FINAL REPORT

Pinellas Mobility Initiative

Prepared for:
Pinellas County Metropolitan Planning Organization

Prepared by:
Grimail Crawford, Inc.

August 14, 2003

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System Characteristics

- Integrated countywide system including monorail, enhanced express bus, local bus, and trolley bus services
  - **Monorail element** - 38-miles of dual guideway and 28 stations
  - **Enhanced express bus element** - provides service on major thoroughfares throughout Pinellas County with connections to Hillsborough and Pasco Counties
  - **Local bus element** – provides seamless access to local destinations and connections to monorail and express bus
  - **Trolley circulators element** - provide circulation within 12 areas

Monorail Route (shown on map on next page)

- Clearwater Beach to St. Petersburg-Clearwater International Airport
- Countryside Mall to St. Petersburg-Clearwater International Airport
- St. Petersburg-Clearwater International Airport to Tropicana Field
- Tropicana Field to Downtown St. Petersburg
- Tropicana Field to Tyrone Boulevard and Park Street
- Supplemental Phase – Alternate US 19 from Park Street to Downtown Clearwater

Estimated Daily LPA System Boardings

- Monorail boardings of 49,200
- Express Bus boardings of 13,000
- Local Bus boardings of 55,300
- Total System boardings of 117,400

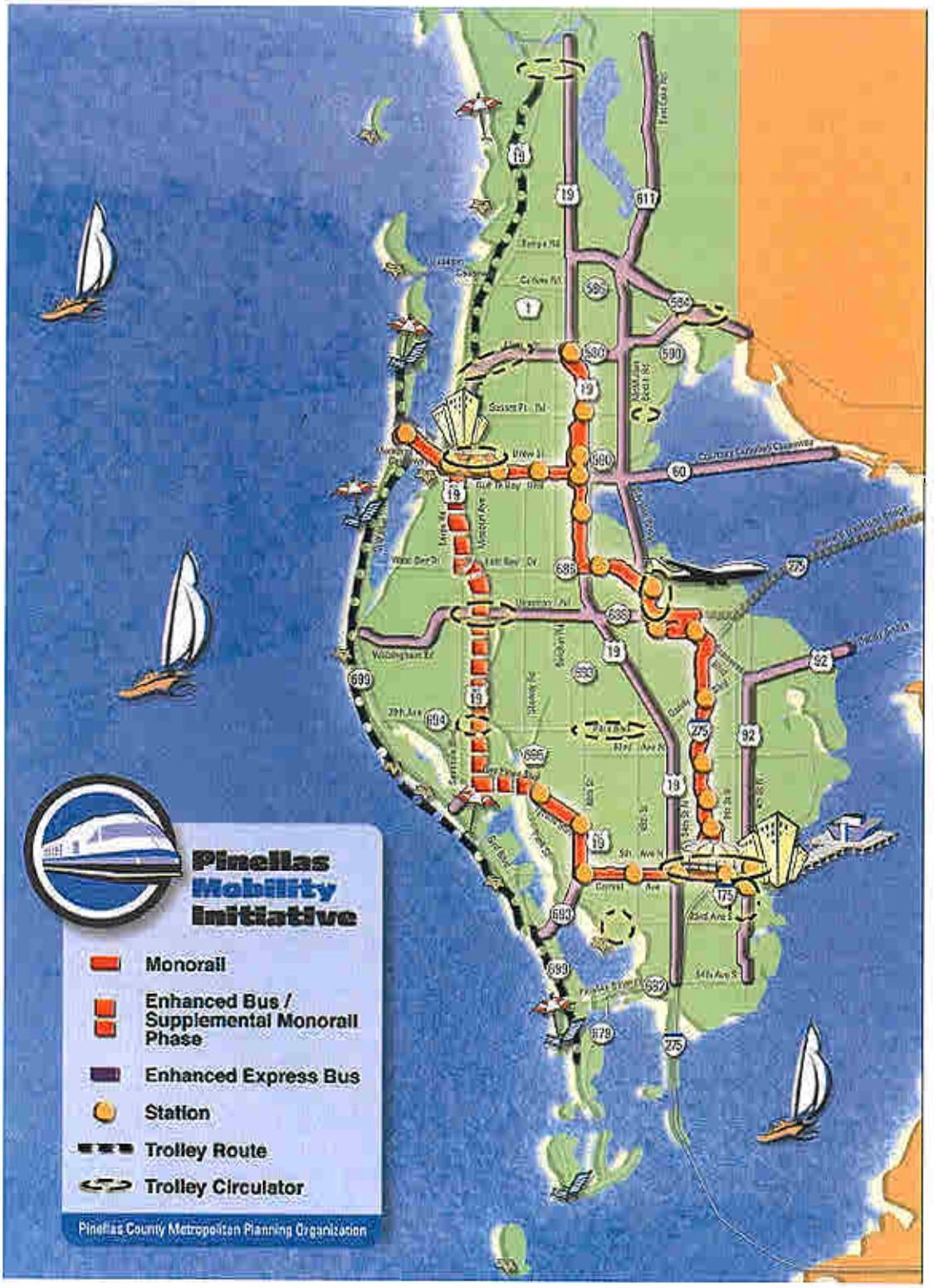
Preliminary Estimate of Costs

- Pre-Construction costs of approximately $100 million
- Capital costs of $1.43 - $1.54 billion
- Annual Operating and Maintenance costs of $25.0 - $40.1 million

Preliminary Sources of Funding

- **Local sources** - could include new Charter County Transit Sales Surtax of up to 1¢, two new local gas taxes of up to 6¢ per gallon, and/or extension of the Penny for Pinellas Sales Tax of up to 1¢.
- **State sources** - could include Intermodal Funds from the Florida Department of Transportation
- **Federal sources** - could include Section 5309 New Starts grant funds administered by the Federal Transit Administration.

PINELLAS MOBILITY INITIATIVE
LOCALLY PREFERRED ALTERNATIVE



EXECUTIVE SUMMARY

PINELLAS MOBILITY INITIATIVE

FINAL PROJECT REPORT

S.1 THE PREDECESSOR MAJOR INVESTMENT STUDY

During the 1990s, the Pinellas County Metropolitan Planning Organization (MPO) began earnestly studying capital-intensive improvements to transit.

In 1997, the MPO began a study of major multi-modal transportation improvements beyond those in the then current Cost Feasible Long Range Transportation Plan (LRTP). The MPO conducted a three-stage analysis under the umbrella of the Pinellas Mobility Major Investment Study (MIS).

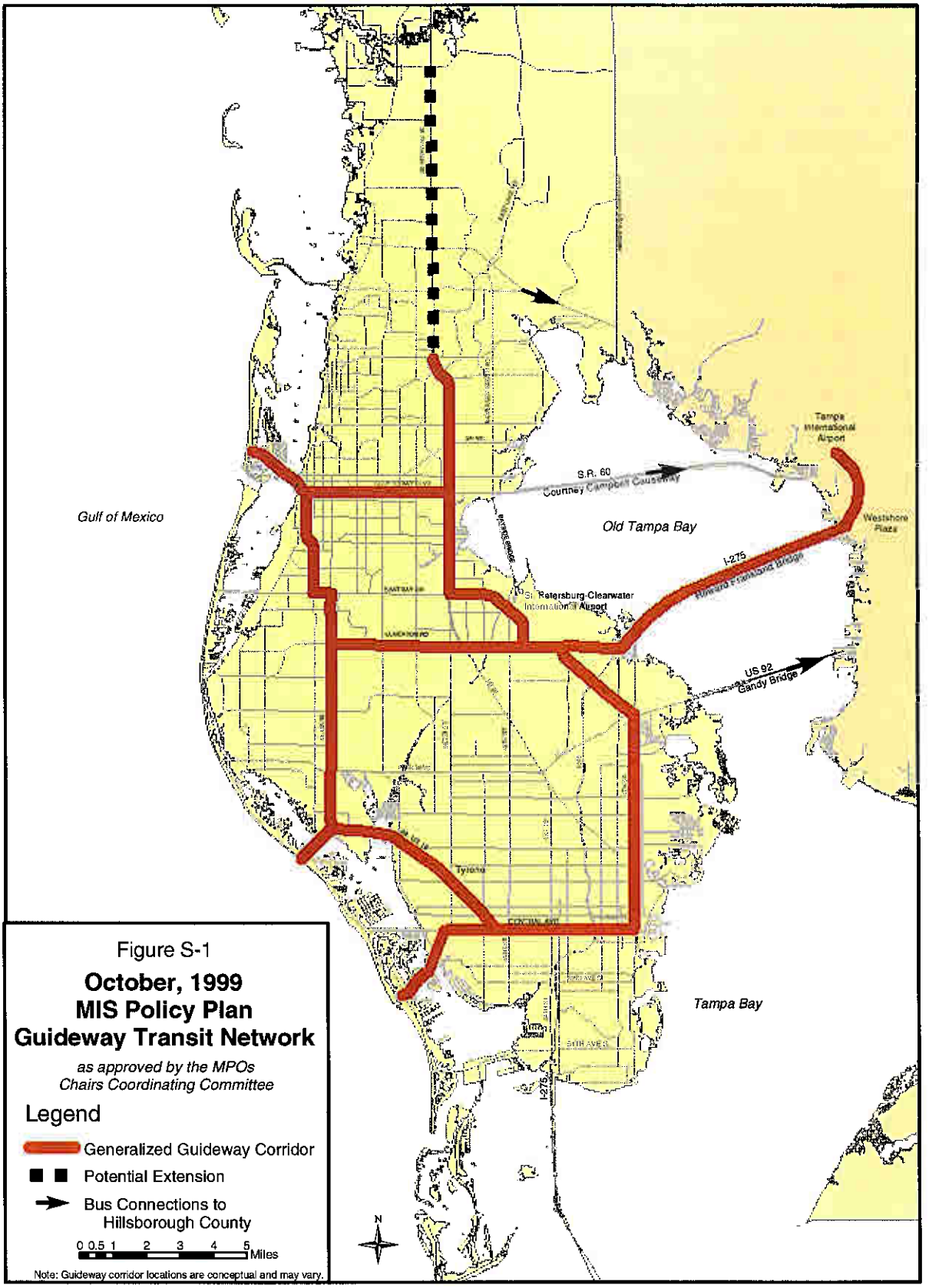
As a part of the MIS study process, a *Transit Policy Plan Network* was adopted by the MPO. This plan, which is not financially constrained, indicates the corridors that were identified as part of a full implementation of guideway transit in the county. The Transit Policy Plan Network is shown in Figure S-1.

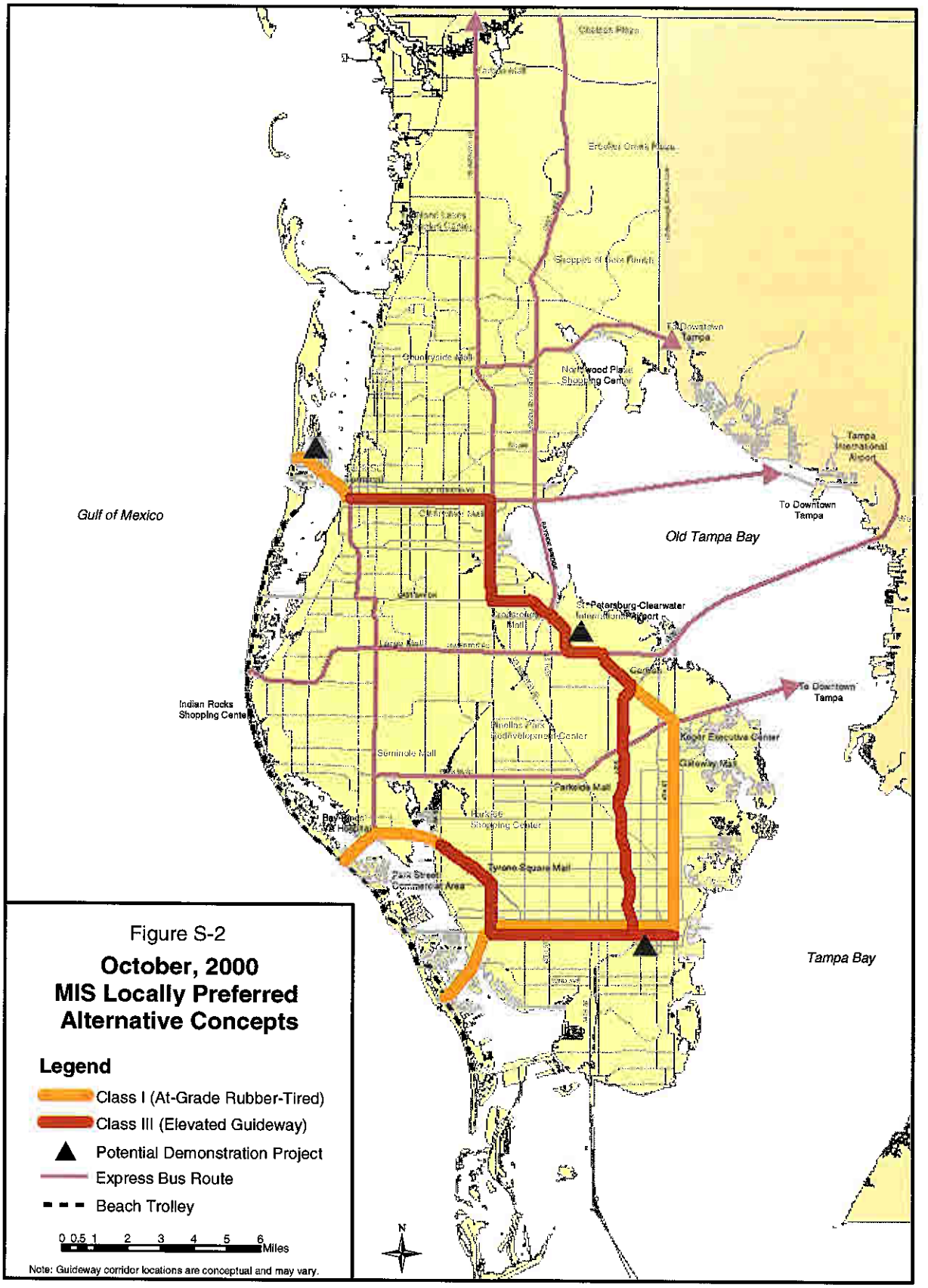
Priority segments of the *Transit Policy Plan Network* were identified through the adoption of the *Locally Preferred Alternative (LPA) Report* by the MPO at its October 2000 meeting. This report represented the culmination of the Pinellas Mobility MIS. The MIS narrowed the field of transit technologies to those using an *elevated* guideway. Recommendations in the LPA Report defined a generalized corridor proposed for guideway transit development, technology parameters, and follow-on activities needed to obtain community consensus regarding an eventual guideway project. The location of the priority corridors identified in the predecessor LPA is shown on Figure S-2.

S.2 THE PINELLAS MOBILITY INITIATIVE

The follow-on study resulting from adoption of the LPA was entitled the *Pinellas Mobility Initiative (PMI)*. The study is oriented towards evaluating the feasibility of implementing elevated guideway transit within the LPA corridor; further planning efforts related to land use compatibility and livable communities initiatives; refining the technology options; and refining the capital and operations and maintenance cost estimates.

The refinement analysis documented in the present PMI report provides information important to reaching planning-level consensus on the feasibility of fixed guideway transit in the corridor. A benchmark alignment is offered as a base upon which to frame order of magnitude comparisons. The feasibility analysis provides a refined set of alignment alternatives for potential advancement into future environmental and preliminary engineering phases of project development work.


Gulf of Mexico
Old Tampa Bay
Tampa Bay
Tampa International Airport
S.R. 60
Courtney Campbell Causeway
Westshore Plaza
I-275
Howard Frankland Bridge
St. Petersburg-Clearwater International Airport
US 92
Gandy Bridge
Tyrone
N
Figure S-1
October, 1999
MIS Policy Plan
Guideway Transit Network
as approved by the MPOs
Chairs Coordinating Committee
Legend
Generalized Guideway Corridor
Potential Extension
Bus Connections to Hillsborough County
0 0.5 1 2 3 4 5 Miles
Note: Guideway corridor locations are conceptual and may vary.


Gulf of Mexico
Old Tampa Bay
Tampa Bay
To Downtown Tampa
Tampa International Airport
St. Petersburg-Clearwater International Airport
Indian Rocks Shopping Center
Seminole Mall
Largo Mall
Countryside Mall
Tyrone Square Mall
Parkside Mall
Gateway Mall
Koger Executive Center
Pinellas Park Redevelopment Center
Bayfront Medical Center
Northwood Plaza Shopping Center
Harbor Shopping Center
Park Street Commercial Area
Figure S-2
October, 2000
MIS Locally Preferred Alternative Concepts
Legend
Class I (At-Grade Rubber-Tired)
Class III (Elevated Guideway)
Potential Demonstration Project
Express Bus Route
Beach Trolley
0 0.5 1 2 3 4 5 6 Miles
N
Note: Guideway corridor locations are conceptual and may vary.

S.3 TECHNOLOGY SELECTION

In the MIS, various technology options were assessed. Through the MIS process, a decision was made that the main system would be elevated, supported by at-grade advanced buses like Bus Rapid Transit, limited-stop express buses, rubber-tired trolleys and conventional bus. The MIS concluded that viable technology options for the elevated system would include elevated light rail, monorail, and people movers. The selection of a specific technology for elevated guideway that is most appropriate for Pinellas County was left to the PMI. The PMI Steering Committee, then the MPO Board, approved the *Candidate Elevated Transit System Analysis Report* that concluded with a recommended selection of *monorail* as the elevated transit system technology.

S.4 BASELINE AND BUILD ALTERNATIVES

In planning for major capital investment projects, an alternative that includes the proposed project, commonly labeled a "Build" alternative, usually needs to be compared with a benchmark alternative that does *not* incorporate the proposed project, known as a "Baseline" alternative. For the PMI, the "Baseline" alternative is defined as the Pinellas MPO's 2025 Cost Feasible Long Range Transportation Plan (LRTP). The 2025 LRTP includes a variety of highway improvements, while transit improvements are generally limited to service frequency enhancements for local bus routes and other minor facility improvements. No capital-intensive improvements for transit are built into Pinellas' current Cost Feasible LRTP.

Following generation and assessment of many potential options, two key "Build" alternatives ultimately surfaced as preferred options for potential future project development. The first Build alternative provides for fully elevated guideway using monorail technology for a length of 38 miles, including 28 stations. Substantially similar to the full guideway alternative in location, the second Build alternative provides for a fully elevated guideway for some 30 linear miles, and Bus Rapid Transit (BRT) for another 8 linear miles. Here too there would be 28 stations. The key difference between the two Build alternatives is that at-grade BRT replaces elevated monorail from Tropicana Field along the Central Avenue and Tyrone Boulevard corridors to Park Street.

S.5 LAND USE CONSIDERATIONS

Determination of potentially feasible alignments requires an examination of numerous criteria including land use, existing development and potential development. Each such criterion was examined at the corridor level to identify potentially viable alignments seeking to maximize ridership, minimize negative impacts, and foster a long-term transportation land use balance.

The presence of transit, particularly fixed guideway transit, can influence surrounding land use and development. The degree of impact is affected by several factors including existing land use patterns, land use plans and applicable zoning; availability of land for development and/or redevelopment; compatibility of existing land uses; real estate market forces; and ability and/or acceptance to alter development character and type along the fixed guideway corridor.

Transit-Oriented Development (TOD) is a compact, mixed-use development pattern around a transit station. By design, TOD encourages residents, workers, and shoppers to drive their cars less and ride transit more. The centerpiece of a transit community is the transit station – connecting residents and workers to the rest of the region – and the civic and public spaces that surround it. The design, configuration, and mix of buildings and activities emphasize pedestrian-oriented environments and encourage use of public transportation. The land uses within a transit station community are linked with convenient pedestrian walkways and parking is managed to discourage dependence on the automobile.

Local government land use regulations are key tools in guiding transit supportive development. Local governments can facilitate transit-oriented development (TOD) by ensuring that comprehensive plans, land development codes, and other land use policy documents permit and encourage the themes embodied in the TOD concepts described above.

Most Pinellas County local government plans and policies address the criteria to varying degrees. All the local governments have adopted mixed-use future land use plan (FLUP) categories and zoning districts that can support TOD concepts.

S.6 PREFERRED ALIGNMENT AND STATION PLACEMENT

The guideway has typically been placed within existing road rights-of-way. For stations, however, right-of-way will typically require property acquisition for the station site and ancillary parking facilities.

Though likely to change somewhat during project development, a preferred guideway alignment has evolved over time and is presented in Appendix D of the main report. This alignment should be taken as indicative but not final. The same applies to the placement of stations. Appendix D, comprised of an aerial map series, provides detail on the proposed alignment and station placement.

As the PMI study evolved, each Build alternative came to include 28 stations. Proposed stations are located graphically on Figure S-3. Stations are located in the same general areas under both Build alternatives. The key difference between them is that the BRT stations in Alternative 2 would require a smaller footprint than the corresponding monorail stations in Alternative 1.

S.7 RIDERSHIP AND TRANSPORTATION SYSTEM PERFORMANCE

There is one "Baseline" alternative and two "benchmark" build alternatives. The build alternatives should be thought of as refined, indicative alternatives at this stage; specific locational aspects of guideway envelope and stations may change during the course of project development. The MPO's 2025 Cost Feasible Long Range Transportation Plan is considered to be the comparative baseline. This baseline alternative is the frame of reference against which to gauge relative increases in transit utilization and the cost effectiveness of proposed guideway transit projects.

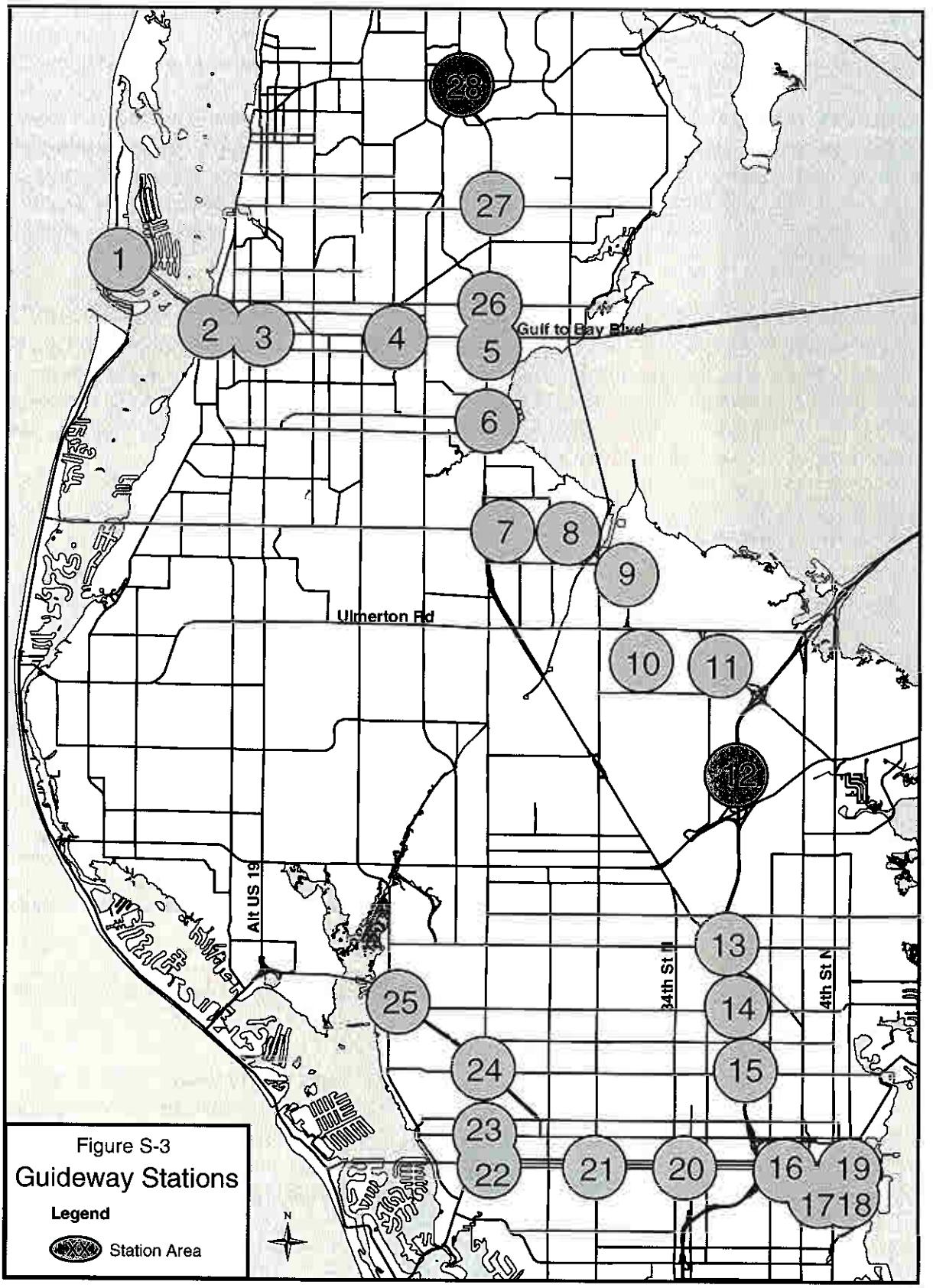
With the LRTP transit system network, consisting of mostly local bus service and limited express bus service, the year 2025 ridership (boardings) is forecast to be approximately 41,600 boardings per day: 40,600 for local bus plus 1,000 for express bus. This forecast represents marginal growth from the approximately 32,000 daily boardings currently serviced by the Pinellas Suncoast Transit Authority (PSTA).

