects. Also, Plant City anticipates that it will spend about ten percent of its available ad valorem revenues on transportation projects.

### *Impact Fees*

Local impact fee ordinances require developers to pay counties, municipalities, special districts and school districts for the cost of additional infrastructure that result from new development. Currently Hillsborough County, the City of Tampa, Plant City and the City of Temple Terrace implement impact fees to fund transportation improvements. A number of assumptions were employed to calculate the reasonably available revenues from impact fees for the MPO area, as presented in the technical memorandum.

### *Developer and Proportionate Fair Share Funding*

Under the state's concurrency regulations, no new development may be built unless the capacity is available to support it, or construction is scheduled within the next two fiscal years. Developers have the option to meet their concurrency obligations by paying a proportionate fair share of the cost of the improvements required to serve their development. Individual projects to be funded by new development are considered cost affordable if a formal development agreement is in place with the local jurisdiction.

## *Toll Revenues*

The Lee Roy Selmon Crosstown Expressway is a limited-access tolled highway linking I-75 to south Tampa. Operated by the Tampa Hillsborough County Expressway Authority, toll revenues are proposed to be reinvested in maintenance and expansion of the facility. In addition, the new Crosstown – I-4 Connector project and expansion of the Veterans Expressway will also be supported by toll revenues.

## *Transit System Revenues*

HART has generally relied on revenues generated through fares to pay for a share of operating expenses. Farebox revenue is expected to grow as the transit system expands and ridership grows. Other system revenues such as advertisements and private funding are also projected to grow. The technical memorandum, available as a separate supporting document, provides the assumptions for the growth of transit revenue.

## New Revenue Sources

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The *2035 Plan* assumes that several new funding sources will become available to support the cost of building and operating new transportation infrastructure, including the capital, operating and maintenance cost of an expanded transit system.

### *Federal and State New Starts Programs*

Additional funding is available through the federal and state “New Starts” programs, which can help fund the construction of major rail and bus rapid transit (BRT) projects. New Starts funding is limited to capital costs; other sources will be required for operating a New Starts project. Furthermore, the New Starts Program is discretionary. Projects are evaluated each year by the FTA according to a number of rating criteria and compete for a limited amount of funding. This source is assumed to fund 35 percent of the capital cost of the rail transit system proposed in the *2035 Plan*.

Florida’s New Starts Program provides transit agencies with up to a dollar-for-dollar match for local dollars that are directed to transit fixed-guideway projects, BRT systems, and facilities that qualify for funding under the federal New Starts Program. Like the federal program, the *2035 Plan* assumes this source will be available to fund a ten percent of the capital cost of a rail transit system.

### *Charter County Transportation Surtax (Sales Tax)*

Hillsborough County is eligible to levy the Charter County Transportation System Sales Surtax of up to one percent, but doing so requires a vote of the general public in a referendum.

The Board of County Commissioners (BOCC) must approve placing such a referendum on the ballot. In 2007, the BOCC established a Transportation Task Force to provide advice on transportation needs and funding. The Task Force met numerous times to consider the needs of the county, cities and transportation agencies, as well as a variety of funding options. In October 2009, the Task Force recommended that the BOCC put a referendum on the ballot for a one-cent sales tax, with 75 percent to fund bus and light rail projects and the remainder for road and other transportation improvements.

The BOCC has authorized such a referendum for November 2010.

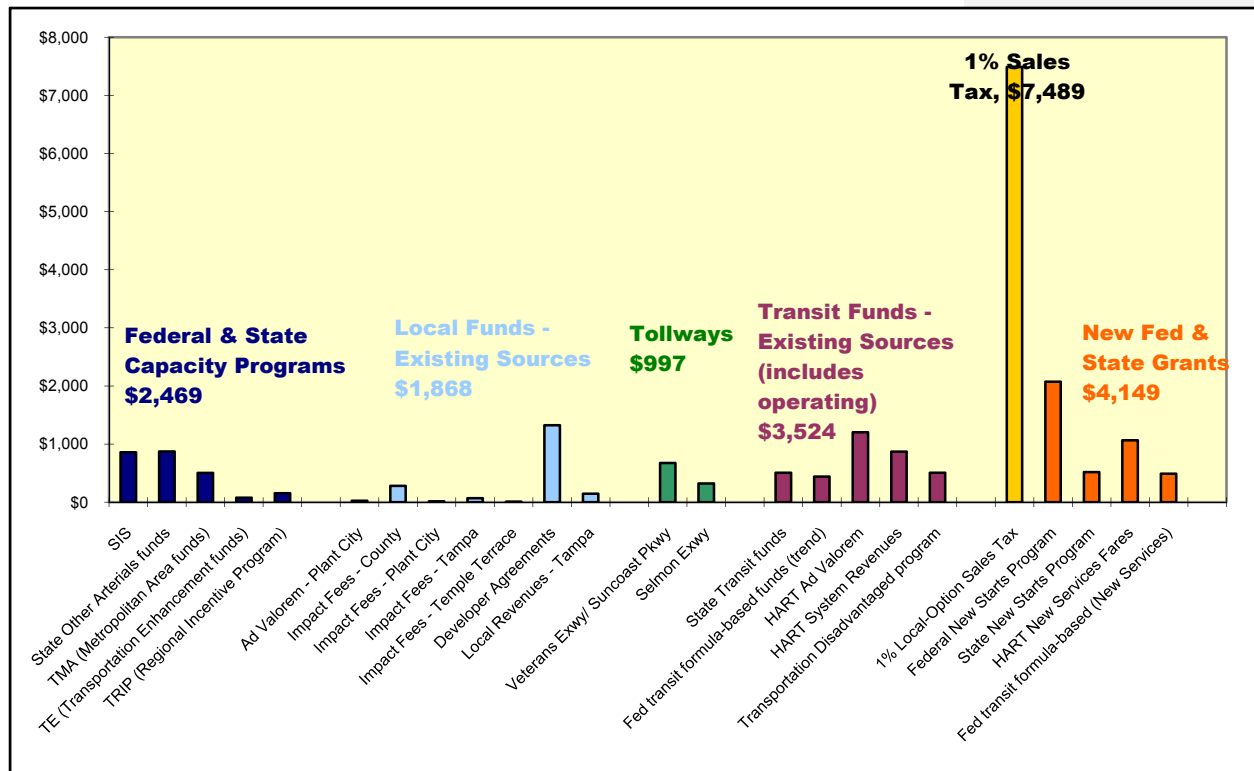
Several factors make it reasonable to assume that a voter-approved levy for transportation will be available for transportation. First, recent opinion polls<sup>i</sup> conducted in Hillsborough County show that improving transportation is a high priority. Second, due to recent initiatives such as the Tampa Bay Area Regional Transportation Authority (TBARTA), there is support for an expanded regional transit system as a good use of taxpayer funds.<sup>ii</sup> Moreover, past surveys have revealed that if additional funding is needed to improve transportation, a sales tax is preferred over other types of taxation. Lastly, Hillsborough County’s history with sales tax referenda has been positive. For example, in 1996 voters approved a half-cent sales tax known as the Community Investment Tax for transportation, school, parks and recreational improvements.