Estimated total daily boardings ("unlinked" trips) by mode in year 2025 are summarized for Pinellas County in Table S-1 for each build alternative. These figures are reported without and with estimated additional tourism ridership (see Section 5.0 herein for a full discussion of potential tourism effects on ridership).

Table S-1
YEAR 2025 ESTIMATED TOTAL DAILY BOARDINGS BY MODE

Transit Mode	Full Guideway System without Tourism	Full Guideway System with Tourism	Guideway/BRT System without Tourism	Guideway/BRT System with Tourism
Rail	41,000	49,200	33,200	39,800
BRT	N/A	N/A	6,600	7,900
Express Bus	10,800	13,000	11,000	13,200
Local Bus	46,100	55,300	45,700	54,900
Totals	**97,800**	**117,400**	**96,500**	**115,800**

"Linked" trips by transit, also known as mode split or transit capture, are forecast to increase appreciably for the build alternatives relative to the baseline alternative. The increments are treated as "new riders" because prior to (inputting and testing) the new transit system alternatives, these trips were made by automobile. It turns out that the total of new users is appreciably higher for the entire Tampa Bay region than for just Pinellas County, although the additional transit is coded only for Pinellas. Travel patterns and mode choice have been beneficially affected beyond the confines of Pinellas County, because of the new and enhanced transit (that would be) put in place in Pinellas. To some degree this affects people (person trips) moving between Pasco County and Pinellas (both directions), since frequent express bus runs would be made up to and across the Pasco County line – even enhancing the market for Pasco/Hillsborough trips by transit, via Pinellas. Especially affected are person trips between Pinellas and Hillsborough (both directions), given the frequent inter-county express bus services coded along all three existing Tampa Bay bridges and the Top of the Bay route (Tampa Road/Hillsborough Avenue). This enables easy transfers to/from Tampa Rail, the latter which is included in Hillsborough County MPO's Cost Affordable Long Range Transportation Plan.


28
27
1
26
2
3
4
5
Gulf to Bay Blvd
6
7
8
9
Ulmerton Rd
10
11
12
Alt US 19
13
34th St N
4th St N
25
14
24
15
23
22
21
20
16
19
17
18
Figure S-3
Guideway Stations
Legend
Station Area
N

Certain key statistics (Table S-2) characterizing the typical ride, especially average distance per (unlinked) trip and average time spent on-board, are important to assessing the degree to which the proposed project would improve travel conditions for the transit user. Under either Build scenario, the overall average distance per transit trip would remain constant at around 4 ½ miles, but the time spent on-board would drop off considerably from 17 minutes for the baseline to 12 minutes under either Build alternative – meaning that greater reliance on faster, premium modes saves time. The two Build alternatives yield similar results since the BRT segment was coded with a fairly high operating speed assuming preferential treatments especially at signalized intersections.

Another interesting finding is that the local bus mode, while continuing to capture significant patronage, would drop off appreciably in average user trip distance (and, therefore, average time spent on-board). The average distance of a typical local bus ride would be 3.1 miles under one of the Build alternatives, compared to 4.2 miles under the LRTP; this represents a reduction of one-fourth in distance. This also indicates increased user convenience through travel timesavings by introducing premium services.

Table S-2
CHARACTERISTICS OF THE PINELLAS TRANSIT RIDE

	2025 Cost Feasible LRTP		2025 Guideway Alt.		2025 Guideway/BRT Alt.	
Pinellas Transit Mode	Avg. Distance per Trip (miles)	Avg. Time on Board (mins)	Avg. Distance per Trip (miles)	Avg. Time on Board (mins)	Avg. Distance per Trip (miles)	Avg. Time on Board (mins)
Local Bus	4.2	17.2	3.1	11.6	3.1	11.7
Express Bus	9.6*	22.3*	6.1	14.1	6.0	14.0
Bus Rapid Transit (BRT)	N/A	N/A	N/A	N/A	4.1	10.5
Pinellas Rail	N/A	N/A	5.6	11.1	5.8	11.7
All Transit Boardings	4.4	17.3	4.5	11.7	4.5	11.9

* Refers to PSTA's current Rt. 100X

The forecasting model also outputs (in HEVAL) some important highway system statistics. Relative to the Baseline (LRTP), both Build alternatives are forecast to yield significant reductions in vehicle miles of travel, vehicle hours of travel, pollutants, fuel use, users cost, degree of congestion (based upon volume-to-capacity ratio) and hours of delay due to congestion. Overall speed under congested conditions would also improve.

As aforementioned, the Build alternatives yield changed travel patterns and new transit users both within and without Pinellas. Owing principally to reduction in vehicle miles and vehicle hours associated with highway trips being converted to transit, daily savings for key parameters

are appreciably higher for the Tampa Bay region than for just Pinellas. When converted from daily to annual figures, the differences between Pinellas County and region become that much greater.

Relative to the Baseline, annualized savings in 2025 accruing to the community would be considerable. Highway users costs would be reduced $181 million a year in Pinellas, and $786 million regionally. Highway delay would be reduced by 4.7 million vehicle hours a year in Pinellas, 30.1 million vehicle hours a year regionwide. Vehicle miles of travel, vehicle hours of travel and emissions would all be reduced considerably on an annual basis, whether viewing Pinellas alone or the entire region. Some 27.6 million gallons of fuel would be saved annually in Pinellas County alone – 120 million gallons regionwide. These are model-generated figures, and because tourism ridership estimates were generated off-model, there could be additional benefits beyond those described above.

S.8 CAPITAL, OPERATING AND MAINTENANCE COST ESTIMATES

Capital costs for the build alternatives in their entirety are estimated in Table S-3 to run from about $1.2 to $1.3 billion for the guideway plus BRT alternative, to $1.4 to $1.5 billion for the full guideway alternative. As seen in Table S-3, right-of-way acquisition comprises a substantial portion of the overall cost. As project development continues, additional efforts will be made to avoid property acquisition, where practicable, and to secure right-of-way donations for stations and parking facilities to minimize overall capital outlay.

Table S-3
CAPITAL COST ESTIMATES FOR BUILD ALTERNATIVES

Cost Category	Complete Guideway Alternative	Guideway with Central Avenue BRT
Structure and Roadway Related Costs	$645.9M	$513.1M
Station Related Costs	$66.5M	$58.9M
Contingencies and Add-on Costs	$370.4M	$295.2M
Right-Of-Way Costs	$206.7M to $323.9M	$228.9M to $340.7M
Trains & Buses Costs	$111M	$106.2M
Maintenance & Control Facilities Costs	$24.5M	$24.5M
TOTALS	$1,425.0M to $1,542.2M	$1,226.8M to $1,338.6M

Annual operating and maintenance (O&M) costs vary significantly on a systemwide basis by how much at-grade support transit service is provided. This can be seen in Table S-4, where monorail cost would vary little between build alternatives. Several scenarios were analyzed that essentially vary the number of hours that the supporting transit services would be operable. The minimum scenario provides service hours equal to or slightly exceeding existing bus service hours. The maximum scenario provides extended hours for all bus routes intersecting the monorail line, while the medium scenario presents a compromise service plan. Annual operations and maintenance costs would vary between $24.9 million and $40.3 million, depending upon which of these service levels is ultimately selected.

Table S-4
ANNUAL OPERATIONS AND MAINTENANCE COST ESTIMATES
($ Millions, Year 2003 Dollars)

Transit System Component	Implementation Scenario					
	Complete Guideway Alternative			Guideway with Central Avenue BRT		
	Full at-grade Support	Medium at-grade Support	Minimum at-grade Support	Full at-grade Support	Medium at-grade Support	Minimum at-grade Support
Monorail	$15.8	$15.8	$15.8	$15.4	$15.4	$15.4
Enhanced Express Bus	$10.5	$6.4	$4.8	$10.5	$6.4	$4.8
Bus Rapid Transit	$0	$0	$0	$0.6	$0.5	$0.5
Trolley Circulators	$3.1	$3.1	$2.9	$3.1	$3.1	$2.9
Additional Local Bus	$10.7	$7.3	$1.4	$10.7	$7.3	$1.4
Totals	**$40.10**	**$32.60**	**$24.90**	**$40.30**	**$32.70**	**$25.00**

S.9 FUNDING OPPORTUNITIES

Section 7.0 of the full report describes several potential new funding sources that could be considered for possible use on guideway transit development. One potential funding opportunity refers to the "Penny for Pinellas" which currently is set to expire in 2010. Voter approval would be required to extend this program. The current penny program generated $1.16 million annually over the first three-years or conservatively, $1.16 billion over 10-years. Were the program extended from 2010 to 2020, it is likely that this source could generate a like amount of money, some of which could be used for guideway development.

The Charter County Transit Surtax, which allows up to a 1¢ local option sales tax, is another potential local funding source. This tax can be enacted through a referendum called by a supermajority vote of the County Commission. Proceeds from the tax could be used for operations and maintenance costs, as well as capital costs, of a countywide transit system. By law, up to 25 percent of the proceeds can be used for non-transit items such as roads, trails, or

other transportation improvements. The balance of 75 percent must be used for transit expenditures. This tax would generate an amount slightly higher than the Penny for Pinellas due to the fact that some sales tax exemptions applicable to the current Penny for Pinellas program would not apply to the Transit Sales Surtax program.

Other local funding sources being considered are two local option gas taxes which could be enacted by supermajority vote of the County Commission or by referendum. These taxes, which could total 6¢ in additional local option gas taxes, could generate approximately $21.5 million per year. Some of the funds generated by these taxes could be used for PMI program activities.

Other local opportunities for funding would include:

- Tax increment financing districts that capture increased ad valorem tax revenue due to new development in the vicinity of the guideway. This increased revenue is provided to the operating agency to use on system maintenance, operations, or expansion.
- Transit impact fees from properties close to the new guideway that are redeveloped and appreciate in value. They would pay a transit impact fee to the operating agency upon issuance of a certificate of occupancy for the new development project.
- Transit station area land leases provide recurrent revenue for the operating agency, while allowing the agency to control the type, character, and quality of the development that occurs around its stations.
- A countywide transit system property tax levy of 1-mill that would generate approximately $42.5 million per year.

The federal program designed to fund expansion to or development of new fixed guideway transit is known as the Section 5309 "New Starts" program. Federal Transit Administration (FTA) has jurisdiction over these funds. Through the New Starts program, transit properties that meet criteria established by Congress can receive funding to assist their system's capital development. Although the program officially requires a 20 percent local (or state) match to FTA funds, the New Starts program has become extremely competitive, now commonly calling for local match contributions in the neighborhood of 50 percent (or more). If Pinellas County can identify significant resources with which to match federal grants, then local money can be leveraged into more significant revenues, better meeting capital funding needs. There are many regulatory hurdles that must be cleared to secure a grant, however the PMI should be well positioned to compete with other transit properties nationwide.

S.10 KEY OFFICIAL ACTIONS RECENTLY TAKEN

The Pinellas Mobility Initiative Steering Committee met on June 2, 2003. Lively and substantive discussions took place with the following conclusions being reached:

- A decision on transit governance does not have to be made within the next few months. Deliberations on the issue may continue in parallel with the Preliminary Engineering and Environmental Impact Statement (PE/EIS) process, the next phase in project development. This would provide time to arrive at a fully informed, quality decision.
- Construction phasing for the project does not have to be decided now but can be determined during the PE/EIS phase.

- A long-term funding source for the project does not have to be secured at this time but must be in place prior to entering the Final Design phase of project development.

The Steering Committee took official action by unanimously recommending – for consideration by the Metropolitan Planning Organization (MPO) – that *the full, 38-mile monorail system be adopted as the Locally Preferred Alternative* (LPA). This recommendation was made with the understanding that a north/south guideway connection from Tyrone Boulevard at Park Street in St. Petersburg to Court Street in downtown Clearwater – generally using the Alternate US 19 corridor – be prioritized as a supplemental segment to be accomplished as funding permits. This supplemental segment is in the Policy Plan guideway network adopted by the MPO in October 1999. Further to the Steering Committee's deliberations, FTA Section 5309 New Starts Criteria documentation should be prepared on the full 38-mile guideway system for submission in September 2003.

The Pinellas County MPO Board met on June 11, 2003 and considered the recommendation of the PMI Steering Committee. Following substantive discussions, the MPO Board voted to accept the recommendations of the Steering Committee. Specifically, the MPO adopted the full 38-mile monorail system as the Locally Preferred Alternative (LPA) to be included in the *Final Project Report*, with the understanding that the aforementioned western segment running north/south generally along the Alternate US 19 corridor would receive first priority in a supplemental follow-on phase. Moreover, the New Starts documentation for FTA should be prepared on this LPA for submission to the MPO and FTA in September 2003. This documentation is to be developed with the understanding that construction phasing of the full LPA, and governance, will be addressed during the Preliminary Engineering phase of the project. The MPO also requested public opinion surveys to gauge public acceptance of the transit system proposals and a new sales tax as the means to provide necessary capital funds; these surveys would be accomplished prior to entering the Preliminary Engineering and Environmental Impact Statement study process.

S.11 THE NEW LOCALLY PREFERRED ALTERNATIVE

The newly adopted Locally Preferred Alternative (LPA) for the Pinellas Mobility Initiative represents a comprehensive package of premium transit types and services, incorporating elevated guideway (monorail technology) as its signature component, along with enhanced express bus and rubber-tired trolleys – all in addition to local bus routes. The new LPA is mapped in Figure S-4.

LPA system description, system costs, and proposed funding sources are outlined in Section 9.0 of the main report. Once construction has begun on the 38-mile monorail, the system can be fully in place in an estimated ten years from start of construction.

For the full monorail system, pre-construction costs are estimated at nearly $100 million. System capital cost is estimated at $1.43 billion. Total ten-year operating and maintenance cost is estimated at $135.9 million. This operating cost is reflective of opening phases of the project in a staggered fashion as they are completed.

S.12 NEXT STEPS

The next step towards project development involves preparation of the Section 5309 New Starts Criteria Report for the full monorail system, and submittal of this documentation to FTA. Two companion documents will also be prepared and submitted to FTA - the Financial Plan and the Project Management Plan. These three reports will serve as the basis for the MPO's follow-on request of FTA for authorization to enter into formal project development – conduct of the Preliminary Engineering/Environmental Impact Statement.

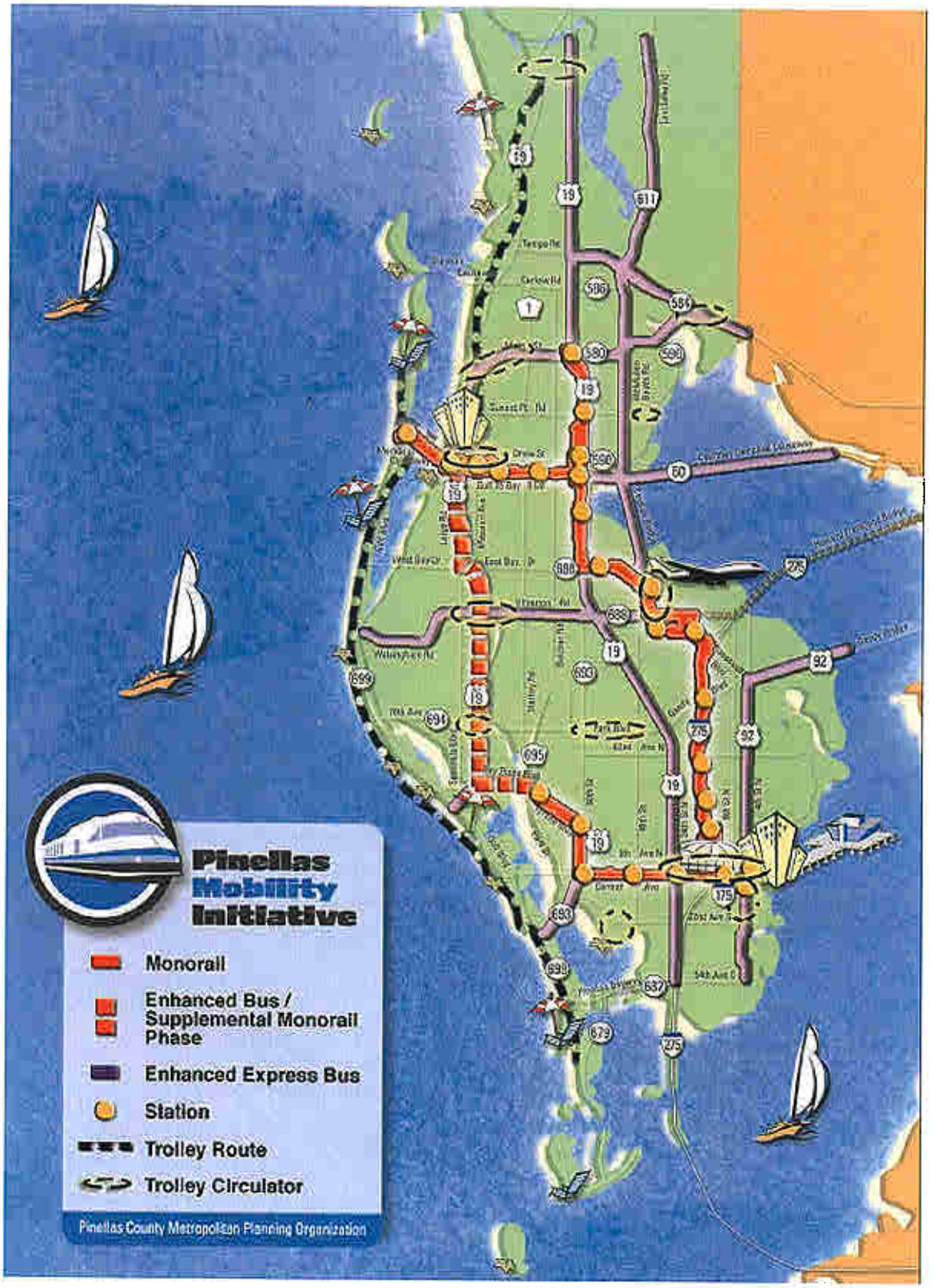
There are a number of steps to be completed prior to entry into the Preliminary Engineering/Environmental Impact Statement (PE/EIS) process. In addition to preparing and submitting the FTA-required New Starts Criteria Report, Project Management Plan and Financial Plan, these steps include:

- Adoption of the revised Locally Preferred Alternative (LPA) into the MPO's Cost Feasible Long Range Transportation Plan (LRTP);
- Completion of the aforementioned FTA New Starts Reports;
- Submission of a formal request to enter PE; and
- Programming of necessary local funds for PE/EIS activities.

In addition to these steps, several other activities are ongoing and will continue to be conducted as the project progresses towards the Preliminary Engineering phase. These items include:

- Coordination and conduct of vendor presentations to the Steering Committee;
- Vendor liaison;
- Special projects implementation planning, which may include trolleys, express buses, or bus rapid transit systems consistent with the recommended alternative;
- Coordination and additional analyses, if needed, related to transit governance;
- Additional analyses and research into revenue sources and programming of these sources;
- Continued coordination with FDOT, FTA, and local governments;
- Public opinion surveys and focus groups related to project activities;
- Ridership forecast refinement;
- Initial activities relating to the initiation of Preliminary Engineering.

Figure S-4
PINELLAS MOBILITY INITIATIVE
LOCALLY PREFERRED ALTERNATIVE



PINELLAS MOBILITY INITIATIVE

FINAL PROJECT REPORT

1.0 INTRODUCTION

1.1 BACKGROUND

Pinellas County is an urban county located along the west coast of Florida on a peninsula separating Tampa Bay from the Gulf of Mexico. The county is comparatively small in land area – only 280 square miles in size – yet its year 2000 population makes it the fifth most populous county in Florida, 41st most populous in the nation. As Florida's most densely populated county, Pinellas has become a major urban community.

Until a few years ago, population growth was propelled by the conversion of raw undeveloped land to urban uses. The County's small size, however, and the speed with which this urban growth occurred, has placed Pinellas in a position where it will soon become the first county in the State of Florida to run out of undeveloped vacant land available for growth and development. The County is has transitioned from rapid urban/suburban development of undeveloped areas to a mature urban area where redevelopment and infill development is accelerating. This situation is uncommon among counties throughout the nation, especially those that have experienced most of their growth following World War II.

Today, Pinellas County is a major urban population center with 921,000 permanent residents, as many as 250,000 seasonal residents, and an annual influx of nearly 5 million visitors and tourists. The County contains 24 municipalities ranging in size from St. Petersburg (population 248,232) to Belleair Shores (62 residents). This mix of cities, towns, and suburban lifestyles on a confined peninsula further distinguishes Pinellas from other urban counties in the nation.

As Pinellas County moves further into the 21st Century, the dispersed historic settlement pattern provides opportunities for numerous, distinct local "main streets" and downtowns throughout the County. Redevelopment efforts are underway in many communities to protect and enhance their existing assets. These revitalized urban areas can create an environment conducive to development where services and amenities are often within walking distance of residences. They become areas of concentration within a county of mostly lower density neighborhoods. Such areas are important to the future of Pinellas County as they provide the vibrant places where urban life is experienced.

During the 1990s, the Pinellas County Metropolitan Planning Organization (MPO) began earnestly studying major improvements to transit beyond those identified in the MPO's Long Range Transportation Plan. As these studies progressed, it became apparent that improved transit services and creation of transit-oriented development through redevelopment and infill were mutually beneficial. The desire of Pinellas County to create vibrant, pedestrian-friendly urban places is furthered by improving facilities and services for bicyclists, pedestrians, and transit patrons. The present report summarizes transit planning efforts to-date and identifies premium transit improvements now under active consideration.

1.2 SUMMARY OF THE PREDECESSOR MAJOR INVESTMENT STUDY

During 1997, the Pinellas County Metropolitan Planning Organization (MPO) began a study of major multi-modal transportation improvements beyond those in the then current Cost Feasible Long Range Transportation Plan (LRTP). The MPO conducted a three-stage analysis under the umbrella of the Pinellas Mobility Major Investment Study (MIS). The specificity of the alternatives and level of analysis detail increased as the study progressed.

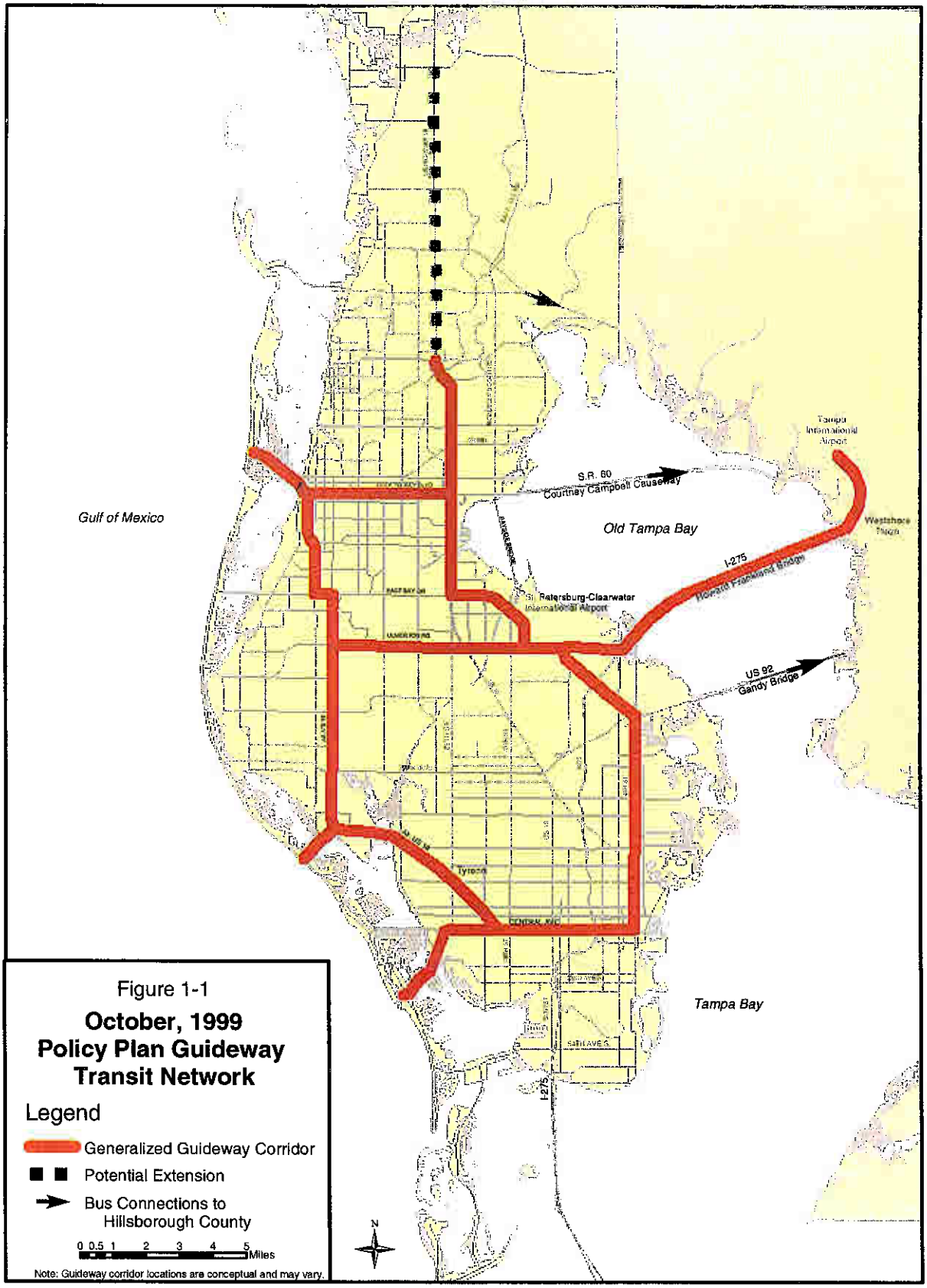
The first stage of the MIS involved a "Pre-Screening Analysis", in which broad improvement strategies were assessed in terms of their ability to meet the study's goals, objectives, problem statement and identified need. Approximately 100 alternatives were assessed as a part of this "pre-screen", with about 70 dismissed from further consideration.

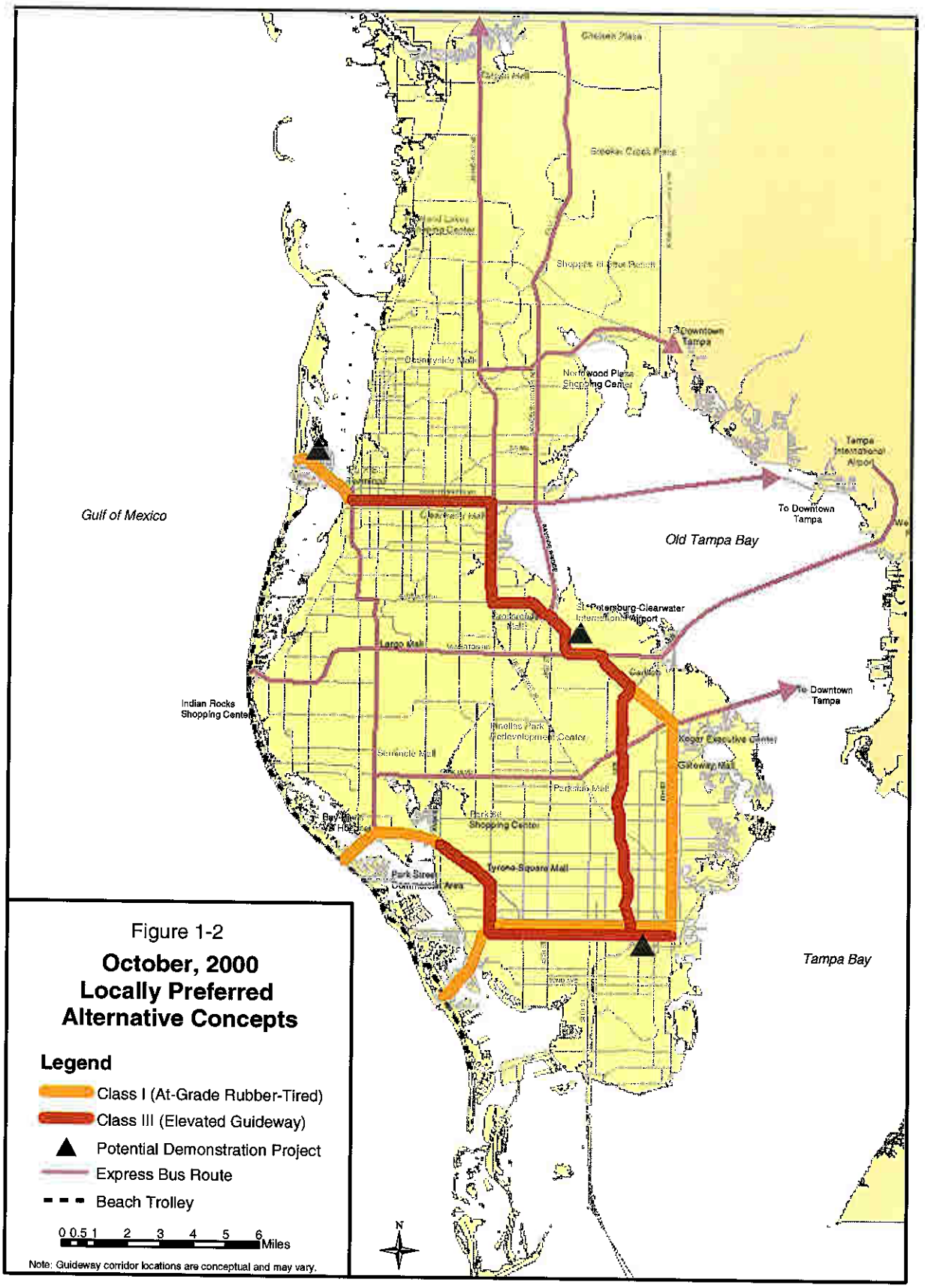
The next stage, labeled "Tier 1", provided substantive analysis of about 30 remaining alternatives. These alternatives were analyzed in accordance with the measures of effectiveness (MOEs) and evaluation criteria uniquely developed for the MIS. Tier 1 concluded with a recommendation to move forward with a long-term vision of premium transit, most notably a Guideway Transit Network, to be included in the MPO's *Policy Plan* (the unfunded component of the LRTP). The MPO adopted the Guideway Transit Network, shown in Figure 1-1, into the long-range Policy Plan at its October 1999 meeting, and approved further analysis and prioritization of components as the subject of the final MIS phase.

The final MIS phase was labeled "Tier 2". Tier 2 called for detailed analysis of the Policy Plan Guideway Transit Network to determine which components should be advanced, potentially into project development (preliminary engineering and environmental documentation). To aid in evaluating Tier 2 alternatives, a series of technical memoranda was produced. These memoranda provided decision-making information for selection of the final alternatives, including: transportation system operational assessments, ridership forecasts, cost estimates, land use and environmental impacts, financing options, summary screening of Tier 2 alternatives, and public involvement summaries.

The technical screening information and public input were used to select a preferred alternative. The Pinellas County MPO officially adopted the *Locally Preferred Alternative (LPA) Report* at its meeting of October 11, 2000. Adoption of that document and the findings, conclusions, and recommendations therein, represented the culmination of the Pinellas Mobility MIS. Figure 1-2 provides a graphic illustration of Locally Preferred Alternative (LPA) concepts. Recommendations in the LPA Report encompassed definition of general corridors proposed for guideway transit development, technology parameters, and follow-on activities needed to obtain community consensus regarding an eventual guideway project.

The MPO's October 2000 endorsement oriented future study efforts to analyzing the feasibility of implementing guideway transit within the LPA corridor from Clearwater to St. Petersburg. This additional study was entitled the *Pinellas Mobility Initiative (PMI)*. The Pinellas Mobility Initiative (PMI) study would consider elevated guideway transit technologies coupled with


Gulf of Mexico
Old Tampa Bay
Tampa Bay
S.R. 60
Courtney Campbell Causeway
I-275
Howard Frankland Bridge
US 92
Gandy Bridge
Tampa International Airport
St. Petersburg-Clearwater International Airport
Westshore Plaza
Tyrone
N
Figure 1-1
October, 1999
Policy Plan Guideway Transit Network
Legend
Generalized Guideway Corridor
Potential Extension
Bus Connections to Hillsborough County
0 0.5 1 2 3 4 5 Miles
Note: Guideway corridor locations are conceptual and may vary.


Gulf of Mexico
Old Tampa Bay
Tampa Bay
To Downtown Tampa
Tampa International Airport
St. Petersburg-Clearwater International Airport
Indian Rocks Shopping Center
Largo Mall
Seminole Mall
Pinellas Park Redevelopment Center
Park Street Shopping Center
Tyrone Square Mall
Park Street Commercial Area
Keger Executive Center
Gateway Mall
Northwood Plaza Shopping Center
Figure 1-2
October, 2000
Locally Preferred Alternative Concepts
Legend
Class I (At-Grade Rubber-Tired)
Class III (Elevated Guideway)
Potential Demonstration Project
Express Bus Route
Beach Trolley
0 0.5 1 2 3 4 5 6 Miles
N
Note: Guideway corridor locations are conceptual and may vary.

various alignment opportunities, evaluating the potential to impact natural features and air quality, improve mobility, assess environmental justice considerations, and determine capital and operating costs at a conceptual level. Additionally, potential financing options, implementation alternatives, and operating scenarios would be investigated. Station area concepts and land use strategies would be packaged along with system operating plans and background feeder bus networks. Finally, the PMI study would conclude with an implementation plan detailing options for financing system construction and operations/maintenance, approaches to phasing, and incorporation of the premium transit system into the current Long Range Transportation Plan.

1.3 PURPOSE OF THE FINAL PROJECT REPORT

The purpose of this *Final Project Report* is to summarize the results from analyzing various opportunities, constraints and potential impacts involved in developing elevated guideway transit in the previously defined corridor. As discussed above, the MPO completed the Pinellas Mobility Major Investment Study (MIS) by endorsing a Guideway Transit Network and adopting this premium transit network into the Long Range (unfunded) Transportation Policy Plan. Further, the MPO endorsed a Locally Preferred Alternative (LPA) Report. The MIS narrowed the field of transit technologies to those using an elevated guideway. It also delineated several analyses and activities that should be considered during refinement of the proposed corridor:

- Assess land use patterns including redevelopment and development activities emphasizing mixed land use within pedestrian and bicycle-friendly neighborhoods compatible with concepts of livable communities;

- Maximize the use of current rights-of-way, minimizing disruption to existing roadways, environmental impacts, displacements, and associated land acquisition costs;

- Present and discuss appropriate planning principles and guidelines for preparing station area plans compatible with the affected local government and neighborhood desires;

- Review the factors influencing transit ridership forecasts and refine the forecasts to reflect local station area and regional conditions;

- Refine the preferred technology characteristics including capital and operating costs, propulsion and operating characteristics, and relative impacts;

- Facilitate and support a partnering of local governments, State of Florida, and interested private entities potentially to be involved in the implementation of a guideway transit project in Pinellas County; and

- Address the issue of level of State participation in funding guideway capital and operating costs.

- Identify potential local, state, and federal funding sources that could be used for project implementation.

The refinement analysis documented in this report provides information important to reaching planning-level consensus on the feasibility of fixed guideway transit in the corridor. A base (or benchmark) alignment is offered as a base upon which to frame order of magnitude comparisons. This feasibility analysis is to assist the process of selecting a *refined* Locally Preferred Alternative (LPA) to be considered for adoption by the MPO, and included in an updated Cost Feasible Long Range Transportation Plan (LRTP). The feasibility analysis provides a refined set of alignment alternatives for potential advancement into future environmental and preliminary engineering phases of project development work.

1.4 THE CORRIDOR REFINEMENT PROCESS

The corridor analysis and refinement process is intended to provide a better understanding of the physical, cultural and socioeconomic make up, the travel characteristics, pertinent land use characteristics and station area opportunities, and the capital and operating cost for fixed guideway transit within the corridor. The Pinellas Mobility Major Investment Study (MIS) provides a basis for many of these attributes for the larger, countywide area. The MIS therefore serves as the basic data source for concept refinement tasks being conducted under the PMI.

Corridor analyses and refinement provides for a more concentrated look at the potential impacts and benefits of developing guideway transit within alignment alternatives that serve the corridor from Clearwater to St. Petersburg, as adopted in the earlier MIS. Realizing that small shifts will likely occur over the course of project development, a representative, plausible guideway alignment is developed herein to reflect the fixed guideway transit build scenario. Ridership analysis is accomplished with FDOT's Tampa Bay Regional Planning Model. Refined capital and operating/maintenance costs are derived for guideway transit and supporting premium bus services. For mobility analysis and transportation system performance evaluation, the guideway build scenario is compared to an adopted "Baseline" scenario. The baseline comparative used is the year 2025 Long Range Transportation Plan (LRTP) – specifically the Cost Feasible Element – which does *not* include guideway transit in Pinellas County.

1.5 PROJECT REPORTS FORMING THE BASIS FOR THE FINAL REPORT

During the course of the Pinellas Mobility Initiative, several component reports addressing specific topics have been produced. These reports have served as the building blocks for this final report, and are listed here for reference:

- Project Management Plan
- Public/Private Outreach and Participation Plan
- Land Use Assessment
- Land Use Assessment Supplement A
- Model Transit-Oriented Development (TOD) Zoning Districts
- Best Modeling Practices
- Model Calibration Report
- Ridership Report
- Environmental Factors Report
- Candidate Elevated Transit Systems Analysis Report

- Transit Governance Alternatives Technical Memorandum
- Transit Procurement Methodologies
- System Capital Cost Report
- System Operations and Maintenance Cost Report
- Funding Options Technical Memorandum
- Implementation Options Summary
- Pinellas Mobility Initiative Final Report

1.6 ORGANIZATION OF THE FINAL PROJECT REPORT

Transportation system alternatives are established, and technical approaches are presented along with the analytical results thereof in several upcoming sections of this report. The report is organized along the following lines:

- Section 2.0 – *Technology, Baseline and Benchmark Build Alternatives* addresses decisions reached earlier on guideway technology and introduces the system alternatives
- Section 3.0 – *Assessment of Corridor Conditions* identifies principal land use and environmental conditions and land use plans at the general corridor level. This section focuses on a representative, plausible guideway alignment for order-of-magnitude project costing and identification of potential impacts of guideway implementation.
- Section 4.0 – *Refined Corridor Placement and Station Concepts* provides a more in-depth examination of location and station concepts for a refined corridor and recommended set of stations.
- Section 5.0 – *Mobility, Ridership and System Impacts* documents benchmark system alternatives and provides modeling-related analyses of modal capture, transit boardings, mode of access to transit, and related highway system performance characteristics.
- Section 6.0 – *Conceptual Cost* furnishes summary estimates of capital (construction and right-of-way) and annual operating/maintenance cost for guideway transit and supporting premium bus.
- Section 7.0 – *Potential Funding Sources* addresses candidate funding sources, including local, State and federal sources, and discusses opportunities afforded by potential new revenue sources.
- Section 8.0 – *Implementation Actions* discusses key actions taken to date towards furthering a guideway transit project for Pinellas County. This summary includes the Transit Governance Task Force, the Steering Committee, and the MPO Board.
- Section 9.0 – *The Locally Preferred Alternative* provides an outline summary description of the resultant Locally Preferred Alternative (LPA) including system characteristics, system costs and proposed funding sources. A map of the new LPA is also furnished.
- Section 10.0 – *Upcoming Steps Guiding the Pinellas Mobility Initiative* completes this Final Project Report. It lays out a project development and implementation strategy that includes preparation of Draft and Final Environmental Impact Statements and conduct of Preliminary Engineering; it identifies the final technical efforts and documentation needed to ready the Pinellas Mobility Initiative for this next major developmental phase; and it lists key steps necessary to enter Preliminary Engineering.

2.0 TECHNOLOGY, BASELINE AND BENCHMARK BUILD ALTERNATIVES

Three transportation system alternatives are being carried forward in this report. One represents the "No Build", or "No Project" alternative. The other two are "Build", or "Project" alternatives. Each is described following a discussion of technology options earlier considered and decisions already reached in that vein.

2.1 GUIDEWAY TECHNOLOGY

In the Major Investment Study (MIS), various technology options were assessed, and a decision was made that the main system would be elevated, supported by at-grade advanced buses like Bus Rapid Transit, limited-stop express buses, rubber-tired trolleys and conventional bus. The MIS further concluded that viable technology options for the elevated system would include elevated light rail, monorail, and people mover systems. The selection of specifically which technology elevated guideway is most appropriate for use in Pinellas County was left to the PMI.

The Draft and Final *Candidate Elevated Transit System Analysis Reports* were issued in December 2002 and January 2003, respectively. These described the major characteristics that distinguish the candidate elevated guideway types; described desirable characteristics of a system for Pinellas County; comparatively analyzed how the candidate technologies would match the desired criteria; and recommended a candidate elevated system type for further development during the Pinellas Mobility Initiative program. These reports concluded in a recommendation that monorail technologies be selected as the system backbone. A key consideration in this selection is that monorail systems can be operated safely under full automation, without drivers, substantially reducing future operating costs.

First the PMI Steering Committee, then upon its recommendation the MPO Board, approved the *Candidate Elevated Transit System Analysis Report* including selection of monorail as the elevated transit system technology.

2.2 YEAR 2025 COST FEASIBLE LRTP AS BASELINE ALTERNATIVE

In the practice of planning for major capital investment projects, an alternative that includes the proposed project, commonly labeled a "Build" alternative, needs to be compared with a benchmark alternative that does *not* incorporate the proposed project, known as a "Baseline" alternative. In the case of the Pinellas Mobility Initiative, the "Baseline" alternative is defined as the Pinellas MPO's 2025 Cost Feasible Long Range Transportation Plan (LRTP). The 2025 LRTP includes a variety of highway improvements, while transit improvements are generally limited to service frequency enhancements for local bus routes and other minor facility improvements. No capital-intensive improvements for transit are built into Pinellas' current Cost Feasible LRTP.

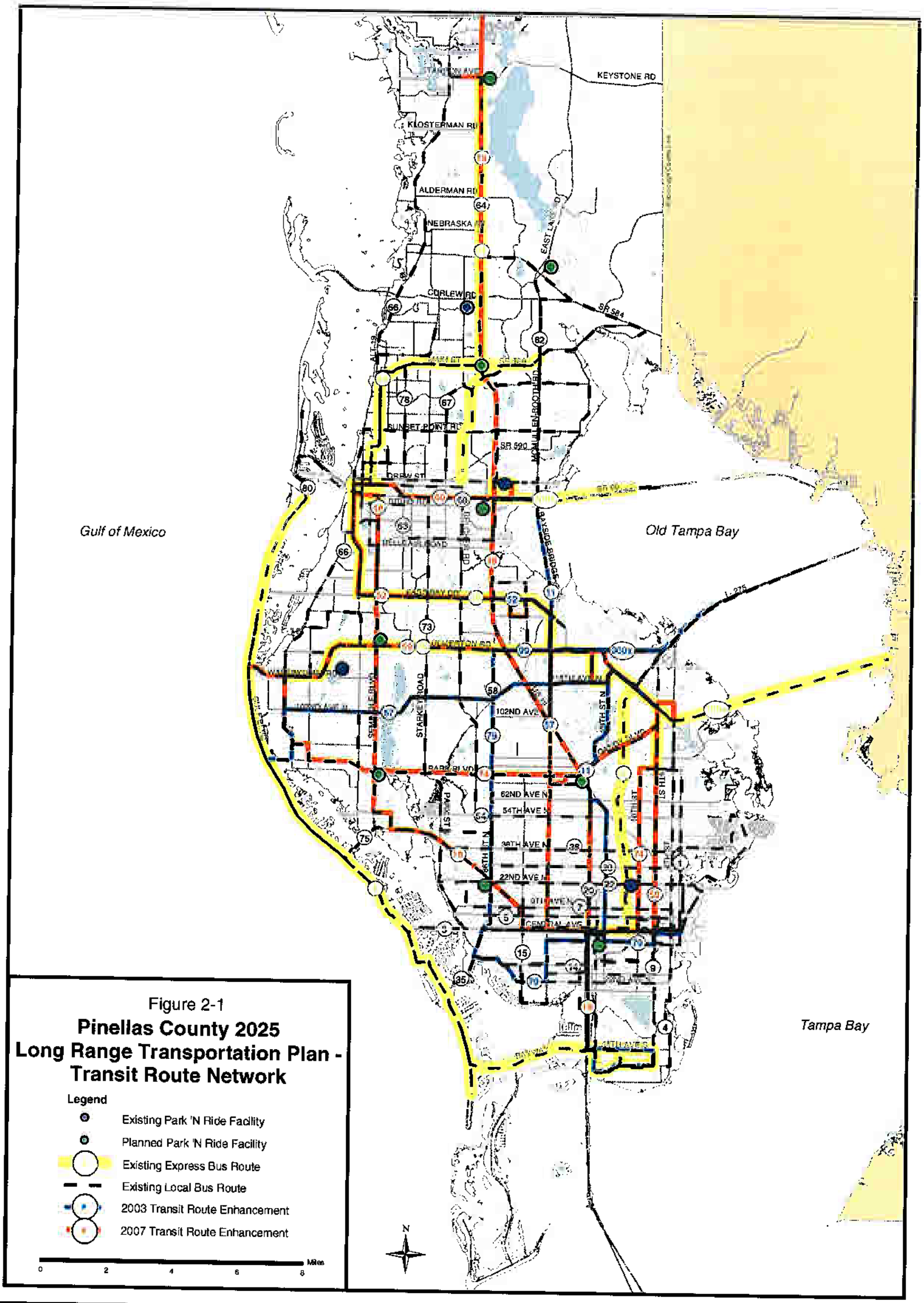

Gulf of Mexico
Old Tampa Bay
Tampa Bay
KEYSTONE RD
KLOSTERMAN RD
ALDERMAN RD
NEBRASKA
CURLEW RD
SR 584
SR 590
DREW ST
BELLEAIR ROAD
STARKEY ROAD
102ND AVE
PARK BLVD
62ND AVE N
54TH AVE
38TH AVE N
22ND AVE N
CENTRAL AVE
BAYSIDE BRIDGE
I-275
Legend
Existing Park 'N Ride Facility
Planned Park 'N Ride Facility
Existing Express Bus Route
Existing Local Bus Route
2003 Transit Route Enhancement
2007 Transit Route Enhancement
0
2
4
6
8
Miles
N

Figure 2-1
Pinellas County 2025 Long Range Transportation Plan - Transit Route Network

2.3 PINELLAS MOBILITY INITIATIVE BUILD ALTERNATIVES

Following a lengthy period of alternatives generation, refinement, testing and analysis during the course of the Pinellas Mobility Initiative, two "Build" alternatives ultimately surfaced for potential future project development. Drawing from the PMI transit corridors and concepts for year 2025 illustrated in Figure 2-2, the first Build alternative provides for fully elevated guideway using monorail technology over a length of 38 miles, with 28 stations provided for access/egress. Station spacing would average approximately one station every mile and a third.

Substantially similar to the full guideway alternative in location, the second Build alternative provides for a fully elevated guideway for 30 linear miles, with Bus Rapid Transit (BRT) for another 8 linear miles, for a total project length of 38 linear miles. Here too there would be 28 stations, yielding an average station spacing of 1 1/3 miles. The key difference between the two Build alternatives is that with the latter, at-grade BRT rather than elevated monorail would be built from Tropicana Field on the west side of downtown St. Petersburg, west along Central Avenue corridor then northwest along Tyrone Boulevard corridor to Park Street. Each alternative provides for the same number and the same preliminary siting of transit stations.

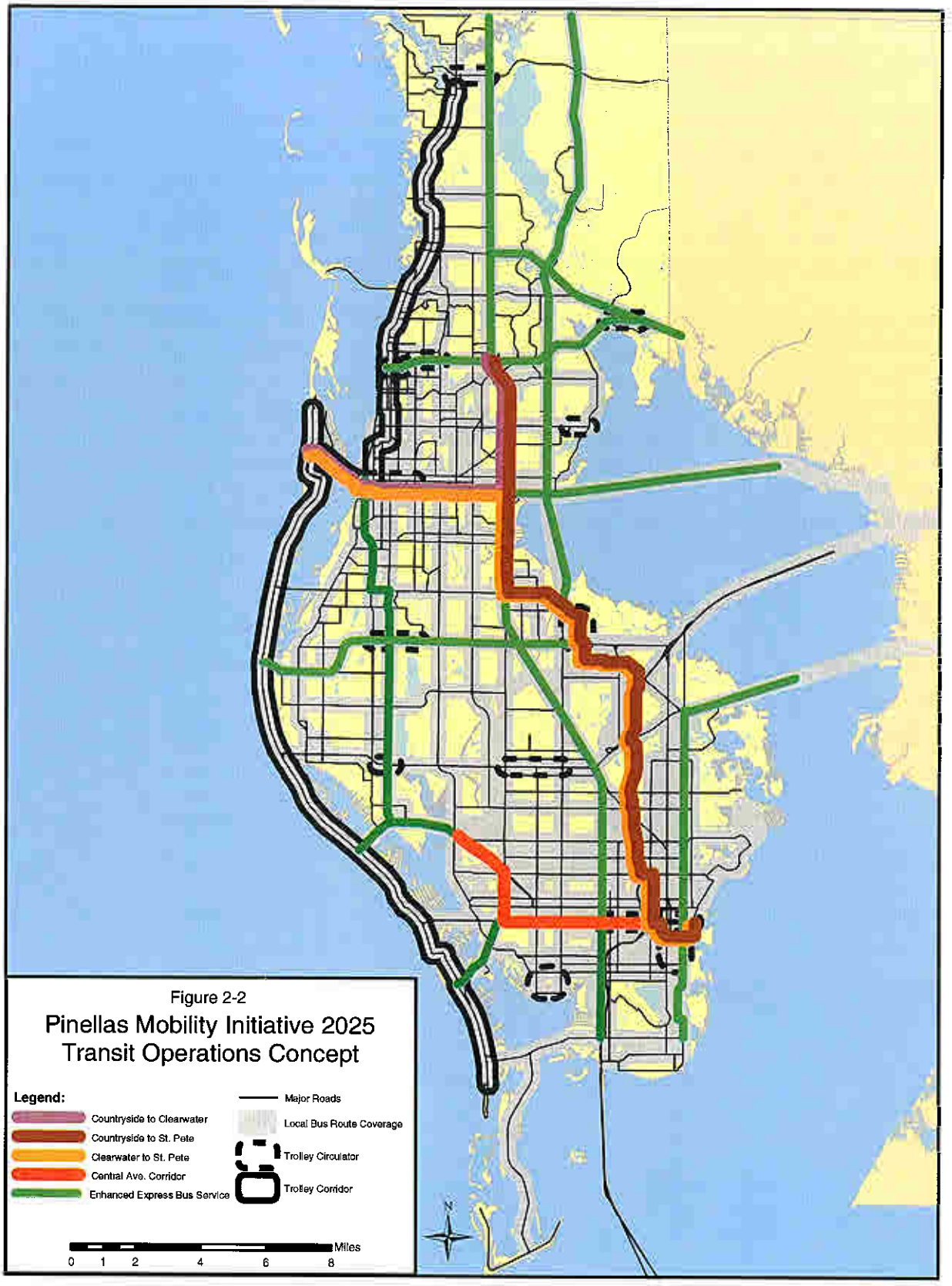


Figure 2-2
Pinellas Mobility Initiative 2025
Transit Operations Concept
Legend:
Countryside to Clearwater
Countryside to St. Pete
Clearwater to St. Pete
Central Ave. Corridor
Enhanced Express Bus Service
Major Roads
Local Bus Route Coverage
Trolley Circulator
Trolley Corridor
N
Miles
0 1 2 4 6 8

3.0 ASSESSMENT OF CORRIDOR CONDITIONS

The development of feasible alignments requires an examination of numerous criteria including land uses, existing development, potential development, social and cultural resources, environmental constraints, and engineering considerations. Each of these criteria was examined at the corridor level to identify viable alignments that seek to maximize potential corridor ridership, minimize potential negative impacts, and create a desirable, long-term transportation land use balance. These criteria are addressed in the following sections.