If approved by voters in November of 2010, the one-cent sales tax revenues would become available beginning in 2011.

## Summary

Figure 9.1 and Table 9.1 summarize the federal, state and local revenue sources forecast as reasonably available through 2035. The technical memorandum provides assumptions about how much revenue each source will yield in the future, including the new sources, if they are implemented.

Figure 9.1: Revenue Summary by Source  
(in Year of Expenditure \$ Millions)



**Table 9.1: Revenue Summary by Period of Expenditure (in Year of Expenditure \$ Millions)**

Type of Revenue	Unallocated Funds Thru 2015	2016-2020	2021-2025	2026-2030	2031-2035	Total
<b>Federal &amp; State Programs</b>						<b>\$2,468.63</b>
Strategic Intermodal System funds	\$95.03	\$160.96	\$10.47	\$417.60	\$175.24	\$859.32
State Other Arterials funds	\$56.70	\$174.90	\$197.00	\$212.10	\$232.10	\$872.80
TMA (Metropolitan Area funds)	\$41.38	\$109.40	\$115.60	\$118.90	\$119.70	\$504.98
TE (Transportation Enhancement funds)	\$6.30	\$16.80	\$17.70	\$18.20	\$18.30	\$77.30
TRIP (Regional Incentive Program)	\$8.46	\$37.41	\$36.12	\$36.12	\$36.12	\$154.23
<b>Local Funds - Existing Sources</b>						<b>\$1,868.42</b>
Ad Valorem - Plant City	\$0.00	\$5.20	\$6.10	\$7.10	\$8.10	\$26.50
Impact Fees - County	\$0.00	\$70.00	\$70.00	\$70.00	\$70.00	\$280.00
Impact Fees - Plant City	\$0.00	\$3.10	\$3.50	\$4.00	\$4.10	\$14.70
Impact Fees - Tampa	\$0.00	\$17.60	\$17.60	\$17.60	\$17.60	\$70.40
Impact Fees - Temple Terrace	\$0.00	\$3.00	\$1.80	\$2.50	\$0.00	\$7.30
Developer Agreements	\$211.07	\$270.42	\$721.46	\$120.91	\$0.00	\$1,323.86
Local Revenues - Tampa	\$7.14	\$31.06	\$91.90	\$7.70	\$7.85	\$145.66
<b>Tollways</b>						<b>\$997.01</b>
Veterans Expwy/ Suncoast Pkwy	\$0.00	\$224.12	\$302.89	\$16.71	\$130.89	\$674.61
Selmon Expwy	\$164.85	\$157.55	\$0.00	\$0.00	\$0.00	\$322.40
<b>Transit Funds - Existing Sources</b>						<b>\$3,524.48</b>
State Transit funds	36.5	98.9	111.2	124.2	135.9	\$506.70
Fed transit formula-based funds (trend)	64	74.2	86	99.7	115.5	\$439.40
HART Ad Valorem	173.24	202.79	237.38	274.75	315.74	\$1,203.90
HART System Revenues	102.63	142.55	175.37	212.3	235.93	\$868.78
Transportation Disadvantaged program	79.1	87.8	99.2	112.3	127.3	\$505.70
<b>New Local-Option Revenues</b>						<b>\$7,488.82</b>
1% Local-Option Sales Tax	\$979.96	\$1,194.56	\$1,456.17	\$1,755.71	\$2,102.42	\$7,488.82
<b>New Federal &amp; State Funds</b>						<b>\$4,149.40</b>
Federal New Starts Program	379	446.7	426	239.6	582.7	\$2,074.00
State New Starts Program	94.7	111.7	106.5	59.9	145.7	\$518.50
HART New Services Fares	30.4	106	210.4	306	413.4	\$1,066.20
Fed transit formula-based (New Services)	15.5	53.6	101	138.4	182.2	\$490.70
<b>Total</b>	<b>\$2,545.96</b>	<b>\$3,800.33</b>	<b>\$4,601.37</b>	<b>\$4,372.31</b>	<b>\$5,176.80</b>	
					<b>TOTAL EXISTING SOURCES</b>	<b>\$8,858.54</b>
					<b>TOTAL NEW SOURCES</b>	<b>\$11,638.22</b>



## Project Cost Estimates

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Project costs were estimated for each candidate project, as detailed in the *Needs Assessment Cost Estimates Technical Memorandum*, available separately.

### *Roadway Costs*

Some roadway projects have been studied in detail, with detailed cost estimates prepared. Such estimates were used wherever available. In all other cases, roadway cost estimates were based on average unit costs per centerline mile, by facility and improvement type provided by FDOT District Seven. The cost estimates also include standard contingencies for traffic mitigation associated with construction of the project, as well as for design and construction management.