3.1 GUIDEWAY CORRIDOR LAND USE ASSESSMENT

The presence of transit, particularly fixed guideway transit, can influence surrounding land use and development. The degree of impact is affected by several factors including existing land use patterns, land use plans and applicable zoning; availability of land for development and/or redevelopment; compatibility of existing land uses; real estate market forces; and ability and/or acceptance to alter development character and type along the fixed guideway corridor.

Existing and future land use is critical to the success of guideway transit in Pinellas County. It affects the entirety of project planning – from patronage forecasts to definition and location of alternatives. This section of the report provides a corridor-level view of existing and future land uses, an understanding of local planning and zoning requirements, and identifies transit supportive land development strategies.

This assessment includes a summary of existing land use along the corridor. It also includes a review of local initiatives taken as supportive of transit. The Pinellas Mobility Initiative (PMI) guideway corridor may be characterized as:

- Nearly fully developed in urban and suburban forms;
- Dominated by mainly residential and commercial uses;
- Laid out for the automobile; and
- Encompassed by local and regional strategies that can actually encourage transit-oriented development.

The guideway corridor is defined as a generally one-mile wide study area extending eastward from Clearwater Beach to Countryside Mall and the St. Petersburg-Clearwater International Airport, southward to Downtown St. Petersburg, and westward toward the Tyrone Area of St. Petersburg. The guideway corridor is divided for convenience into eight primary segments – A through G, described generally in Table 3-1. Segment G (Countryside Mall Extension) was the last line added to the guideway network.

Three general indicators were examined in this analysis: land use mix, urban form, and pedestrian environment. Information used for this analysis included existing land use data from the Pinellas County Property Appraiser's parcel database, transportation facility maps, aerial photography, and site visits.

Table 3-1 **Guideway Corridor Segments**		
Segment	**From**	**To**
A	Clearwater Beach	Downtown Clearwater (Court/Oak)
B	Downtown Clearwater (Court/Oak)	Gulf to Bay Blvd./US 19
C	Gulf to Bay Blvd./US 19	Roosevelt Blvd./28th Street
D	Roosevelt Blvd./28th Street	Downtown St. Petersburg (1st Street So./1st Avenue So.)
E	Tropicana Field	1st Avenue So./66th Street So.
F	1st Avenue So./66th Street So.	Tyrone Blvd./Park Street
G	US 19/SR 580/Countryside Mall	US 19/Gulf to Bay Blvd.

Land Use Mix: For this analysis, land uses were grouped into broad categories, then quantified and mapped to reveal the land use character of the particular study area.

Urban Form: The urban form analysis takes into consideration the type of street network that serves an area, building scale, and building orientation to the street and other buildings. Urban form can be categorized under two development models – conventional suburban development (CSD) and traditional neighborhood development (TND). The models are described below.

Conventional suburban development is characterized by isolated, single land use areas connected to other land uses by a sparse branched pattern of arterial and collector roads. Residential areas typically have internal connectivity via discontinuous local streets and little connectivity to neighboring residential uses. In commercial areas, building setbacks and parking areas create large distances between the streets and buildings. Purposeful trip making by foot in a CSD is often inconvenient and/or uncomfortable, making an automobile necessary for most trips.

Traditional neighborhood development is comprised of mixed land uses, arranged so that travel between them can be made by a variety of methods in addition to the privately operated automobile. TND has a dense network of highly connected streets of all classifications – local, collector, and arterial. Thus, TND has multiple available routes for a given trip either by walking, bicycling, or motor vehicle.

Pedestrian Environment: The quality of the pedestrian environment was determined by the presence, extent, and connectivity of pedestrian facilities, including sidewalks and multi-use trails. Other factors taken into consideration were the presence of shade and proximity to interesting surroundings.

The following sections provide brief descriptions of land use mix, urban form, pedestrian environment, parking facilities and parking cost on a guideway segment by guideway segment basis. The segments, labeled A – G, are illustrated in Figure 3-1. These characteristics are important to an understanding of the urban "fabric" into which the guideway would be woven.

3.1.1 Segment A: Clearwater Beach to Downtown Clearwater

The primary land uses between Clearwater Beach and Downtown Clearwater are Traditional Neighborhood Development made up of single family, commercial, and multi-family uses. A causeway connects the two areas. A large single-family development with some multi-family and associated support commercial is located on the north side of this causeway. Clearwater Beach is a popular tourist destination with numerous tourist accommodations and retail establishments oriented to this sector of the economy. Land uses on the beach are mixed and compact. There are a number of significant redevelopment projects planned or being implemented on Clearwater Beach including redevelopment of the publicly owned Clearwater Marina in the vicinity of the proposed guideway transit station. The beach is a designated Community Redevelopment Area.

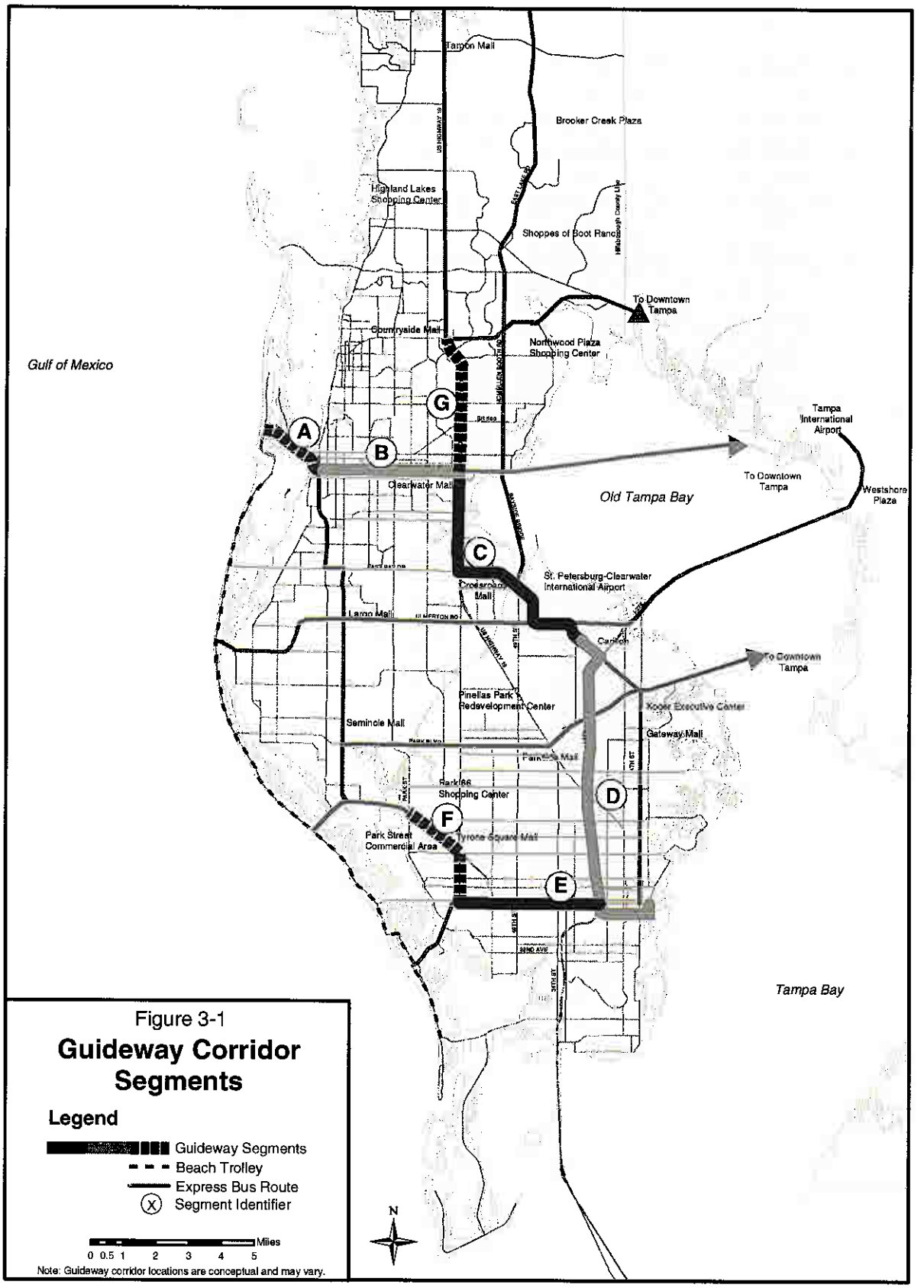
Likewise, redevelopment activities abound in the City's traditionally developed central business district – also a Community Redevelopment Area. Proximate to the proposed transit station in downtown is the convention center, the Main Library site, Clearwater City Hall, the County Court House, and the County office complex. Nearby Coachman Park is used for many high attendance festivals and events. The PSTA Park Street Transit Terminal is nearby.

The pedestrian environment is close to ideal within this segment. Sidewalk coverage is excellent and much effort has been put into creating safe, comfortable, and interesting pedestrian pathways. Compact, mixed uses make walking to daily needs shopping convenient. The Clearwater Beach Trail is available for walking/bicycling between the mainland and the beach, and points between.

The City of Clearwater has metered on-street and off-street parking, paid lots, and time-limited parking in many areas of Downtown and in all commercial areas of Clearwater Beach.

3.1.2 Segment B: Downtown Clearwater to Gulf to Bay/US 19

The primary land uses between Downtown Clearwater and US 19 are Traditional Neighborhood Development to Conventional Suburban Development made up of single-family residential, commercial, and public/semi-public uses. Linear highway commercial is common along arterial roads outside the downtown. The main commercial corridor is Gulf to Bay Boulevard with a mix of large to small-scale commercial uses.


Tarpon Mall
Brooker Creek Plaza
Highland Lakes Shopping Center
Shoppes of Boot Ranch
To Downtown Tampa
Countryside Mall
Northwood Plaza Shopping Center
Gulf of Mexico
G
A
B
Tampa International Airport
To Downtown Tampa
Westshore Plaza
Clearwater Mall
Old Tampa Bay
C
St. Petersburg-Clearwater International Airport
Largo Mall
Carillon
To Downtown Tampa
Pinellas Park Redevelopment Center
Koger Executive Center
Seminole Mall
Gateway Mall
Parkplace Shopping Center
D
F
Park Street Commercial Area
Tyrone Square Mall
E
Tampa Bay
Figure 3-1
Guideway Corridor Segments
Legend
Guideway Segments
Beach Trolley
Express Bus Route
X Segment Identifier
Miles
0 0.5 1 2 3 4 5
N
Note: Guideway corridor locations are conceptual and may vary.

There are numerous parks, schools, and other public facilities in this area, including St. Petersburg College. Recent redevelopment activities include a 7,000-seat community sports complex near Drew Street and US 19 (now under construction). A "name brand" grocery store recently opened in the heart of downtown after many years without one. Lakefront townhomes are being constructed on a Brownfield site in downtown.

The pedestrian environment is good to excellent within this segment primarily because the street grid provides convenient access between neighborhoods and business areas. Sidewalk coverage is best in the downtown area and the presence of other pedestrians, traffic, and buildings pulled up to the street provide a sense of comfort and security to the pedestrian. Outside the downtown, sidewalks exist, at minimum, along major roads in the study area. Some neighborhoods lack internal sidewalks. The Pinellas Trail is available for walking between downtown and area neighborhoods. The Clearwater East-West Trail is also located nearby.

The City of Clearwater has metered on-street and off-street parking, paid lots, and time-limited parking in many areas of Downtown. The remainder of Segment B offers free parking in surface parking lots.

3.1.3 Segment C: Gulf to Bay/US 19 to Roosevelt/28th Street

The primary land uses take the Conventional Suburban Development form. US 19, in the western portion of Segment C, is the county's principal commercial corridor and is home to many "big box" retailers, auto dealerships, shopping centers, and expansive parking lots located between buildings and streets. Clearwater Mall is currently under redevelopment as a "big box" retail center. Wide, high-speed roads including grade separated interchanges along US 19 serve this area. Single-family, mobile home, and multi-family neighborhoods exist behind the strip of commercial uses lining US 19. Connectivity in these neighborhoods is limited due to curvilinear streets and cul-de-sacs.

The Roosevelt Boulevard corridor has a residential character. Commercial uses here are of relatively low intensity. Neighborhoods are comprised of nearly equal ratios of single family, multi-family and duplex/triplex dwellings. Located in this segment is the Wind Tree Village Revitalization Area within the High Point neighborhood. Pinellas County is overseeing this effort. Moving to the east, the neighborhoods end and large office/industrial developments, such as the Bay Vista Office Park Development of Regional Impact and the St. Petersburg-Clearwater International Airport, begin. Lot sizes in this area tend to be large, creating large blocks, served by few local streets. These conditions and Roosevelt Boulevard's transition to a high-speed arterial greatly limit pedestrian connectivity here. This land use pattern largely continues to the terminus of Segment C. Commercial uses along Ulmerton Road provide support to surrounding office/industrial uses.

The conventional suburban development pattern and isolated, large-scale uses makes pedestrian conditions poor in this segment. Although sidewalks exist along major roads and in some neighborhoods, there are long distances between land uses and sidewalks lack pedestrian comforts.

Parking within Segment C is predominantly in surface parking lots and free of charge. However, the Board of County Commissioners recently established a parking fee for airport parking at the St. Petersburg-Clearwater International Airport.

3.1.4 Segment D: Roosevelt/28th Street to Downtown St. Petersburg

The northern reaches of Segment D are comprised of large-scale office and industrial parks that are served by major county and interstate transportation facilities such as 28th Street and I-275. Developed and vacant tracts are relatively large in this area and the local road network is almost nonexistent. For these reasons, walkability in this area is poor.

South of the I-275 interchange with Gandy Boulevard, residential uses resume as part of the land use mix. Residential areas are almost exclusively single family on the east side of I-275, while the west side is a blend of single family, duplex/triplex, and multi-family units. Small to medium scale commercial uses exist in the vicinity of the I-275 interchange with 54th Avenue North. At this point in Segment D, the urban form begins a gradual transition from CSD to TND. These areas are the initial tiers of suburban development to Downtown. A well-developed grid patterned network of local streets extends from just north of 54th Avenue North to Downtown and beyond. Within this grid, neighborhoods are accessible to neighborhood scale commercial distributed throughout this portion of the segment. Sidewalk coverage is good which in combination with other environmental conditions makes this area pleasant for walking.

The transition to TND form becomes most evident south of 22nd Avenue North where the regularity of block size and building scale create a rhythm that is recognizably traditional and urban. The Downtown has the full range of central business district uses including employment, residential, retail, municipal, entertainment, cultural, recreational, and civic uses. Land coverage in this portion of Segment D is comprised predominantly of single and multifamily, commercial, and public/semi-public land uses. Sidewalks, connectivity, proximity of uses, mix of uses, and pleasant environs create an excellent walking environment in Downtown.

Parking is free and relatively unrestricted in Segment D, with the exception of Downtown St. Petersburg. The City imposes a fee and/or time restrictions for on- and off-street parking areas. Private parking garages are also available to downtown patrons for a fee.

3.1.5 Segment E: Tropicana Field to 1st Avenue South/66th Street South

The development form includes both Traditional Neighborhood Development and Conventional Suburban Development along this segment. Segment E begins in the heart of Downtown St. Petersburg where the full range of urban land uses exist and the urban form is compact and pedestrian oriented. Land coverage in this portion of Segment E is comprised predominantly of public/semi-public land uses, commercial, and single family. A PSTA transit terminal is located downtown. Sidewalks, connectivity, proximity of uses, mix of uses, and pleasant environs create an excellent walking environment in Downtown.

Moving westward in Segment E, the density and intensity gradient decreases. There is still a wide range of residential and nonresidential land uses including parks, community facilities, large sports venue, and employment. A PSTA transit transfer facility is located near Central Plaza. Single-family neighborhoods occupy the largest share of this study area. A well-developed, grid-patterned network of local streets serves all uses. Within this grid, neighborhoods are accessible to neighborhood scale commercial distributed throughout this portion of the segment. Sidewalk coverage is good which in combination with other environmental conditions, such as mature trees, makes this area pleasant for walking.

Primary roads in Segment E include Central Avenue and the one-way pairs of 1st Avenues North and South. These roads serve as significant east west connectors of the Downtown and the beaches. Central Avenue is lined by neighborhood scaled commercial and office uses and the same occur along 1st Avenue North and 1st Avenue South but to a lesser extent.

The City of St. Petersburg imposes time restrictions for on-street parking in core areas of Downtown and fees for municipal garage parking. Private parking garages are also available to downtown patrons for a fee. Many businesses restrict parking areas for use only by employees or customers. Many of these private lots supplement event parking on weekends and after hours. Parking is free and relatively unrestricted in the remainder of Segment E.

3.1.6 Segment F: 1st Avenue South/66th Street South to Tyrone Boulevard/Park Street

The development form along this segment is both Traditional Neighborhood Development and Conventional Suburban Development. Segment F is made up mostly of single family neighborhoods served by large scale commercial uses on Tyrone Boulevard and smaller scale commercial uses on other major roads. The area is progressively more conventional suburban development in areas north of 6th Avenue North. The local street network, although fairly well defined in much of the area, becomes more curvilinear and has less connectivity in the north and western reaches of this segment. A regional mall (Tyrone Square Mall), a college, large recreation and open space areas, and natural features (bays and inlets) further degrade the street grid. A PSTA transit transfer facility is located at Tyrone Square Mall.

Few neighborhoods have sidewalks. Sidewalks are located along major roads that tend to be high-speed, high-volume roads that do not allow for easy crossings by pedestrians. However, the Pinellas Trail is accessible in this area and provides good connectivity to neighborhoods and business areas.

All areas in Segment F offer free parking.

3.1.7 Segment G: US 19/SR 580/Clearwater Mall to US 19/Gulf to Bay Boulevard

The predominant development form is Conventional Suburban Development along this segment. US 19, the County's principal commercial corridor, is home to many "big box" retailers, auto dealerships, shopping centers, and expansive parking lots located between buildings and streets. Wide, high-speed roads, including grade separated interchanges along US 19, serve this area. A regional mall, Countryside Mall, is located at the north end of this segment. Shopping centers

include Cypress Point and Sunset Point. Clearwater Mall, located at US 19 and SR 60, is currently being redeveloped to a big box center.

Single-family, mobile home, and multi-family neighborhoods exist behind the strip of commercial uses lining US 19. Included is Top of the World, a major retirement oriented condominium complex located west of US 19 and north of Sunset Point Road. Connectivity in these neighborhoods is limited due to curvilinear streets and cul-de-sacs. Another feature that affects connectivity is a Progress Energy transmission line corridor that parallels US 19 to the west for the majority of this segment. This corridor and US 19 immediately to the east act to discourage east-west travel across Segment G.

The conventional suburban development pattern and isolated, large-scale uses with surface parking lots makes pedestrian conditions poor in this segment. Although sidewalks exist along major roads and in some neighborhoods, there are long distances between land uses and sidewalks lack pedestrian comforts. The Progress Energy Trail is programmed for construction within the Progress Energy transmission line corridor.

Parking within Segment G is in surface lots and free of charge.

3.2 STATION AREA PLANNING AND DEVELOPMENT

This element addresses opportunities for guideway station area development and transit-oriented development (TOD) within the corridor. The choice of guideway station prototypes is important at this stage of corridor planning. The relationship of the stations to surrounding land uses and local land use regulations are summarized.

3.2.1 Typical Characteristics of Station Types

There are three levels of intensity proposed for the guideway stations – neighborhood/downtown, community, and regional. However, each station would be unique, providing amenities compatible with its surrounding area. Generally, the regional stations would provide for the highest level of activities while the neighborhood station type would accommodate the least activity. Downtown stations may exhibit high levels of activity but are typically limited in size due to lack of available land area.

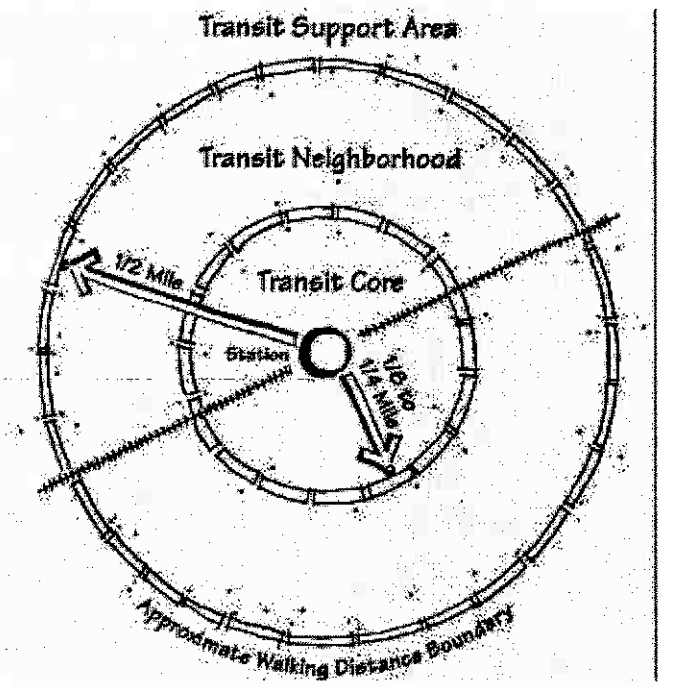
Regional stations would serve activity centers and, therefore, would be the largest and most intensive of the three station types. These stations would accommodate the large population of people converging daily into the activity center. Regional stations would typically have parking areas for automobiles and buses, passenger pick-up/drop-off areas, accommodations for pedestrians and bicyclists, and possibly small retail uses. Figure 3-2 provides a conceptual view.

Community stations would be designed to accommodate the population of the immediate station area, as well as people who combine automobile and transit modes in reaching a final destination. Park-and-ride facilities would usually be important to the community station. Figure 3-3 is a concept of what a community station may look like.

Neighborhood/Downtown stations would be the least intensive. The neighborhood/downtown station would accommodate the immediate neighborhoods and fit the scale of the adjacent neighborhoods. These stations would serve mostly "walk-up" traffic and relatively few if any park-and-ride spaces would be provided. Figure 3-4 presents a neighborhood station concept.

3.2.2 Station Area Transit-Oriented Development

Transit-Oriented Development (TOD) is a compact, mixed-use development pattern around a transit station. By design, TOD encourages residents, workers, and shoppers to drive their cars less and ride transit more. The centerpiece of a transit community is the transit station - connecting the residents and workers to the rest of the region - and the civic and public spaces that surround it. The design, configuration, and mix of buildings and activities emphasize pedestrian-oriented environments and encourage use of public transportation. The land uses within a transit station community are linked with convenient pedestrian walkways and parking is managed to discourage dependence on the automobile.



Housing is a major component of a transit station community, along with commercial retail, employment, and cultural and recreational attractions. A variety of housing types and choices promote a more compact and diverse community. Commercial uses might include food markets, restaurants, theaters, offices and even light-industrial activities. Urban open spaces and parks furnish focal points for community activity while streets provide settings for social interaction and active community life with wide sidewalks, street trees, and seating for pedestrians.

The transit core is the focus of most intense land uses in the station area (see diagram). The ¼ mile area from the station to the edge of the transit core would allow ready access by foot between compact, mixed land uses in this area and the transit station. The intensity and type of land uses in the core would vary among stations relative to the intensity and type of existing or planned development in the transit station neighborhood. Conceivably, it would be a 10-minute walk between the station and the outer edge of the transit neighborhood (1/2 mile). Ideally, these neighborhoods would generate transit users as well as customers to patronize pedestrian accessible businesses in the transit core.

Figure 3-2 REGIONAL STATION CONCEPT

Figure 3-3 COMMUNITY STATION CONCEPT

Figure 3-4 NEIGHBORHOOD STATION

The most effective TODs involve the integration of a wide variety of transportation options – train, bus, car, bicycle, and walking – into the planning of adjacent land uses and in the urban design of mixed-use districts and residential neighborhoods. Although station area neighborhoods will have unique characteristics, there are a number of common, fundamental principles to be addressed when developing around transit stations. The guiding principles – compact, mixed-use development; pedestrian-friendly design; parking access and management – provide broad direction for the planning of transit-oriented and pedestrian-friendly development. Context sensitivity, or "fitting in", will be an important consideration for each station type. Each community with a proposed transit station will be actively involved in designing the character and intensity of development for their station area neighborhood.

3.2.3 Land Use Regulations

Local government land use regulations are key tools in guiding transit supportive development. Local governments can facilitate transit-oriented development (TOD) by ensuring that comprehensive plans, land development codes, and other land use policy documents permit and encourage the development of compact, mixed-use, walkable communities that not only complement and support the transit system but also meet livable community objectives.

Five local governments in Pinellas County have jurisdiction over probable station areas. They include the cities of Clearwater, Largo, Pinellas Park and St. Petersburg, and Pinellas County. Current local government plans and policies have been assessed relative to transit supportive plans and policies criteria (see Table 3-2) to determine whether – and to what extent – the guiding principles are addressed.

Most local government plans and policies address the criteria, but to varying degrees. The overall transit supportiveness of local plans and policies without the presence of guideway transit in the region is probably due to the requirements of the State Growth Management Act for the content of comprehensive plan and land development regulations. The Act promotes compact, mixed-use development patterns and multi-modal transportation systems by requiring local governments to adopt supportive policies and land development regulations.

Future land use plan (FLUP) categories and zoning districts that provide for both residential (units per acre) and nonresidential (floor area ratio) land uses are desirable because of their potential to foster mixed use. All the local governments have adopted mixed-use FLUP categories and zoning districts as well as those that accommodate single uses.

Table 3-2
CRITERIA FOR TRANSIT SUPPORTIVE PLANS AND POLICIES

1. Growth Management Plans/Policies

a. Concentration of Development in Established Centers

- Regional plans/policies that promote increased development, infill development, and redevelopment in established urban centers and activity centers, and/or limit development away from primary activity centers.
- Regional plans/policies to concentrate development around major transit facilities.
- Local comprehensive plans or capital improvement plans that give priority to infill development and/or provide for opportunities for high-density redevelopment.

b. Land Conservation and Management

- Growth management plans with maps of growth management areas, urban growth areas, urban growth boundaries, agricultural preservation plans, and open space preservation plans.
- Policies that allow transfer of development rights from open space or agricultural land to urban areas.

2. Transit Supportive Corridor Policies

a. Plans/Policies to Increase Corridor and Station Area Development

- Adopted plans/policies and private sector plans and initiatives that promote development in the transit corridor and station areas.

b. Transit-Friendly Character of Corridor and Station Area Development

- Promote mixed use projects
- Promote housing and transit-oriented retail
- Allow/promote vertical zoning within the corridors
- Façade improvement programs
- Funds to support transit-oriented plans
- Related private sector plans and initiatives

c. Plans to Improve Pedestrian Facilities, including Facilities for Persons with Disabilities

- Sidewalks, connected street or walkway networks, and other pedestrian facility development plans for station areas
- Capital improvement programs to enhance pedestrian-friendly design in station areas
- Pedestrian infrastructure to accommodate persons with disabilities in station areas
- Street design guidelines/manuals addressing pedestrian and transit-oriented street design (e.g. lighting, street furniture, sidewalk width, etc.)

d. Parking Policies and Programs

- Reduced parking requirements or parking caps in station areas
- Maximum allowable parking for new development in areas served by transit
- Shared parking allowances
- Mandatory minimum cost for parking in areas served by transit

Table 3-2
CRITERIA FOR TRANSIT SUPPORTIVE PLANS AND POLICIES

- Parking taxes

3. Supportive Zoning Regulations

a. Zoning Regulations that Support Increased Density in Station Areas

- Ordinances and maps describing existing zoning (allowable uses and densities)
- Recent changes to zoning ordinances to allow or encourage development with transit supportive densities and uses
- Density bonuses, housing fund subsidies, regulation relaxation, expedited zoning review, etc.

b. Zoning Regulations that Enhance Transit-Oriented Character of Station Area Development and Pedestrian Access

- Provisions allowing mixed-use development
- Provisions addressing placement of building footprints, pedestrian facilities, façade treatments, etc.
- Architectural design guidelines and mechanisms for implementation/enforcement of these guidelines

b. Zoning Provisions for Reduced Parking and Traffic Mitigation

- Residential and commercial parking requirements (minimums and/or maximums) in station areas under existing zoning

3.3 CORRIDOR ENVIRONMENTAL AND CULTURAL RESOURCES

3.3.1 Archaeological Sites, Environmental Resources and Contamination Sites

There are known archaeological sites, environmental resources in the way of aquatic preserves (Outstanding Florida Waters), and contamination sites within the corridor. These sites are inventoried because their presence in the corridor may influence project location, scoping of subsequent environmental documentation during project development, mitigation requirements, and the ultimate feasibility of project implementation.

Figure 3-5 locates environmental and archaeological sites within or near the project corridor. In this case, the corridor is treated as the "buffer" on the map. For this and the other resources (historic, major facility), the buffer is defined as the area within 500 feet either side of the proposed guideway line, and the area within a 700-foot radius of each guideway station (28 stations in all). These distances were selected in keeping with accepted planning practice for environmental impact analysis of proposed guideway projects.

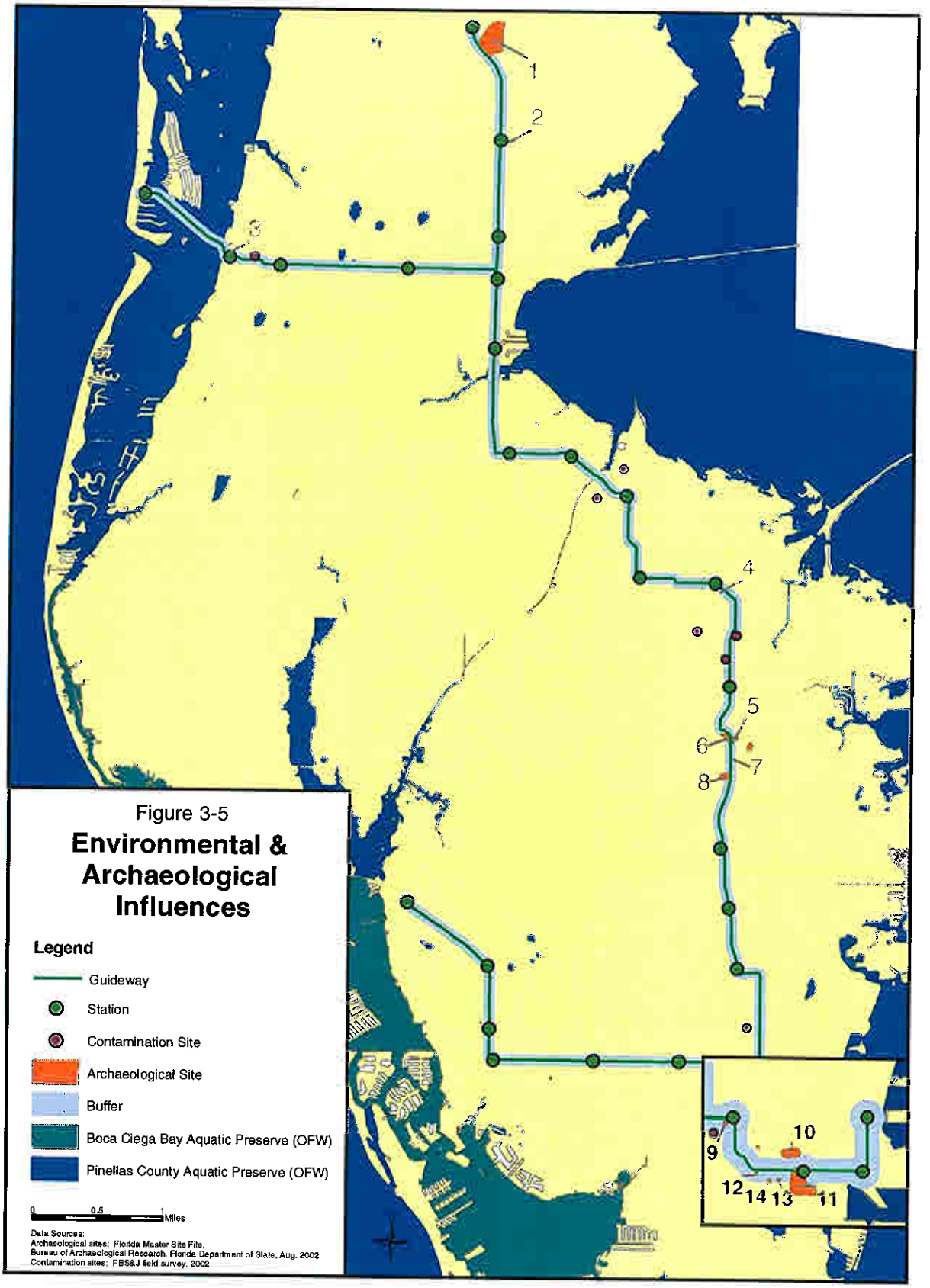

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Figure 3-5
Environmental & Archaeological Influences
Legend
Guideway
Station
Contamination Site
Archaeological Site
Buffer
Boca Ciega Bay Aquatic Preserve (OFW)
Pinellas County Aquatic Preserve (OFW)
0
0.5
1
Miles
Data Sources:
Archaeological sites: Florida Master Site File,
Bureau of Archaeological Research, Florida Department of State, Aug. 2002
Contamination sites: PBS&J field survey, 2002

There are fourteen potentially affected archaeological sites. Data in the Florida Master Site File from the Bureau of Archaeological Research for these 14 sites are listed in Appendix A. Figure 3-5 also displays Outstanding Florida Waters, namely the Boca Ciega Bay Aquatic Preserve and the Pinellas County Aquatic Preserve.

Figure 3-5 identifies eight known contamination sites within or near the project corridor. Of the eight, only three contamination sites clearly fall within the buffer as defined above. The three within the buffer, and thus of key concern for a later Environmental Impact Statement (EIS), comprise: (1) Clearwater Sun, southeast corner of Franklin Street and Myrtle Avenue in Clearwater; (2) Toytown Landfill, east side of I-275, south of Roosevelt Boulevard; and (3) Sod Farm, west side of I-275, south of Roosevelt Boulevard. Depending on where the particular station is actually built ultimately, two sites may ultimately fall in the buffer including: (4) the St. Petersburg-Clearwater International Airport; and (5) Tropicana Field, east of 16th Street South between 1st Avenue South and South Bay Drive, in St. Petersburg. Three potential contamination sites not in the buffer, and thus of less concern encompass: (6) PSTA Bus Maintenance/Operations Center, west side of 49th Street North, south of 150th Avenue North; (7) Pinellas County Incinerator, west side of 28th Street North, south of Roosevelt Boulevard; and (8) the City of St. Petersburg Sanitation Department and Fleet Maintenance Yard.

3.3.2 Historic Site Resources

Historic and potential historic sites are inventoried because their presence in the corridor may influence project location, scoping of subsequent environmental documentation during project development, mitigation requirements, and the ultimate feasibility of project implementation. As evidenced by Figure 3-6 and Appendix B, there are numerous sites countywide on the Florida Master Site File identified by the Division of Historical Resources. Most such sites within the buffer (500 foot/700 foot, as per the above) are found in the older sections of Clearwater and St. Petersburg. Of all the sites in the Master Site File, only four are actually listed on the National Register of Historic Places (see Appendix B): the Old Pinellas County Courthouse, Potter House, the Studebaker Building, and the Williams Mansion.

3.3.3 Major Community Facilities and Resources

This element addresses: known churches/religious institutions; government buildings; hospitals and sanitariums/convalescent homes; museums/aquariums; schools (public or private); parks, sports and recreation/open space areas; and cemeteries. These facilities are inventoried because their presence in the buffer may influence project location, scoping of subsequent environmental documentation during project development, mitigation requirements, and the ultimate feasibility of project implementation.

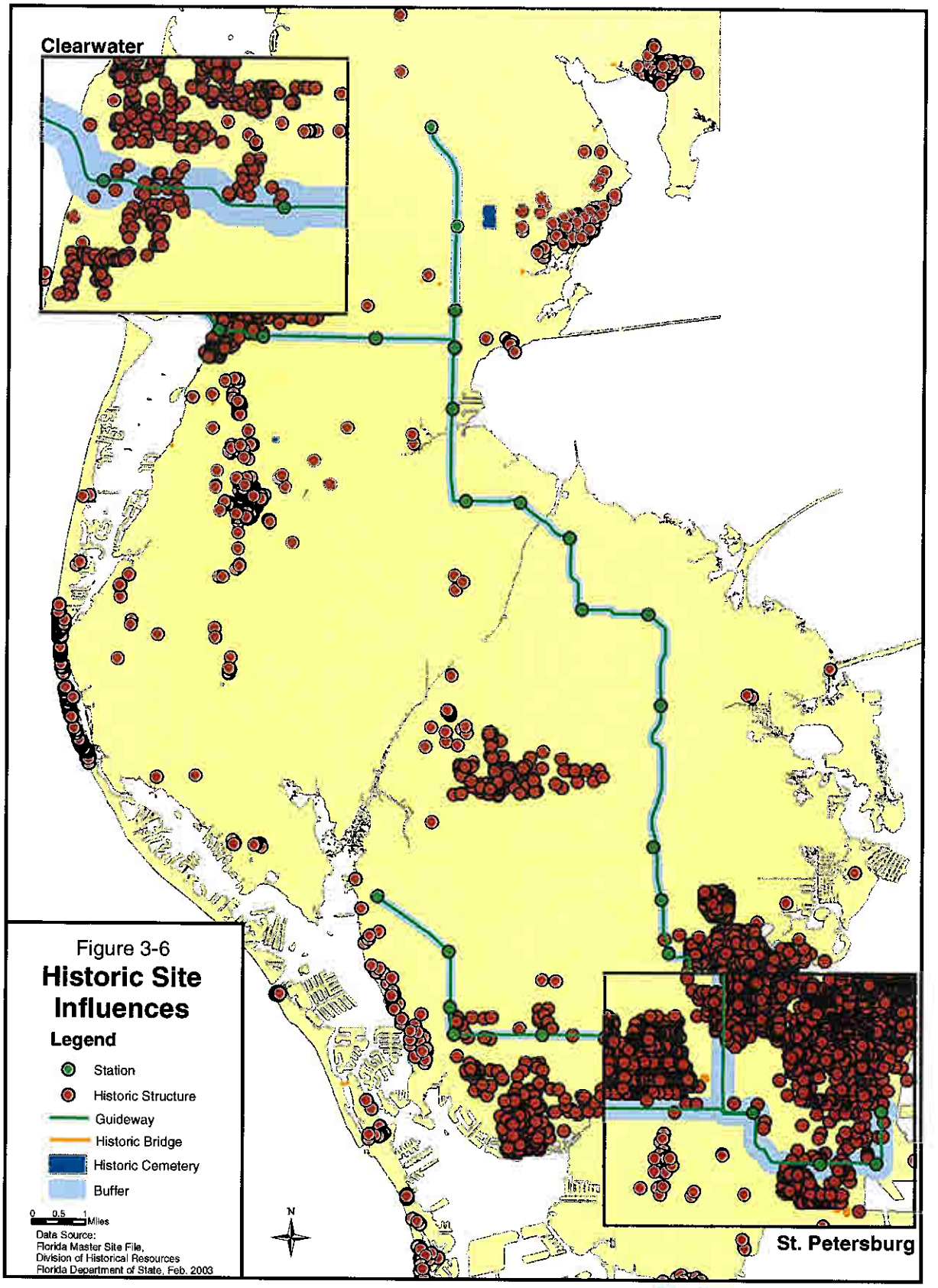
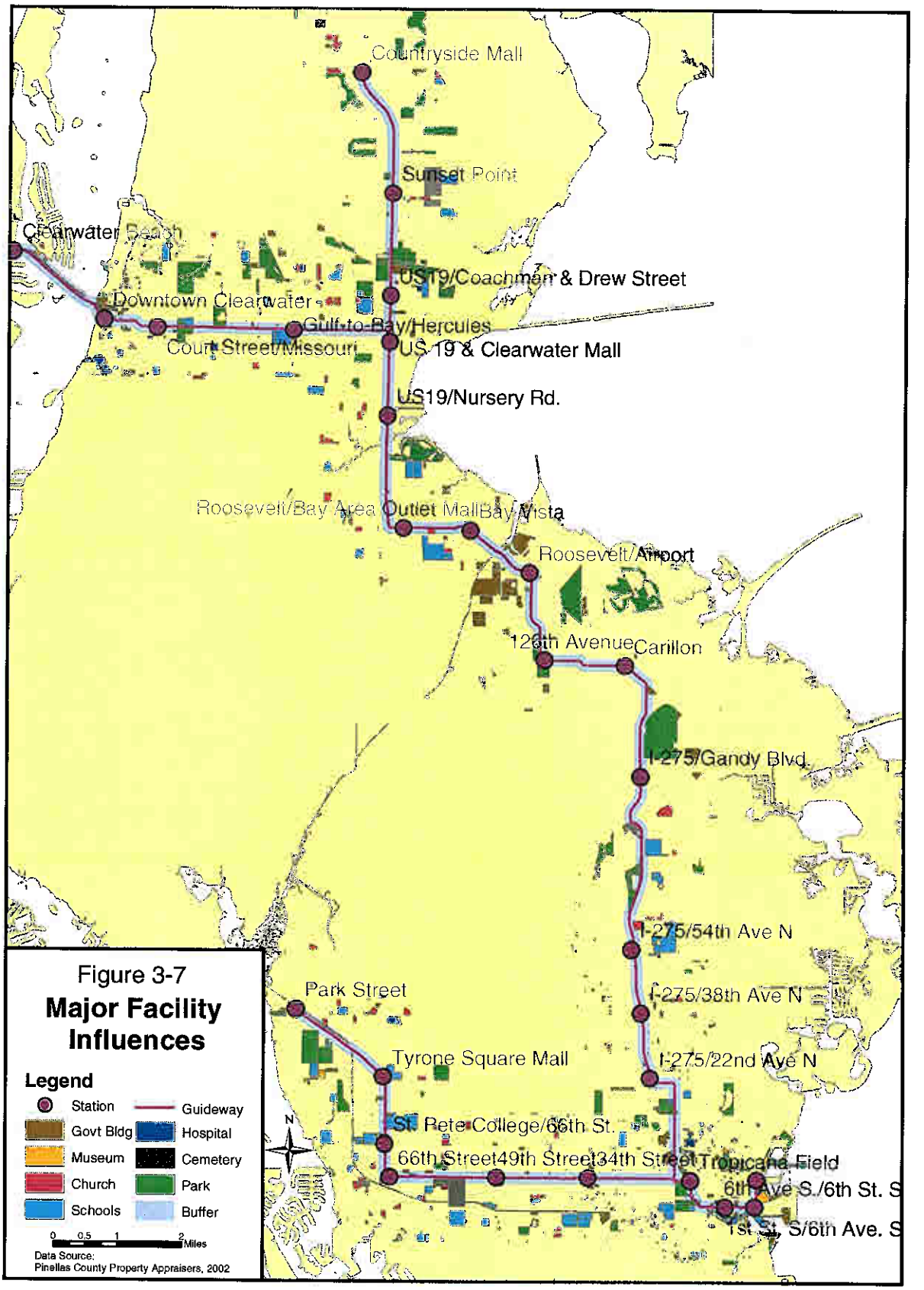

Clearwater
St. Petersburg
Figure 3-6
Historic Site Influences
Legend
Station
Historic Structure
Guideway
Historic Bridge
Historic Cemetery
Buffer
0 0.5 1 Miles
Data Source:
Florida Master Site File,
Division of Historical Resources
Florida Department of State, Feb. 2003
N

Figure 3-7 depicts major facilities about the greater guideway corridor. Data are parcel-based, from the Pinellas County Property Appraisers Office. Appendix C provides a listing of file data on major facilities in the guideway buffer (500 foot/700 foot, as per the above). Many churches and church-owned buildings, government buildings, schools, parks and recreational facilities may ultimately be affected. During project development (PE and EIS preparation), as the alignment becomes more fixed and station footprints and layouts are developed, impacts to these and other resources/sites will be much more closely investigated.


Countryside Mall
Sunset Point
Clearwater Beach
US19/Coachman & Drew Street
Downtown Clearwater
Gulf-to-Bay/Hercules
Court Street/Missouri
US 19 & Clearwater Mall
US19/Nursery Rd.
Roosevelt/Bay Area Outlet Mall
Bay Vista
Roosevelt/Airport
126th Avenue
Carillon
I-275/Gandy Blvd.
I-275/54th Ave N
Park Street
I-275/38th Ave N
Tyrone Square Mall
I-275/22nd Ave N
St. Pete College/66th St.
66th Street
49th Street
34th Street
Tropicana Field
6th Ave S./6th St. S
1st St. S/6th Ave. S
N
Figure 3-7
Major Facility Influences
Legend
Station
Guideway
Govt Bldg
Hospital
Museum
Cemetery
Church
Park
Schools
Buffer
0 0.5 1 2 Miles
Data Source:
Pinellas County Property Appraisers, 2002

4.0 REFINED CORRIDOR PLACEMENT AND STATION CONCEPTS

The guideway has typically been placed within existing road rights-of-way. This was usually not possible for stations, however, thus usually necessitating property acquisition for stations.

4.1 SUGGESTED GUIDEWAY ALIGNMENT

Though likely to change somewhat during project development, a preferred guideway alignment has evolved over time and is presented herein. The alignment should be taken as indicative but not final. The same applies to the placement of stations. Appendix D, which comprises a series of 37 maps, provides more detail on the proposed alignment. Each map, referenced below, is uniquely numbered from 1 through 37, inclusive. Each provides segment alignment and station location details overlaid on aerial photography and property appraiser parcel boundaries.

4.1.1 Segment A: Clearwater Beach to Downtown Clearwater

Segment A runs from a terminal station on Clearwater Beach to the west side of downtown Clearwater, near the Courthouse Annex. In order from west to east, the proposed alignment is shown on Maps 28, 29, 30, and 31 (most of Map 31, however, is associated with Segment B).

The proposed Clearwater Beach station is sited just to the north of the Clearwater Municipal Marina and east of Pier 60 (see Map 28). The beach itself and associated beach park, and other recreational outlets would be accessible from this station. The guideway structure itself would run along the south side of Memorial Causeway, past Island Estates (Map 29) then south of the existing drawbridge (Map 30) – perhaps located on the new highway bridge – then swing to the south, then east to Court Street at Oak (Map 31), the "Downtown West" station. The Bayfront Tennis Complex, City of Clearwater City Hall, Pinellas County Courthouse and Offices/Annexes, Fort Harrison Hotel and the Church of Scientology, Calvary Baptist Church and Harborview Center, and PSTA's Park Street (bus) Terminal would all be conveniently accessible from this station (Maps 30, 31).

4.1.2 Segment B: Downtown Clearwater to Gulf to Bay Boulevard/US 19

The proposed guideway alignment for Segment B, defined to run from downtown Clearwater on the west to the former Clearwater Mall site on the east, is shown on Maps 31, 32, 33 and 34 (Map 34 also shows a part of Segment C and especially Segment G). From the "Downtown West" station, the suggested alignment would run along the south side of Court Street to the "Downtown East" station sited just west of Missouri Avenue (Map 31). Residential and commercial uses would be accessible from the Missouri Avenue station. The line would continue east along the south side of Court Street (Map 31) then Gulf to Bay Boulevard (Map 32), with the next station sited just east of Hercules Avenue, across Hercules Avenue from Clearwater High School (Map 33). Many residential and commercial properties, in addition to the High School, could be accessed within a 5-minute walk of this station.

The proposed line would continue eastward along the south side of Gulf to Bay (Map 33) to Bypass Drive, where the guideway would swing south then east bridging across US 19 to the site of the former Clearwater Mall (Map 34). This station would serve many commercial properties in the area, both "big box" uses at the former Clearwater Mall (like Target), and "big box" uses like Sam's Club west of US 19. Some residential properties to the south would also be within a 5-minute walk zone of this station.

4.1.3 Segment C: Gulf to Bay Boulevard/US 19 to Roosevelt Boulevard/28th Street

Segment C is proposed to run from the station at the site of the former Clearwater Mall, southerly and easterly to Roosevelt Boulevard at 28th Street, across Roosevelt Boulevard from the Carillon office park. In order, Maps 34, 26, 25, 24, 23, 22, 21 and 20 illustrate the suggested guideway alignment (Segment D also begins with Map 20).

The line would run southward along the east side of US 19 to a station near Nursery Road (see Map 26), which would serve commercial and residential properties in the area. The proposed line would continue south along US 19 crossing Allen's Creek, past Whitney Road (Map 25) to Roosevelt Boulevard, where it would then swing to the east along the south side of Roosevelt (see Map 24). The station along Roosevelt east of US 19 would serve the Crossroads Mall, other nearby commercial and residential properties, and one of two Pinellas Technical Education Centers (PTEC) campuses not far away (Map 24). Continuing east along first the south side then the north side of Roosevelt Boulevard (Map 23), the line would next serve a station at Bay Vista, an office-oriented Development of Regional Impact (DRI). Commercial/office and residential uses (like High Point) would be convenient to this station.

Continuing in a southeasterly direction along the north side of Roosevelt (Map 23), the line would next swing into the St. Petersburg-Clearwater International Airport, with a station serving the airport passenger terminal (see Map 22). From there the line would continue in a southerly direction along the east side of Roosevelt Boulevard (Map 22), then cross Ulmerton Road and turn east at 126th Avenue to a station at the Sunshine Speedway (land recently acquired by Pinellas County), as shown on Map 21. The guideway would continue in an easterly fashion along 126th Avenue (Map 21) and Scherer Drive to the Carillon area station at 28th Street and Roosevelt Boulevard (see Map 20).

4.1.4 Segment D: Roosevelt Boulevard/28th Street to Downtown St. Petersburg

Segment D is proposed to begin at the Carillon area station (28th Street and Roosevelt Boulevard – see Map 20), first running southeasterly along the south side of Roosevelt, then turning south (Map 19) to run along the west side of I-275 (Map 18) to a station proposed for the Gandy Boulevard area (see Map 17). Bowing out around the interchange, the line would continue in a southerly direction running alongside Sawgrass Lake Park (Map 17), to a station serving 54th Avenue North (Map 16). This particular station would serve mostly residential properties, although there are public schools to the east, beyond the 5-minute walk radius.