Roadway projects that include the construction of new facilities or widening of an existing facility need to consider potential acquisition of additional right-of-way (ROW). Geographic locations inside or outside the Urban Service Area and facility type were taken into account, applying low, medium or high ROW cost factors of 25 to 100 percent of the total construction cost.

The Needs Assessment identifies roadways in need of enhancements other than continuous through lanes. To estimate costs associated with these kinds of enhancements, two packages of typical improvements were identified for urban and rural road designs. The packages consist of different mixes of pedestrian, intersection, bicycle, transit and drainage improvements.

### Enhanced Roads – Urban

- ◆ Closed drainage (piped drainage with removal of open swale)
- ◆ Continuous sidewalk on at least one side (estimated as new sidewalk for entire length of roadway on one side; an equivalent amount of sidewalk may be used to infill gaps on roads where some sidewalk exists already)
- ◆ Bike lanes on both sides
- ◆ Turn lanes at intersections (assuming 2 intersections per mile)
- ◆ Concrete pads and ADA compliant curb cuts for bus stops (assuming 8 per mile, or four in each direction of travel)

### Enhanced Roads – Rural

- ◆ Open drainage (open swale)
- ◆ Continuous sidewalk on at least one side (estimated as new sidewalk for entire length of roadway on one side; an equivalent amount of sidewalk may be used to infill gaps on roads where some sidewalk exists already)
- ◆ Bike shoulder on both sides
- ◆ Turn lanes at intersections (assuming 1 intersection per mile)

- ◆ Concrete pads and ADA compliant curb cuts for bus stops (assuming 2 per mile, or 1 in each direction of travel)
- ◆ High visibility crosswalk with ADA compliant curb cuts (assuming 4 per mile)
- ◆ Pedestrian-activated, flashing warning signs at mid-block crosswalks or at free-flowing right turn lanes (assuming 2 per mile)

## Transit Costs

Estimated costs for transit projects identified in the *2035 Plan* were calculated using information from multiple sources, including:

- ◆ The TBARTA Master Plan of 2009. These costs were developed with reference to previous studies, including the Tampa Rail Project Environmental Impact Statement (EIS) and the Hillsborough MPO 2050 Transit Concept, as well as regional and national examples. Where the TBARTA Master Plan showed a range of costs from low to high, the midpoint has been used.
- ◆ Costs for local bus, express bus, BRT, circulators and flex routes, the existing TECO Line Streetcar, and ADA-complementary paratransit services were developed by HART for its Transit Development Plan and Long Range Plan.
- ◆ Costs for a short extension of the TECO Line Streetcar from Whiting Street to Polk Street were based on unit costs reported by HART.
- ◆ Costs for commuter services programs and operational costs of the regional vanpool program were provided by Bay Area Commuter Services.
- ◆ Costs associated with the construction and operation of high-speed rail from Downtown Tampa to Orlando were developed for an EIS by the Florida High Speed Rail Authority, approved in 2005.
- ◆ Costs for paratransit services that are part of the Transportation Disadvantaged Program were based on the Transportation Disadvantaged Service Plan and Annual Operating Report.

Similar to the roadway cost estimates for the *2035 Plan*, the transit estimates use unit costs per mile for major capital expenses. Capital expenses for transit include the construction of transit infrastructure such as tracks, stations, vehicles, maintenance facilities, shelters, “smart” technology, etc. Because plans for rail are yet to be refined, a large contingency factor— 50% of all capital costs – has been included to cover the significant unknowns, such as how many grade-separated crossings will be required by detailed traffic analysis. Rail capital cost estimates also include factors for mitigation, design and construction management.

## Bicycle and Pedestrian Costs

Similar to roadway cost estimates, an estimated construction cost for each bicycle or pedestrian project identified in the 2035 Needs Assessment was calculated using information provided by FDOT District Seven. Construction contingencies were also assumed for bicycle and pedestrian projects.

Project types included on-road bicycle facilities and off-road multi-use trails:

- ◆ Trails were estimated as a 12-foot-wide asphalt path. ROW was assumed to be provided through separate means, as trail facilities often are constructed on land acquired for parks or recreation, or set aside through development agreements.
- ◆ On-road bicycle facilities were estimated as the cost of adding a 5-foot-wide paved shoulder or designated bicycle lane to an existing road, or as the cost of re-striping an existing road where current pavement width can already accommodate a bicycle lane adjacent to a vehicle lane.

Pedestrian projects included filling in sidewalk gaps on major roads and “Pedestrian Enhancement Corridors.”

- ◆ The cost of filling sidewalk gaps on major roads in each jurisdiction was based on an inventory of the major road network that identified segments with no sidewalks at all. The cost estimate is based on constructing a 5-foot-wide sidewalk on at least one side of those segments.
- ◆ “Pedestrian Enhancement Corridors” are identified to improve the safety of pedestrians crossing major roads. Cost estimates are based on adding:
  - High visibility crosswalks, with curb bulb-outs and ADA-compliant curb cuts (assuming 4 intersections per mile).
  - Flashing pedestrian warning signs (assuming 2 per mile).

All bicycle and pedestrian projects were cross-referenced with all roadway projects. Where there was overlap, the needed bicycle or pedestrian facility was assumed to be part of the roadway project. The costs of these bicycle and pedestrian facilities have been removed from the total Needs Cost Estimate to avoid double-counting.

## Non-Capacity Programs (Operating & Maintenance)

Non-capacity programs refer to FDOT programs designed to support, operate and maintain the state highway system: safety, resurfacing, bridge, product support, operations and maintenance, and administration. Metropolitan area estimates have not been developed for these programs. Instead, FDOT has included sufficient funding in the 2035 Revenue Forecast to meet the following statewide objectives:

- ◆ Resurfacing program: Ensure that 80% of state highway system pavement meets FDOT 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;
- ◆ Product Support: Reserve funds for Product Support required to construct improvements (funded with the forecast's capacity funds) in each district and metropolitan area; and
- ◆ Administration: Administer the state transportation program.

The FDOT has reserved funds in the 2035 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. Statewide, about \$120 billion (50% of total revenues) is forecast for the non-capacity programs.