From 54th Avenue North, the guideway line would continue running south along the west side of I-275 to a 38th Avenue station (see Map 15), a station serving a fairly dense residential area. The line would continue to the south, still along the west side of I-275 to a station at 22nd Avenue North (Map 13). This station would serve residential properties, a PSTA Park & Ride lot, and commercial/industrial/warehousing properties to the west, including "big box" uses like Home Depot and Lowe's. The line would then swing briefly to the east along the south side of 22nd Avenue North (Map 13), then south along the west side of 16th Street North (see Map 14) alongside Woodlawn Elementary School and the Police Athletic League complex. Continuing south, the guideway line would cross over I-375 (Map 12) to 1st Avenue South, where it would then swing to the east to serve Tropicana Field (see Map 10). The Tropicana Field station would also serve the St. Petersburg Police Headquarters, other municipal and commercial properties within a five-minute walk of this site on the west side of downtown.

From Tropicana Field, the proposed Segment D alignment would head south across I-175 then east along the south side of 6th Avenue South to a station at 6th Street South then a station near 1st Street South (see Map 10). Together these two stations would serve major medical facilities like All Children's and Bayfront Hospitals, religious institutions like St. Mary's Roman Catholic Church, and major educational facilities like USF's St. Petersburg Campus. The line would then swing to the north along the west side of 1st Street South, to a terminal station at 1st Avenue South (Map 10). Museums, hotels, restaurants, offices, Progress Energy Park (Al Lang Field), Baywalk and nite clubs would all be within a 5-minute walk of this terminal station.

4.1.5 Segment E: Tropicana Field to 1st Avenue South/66th Street South

Segment E would extend from near Tropicana Field at a guideway system "Y" junction (1st Avenue South at 16th Street South), shown on Map 11, west to 66th Street South at 1st Avenue South. The first station, heading west along the north side of 1st Avenue South, would be adjacent to PSTA's terminal at 32nd Street (see Map 9). In addition to this bus terminal and various commercial and residential properties, this station would conveniently serve the YMCA.

Continuing west, still along the north side of 1st Avenue South (Map 8), the next station would be at 49th Street South, as shown on Map 7. Mostly residential but some commercial properties would be conveniently located within a 5-minute walk zone of this station, as would the Central Christian Church & School. Heading west, staying opposite side of the street from the Royal Palm Cemetery and Woodlawn Memorial Gardens, the last Segment E station would be at 66th Street South (see Map 6). Many residential and commercial properties would fall within a five-minute walk radius of this station.

4.1.6 Segment F: 1st Avenue South/66th Street South to Tyrone Boulevard/Park Street

Segment F as proposed would begin at the 1st Avenue South/66th Street South station and first head north along the west side of 66th Street (see Map 5). The first station would be at 5th Avenue North, located at the St. Petersburg College campus. This station would conveniently serve many residential and some commercial properties. The line would continue north along 66th Street North to a station at Tyrone Square Mall, where it would bend to the northwest, running along the south side of Tyrone Boulevard (see Map 4). The Tyrone Square Mall station

would conveniently serve many commercial and some residential uses, and the Tyrone Elementary and Middle Schools.

The line would continue along the south side of Tyrone Boulevard (Map 3, Map 2), then cross over to the north side to serve a terminal station east of Park Street, as shown on Map 1. This station would serve a variety of residential properties and commercial uses for example Lighthouse Crossings, also the Park Street Baptist Church. It would also be convenient to the Fred Marquis Pinellas Trail.

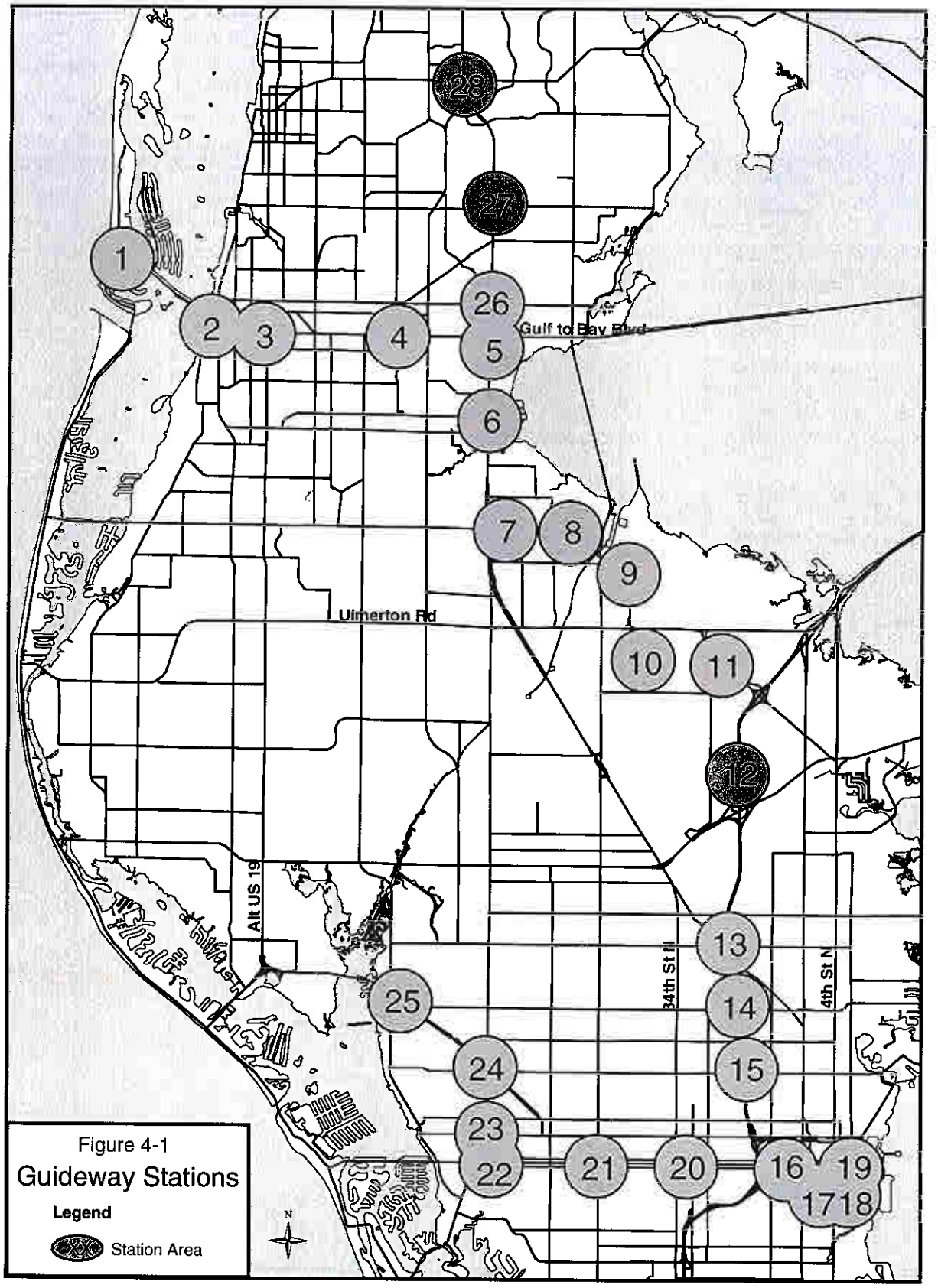
4.1.7 Segment G: US 19/Gulf to Bay to US 19/SR 580/Countryside Mall

Segment G would run north to Countryside Mall (US 19/SR 580 area) starting at the station near the former Clearwater Mall (see Map 27). Running the whole length along the east side of US 19, the line would offer stations at Drew Street (Map 27), Sunset Point Road (Map 35, Map 36) and the terminal station at Countryside Mall (Map 37). The station at Drew Street (Map 27) would serve mostly commercial but some residential uses. The station at Sunset Point Road (Maps 35, 36) would conveniently serve both commercial and residential properties, and the terminal station near Countryside Mall would serve commercial properties like the mall itself and Countryside Plaza, in addition to the residential neighborhoods immediately around the mall. This terminal station would also provide a major point of access for North Pinellas communities such as Tarpon Springs, Dunedin, and Oldsmar.

4.2 STATION CONCEPTS AND ASSOCIATED LAND REQUIREMENTS

As the study has evolved, both Build alternatives now include 28 stations. The stations are located graphically on Figure 4-1. Where both Build alternatives provide for elevated monorail, station placement is precisely the same. Where one alternative provides for elevated monorail and the other for at-grade Bus Rapid Transit (BRT), namely along Central Avenue corridor from Tropicana Field west to Tyrone Boulevard at Park Street, the alternatives provide for substantially similar location, with the same service area. The key difference is in the estimated land requirement and thus resultant station cost, as BRT stations would have a smaller footprint than monorail stations.

Table 4-1 presents station details for the 28 proposed stations comprising the full guideway alternative; Table 4-2 furnishes comparable details for the 28 proposed stations in the guideway plus BRT alternative. Station type – which is subject to change as planning activities evolve – is treated the same for each Build alternative. Four stations are classified at this juncture as Downtown stations, nine are classified as Neighborhood stations, twelve are classified as Community stations and three are classified as Regional stations. Station type influences the range and scale of facilities provided on site, thus affecting land acquisition requirements and cost. Land acquisition also varies with the number of park-and-ride spaces provided, the number of bus bays allocated for intermodal transfers between monorail/BRT and local or express bus, the provision of a "kiss-and-ride" drop off/pick up area, and pond requirements for storing/treating stormwater runoff from impervious sources.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18
Figure 4-1
Guideway Stations
Legend
Station Area
N

Table 4-1
STATION LAND ACQUISITION REQUIREMENTS
FULL GUIDEWAY ALTERNATIVE

No.	Station Location	Station Type	Auto Spaces	Bus Bays	Drop Off	Pond Acres	Station Acres	Total Acres (buy)	Low Range Acres	High Range Acres
1.	Clearwater Beach	C	0-150	1	yes	0	1.25	1.6	0	1.6
2.	Court/Oak	D	0-100	1	yes	0	0.34	0.34	0	0.34
3.	Court/Missouri	C	200	2	yes	0.5	1.25	3.6	3.6	3.6
4.	Gulf to Bay/Hercules	C	250	1	yes	0.5	1.25	4.3	4.3	4.3
5.	US 19/Gulf to Bay	R	350	2	yes	0.4	1.25	5.2	0	5.2
6.	US 19/Nursery	N	50	1	yes	0.1	1.25	2.1	2.1	2.1
7.	US 19/Roosevelt	C	350	2	yes	0.7	1.25	5.5	5.5	5.5
8.	Roosevelt/Bay Vista	N	75	1	yes	0.2	1.25	2.4	2.4	2.4
9.	Airport	N	0	1	yes	0	1.25	0	0	0
10.	Sunshine Speedway	C	0	1	yes	0	0	0	0	0
11.	Roosevelt/28 Street	N	100	4	yes	0.3	1.25	2.9	2.9	2.9
12.	I-275/Gandy Blvd.	C	200	1	yes	0.6	1.25	4.0	4.0	4.0
13.	I-275/54th Avenue	C	350	1	yes	0.7	1.25	5.5	5.5	5.5
14.	I-275/38th Avenue	C	200	1	yes	0.4	1.25	3.8	3.8	3.8
15.	I-275/22nd Avenue	C	200	1	yes	0.4	1.25	3.8	3.8	3.8
16.	Tropicana Field	R	450	1	yes	0	1.25	0	0	0
17.	6th Ave. S./6th St. S.	D	0	0	no	0	0.34	0.34	0	0.34
18.	6th Ave. S/1st St. S.	D	0	0	no	0	0.34	0.34	0	0.34

Table 4-1
STATION LAND ACQUISITION REQUIREMENTS
FULL GUIDEWAY ALTERNATIVE

No.	Station Location	Station Type	Auto Spaces	Bus Bays	Drop Off	Pond Acres	Station Acres	Total Acres (buy)	Low Range Acres	High Range Acres
19.	1st Ave. S./1st St. S.	D	0	0	no	0	0.34	0.34	0	0.34
20.	1st Ave. S./32 St. S.	C	200	0	yes	0.4	1.25	3.7	3.7	3.7
21.	1st Ave. S./49 St. S.	N	50	0	yes	0.1	1.25	2.1	2.1	2.1
22.	1st Ave. S./66 St. S.	C	200	1	yes	0.4	1.25	3.8	3.8	3.8
23.	66 St. N./5 Ave. N.	N	0	1	yes	0.1	1.25	1.6	1.6	1.6
24.	66th St. N./Tyrone	N	100	3	yes	0.1	1.25	2.6	0	2.6
25.	Tyrone Bl./Park St.	C	200	2	yes	0.2	1.25	3.6	3.6	3.6
26.	US 19/Drew Street	N	50	1	yes	0.1	1.25	2.1	2.1	2.1
27.	US 19/Sunset Point	N	100	1	yes	0.1	1.25	2.6	2.6	2.6
28.	US 19/ SR 580	R	550	3	yes	0	1.25	2.0	0	2.0
	TOTALS		**4475**	**34**				**70.16**	**57.40**	**70.16**

Acreage Allowances:

Auto Space = 400 s.f.
Bus Bay: 1 = 2,000 sf, 2 = 3,500 sf, 3 = 5,000 sf, 4 = 6,500 sf
Drop Off = 10,900 s.f.
Pond = 30% or less of acres for auto, bus and drop off.
Station N, C & R = 1.25 acres including pond for station.
Station D = 0.34 acres

Station Type:

D = Downtown
N = Neighborhood
C = Community
R = Regional

Table 4-2
STATION LAND TAKE REQUIREMENTS
GUIDEWAY WITH CENTRAL AVENUE BRT

No.	Station Location	Station Type	Auto Spaces	Bus Bays	Drop Off	Pond Acres	Station Acres	Total Acres (buy)	Low Range Acres	High Range Acres
1.	Clearwater Beach	C	0-150	1	yes	0	1.25	1.6	0	1.6
2.	Court/Oak	D	0-100	1	yes	0	0.34	0.34	0	0.34
3.	Court/Missouri	C	200	2	yes	0.5	1.25	3.6	3.6	3.6
4.	Gulf to Bay/Hercules	C	250	1	yes	0.5	1.25	4.3	4.3	4.3
5.	US 19/Gulf to Bay	R	350	2	yes	0.4	1.25	5.2	0	5.2
6.	US 19/Nursery	N	150	1	yes	0.1	1.25	2.1	2.1	2.1
7.	US 19/Roosevelt	C	350	2	yes	0.7	1.25	5.5	5.5	5.5
8.	Roosevelt/Bay Vista	N	75	1	yes	0.2	1.25	2.4	2.4	2.4
9.	Airport	N	0	1	yes	0	1.25	0	0	0
10.	Sunshine Speedway	C	0	1	yes	0	0	0	0	0
11.	Roosevelt/28 Street	N	100	4	yes	0.3	1.25	2.9	2.9	2.9
12.	I-275/Gandy Blvd.	C	200	1	yes	0.6	1.25	4.0	4.0	4.0
13.	I-275/54th Avenue	C	350	1	yes	0.7	1.25	5.5	5.5	5.5
14.	I-275/38th Avenue	C	200	1	yes	0.4	1.25	3.8	3.8	3.8
15.	I-275/22nd Avenue	C	200	1	yes	0.4	1.25	3.8	3.8	3.8
16.	Tropicana Field	R	450	1	yes	0	1.25	0	0	0
17.	6th Ave. S./6th St. S.	D	0	0	no	0	0.34	0.34	0	0.34
18.	6th Ave. S/1st St. S.	D	0	0	no	0	0.34	0.34	0	0.34

Table 4-2
STATION LAND TAKE REQUIREMENTS
GUIDEWAY WITH CENTRAL AVENUE BRT

No.	Station Location	Station Type	Auto Spaces	Bus Bays	Drop Off	Pond Acres	Station Acres	Total Acres (buy)	Low Range Acres	High Range Acres
19.	1st Ave. S./1st St. S.	D	0	0	no	0	0.34	0.34	0	0.34
20.	1st Ave. S./32 St. S.	C	200	0	yes	0.4	0.6	3.0	3.0	3.0
21.	1st Ave. S./49 St. S.	N	50	0	yes	0.1	0.6	1.4	1.4	1.4
22.	1st Ave. S./66 St. S.	C	200	1	yes	0.4	0.6	3.1	3.1	3.1
23.	66 St. N./5 Ave. N.	N	0	1	yes	0.1	0.6	0.9	0.9	0.9
24.	66th St. N./Tyrone	N	100	3	yes	0.1	0.6	1.9	0	1.9
25.	Tyrone Bl./Park St.	C	200	2	yes	0.2	0.6	2.9	2.9	2.9
26.	US 19/Drew Street	N	50	1	yes	0.1	1.25	2.1	2.1	2.1
27.	US 19/Sunset Point	N	100	1	yes	0.1	1.25	2.6	2.6	2.6
28.	US 19/ SR 580	R	550	3	yes	0	1.25	2.0	0	2.0
	TOTALS		**4475**	**34**				**65.96**	**53.90**	**65.96**

Acreage Allowances: Auto Space = 400 s.f.
Bus Bay: 1 = 2,000 sf, 2 = 3,500 sf, 3 = 5,000 sf, 4 = 6,500 sf
Drop Off = 10,900 s.f.

Pond = 30% or less of acres for auto, bus and drop off.

Station N, C & R = 1.25 acres including pond for station.

Station D = 0.34 acres

Station Type: D = Downtown
N = Neighborhood
C = Community
R = Regional

4.3 KEY STATION AREA SOCIO-ECONOMIC MEASURES

Socio-economic indicators are used by the Federal Transit Administration (FTA) to help evaluate project proposals. Key among these are potential impacts to minority and low-income areas, and access to jobs for these same areas.

Low-income households served is reported as the estimated number of low-income households located within ½ mile of boarding points (stations) of the proposed New Starts project. Low-income households (defined as households below the poverty level) are reported as an absolute number in the current year (or as close to current year as possible).

For this analysis, the Pinellas County Transportation Disadvantaged Program definitions of low-income are used, which actually sets income levels at twice the federal poverty levels – in effect yielding a greater number of low-income households than adherence to federal levels would yield. (See Appendix E for documentation of methodology.) FTA also requests a reporting of the total number of households within ½ mile of boarding points.

FTA now requires reporting of an additional measure to supplement the evaluation of mobility improvements. This new measure is the number of jobs within ½ mile of the same proposed stations. This measure – calculated in a similar manner as the households measure yet with INFOUSA database rather than Census of Housing – defines the estimated number of jobs (employment by place) for the current year accessible from the proposed New Starts project. Number of employment places served by the proposed project is of key importance to FTA.

Table 4-3 presents the resultant estimates of the number of low-income households, the total number of households, and the number of jobs (employment by place) within a ½-mile radius of each station. Over 14,000 low-income households, out of over 32,000 households in all, are estimated to be in the service area of proposed guideway stations. Jobs accessible from the proposed guideway total close to 100,000.

Table 4-3
LOW-INCOME HOUSEHOLDS, TOTAL HOUSEHOLDS AND EMPLOYMENT BY STATION SERVICE AREA
(one-half mile radius)

Station No.	Approximate Station Location	No. of Low-Income Households	Total Households	% Low Income	Employment by Place
1	Clearwater Beach	260	785	33	2050
2	Court/Oak	380	790	48	6430
3	Court/Missouri	900	1710	53	3950
4	Gulf to Bay/Hercules	510	1430	36	2030
5	US 19/Gulf to Bay	630	1500	42	3410
6	US 19/Nursery	520	1500	35	4030
7	US 19/Roosevelt	430	1090	39	3500
8	Roosevelt/Bay Vista	395	1020	39	3180
9	Airport	100	540	18	3220
10	Sunshine Speedway	90	250	35	3210
11	Roosevelt/28th Street	50	240	21	12,100
12	I-275/Gandy Blvd.	40	240	17	190
13	I-275/54th Avenue No.	880	1770	49	580
14	I-275/38th Avenue No.	710	1790	40	110
15	I-275/22nd Avenue No.	940	1350	70	2560
16	Tropicana Field	1420	1700	84	3220
17	6th Ave. So./6th St. So.	790	1060	75	8160
18	6th Ave. So./1st St. So.	90	180	53	1160
19	1st Ave. So./1st St. So.	770	1390	56	10,920
20	1st Ave. So./32nd St. So.	540	1160	46	4840
21	1st Ave. So./49th St. So.	505	1380	37	1080
22	1st Ave. So./66th St. So.	350	1080	32	1370
23	66th St. No./5th Ave. No.	350	1070	33	680
24	66th St. No./Tyrone Blvd.	460	1600	29	4170
25	Tyrone Blvd./Park Street	530	1340	39	1570
26	US 19/Drew Street	510	1350	38	1880
27	US 19/Sunset Point	400	1270	31	2100
28	US 19/SR 580	600	1535	39	4710
Totals*		**14,140**	**32,100**	**44**	**96,410**

*May not total exactly due to rounding error.

Sources: 2000 US Census of Housing and INFOUSA database.

5.0 MOBILITY, RIDERSHIP AND SYSTEM IMPACTS

For purposes of ridership forecasting and related travel demand analyses, the Tampa Bay Regional Planning Model (TBRPM) has been utilized. The TBRPM is a regional travel demand model developed by the Florida Department of Transportation (FDOT) with input from each of the region's Metropolitan Planning Organizations (MPOs). This model is the official travel forecasting tool for Tampa Bay, approved by the U.S. Department of Transportation including the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

5.1 MODEL DEVELOPMENT

One of the first PMI tasks was to conduct a "Best Practices" review of transit modeling techniques and methodologies. This involved an informal, national survey of transit forecasting professionals; a literature review; and an assessment of the TBRPM in respect of its capabilities in accurately forecasting transit utilization. Results of this effort are detailed in the *Best Modeling Practices Memorandum* (April 2002).

When comparing existing bus transit ridership with estimates from the Tampa Bay model, it was observed that the TBRPM somewhat over-predicts ridership in Hillsborough County and under-predicts ridership in Pinellas County. To remedy this, a *Model Calibration Report* (December 2002) was completed for the PMI to develop the parameters appropriate for use in projecting future year ridership with the TBRPM. Given adjustments made to the model, the modeled-to-actual patronage ratio for Pinellas increased from 87 percent to 98 percent. MPO staff, FDOT staff, and FDOT's modeling consultant reviewed the identified model adjustments. The model stream developed for this project was then documented in the *Model Calibration Report* and was deemed by these parties as appropriate for use in PMI ridership forecasting.

Model sensitivity analysis was also conducted on the TBRPM. After calibration, the model was tested to assess how sensitive ridership forecasts are to common operational parameters like fare structure, service frequency (headways), operating speed, transfers between different lines or modes, etc. As discussed in the *Model Calibration Report*, results of the sensitivity analysis indicated that the Tampa Bay model is most sensitive to fares and to headways.

5.2 YEAR 2025 TRANSIT NETWORKS

Several dozen alternatives for year 2025 (the planning horizon) were developed and tested over time for the PMI. Many of these alternatives included only minor changes to guideway alignments, number of stations or station locations, background bus networks, technology operating characteristics or fare policies. With the intent to ultimately hone in on a limited number of specific build alternatives that might become candidates for future project development, the major alternatives were presented in the *Ridership Report* (February 2003). Now that decisions have been made regarding system alternatives for further consideration, for simplicity and clarity in this *Final Project Report*, only the "surviving" major build alternatives are analyzed. Thus, only two system build alternatives are presented and analyzed herein.

5.3 ALTERNATIVES FOR DETAILED MODEL-RELATED COMPARISONS

There is one "Baseline" alternative and two "benchmark" build alternatives, as described below. The benchmark build alternatives should be thought of as refined, indicative alternatives at this stage; specific locational aspects of guideway envelope and stations may change during the course of project development.

5.3.1 Long Range Transportation Plan as Baseline Alternative

In keeping with standard transportation planning practice and in accordance with Federal Transit Administration (FTA) guidance for studying major transit capital investments, the first system alternative is the "Baseline" alternative, defined in this case as the "No Build" (no project) alternative. This alternative incorporates all of the improvements identified in the Pinellas MPO's officially adopted year 2025 Cost Feasible Long Range Transportation Plan (LRTP), including major upgrades to US-19 and other highways. This alternative does not include any rail project in Pinellas County, and only limited bus system enhancements. The transit network in Pinellas' Cost Feasible LRTP was shown earlier as Figure 2-1.

This system alternative is considered the "Baseline" because all test networks and scenarios have been built on top of the LRTP highway and transit networks, as incremental additions of transit supply. The Baseline alternative is important to FTA, since it is the frame of reference against which to gauge relative increases in transit utilization, and to gauge the cost effectiveness of proposed guideway transit projects.

With the LRTP transit system network, consisting of mostly local bus service and limited express bus service, the year 2025 ridership (boardings) is forecast to be approximately 41,600 boardings per day: 40,600 for local bus plus 1,000 for express bus. This forecast represents marginal growth from the approximately 32,000 daily boardings currently serviced by the Pinellas Suncoast Transit Authority (PSTA).

5.3.2 Full Guideway Monorail Alternative with Flat Fares

At the time of the predecessor Major Investment Study's Locally Preferred Alternative (LPA) report, there were several potential candidate technologies under consideration that are not capable of full automation. However, as discussed earlier, in the *Candidate Elevated Transit System Analysis Report* (January 2003) prepared for PMI, monorail was recommended as the principal guideway system technology. The Steering Committee and the MPO Board both accepted this recommendation.

Current PSTA local bus boarding fares are $1.25. For ease of fare collection, for customer convenience and to enable free transfers between all Pinellas transit modes, it may desirable to set all boarding fares, including rail, at $1.25. This seamless transfer capability provides increased convenience, which encourages additional ridership for both the bus and rail system.