The 2035 Forecast of State and Federal Revenues for Statewide and Metropolitan Plans, available as an appendix to the technical memorandum, provides more detail.

Likewise, each local jurisdiction and implementing agency was also asked to estimate funding for recurring operating and maintenance costs. These include resurfacing, roadway maintenance, engineering and administration. Funding available for major capacity projects in the *2035 Plan* was estimated after deducting funding for operating and maintenance needs. As an example, approximately \$755 million in fuel tax revenue is forecast to be available to local governments from 2016 through 2035. The MPO assumes that none of this revenue will be used for capital projects in the *2035 Plan*. In addition, the MPO specifically estimated the cost to operate transit through 2035, including new and expanded service, and deducted it from available funding before allocating the remainder to transit projects.

## Prioritizing Projects for Funding

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As described above, FDOT establishes priorities and allocates state and federal funding to projects on the SIS. The MPO Board is responsible for setting priorities within other funding categories.

Before setting priorities for new projects, however, the MPO recognized that certain projects warranted top priority. On-going projects, such as road projects for which ROW has been acquired, were moved to the top of the priority list. Likewise, projects that were identified by the local governments and transportation agencies for potential charter county surtax (sales tax) funding were next on the priority list. These reflect the current top priorities of the MPO's member governments and agencies.

All subsequent projects were scored and ranked by the methodology described below.

Funds were allocated to the projects according to the ranked list and based on their eligibility within each fund category. Other Arterial funds were allocated to projects on state highways, TRIP funds to regional high priority projects, and charter county surtax funds to projects recommended by Hillsborough County's Transportation Task Force.

### *Project Scoring and Ranking Methodology*

A weighted scoring system was used to evaluate candidate projects against each other and rank them for funding. Ten different performance criteria were derived from the *2035 Plan* Goals and Objectives. The performance criteria and their weights were established by the MPO's committees.

**Table 9.2** shows how the criteria were applied to different types of candidate projects.

Each candidate improvement was scored based on how well it addressed the measures of effectiveness set forth for each criterion, with zero representing a minimal or negative impact, three being neutral or positive, and five representing a highly positive impact. For example, under the goal of minimizing impacts on natural, historic, cultural or archeological resources, if a project has no known significant impacts *and* will reduce vehicle emissions or use recycled material, it would receive a score of five. If it has no known significant impacts, it would receive a score of three. If it has the potential for known significant impacts, it would receive a score of zero. The scores were then multiplied by the factor weights and summed for all ten criteria to determine a score for each segment.

Road segments were grouped together according to major corridors and an overall corridor score derived from the average of all segments in the corridor weighted by their length. These scores were used to rank candidate improvements for inclusion in the Cost Affordable Plan. A table showing the scores of the candidate projects is provided in the Appendix.

**Table 9.2: Project Performance Criteria**

Mode	Score	Criterion/Measure of Effectiveness	Weight
<b>Minimizing Impacts on Natural, Historic, Cultural or Archeological Resources</b>			<b>7%</b>
All Modes	5	Project has no known significant impacts on natural, historic, cultural, or archeological resources and will reduce vehicle emissions or use recycled materials	
	3	Project has no known significant impacts on natural, historic, cultural or archeological resources	
	0	Project has potential for significant negative impacts on natural, historic, cultural, or archeological resources	
<b>Making Regional Connections</b>			<b>8%</b>
Highway	5	Project is on SIS highway or is a High Priority Project in the RL RTP	
	3	Project is on other highway in Regional Roadway Network	
	0	Other highway project	
Transit	5	Transit project is part of TBARTA Mid-Term Vision Network or is a High Priority Project in the Regional Long Range Transportation Plan (RL RTP)	
	3	Other transit project identified in RL RTP Needs Assessment	
	0	Other transit projects	
Bike	5	Project is in the top 10 priorities for Regional Multi-Use Trails or provides access to TBARTA Mid-Term Vision Transit Network	
	3	Other Regional Multi-Use Trails Project or provides access to other RL RTP Needs Assessment transit route	
	0	Other cycling project	
Intelligent Transportation System (ITS)	5	Project is on SIS highway	
	3	Project is on other highway in Regional Roadway Network	
	0	Other highway project	
Transportation Demand Management (TDM)	5	Transit or (vanpool) project is part of TBARTA Mid-Term Vision Network	
	3	Other transit project identified in RL RTP Needs Assessment	
	0	Other transit projects	
Ped.	5	Pedestrian enhancement providing access to on TBARTA Mid-Term Vision Network	
	3	Pedestrian enhancement providing access to on other RL RTP Transit Needs Assessment Route	
	0	Other pedestrian enhancement projects	
<b>Reducing Traffic Congestion</b>			<b>16%</b>
Highway	5	Project reduces 2035 volume to capacity (v/c) ratio; v/c = 1.50 + ; proposed new roads will consider congestion on existing parallel facilities	
	3	Project reduces 2035 v/c ratio; v/c = 1.00 to 1.50; proposed new roads will consider congestion on existing parallel facilities	
	0	Project reduces 2035 v/c ratio; v/c = 0 to 0.99; proposed new roads will consider congestion on existing parallel facilities	
Transit	5	Project creates separate ROW for transit parallel to 2035 congested road with v/c = 1.50 +	
	3	Project adds bus pull-off bays, signal prioritization or new peak hour service to a 2035 congested road (v/c > 1)	
	0	Other transit projects	