This full guideway build alternative thus assumes monorail technology for 38 linear miles (in the corridors previously shown in Figure 2-2) and a $1.25 flat boarding fare for any and all Pinellas

transit modes, with free transfers between Pinellas transit modes. It also assumes an operating scenario that takes advantage of driverless monorail trains – which enables frequent service without considerably higher operating cost – and minimization of transfers between lines.

Minimization of transfers between separate monorail lines could be realized with alternating trains leaving from the same station yet having different destinations. For example, a train might leave downtown Clearwater for Countryside every ten minutes, with stops at all stations in between. Also, a train destined for St. Petersburg might leave the same station at ten-minute intervals with stops at all stations in between. Traveling east, a rider could access all stations from downtown Clearwater to Clearwater Mall via either train. At the Clearwater Mall station, the Countryside train would head north, whereas the St. Petersburg train would head south. Similarly, riders could travel from St. Petersburg to Countryside or to downtown Clearwater/Clearwater Beach without the need to change trains, and riders entering the system at Countryside could travel to either St. Petersburg or downtown Clearwater/Clearwater Beach without having to change trains.

The benefit to the user is that the system would be made much more convenient by not requiring a transfer in order to reach his/her final destination in all cases. Elimination of the transfer requires less end-to-end travel time, which encourages additional ridership.

Another consequence of this type of service is that, where the lines overlap, the headways are essentially cut in half. For example, if you leave downtown Clearwater bound for Clearwater Mall, you could take either the Countryside or the St. Petersburg train. If both of these trains were operating on 10-minute intervals, a train bound for Clearwater Mall could leave every 5 minutes. The same would apply if you travel from the St. Petersburg-Clearwater International Airport to downtown St. Petersburg, or anywhere in between.

Under this frequent-service operating scenario, with 38 linear miles of monorail and a flat transit fare, daily transit boardings (unlinked trips) for year 2025 are forecast by the model to total 97,800 – 41,000 on rail, 10,800 on express bus and 46,100 on local bus. This represents a considerable increase in transit utilization in comparison with the LRTP "Baseline" alternative.

As with most regional models, the Tampa Bay Regional Planning Model does not adequately account for the effects of tourism upon transit ridership forecasts. There is little clear guidance nationally on how to incorporate an active tourist population like Pinellas County experiences. Therefore, potential additional tourism ridership has been estimated off-model, as described below.

According to St. Petersburg/Clearwater Convention and Visitor's Bureau data, there are approximately 93,000 tourists present in the county on an average day. These include people staying from 1 to 30 days, either in lodging establishments, or staying with friends or relatives. During the peak season, this number could be as high as 180,000 per day.

One way of looking at the tourism effect would be to assume that tourists would have the same general inclination to use transit as residents would. In this case, since the tourist population

approximates 10 percent of the resident population, an upward adjustment of 10 percent could be made to the ridership estimates derived above.

However, recent success of the "Beach Trolley" (a frequent-service bus route running up and down Gulf Boulevard) indicates that tourists are responding to convenient public transit in greater proportion than residents. This is reasonable when factors such as congested traffic in the beach areas, limitations on and/or price of parking in beach areas, availability of many hotels/motels and restaurants in a linear corridor, and lack of familiarity with the county are brought into the mix. It may be reasonable to assume that the tourist population might be twice as likely as the resident population to use public transit. Under this scenario, ridership factoring of 20 percent might well be reasonable.

For this report, tourism has been estimated to potentially increase model-generated ridership estimates by 10 to 20 percent. With a 20 percent increase in boardings, ridership for the full guideway alternative is estimated to be 117,400 boardings daily – comprising 49,200 on rail, 13,000 on express bus and 55,300 on local bus.

5.3.3 Monorail with Bus Rapid Transit in Central Avenue Corridor

This alternative differs from the full guideway alternative in that it incorporates Bus Rapid Transit (BRT) rather than monorail in the Central Avenue corridor from the Tropicana Field station west to the end-of-line station at Tyrone Boulevard/Park Street. For those trips requiring use of both monorail and BRT, an intermodal transfer (treated as free of charge) at the Tropicana Field station would be necessary. Although this represents a time inconvenience to the user, premium transit using BRT in lieu of monorail may be more in keeping with the desires of local area residents.

Essentially all other facets of the two build alternatives would be the same, including flat $1.25 fare policy and overlapping operating scenario that doubles up service on common segments. The monorail portion of the alternative with BRT would extend 30 linear miles, the BRT portion 8 linear miles. Total system length would be 38 linear miles.

Boardings (unlinked person trips) forecast by the model total 96,500 daily – including 33,200 on rail, 6,600 on Bus Rapid Transit, 11,000 on express bus and 45,700 on local bus.

With a 20 percent tourism related add-on in boardings, ridership for this alternative is estimated to be 115,800 boardings daily. This includes 39,800 on rail, 7,900 on Bus Rapid Transit, 13,200 on express bus and 54,900 on local bus. Rail boardings for this alternative would be significantly lower than for the full guideway alternative, however if rail and BRT boardings were summed, the difference in boardings for these most premium modes would amount to about 3%. Overall boardings (all transit modes) would differ by 1.3 percent.

Estimated total daily boardings by mode in year 2025 are summarized below for each build alternative under "without" and "with" tourism scenarios:

Transit Mode	Full Guideway System without Tourism	Full Guideway System with Tourism	Guideway/BRT System without Tourism	Guideway/BRT System with Tourism
Rail	41,000	49,200	33,200	39,800
BRT	N/A	N/A	6,600	7,900
Express Bus	10,800	13,000	11,000	13,200
Local Bus	46,100	55,300	45,700	54,900
Totals	**97,800**	**117,400**	**96,500**	**115,800**

5.4 MODELED ANALYSIS RESULTS FOR DETAILED COMPARISONS

Comparisons for year 2025 between and among the three benchmark alternatives (LRTP Baseline plus two Build scenarios) are made in this section for a variety of modeling related parameters such as transit supply, fare structure, mode split, mode of access to transit, characteristics of the transit ride, daily and annualized highway system impacts for both Pinellas County and the Tampa Bay Region. It should be noted that the results given herein are estimates taken from outputs of the Tampa Bay Regional Planning Model, and therefore do not include the additional beneficial effects of increased tourism-related ridership.

5.4.1 Transit Supply Characteristics

The demand for transit services, as manifest by the boarding forecasts, relates to the supply of transit. With no transit supply there would be no manifest transit demand. Conversely, the provision of more transit tends to yield more ridership – at least to a point of market saturation. Table 5-1 compares key supply characteristics for local and express bus, Bus Rapid Transit (BRT) where applicable, and rail where applicable for the Cost Feasible Long Range Transportation Plan (LRTP), the full guideway alternative and the guideway + BRT alternative. Directional route miles (A to B plus B to A, as applicable), transit vehicle requirements and transit vehicle miles as output by the models (based upon the coded transit network) are presented by mode, for a typical peak hour and a typical off-peak hour. For local and express bus, the Build alternatives would offer more route miles and significantly more vehicle miles than the Baseline (the LRTP), but corresponding vehicle requirements would also be higher – meaning that fleet sizes would need to be appreciably larger.

Once again it should be emphasized that the estimates given in Table 5-1 are taken from TBRPM outputs. These represent preliminary figures; route miles, vehicle requirements and vehicle miles would all be refined as specific transit operating plans are drawn up. Nonetheless the full guideway alternative would offer more rail service than the guideway plus BRT alternative. By the same token, more rail vehicles (train-sets) would be needed in order to provide the higher levels of service. Six BRT vehicles would be required (per the model) for the guideway + BRT alternative.

Table 5-1
Comparison of Pinellas Transit Supply Characteristics

Year 2025 Supply Characteristics	Cost Feasible LRTP		Full Guideway Alt.		Guideway/BRT Alt.	
	Typical Peak Hour	Typical Off-Peak Hour	Typical Peak Hour	Typical Off-Peak Hour	Typical Peak Hour	Typical Off-Peak Hour
Local and Express Bus:						
Route Miles*	1491	1343	1647	1563	1647	1563
Vehicles Required	244	168	266	188	266	188
Vehicle Miles	2818	1711	3752	2276	3752	2276
Bus Rapid Transit:						
Route Miles*	NA	NA	NA	NA	17	17
Vehicles Required	NA	NA	NA	NA	6	6
Vehicle Miles	NA	NA	NA	NA	100	100
Pinellas Rail:						
Route Miles*	NA	NA	137	137	120	120
Vehicles Required	NA	NA	32	32	28	28
Vehicle Miles	NA	NA	820	820	720	720

*From Point A to Point B plus, where applicable, Point B to Point A.

5.4.2 Fare Structure

Table 5-2 provides the fare matrices coded for Pinellas transit in three charts, namely Table 5-2(i) for the LRTP, Table 5-2(ii) for the full guideway alternative, and Table 5-2(iii) for the guideway + BRT alternative. Each chart indicates the direct access (boarding) fare and fare (if any) to transfer between individual Pinellas transit modes. For the two Build alternatives, the patron would pay the same ($1.25 in current dollars) to board any given Pinellas transit mode, and would be able to transfer at no cost to any other Pinellas transit mode.

5.4.3 Modal Capture

Mode split refers to the mode of travel individuals choose for any given trip. There are two basic categories – highway and transit. Person trips made by "highway" may be drive alone, or with one or more passengers. A key goal of projects like PMI is to get people out of their cars and onto transit. FTA is particularly concerned with the degree to which a proposed transit project achieves diversion of person trips from highway to transit, and at what cost per individual traveler diverted.

Table 5-2(i)

Pinellas Transit Fare Matrix: Year 2025 Cost Feasible Long Range Plan

	To Mode		
From Mode	Local Bus	Express Bus	Pinellas Rail
Direct Access (Boarding Fare)	$ 1.00	$ 1.50	N/A
Local Bus	Free	$ 0.50	N/A
Express Bus	Free	Free	N/A
Pinellas Rail	N/A	N/A	N/A

Table 5-2(ii)

Pinellas Transit Fare Matrix: Year 2025 Guideway Alternative

	To Mode		
From Mode	Local Bus	Express Bus	Pinellas Rail
Direct Access (Boarding Fare)	$ 1.25	$ 1.25	$ 1.25
Local Bus	Free	Free	Free
Express Bus	Free	Free	Free
Pinellas Rail	Free	Free	Free

Table 5-2(iii)

Pinellas Transit Fare Matrix: Year 2025 Guideway/ BRT Alternative

	To Mode		
From Mode	Local Bus	Express Bus & BRT	Pinellas Rail
Direct Access (Boarding Fare)	$ 1.25	$ 1.25	$ 1.25
Local Bus	Free	Free	Free
Express Bus & BRT	Free	Free	Free
Pinellas Rail	Free	Free	Free

"Linked" trips by transit, also known as transit capture, are forecast to increase appreciably for the build alternatives relative to the baseline alternative. The increments are treated as "new riders" because prior to (inputting and testing) the new transit system alternatives, these trips were made by automobile. It turns out that the total of new users is appreciably higher for the entire Tampa Bay region than for just Pinellas County, although the additional transit is coded only for Pinellas. Travel patterns and mode choice have been beneficially affected beyond the confines of Pinellas County, because of the new and enhanced transit (that would be) put in place in Pinellas. To some degree this affects people (person trips) moving between Pasco County and Pinellas (both directions), since frequent express bus runs would be made up to and across the Pasco County line – even enhancing the market for Pasco/Hillsborough trips by transit, via Pinellas. Especially affected are person trips between Pinellas and Hillsborough (both directions), given the frequent inter-county express bus services coded along all three existing Tampa Bay bridges and the Top of the Bay route (Tampa Road/Hillsborough Avenue). This enables easy transfers to/from Tampa Rail which is included in Hillsborough County MPO's Cost Affordable Long Range Transportation Plan.

Consistent with FTA planning guidance, the baseline is compared to the build alternatives. Table 5-3 compares mode split results for home-based work trips, all non-work trips and total person trips, for the three alternatives. These are "linked" transit trips, not to be confused with boardings since two or more boardings (owing to transfers) may be required to satisfy a given transit person trip. Review of Table 5-3 indicates that marked improvements in transit capture would be realized. For the Baseline (2025 LRTP), transit would achieve 2.0 percent capture for work trips and 0.6 percent capture for all other trips; overall, transit would capture not quite one percent of all person trips. With the Build alternatives, overall transit capture would improve to 1.8 percent of all person trips – 3.1 percent for home-based work trips and 1.5 percent for non-work trips. Total daily linked transit person trips are forecast to double with either Build alternative in comparison with the LRTP.

5.4.4 Breakdown of Transit Boardings into Work and Non-Work Purposes

Table 5-4 shows the relative distribution of boardings by individual mode for the three benchmark alternatives. For the 2025 LRTP (Baseline), total transit boardings would be split evenly between home-based work and non-work trip purposes. For the two Build alternatives, nearly two-thirds of total transit boardings would be for non-work purposes. This statistic demonstrates full-time utilization of the transit infrastructure put in place, as opposed to peak period only utilization. Spreading of the demand throughout the day allows for more efficient fleet management and utilization.

5.4.5 Analysis of Station Boardings for Build Alternatives

Forecasts of boardings by transit station are an important input to station sizing and planning of parking (if any) and other on-site facilities. Table 5-5 was developed to display the relative degree to which individual stations would draw users. The modeled boardings represent total boardings by station without regard to how travelers access the given station. Tropicana Field and Countryside Mall (US 19/SR 580) stations receive the greatest number of boardings. Part of the demand for boardings at Tropicana Field station relates to its being treated as a transfer

Table 5-3

Mode Split Comparison For Pinellas County (1000s)

Alternative	Highway Person Trips				Linked Transit Person Trips*	Total Person Trips
	Drive Alone	One + Passenger(s)	Total Highway	(Average Vehicle Occupancy)		
2025 Cost Feasible LRTP						
Home-Based Work	576.0	96.2	672.3	(1.086)	13.8 (2.0%)	686.0
All Non-Work	1231.2	1396.2	2627.4	(1.428)	15.8 (0.6%)	2643.3
Totals	1807.2	1492.5	3299.7	(1.358)	29.6 (0.9%)	3329.3
2025 Guideway Alternative						
Home-Based Work	567.2	97.5	664.7	(1.089)	21.4 (3.1%)	686.0
All Non-Work	1199.8	1404.6	2604.4	(1.441)	38.9 (1.5%)	2643.3
Totals	1767.0	1502.0	3269.1	(1.369)	60.2 (1.8%)	3329.3
2025 Guideway/BRT Alt.						
Home-Based Work	567.3	97.5	664.8	(1.089)	21.3 (3.1%)	686.0
All Non-Work	1200	1404.8	2604.8	(1.441)	38.5 (1.5%)	2643.3
Totals	1767.3	1502.2	3269.6	(1.369)	59.8 (1.8%)	3329.3

* Percents shown in parentheses indicate transit mode share
Note: May not total exactly due to rounding errors

Table 5-4

Distribution of Pinellas Transit Boardings Into Home Based Work and Non-work Purposes

Pinellas Transit Mode	Cost Feasible LRTP		Guideway Alternative		Guideway/BRT Alternative	
	Home-Based Work	All Non-Work	Home-Based Work	All Non-Work	Home-Based Work	All Non-Work
Local Bus	49%	51%	42%	58%	42%	58%
Express Bus	94%*	6%*	38%	62%	38%	62%
Bus Rapid Transit (BRT)	N/A	N/A	N/A	N/A	15%	85%
Pinellas Rail	N/A	N/A	27%	73%	29%	71%
All Transit Boardings	50%	50%	35%	65%	35%	65%

* Refers to PSTA's current Rt. 100X

Table 5-5
BOARDINGS ANALYSIS FOR BUILD ALTERNATIVES

Station Location	Modeled Boardings (Year 2025)	
	Full Guideway Alternative	Guideway w/Central Ave. BRT Alternative
Clearwater Beach	1,320	1,310
Court/Oak	660	680
Court/Missouri	1,770	1,820
Gulf to Bay/Hercules	2,190	2,170
US 19/Gulf to Bay	2,810	2,800
US 19/Nursery	380	380
US 19/Roosevelt	2,350	2,290
Roosevelt/Bay Vista	640	660
St. Pete-Clearwater Airport	90	90
Sunshine Speedway	1,140	1,160
Roosevelt/28th Street	810	800
I-275/Gandy	1,650	1,620
I-275/54th Avenue	3,070	3,010
I-275/38th Avenue	1,460	1,490
I-275/22nd Avenue	1,720	1,730
Tropicana Field	5,460	5,160
6th Avenue S./6th Street S.	1,150	1,140
6th Avenue S./1st Street S.	330	340
1st Avenue S./1st Street S.	930	940
1st Avenue S./32nd Street S.	1,320	1,250
1st Avenue S./49th Street S.	490	460
1st Avenue S./66th Street S.	1,280	1,240
66th Street N./5th Avenue N.	250	220
66th Street N./Tyrone Blvd.	870	1,070
Tyrone Blvd./Park Street	1,400	570
US 19/Drew Street	420	430
US 19/Sunset Point Road	1,000	980
US 19/SR 580	4,030	4,010
Daily Boardings Analysis		
Modeled Daily Boardings	40,990	39,820
Potential Daily Tourist Boardings (+20%)	8,200	7,960
Potential Total Daily Boardings with Tourists	49,190	47,780
Peak Period Boarding Analysis		
Peak Load Factor	12%	12%
Directional Boardings	24,600	23,890
Peak Directional Demand	2,950	2,870

station in the network coding. Countryside Mall is the end-of-line station for North Pinellas, and captures many park-and-ride trips.

5.4.6 Mode of Access to Transit

In the Tampa Bay Regional Planning Model (TBRPM), there are four different ways for the mode split routines to "send" individuals to access transit: by walking to catch the local bus; by walking to catch a premium mode like express bus, BRT or rail; by being dropped off at a point of access ("kiss and ride"); or by parking then catching the bus or train ("park and ride"). The distribution of transit person trips by mode of access can provide an overall indication of the need for parking and drop-off facilities.

Table 5-6 compares the three benchmark alternatives for mode of access to transit, separately for home-based work, non-work and all transit person trips. Relatively little use would be made of the auto for accessing transit under the Cost Feasible LRTP; three-fourths of transit patrons would access transit by foot. Auto access to transit would increase significantly under the Build alternatives – to half the person trips including park-and-ride and kiss-and-ride. Walk access would continue to be important for getting to local bus for work trips. Both pick-up/drop-off accommodations and parking facilities would be important to the Build alternatives.

Table 5-6

Mode of Access For Pinellas Linked Transit person Trips

Alternative	Walk to Local	Walk to Premium	Park and Ride	Kiss and Ride
2025 Cost Feasible LRTP				
Home-Based Work	75.1%	3.2%	10.3%	11.5%
All Non-Work	77.5%	0.4%	11.7%	10.3%
All Transit	76.4%	1.7%	11.0%	10.9%
Guideway Alternative				
Home-Based Work	41.1%	7.3%	26.5%	25.1%
All Non-Work	20.5%	30.8%	26.5%	22.2%
All Transit	27.8%	22.5%	26.5%	23.2%
Guideway/BRT Alternative				
Home-Based Work	41.4%	7.3%	26.4%	24.9%
All Non-Work	20.8%	31.0%	26.2%	22.0%
All Transit	28.1%	22.6%	26.3%	23.0%

5.4.7 Unlinked vs. Linked Transit Trips

"Unlinked" transit trips are boardings; the individual traveler may need to board more than once to complete his/her given trip, depending on point of origin and point of destination. Two bus trips may need to be made, or two rail trips, or one of each, for example. "Linked" transit trips are counted one time, regardless of the number of boardings necessary to complete the given trip, and therefore represent individual, unique patrons.

Table 5-7 presents the calculated ratio of unlinked to linked trips – that is, boardings per linked transit trip – for the three alternatives, for home-based work, non-work and total transit person trips. With the build alternatives providing greater transit service, the ratios would be appreciably higher than for the LRTP Baseline, indicating that relatively more transfers would take place. This is common when there is a healthy mix of different forms of transit.

Table 5-7

Boardings Per Linked Transit Person Trip

Alternative	Home-Based Work	All Non-Work	All Transit Person Trips
2025 LRTP	1.51	1.31	1.40
Guideway Alt.	1.61	1.63	1.62
Guideway/BRT Alt.	1.60	1.62	1.61

5.4.8 Key Characteristics of the Transit Ride

Certain statistics that characterize the typical ride, especially average distance per (unlinked) trip and average time spent on-board, are indicative of system convenience and usability. These statistics are supplied by mode in Table 5-8 for the three benchmark alternatives. Perhaps most telling are the statistics for total transit boardings: although the overall average distance per transit trip would remain constant at around 4 ½ miles, the time spent on-board would drop off considerably from 17 minutes for the LRTP to 12 minutes under either Build alternative. Greater reliance on the faster, premium modes like monorail and BRT would save the user time.

Another interesting finding is that the local bus mode, while continuing to capture significant patronage, would drop off appreciably in average user trip distance (and, concomitantly, average time spent on-board). The average distance of a typical local bus ride would be 3.1 miles under one of the Build alternatives, compared to 4.2 miles under the LRTP, representing a reduction of one-fourth in distance. This also indicates increased user convenience through travel time savings by introducing premium services.

Table 5-8

Characteristics of the Pinellas Transit Ride

	2025 Cost Feasible LRTP		2025 Guideway Alt.		2025 Guideway/BRT Alt.	
Pinellas Transit Mode	Avg. Distance per Trip (miles)	Avg. Time on Board (mins)	Avg. Distance per Trip (miles)	Avg. Time on Board (mins)	Avg. Distance per Trip (miles)	Avg. Time on Board (mins)
Local Bus	4.2	17.2	3.1	11.6	3.1	11.7
Express Bus	9.6*	22.3*	6.1	14.1	6.0	14.0
Bus Rapid Transit (BRT)	N/A	N/A	N/A	N/A	4.1	10.5
Pinellas Rail	N/A	N/A	5.6	11.1	5.8	11.7
All Transit Boardings	4.4	17.3	4.5	11.7	4.5	11.9

* Refers to PSTA's current Rt. 100X

5.4.9 Highway System Performance, Emissions and Fuel Use

One particular module in the TBRPM outputs key highway system statistics. This can be accomplished for the entire FDOT District 7 modeling area, or for each County within the Tampa Bay Region. Therefore the impacts of Pinellas premium transit upon highway system performance can be viewed internal to Pinellas County, or beyond the County line.

The highway evaluation results are reported in Table 5-9 for Pinellas and Table 5-10 for the entire region. Relative to Baseline (LRTP), both Build alternatives are forecast to yield significant reductions in VMT, VHT, emissions, fuel use, users cost, volume-to-capacity ratio and delay due to congestion. Overall speed under congested conditions would also improve.

What is particularly interesting is that the regionwide differences (Table 5-10) would be appreciably greater than the Pinellas County-only differences. This shows the positive effects of connecting service to neighboring counties, such as Pasco and Hillsborough (the latter which would enable intermodal transfers to/from Tampa Rail). Travel patterns and mode choice would be beneficially affected regionwide by introducing a high level of premium transit in Pinellas.

5.4.10 Annualized Value of Savings

As aforementioned, the Build alternatives yield changed travel patterns and new transit users both within and without Pinellas. Owing principally to reduction in vehicle miles and vehicle

Table 5-9

Highway System Performance Results
For Pinellas County Only

Highway System Statistics	2025 Cost Feasible LRTP	Guideway Alternative*	Guideway w/BRT Alt.*
Vehicle Miles of Travel (1000 VMT)	19,199.9	17,694.4 (-1,505.6)	17,695.4 (-1,504.6)
Vehicle Hours of Travel (1000 VHT)	643.2	585.2 (-58.0)	585.5 (-57.7)
Overall Volume/Capacity Ratio based on Total VMT	0.68	0.62 (-0.06)	0.62 (-0.06)
Overall Volume/Capacity Ratio based on Total VHT	0.69	0.63 (-0.06)	0.63 (-0.06)
Overall Original Speed (mph)	31.28	31.28	31.28
Overall Congested Speed (mph)	28.33	28.54 (+0.21)	28.54 (+0.21)
CO Emissions (1000 Kilograms)	369.5	329.7 (-39.7)	330.2 (-39.3)
HC Emissions (1000 Kilograms)	26.1	23.5 (-2.6)	23.5 (-2.6)
NO Emissions (1000 Kilograms)	37.0	34.2 (-2.8)	34.2 (-2.8)
Fuel Use (1000 Gallons)	1,201.5	1,107.3 (-94.2)	1,107.4 (-94.2)
Users Cost ($)	$7.872M	$7.255M (-$0.617M)	$7.255M (-$0.617M)
Delay due to Congestion (1000 Vehicle Hours)	102.6	86.6 (-16.0)	86.8 (-15.7)

* Differences relative to the 2025 Cost Feasible LRTP are shown in parentheses

Table 5-10

Highway System Performance Results
For Entire Tampa Bay Regional Modeling Area

Highway System Statistics	2025 Cost Feasible LRTP	Guideway Alternative*	Guideway w/BRT Alt.*
Vehicle Miles of Travel (1000 VMT)	80,513.7	73,971.2 (-6,542.5)	73,966.9 (-6,546.8)
Vehicle Hours of Travel (1000 VHT)	2,650.7	2,377.1 (-273.6)	2,376.7 (-274.1)
Overall Volume/Capacity Ratio based on Total VMT	0.66	0.61 (-0.05)	0.61 (-0.05)
Overall Volume/Capacity Ratio based on Total VHT	0.69	0.63 (-0.06)	0.63 (-0.06)
Overall Original Speed (mph)	33.00	33.00	33.00
Overall Congested Speed (mph)	28.86	29.44 (+0.58)	29.44 (+0.58)
CO Emissions (1000 Kilograms)	1,546.3	1,380.6 (-165.7)	1,380.6 (-165.7)
HC Emissions (1000 Kilograms)	108.5	97.6 (-10.9)	97.6 (-10.9)
NO Emissions (1000 Kilograms)	161.0	148.7 (-12.3)	148.7 (-12.4)
Fuel Use (1000 Gallons)	5,038.5	4,629.1 (-409.4)	4,628.9 (-409.7)
Users Cost ($)	$33.011M	$30.328M (-$2.682M)	$30.326M (-$2.684M)
Delay due to Congestion (1000 Vehicle Hours)	537.5	434.8 (-102.8)	434.4 (-103.2)

* Differences relative to the 2025 Cost Feasible LRTP are shown in parentheses

hours associated with highway trips being converted to transit, daily savings for key parameters are appreciably higher for the Tampa Bay region than for just Pinellas. When converted from daily to annual figures, the differences between Pinellas County and region become that much greater.