**Table 9.2: Project Performance Criteria**

Mode	Score	Criterion/Measure of Effectiveness	Weight
Cycling	5	No cycling projects	
	3	Project adds a bike lane or shoulder or parallel trail to a 2035 congested road	
	0	Other cycling projects	
ITS	5	Project adds coordinated traffic signal systems to a 2035 congested road with $v/c = 1.50 +$	
	3	Project adds coordinated traffic signal systems or advanced traveler information systems to a 2035 congested road ( $v/c > 1$ )	
	0	Other ITS projects	
TDM	5	No TDM projects	
	3	Project reduces peak hour vehicle trips	
	0	Other TDM projects	
Ped.	5	No pedestrian projects	
	3	Project adds ped facilities or fills sidewalk network gap on 2035 congested road ( $v/c > 1$ )	
	0	Other pedestrian projects	
<b>Supporting Community Plans and Minimizing Community Impacts</b>			<b>8%</b>
All Modes	5	Project is identified in adopted Community Plan, Sector Plan, Neighborhood Plan, or MPO Corridor or Sub-Area Plan and/or actively supported by Neighborhood Association(s) in the corridor	
	3	Project is consistent with Livable Roadways Guidelines Key Policies and will not negatively impact Environmental Justice (EJ) communities in the corridor	
	0	Other project	
<b>Alternatives to Driving Alone</b>			<b>15%</b>
Highway	5	Project adds managed lanes that will provide incentive for HOV use	
	3	Project is known to add sidewalks, bike lanes, and ADA-accessible bus stops	
	0	Other highway project	
Transit	5	Transit service in top tier of future ridership	
	3	Transit service in medium tier of future ridership	
	0	Transit service in bottom tier of future ridership	
Cycling	5	Project provides marked & signed bike lanes and/or trails in urban services area	
	3	Project provides marked & signed bike lanes and/or trails outside urban services area	
	0	Other cycling project	
ITS	5	No ITS project	
	3	Project provides public information about alternatives to driving alone	
	0	Other ITS projects	
TDM	5	Project makes vehicles available for van/carpooling	
	3	Project provides public information about alternatives to driving alone	
	0	Other TDM project	
Ped.	5	Project improves pedestrian comfort in urban services area	
	3	Project improves pedestrian comfort outside urban services area	
	0	Other pedestrian project	
<b>Improving Access to Activity Centers (Shopping, Jobs, Tourism, Education and/or Medical)</b>			<b>10%</b>
Highway	5	Project connects to more than one Activity Center or connects to at least one Tier I Center	

**Table 9.2: Project Performance Criteria**

Mode	Score	Criterion/Measure of Effectiveness	Weight
	3	Project connects to one Activity Center	
	0	Other highway project	
Transit	5	Project connects to more than one Activity Center or connects to at least one Tier I Center	
	3	Project connects to one Activity Center	
	0	Other transit project	
Bike	5	Cycling project in, or parallel & adjacent to, a road segment within the top 50 bicycle latent demand scores	
	3	Cycling project in, or parallel & adjacent to, a road segment within the top 100 bicycle latent demand scores	
	0	Other cycling project	
ITS	5	Project improves traffic progression on road corridor connecting to more than one Activity Center	
	3	Project improves traffic progression on road corridor connecting to one Activity Center	
	0	Other ITS project	
TDM	5	Project provides public info about options to a Tier I Activity Center	
	3	Project provides public info about options to a Tier II or III Activity Center	
	0	Other TDM project	
Ped.	5	Pedestrian project in area with pedestrian latent demand score of 4 or more	
	3	Pedestrian project in area with pedestrian latent demand score of 2 - 3	
	0	Other pedestrian project	
<b>Enhancing Goods Movement</b>			<b>7%</b>
Highway and ITS	5	Project corrects problematic conditions at identified Goods Movement Hot Spot	
	3	Project is located on a designated truck route; proposed new roads will consider parallel facilities	
	0	Other highway project	
Transit and TDM	5	No transit or TDM projects	
	3	Project adds service in dedicated ROW parallel to designated truck route	
	0	Other transit or TDM project	
Cycling, Ped	5	Bicycle and pedestrian projects not eligible for this score	
	3	Bicycle and pedestrian projects not eligible for this score	
	0	Cycling and pedestrian projects	
<b>Safety (Reducing Crashes)</b>			<b>17%</b>
Highway	5	Non-capacity project or project on road segment with one of the top 50 crash rate segments or intersections and on limited access facility	
	3	Project on road segment within top 50 crash locations; proposed new roads will consider crashes on existing parallel facilities	
	0	Other highway project	
Transit	5	Transit projects not eligible for this score	
	3	Project improves transit passenger safety (lighting, surveillance, stop facilities)	
	0	Other transit project	
Cycling	5	Bicycle project on road segment with 4 or more bicycle crashes or fatality location	
	3	Bicycle project on road segment with 1 - 4 bicycle crashes	



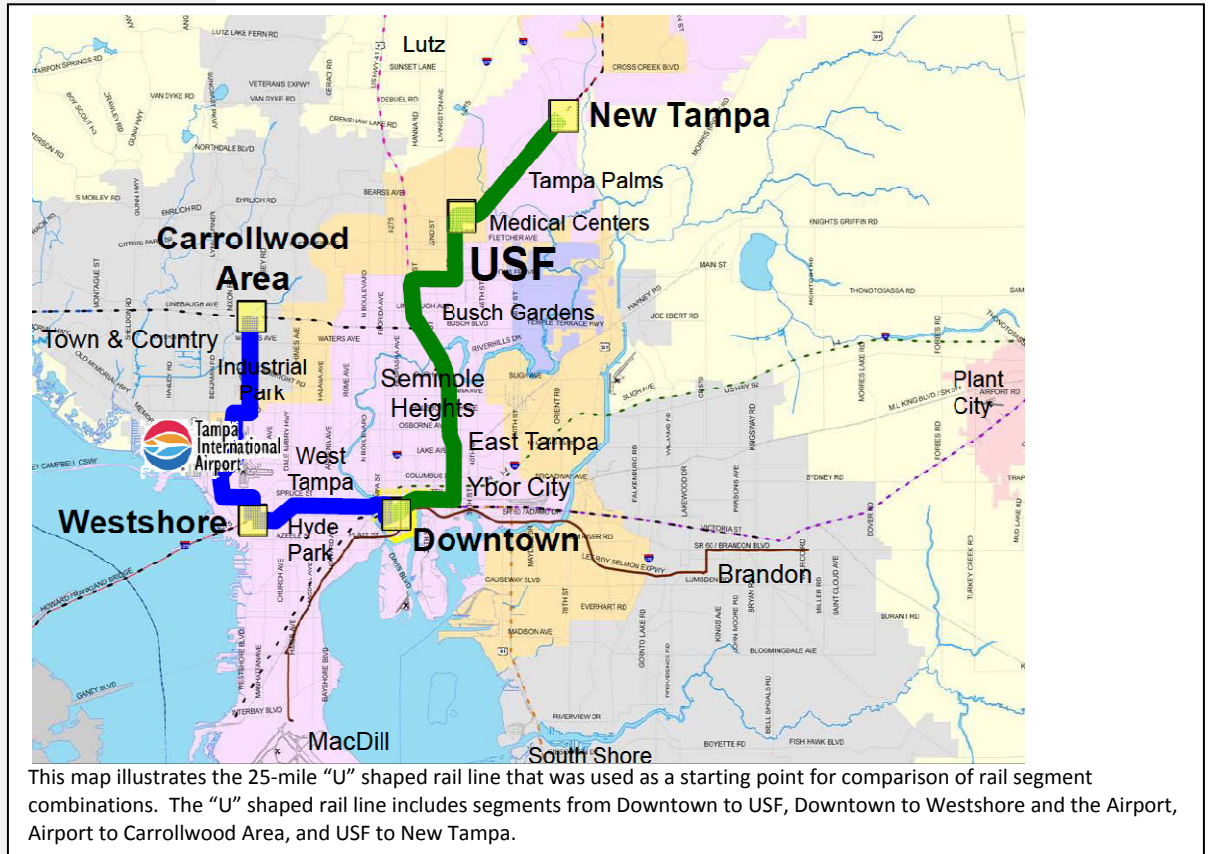
**Table 9.2: Project Performance Criteria**

Mode	Score	Criterion/Measure of Effectiveness	Weight
	0	Other bicycle project	
ITS	5	No ITS projects	
	3	Project provides advanced traveler information about incidents and delays	
	0	Other ITS projects	
TDM	0	All TDM projects	
Ped.	5	Pedestrian project on road segment within top 10 pedestrian crash locations or pedestrian fatality location	
	3	Pedestrian project on road segment with 4 or more pedestrian crashes	
	0	Other pedestrian project	
<b>Supporting Security and Improving Emergency Evacuation</b>			<b>5%</b>
All Modes	5	Project adds evacuation capacity at identified Critical Roadway Location or identified high ranked Critical Infrastructure/Key Resource; proposed new roads will consider evacuation capacity on existing parallel facilities	
	3	Project adds capacity to or parallel to and within ½ mile of designated emergency evacuation route, or identified medium or low ranked Critical Infrastructure/Key Resource, or provides advance traveler information during emergencies	
	0	Other project	
<b>Improving Existing Facilities</b>			<b>7%</b>
All Modes	5	Project is within existing ROW including in parallel corridors or maintains ongoing function of existing transit services	
	3	Project is on an existing roadway but additional ROW may be needed	
	0	Other project	

## Prioritizing Rail System Alternatives

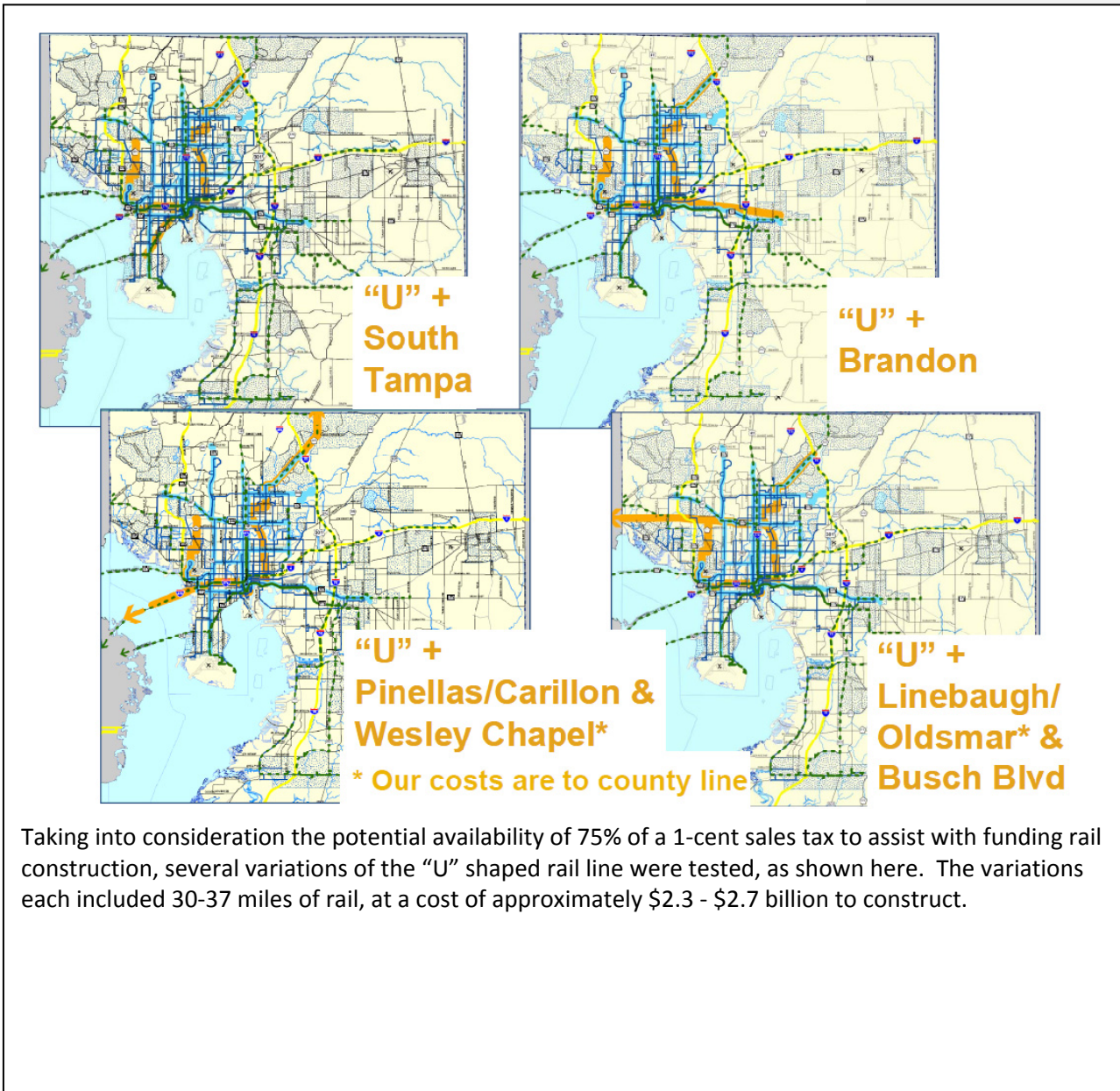
The candidate rail transit segments were further evaluated by modeling various combinations of the segments. Factors that were examined included: reducing congestion on parallel highways, ridership productivity, travel time in comparison to driving, and cost to build and operate rail.

Figure 9.2: Modeled U-Shaped Rail Segment



The various rail networks that were studied each included 30-37 miles of rail, supported by an expanded bus network connecting to the rail stations. The networks all had similar impacts on traffic congestion; the greatest reductions occurred in the center of the urban area, which was served by all networks. The magnitude of the congestion reduction was equivalent to saving about 250 thousand people 15 minutes every day.

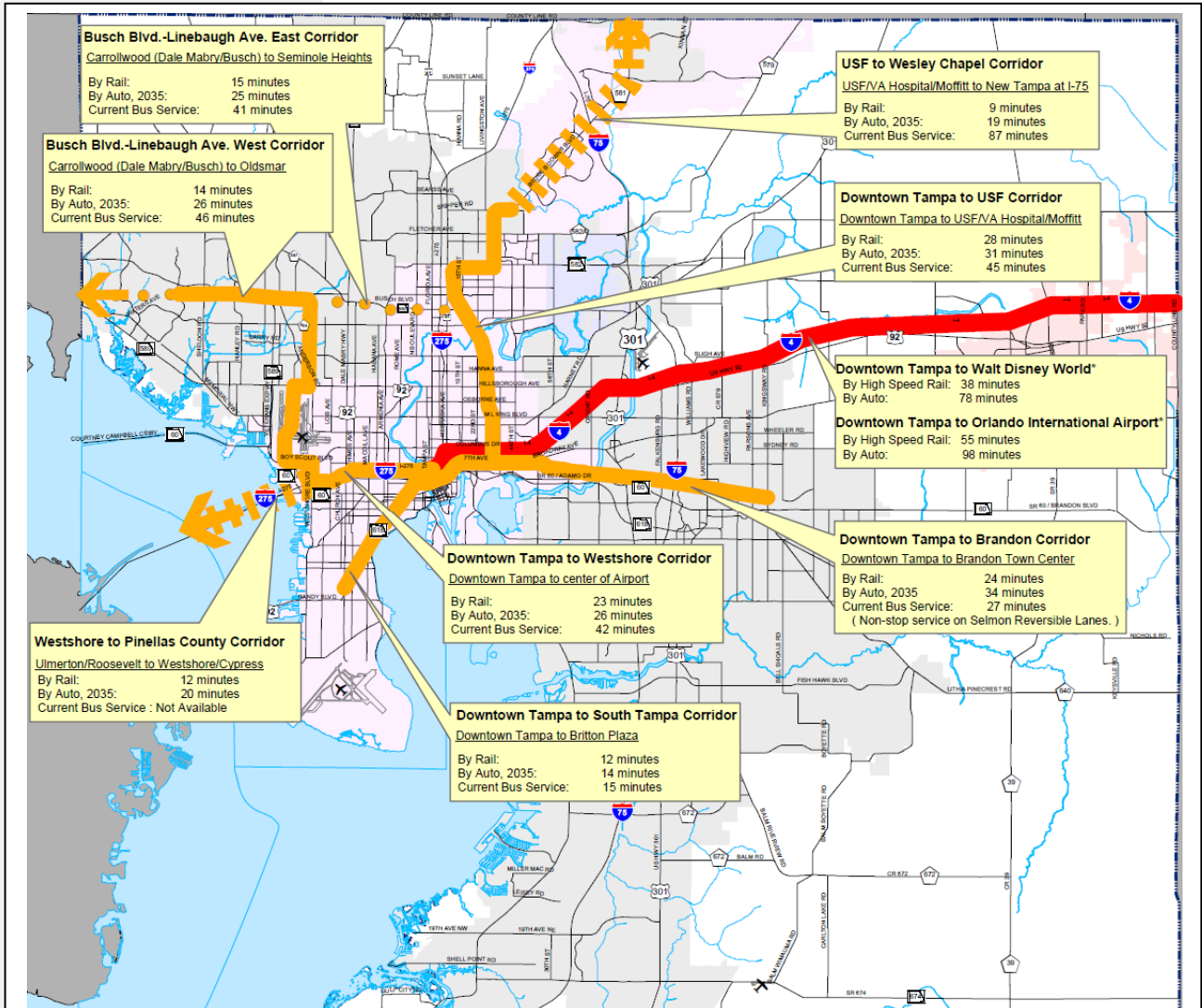
*Figure 9.3: Variations of U-Shaped Rail Line*



Taking into consideration the potential availability of 75% of a 1-cent sales tax to assist with funding rail construction, several variations of the "U" shaped rail line were tested, as shown here. The variations each included 30-37 miles of rail, at a cost of approximately \$2.3 - \$2.7 billion to construct.

The portions of these rail networks where travel time by rail was substantially better than travel time by driving were in the USF to Wesley Chapel Corridor (Bruce B Downs Boulevard), Westshore to Pinellas (Carillon) Corridor, and the Busch Boulevard/ Linebaugh Avenue Corridors. Driving times in each corridor were estimated at an average congested speed, forecast for 2035.

Figure 9.4: Travel Time Comparisons



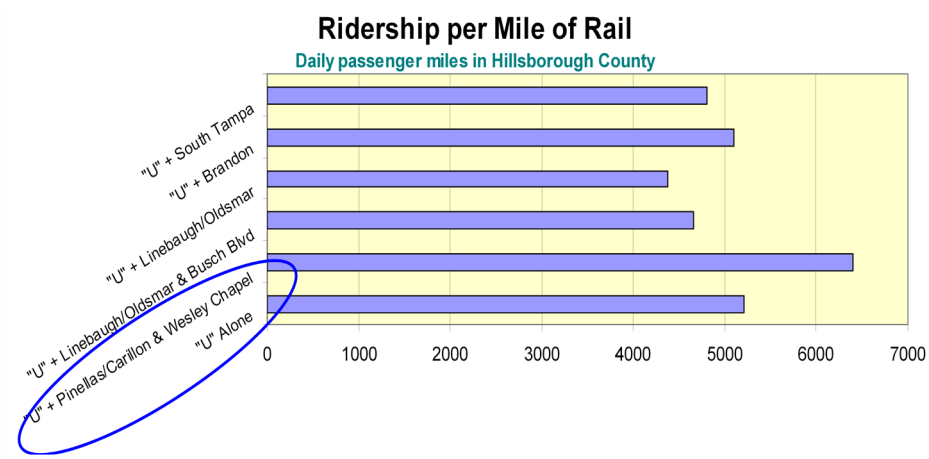
**RAIL TRANSIT ROUTES**

- Affordable Rail
- Rail Future Phases
- High Speed Rail
- Affordable Rail
- \* Contingent on Agreements with Adjacent Counties

**Travel Time Comparisons.** Driving times are at average daily congested speed, forecast for 2035 using Tampa Bay Regional Planning Model Cost-Affordable Network. Current bus service is based on published HART bus schedules and Google Transit. Times are between the closest major bus stops, and may be an average of the travel time in each direction. Rail travel times are based on analysis prepared for TBARTA Master Plan, provided courtesy of TBARTA & FDOT. High speed rail travel times & auto comparisons prepared for Florida High Speed Rail Authority.

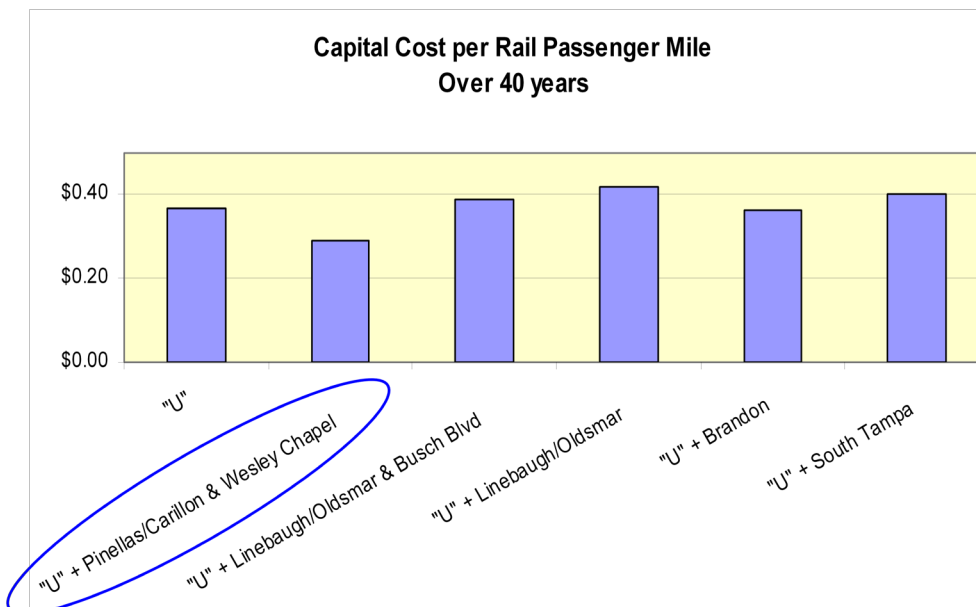
In terms of ridership, the most productive network was the “U” + Pinellas/Carillon & Wesley Chapel network. The regional connections increased boardings in Hillsborough County as well as passenger miles in Hillsborough County. On a per-mile basis, the “U” + Pinellas/Carillon & Wesley Chapel was the only network more productive than the “U” alone, which focused on the urban core of Hillsborough County.

Figure 9.5: Ridership Per Mile of Rail



In terms of construction cost, the rail segments through Tampa International Airport and across the I-275 Howard Frankland Bridge were the most expensive per mile. However, the high ridership demand in these corridors more than compensates for the higher cost. Amortized over 40 years of rail ridership, the cost per passenger mile on the “U” + Pinellas/Carillon & Wesley Chapel was lower than any other network. In other words, the increased ridership in Hillsborough County makes the regional connections a cost-effective investment.

Figure 9.6: Capital Cost per Rail Passenger Mile over 40 Years



## REFERENCES

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<sup>i</sup> For example, regional responders to One Bay's poll (part of a Tampa Bay regional visioning process) selected mass transit and traffic congestion as the top two concerns needing attention. And in a regional phone survey of households conducted by TBARTA in March 2008, among all Hillsborough County respondents, taxation and transportation issues rank in the top 5 of issues respondents want local officials to address.

<sup>ii</sup> In the TBARTA poll, more than 70 percent of respondents in Hillsborough County supported building an integrated light rail and commuter rail system in the greater Tampa Bay region. And 67 percent of Hillsborough County respondents say that using taxpayer dollars to improve transportation is a good use of taxpayer funds. (The margin of error is +/- 4.4 percent at the 95% confidence level.)