Table 5-11 therefore focuses on annualization of the year 2025 impacts of the full guideway alternative vis-à-vis the Baseline (Cost Feasible LRTP). Annualized savings accruing to the community – attributable to implementation of the full guideway system – would be

considerable. Highway users costs would be reduced $181 million a year in Pinellas, and $786 million regionally. Highway delay would be reduced by 4.7 million vehicle hours a year in Pinellas, 30.1 million vehicle hours a year regionwide. Vehicle miles of travel, vehicle hours of travel and emissions would all be reduced considerably on an annual basis, whether viewing Pinellas alone or the entire region. Some 27.6 million gallons of fuel would be saved annually in Pinellas County alone – 120 million gallons regionally. It is important to note that, since these figures are model-generated, they do not include the beneficial impacts of additional tourism-related ridership estimated off-model.

Table 5-11

Annualized Value of Changes For Guideway Alternative in Year 2025 Relative to Cost Feasible LRTP

Key Statistic	Pinellas County	Tampa Bay Region
Highway VMT Reduction (1000 VMT)	441,100	1,917,000
Highway VHT Reduction (1000 Hours)	17,000	80,200
CO Emissions Reduction (1000 Kilograms)	11,600	48,600
HC Emissions Reduction (1000 Kilograms)	750	3,200
NO Emissions Reduction (1000 Kilograms)	820	3,600
Fuel Reduction (1000 Gallons)	27,600	120,000
Highway Users Cost Reduction ($)	$181M	$786M
Highway Delay Reduction (1000 Vehicle Hours)	4,700	30,100

* Assumes an annualization factor of 293, which is borrowed from the Hillsborough Area Regional Transit Authority's Section 5309 New Starts Criteria Report to FTA for Tampa Rail Project (October 2001)

6.0 CONCEPTUAL COST

Capital (construction, right-of-way, and related) costs and operating & maintenance (O&M) costs have been estimated for the build alternatives. Details on assumptions and methodology are given in the full cost reports - the *System Capital Cost Report* (April 2003) and *System Operations and Maintenance Cost Report* (April 2003). Appendix F herein supplies some pertinent cost details in tabular format.

6.1 CAPITAL COST ESTIMATES

Six categories are key to the capital cost estimates. They are described here. Table 6-1 (next page) furnishes the capital cost estimates by category for the two build alternatives. (See also the *System Capital Cost Report* or Appendix F for further details.)

Structure and Roadway Related Costs – beams, columns, foundations, walkway, noise abatement, switches, electrification, electric power substations, signals, control system, communication system, utility rélocation, road reconstruction, signing and striping, and traffic control.

Station Related Costs – platforms, stairs, elevators, bus bays, pick-up/drop-off area, parking, pedestrian amenities, and landscaping.

Contingencies and Add-on Costs – mobilization, design, construction management, insurance, legal assistance, and contingencies.

Right-of-Way Related Costs – land costs (includes owner related costs, business damages, litigation), support costs (includes appraisal, CPA, court reporter, process server, expert witness, mediators, surveys), and relocation costs.

Trains and Buses – ten-minute train frequency during all operating hours, a Smart Card fare collection system, fully automated monorail operations, monorail trains, traditional and advanced buses.

Maintenance and Control Facility – basic design and function, control and maintenance center.

Capital costs for the build alternatives in their entirety are estimated in Table 6-1 to be from about $1.2 to $1.3 billion for the guideway plus BRT alternative, and from $1.4 to $1.5 billion for the full guideway alternative. As seen in Table 6-1, right-of-way acquisition comprises a substantial portion of the overall cost. As project development continues, additional efforts will be made to avoid property acquisition, where practicable, and to secure right-of-way donations for stations and parking facilities to minimize overall capital outlay

Table 6-1
CAPITAL COST ESTIMATES FOR BUILD ALTERNATIVES

Cost Category	Complete Guideway Alternative	Guideway with Central Avenue BRT
Structure and Roadway Related Costs	$645.9M	$513.1M
Station Related Costs	$66.5M	$58.9M
Contingencies and Add-on Costs	$370.4M	$295.2M
Right-Of-Way Costs	$206.7M to $323.9M	$228.9M to $340.7M
Trains & Buses Costs	$111M	$106.2M
Maintenance & Control Facilities Costs	$24.5M	$24.5M
TOTALS	$1,425.0M to $1,542.2M	$1,226.8M to $1,338.6M

6.2 OPERATING AND MAINTENANCE COST

Annual operations and maintenance costs have been estimated for the build alternatives. The *System Operations and Maintenance Cost Report* (April 2003) provides technical details, operating plan assumptions, cost estimating methodology, etc. (See also Appendix F for more detailed tabular breakdowns.) The proposed transit system would comprise an elevated mainline monorail, supported by at-grade local and express buses and trolley circulators. One build alterative differs from the other in that at-grade Bus Rapid Transit (BRT) is proposed from Tropicana Field west to Park Street at Tyrone Boulevard, rather than elevated monorail.

Annual operating and maintenance (O&M) costs are noted to vary significantly on a systemwide basis by how much at-grade support transit is placed in service. This can be seen in Table 6-2 where monorail cost would vary little between build alternatives. Several scenarios were analyzed that essentially vary the number of hours where the supporting transit services would be operable. The minimum scenario provides service hours equal to or slightly exceeding existing bus service hours. The maximum scenario provides extended hours for all bus routes intersecting the monorail line, while the medium scenario presents a compromise service plan. Annual operations and maintenance costs would vary between $24.9 million and $40.3 million, depending upon which of these service levels is ultimately selected.

Table 6-2
ANNUAL OPERATIONS AND MAINTENANCE COST ESTIMATES
($ Millions, Year 2003 Dollars)

Transit System Component	Implementation Scenario					
	Complete Guideway Alternative			Guideway with Central Avenue BRT		
	Full at-grade Support	Medium at-grade Support	Minimum at-grade Support	Full at-grade Support	Medium at-grade Support	Minimum at-grade Support
Monorail	$15.8	$15.8	$15.8	$15.4	$15.4	$15.4
Enhanced Express Bus	$10.5	$6.4	$4.8	$10.5	$6.4	$4.8
Bus Rapid Transit	$0	$0	$0	$0.6	$0.5	$0.5
Trolley Circulators	$3.1	$3.1	$2.9	$3.1	$3.1	$2.9
Additional Local Bus	$10.7	$7.3	$1.4	$10.7	$7.3	$1.4
Totals	**$40.10**	**$32.60**	**$24.90**	**$40.30**	**$32.70**	**$25.00**

7.0 POTENTIAL FUNDING SOURCES

7.1 CURRENT TRANSPORTATION FUNDING SOURCES

Currently, the County utilizes a variety of federal, state, and local sources to finance transportation infrastructure. In addition to these, Pinellas Suncoast Transit Authority (PSTA) operates a separate governmental unit, created by the Florida Legislature, with independent taxation and eminent domain authority to provide public transit in the County.

This section describes existing funding sources and amounts generated from them, current commitments, and applicability to funding a new fixed guideway system. Most information herein was obtained from the Pinellas MPO's 2025 Long Range Transportation Plan (LRTP).

7.1.1 Federal/State Funding Sources

There are a variety of state and federal funding sources currently used by the County for providing transportation infrastructure and services. Sources are summarized here (greater detail is available in the LRTP).

State Arterial Funds – State arterial funds are monies that come from US DOT through FDOT and are programmed by the MPO. These funds can be used for improvements to any state-maintained facility under jurisdiction of the MPO. Most of these funds are anticipated for state roadway improvements through 2025, with no surplus of funds likely to be available for PMI-related project implementation. For purposes of this report, this funding category includes what are referred to as XU/Transportation Management funds allocated to MPO areas with population in excess of 200,000. Included in this category are National Highway System funds.

The MPO has earmarked approximately $11.7 million of these funds for PMI activities through 2025. From other arterial funds, the MPO has earmarked approximately $2.9 million for PMI activities through 2025.

Intermodal Funds – These funds are reserved for projects that enhance intermodal access. Application for these funds is made to FDOT, which then has the authority to grant the funds if the proposed project is consistent with FDOT funding criteria. Through the 2025 LRTP, it was assumed that the County would receive $48.7 million in intermodal funding. To receive these funds, projects need to be identified during the application period. Improvements derived from PMI, if demonstrated to meet intermodal access and enhancement criteria, might qualify for Intermodal funding. These funds are already programmed through FY 2007/2008. FDOT is currently taking applications for FY 2008/2009.

Congestion Mitigation and Air Quality Funds – Congestion Mitigation and Air Quality (CMAQ) funds are reserved for projects which help the region attain air quality goals and standards identified in the National Ambient Air Quality Standards (as reported in the federal Clean Air Act, as amended). Due to its status as an air quality maintenance area, Pinellas County

is eligible for these funds. In recent years, much of the County's CMAQ funding has been used to enhance and further construction of non-motorized trails and bikeways, e.g. the Pinellas Trail.

Much of the CMAQ funding available is earmarked for projects in the 2025 LRTP. While possible that some funding for PMI could be made available, it is not anticipated that major funding would be derived from this source without jeopardizing some key programs and projects already underway.

Transportation Enhancement Funds – Transportation enhancement (TE) funding was created under ISTEA, the precursor to TEA-21 (the current federal transportation funding bill). Transportation enhancement funds are intended to increase the aesthetics or non-motorized functionality of transportation projects. TE funds are typically used for streetscaping, bicycle and pedestrian facilities, and renovation of transportation-related historic properties such as historic train depots or stations. It is possible that enhancement funds could be used for like purposes towards implementation of PMI improvements. FDOT estimates that the MPO will receive a declining amount of these funds: at $1.9 million per year currently, but tapering to $1.4 million per year by 2025. Total TE funds are estimated at $32 million for the period.

7.1.2 Local Funding Sources

In addition to the aforementioned federal funding sources, Pinellas County has a variety of local funding sources available for constructing new transportation infrastructure, as described below.

Gas Taxes – The County currently levies a six-cent local option gas tax. The gas tax levy is primarily used for operations and maintenance of transportation facilities, with a small amount (about $1/6^{th}$) used to help cover short-term shortfalls in capital costs. The municipalities retain about 25% of the money collected through this source; the County retains the remaining 75%. Since most of this tax is used for maintenance of existing (and planned future) facilities, no surplus for use on PMI-related improvements is anticipated.

Transportation Impact Fees – Transportation impact fees are levied against new development at such time as a certificate of occupancy is issued. These fees are used to construct new facilities in accordance with the County's Transportation Impact Fee Ordinance. Case law in Florida requires that impact fees be used in a manner that directly or indirectly benefits the fee payor, towards mitigating impacts reasonably attributable to the new development. This is known as the "rational nexus" test.

Currently, there are several impact fee exception areas in the County. In these areas, no impact fees are collected on new development since no or only a very few improvements are scheduled in the affected exception area. At present, the collecting municipality retains about half these impact fees, with the other half going to the County.

PMI corridors traverse many impact fee exception areas in the County. It may therefore be difficult to collect and use impact fees for PMI program activities. However, small amounts of impact fee revenue may be utilized for further project implementation activities.

Penny for Pinellas Sales Tax – Pinellas County currently collects a 1¢ local option sales tax under the "Penny for Pinellas" program. Voters in the County have thus far approved this one-penny sales tax for two ten-year terms. The first term under this tax was effective for ten years beginning February 1, 1990. The second ten-year term is effective through 2010.

Between 2000 and 2010, this tax is expected to generate nearly $1.4 billion in revenue. Of this amount, approximately $715 million would be remitted to the County, with $641 million being retained by the municipalities; $80 million would go towards jail facility upgrades and expansions. In the second referendum, not all projects to be funded with Penny for Pinellas proceeds were committed, meaning that there is considerable flexibility in terms of what projects the extended program could fund. The recently approved 2025 LRTP assumes full utilization of the Penny for Pinellas funds through 2010. However, as projects are dropped, added, or reprioritized, the Penny for Pinellas funding pool is flexible enough to permit reallocation of funds by the receiving agency or local government.

7.1.3 Pinellas Suncoast Transit Authority Funds

Pinellas Suncoast Transit Authority (PSTA) is the public transportation provider in Pinellas County. PSTA was created by the Florida Legislature as an independent governmental entity, with powers of taxation and eminent domain. PSTA's ad valorem taxing capability is legislatively capped at 0.75 mills, yet it currently operates with a 0.6501 mill levy. In addition to ad valorem taxes, PSTA receives funds from the farebox, advertising, charter services, state and federal grants. Pinellas County does not provide operating subsidies to PSTA. The PSTA Board has the authority to raise PSTA's current levy to its maximum authorized amount (i.e. 0.75 mills). However to exceed 0.75 mills would require an increase in the cap by the Florida Legislature, with voter approval through referendum.

In addition to levying a property millage, PSTA receives capital grants from the Federal Transit Administration (FTA) and from FDOT. These grants vary from year to year. The federal funds are appropriated each year in the Federal Transportation Appropriations Act. The FDOT grants are awarded through application each year to FDOT.

7.2 UNUSED OR UNDERUTILIZED FUNDING SOURCES

As stated in the previous section, the County currently utilizes a variety of federal, state, and local sources to finance the provision of transportation infrastructure and services. In addition to these existing sources, there are several funding sources authorized by state law that are currently not used or are underutilized by the County. These are discussed below.

7.2.1 Federal and State Funds

Based upon review of the LRTP, most state and federal funding sources are committed through 2025. There are a few sources, however, that are uncommitted in the Long Range Plan. Chief among these are intermodal funds, transportation enhancement funds, and some CMAQ funds. The CMAQ and enhancement funds are largely identified with projects in the LRTP. The intermodal funds must be applied for each year (an estimate of the potential funding from these

sources is furnished by FDOT for use in updating the LRTP Cost Feasible Plan). Together, these are estimated to comprise a funding pool of about $15 million over the next 20 years.

7.2.2 Local Funds

There are several local funding sources available but not currently committed. These consist of designated use gas taxes. The County is currently authorized by state law to levy an additional 5¢ per gallon of gasoline tax for sales within the County. This gas tax requires voter approval by referendum, or by a supermajority vote of the County Commission. By law, these additional taxes must be spent on capacity-enhancing transportation improvements contained in the Capital Improvements Elements of the local government Comprehensive Plans. The County must split this revenue with the municipalities, at approximately a 75/25 County/municipal split. If enacted, this tax would generate approximately $18 million per year in additional revenues, with the County receiving about $13.5 million of the funding stream. Projected over a 20-year period, this would generate approximately $270 million that could be used to provide transportation infrastructure. Since the tax is not in place currently, all of this money could be used to finance guideway transit development. Moreover, bonds could be issued against this revenue stream in ten-year increments to generate significant capital monies for early use.

The County is also currently authorized to levy a ninth cent local option gas tax. This tax would need to be approved either by voter referendum or by a supermajority vote of the County Commission. It is estimated that this tax would generate an additional $3.5 million per year, without a requirement for sharing with municipalities. Over a 20-year period, this tax could generate $70 million. This could also be bonded against in order to raise capital for advanced improvements, or could be utilized for recurring operating and maintenance expenses.

7.2.3 PSTA Funds

As described previously, PSTA currently operates below its allowed millage cap. Were PSTA's ad valorem levy raised by 0.1 mill to the cap, an additional $4 million per year would be generated. The extra money could then be used for capital expenditures, operations, or maintenance of equipment.

7.3 POTENTIAL NEW FUNDING SOURCES

There are several potential new funding sources that could be considered for possible use on guideway transit development, as described below.

7.3.1 Penny for Pinellas Renewal

The current "Penny for Pinellas" authorization expires in 2010. Voter approval would be required to extend this program beyond that year. The current penny program was projected to generate approximately $715 million for the County (non-jail revenue). In addition to the County's share, approximately $641 million was projected for the municipalities. Of the municipal share, the largest amounts are generated for Clearwater and St. Petersburg, $107 million and $256 million, respectively. Were the program extended from 2010 to 2020, it is

likely that this source could generate a like amount of money that could be used for guideway development.

7.3.2 Charter County Transit System Surtax

This revenue source is a 1¢ local option sales tax available to counties in Florida – including Pinellas – which had adopted Home Rule Charters prior to June 1, 1984. The tax can be enacted through a referendum called by a supermajority vote of the County Commission. Proceeds from the tax can be used for construction, operations or maintenance of a transit system. By provision of the law, up to 25% of the proceeds can be used for non-transit items such as roads, trails, or other transportation improvements, with the remaining 75% dedicated for transit expenditures.

The County's budget office estimates that this tax could generate at least $116 million per year over a ten-year period, for a 10-year total of nearly $1.2 billion. This estimate was based upon the actual taxes collected over the first three-years of the Penny for Pinellas. With this tax in place, the minimum to be dedicated to transit would be $900 million over the ten-year period, with the other $300 million available for miscellaneous transportation projects, including transit.

7.3.3 Tax Increment Financing Districts

In the event of guideway system implementation in the County, tax increment financing could become a viable source of recurring revenue to help fund capital outlays, operations and maintenance. The tax increment finance district program would capture ad valorem tax revenue accrued due to new development in the vicinity of the guideway, and would funnel this revenue back to the operating agency to use on system maintenance, operations, or expansion. Provision of the guideway could spur redevelopment or new development in the area of stations; the operating agency would be the primary beneficiary of the increased value of these improvements. Revenue sharing could be packaged to send a portion of the greater revenue to the affected municipality, with the remainder accruing to the guideway operating agency.

Tax increment districts could be created in the vicinity of guideway stations. In these areas, the current tax roll value would be determined, then fixed as the baseline. New development or redevelopment occurring within defined station areas would presumably enhance tax rolls within these districts. The ad valorem property taxes collected on the additional tax base could be used to fund guideway construction or other system activities. Tax increment districts could be established about all stations, or only at station areas likely to enjoy significant redevelopment. Revenues generated from this type scheme could be significant. In Dallas, the Dallas Area Regional Transit Authority (DART) has seen new development occurring near their light rail stations amounting to hundreds of millions of dollars within the first few years of system operation. This development is market driven, but can also be attributed to DART's aggressive marketing of station area development potentials.

7.3.4 Transit Station Area Impact Fees

Another option would be to collect transit impact fees from properties in close proximity to the new guideway. Presumably, these properties would appreciate in value, be redeveloped, and

would pay a transit impact fee to the operating agency upon issuance of a certificate of occupancy for the new development project. In an indirect way, this would also help the agency recover some of the increased value associated with the guideway. If needed, the transit impact fee could also be treated as a credit against the existing transportation impact fee collected by the County. In this way, the total amount collected would be the same, giving full recognition to guideway transit being an important component of the overall transportation system.

The most significant obstacle to a transit impact fee is the fact that many areas of the County are presently covered by an impact fee exception, such that the transportation impact fee is not collected. In these areas, collection of a transit impact fee would amount to a new exaction on development. However, the fact that, in many cases, the new development is predicated on guideway implementation could help to alleviate some of the concerns. Transportation impact fee exceptions are granted for five-year periods, after which new applications must be made requesting extension of the exception. Given this, it is possible that the exemptions could be lifted and fees collected again for the benefit of the transit system.

7.3.5 Transit Station Area Land Leases

Under this type program, the operating agency would acquire not only the land needed for the station, but the land around the station as well. Then, the agency would solicit a development partner to develop transit-oriented development on the site. The developer would pay the agency an annual fair-market value lease rate for the land for a long-term ground lease. This type of financing opportunity is attractive because it provides recurrent revenue for the operating agency, while allowing the agency to control the type, character, and quality of the development that occurs around its stations. This also empowers the agency with site plan approval so that the agency can be sure that the site will be developed in a manner that promotes guideway utilization. Metropolitan Atlanta Rapid Transit Authority (MARTA) is currently experimenting with this type of financing.

7.3.6 Countywide Transit System Levy

If the County proceeds with implementation of a fixed guideway system, one potential funding source would be a countywide transit system levy, similar to or in addition to the levy currently imposed by PSTA. It is estimated that, based upon the current value of the tax rolls, a 1mil levy would generate approximately $42.5 million per year. Based upon final system configuration and cost, a fractional levy could be developed to help fund system capital, operating, and maintenance costs. Enactment of this type levy would require a majority vote of the County Commission.

7.3.7 Federal New Starts Funding

The federal program which funds expansion to or development of new fixed guideway transit systems is known as the Section 5309 "New Starts" program. Federal Transit Administration (FTA) has jurisdiction over these funds. Through the New Starts program, transit properties that meet criteria established by Congress can receive funding to assist the system's capital development. Although the program officially requires a 20% local (or State) match to FTA

funds, the New Starts program has become extremely competitive, now commonly calling for local match contributions in the neighborhood of 40 to 50 percent (or more). If Pinellas County can identify significant resources with which to match federal grants, then local money can be leveraged into more significant revenues, better meeting capital funding needs. There are many regulatory hurdles that must be cleared to secure a grant. However, the PMI program should be well positioned to compete with other transit properties nationwide.

7.3.8 Other State and Federal Grants

One other state grant resource potentially available is the Governor's "Fast Track" transportation program. Funding is derived from the former High Speed Rail pool allocated by the state to fund its portion of the high-speed rail program. The state had set aside $70 million per year for this purpose; these monies are now available for other public transportation uses. Project applications are received and reviewed by the state for funding consideration. Generally, the state is looking for projects that are "production ready" and offer an economic development benefit. In the first round of funding, several studies and design activities received funding grants, in amounts up to approximately $1 million. It is possible that PMI could receive grants from this pool to assist with environmental clearance or engineering design.

7.3.9 Extension of PSTA Millage

Through its enabling legislation, PSTA is capped at a 0.75-mill levy on real property. This cap could be amended by the Florida Legislature to enable the tax to be applied to intangible property as well, or to raise the cap itself. Some transit systems in Florida operate under as high as a 3-mill cap. Implementation of any new millage under the PSTA statute would, however, require passage by referendum within PSTA's service area.

8.0 IMPLEMENTATION ACTIONS

The PMI committees have taken various actions regarding items affecting ultimate project implementation. These include items such as funding, governance, phasing and New Starts.

8.1 GOVERNANCE

A Technical Memorandum entitled *Transit Governance Alternatives* was completed in June, 2002. The purpose of the Memorandum was "*to evaluate several transit governance alternatives consistent with state law, and to recommend the alternative that is best suited for implementation of a countywide public transportation system in Pinellas County.*" It was anticipated that the Memorandum would start a process of selecting the best overall transit governance structure for Pinellas County. During this process, additional information and input could be received from the MPO's planning partners relating to the recommendations made within the Memorandum.

The Technical Memorandum recommended three governance options:

- Creation of a new county agency under the Board Of County Commissioners;
- Revision of the existing Pinellas Suncoast Transit Authority's special act; or
- Creation of a new independent authority.

The Technical Memorandum has produced substantial discussion including special workshops and presentations to the Pinellas Suncoast Transit Authority, City of Clearwater, City of St. Petersburg, Board Of County Commissioners, and the MPO. A historic workshop was held on April 30, 2003. Participants were the boards of the PSTA, BOCC and MPO. This was the first meeting of its kind between the three boards. After intense discussions, the combined boards appointed a six-member subcommittee to further consider the issue of governance and bring back a recommendation. The subcommittee met on two occasions and determined that the governance issue is complex, requiring additional time to arrive at a quality decision. It is expected that a recommendation and final decision will be made during the course of the Preliminary Engineering phase of the PMI.

8.2 STEERING COMMITTEE ACTIONS

The Pinellas Mobility Initiative Steering Committee met on June 2, 2003, with all members in attendance. The PMI consultant made presentations encompassing:

- Current and potential new funding sources;
- Various options for phasing of a guideway project;
- Schedule for the remainder of the PMI;
- Transit governance; and
- Federal Transit Administration "New Starts" process.

Lively and substantive discussions took place among Steering Committee members with the following conclusions being reached:

- A decision on transit governance does not have to be made within the next few months. Deliberations on the issue may continue in parallel with the Preliminary Engineering and Environmental Impact Statement (PE/EIS) process, the next phase in project development. This would provide time to arrive at a fully informed, quality decision.
- Construction phasing for the project does not have to be decided now but can be determined during the PE/EIS phase.
- A long-term funding source for the project does not have to be secured at this time but must be in place prior to entering the Final Design phase of project development.

The Steering Committee took official action by unanimously recommending – for consideration by the Metropolitan Planning Organization (MPO) – that *the full, 38-mile monorail system be adopted as the Locally Preferred Alternative* (LPA). This recommendation was made with the understanding that a north/south guideway connection from Tyrone Boulevard at Park Street in St. Petersburg to Court Street in downtown Clearwater – generally using the Alternate US 19 corridor – be prioritized as the first follow-on phase per the Policy Plan guideway network adopted by the MPO in October 1999 during the Major Investment Study (see Figure 1-1). Appendix G presents a summary of the recommended alternative and a conceptual implementation scenario.

Further to the Committee's deliberations, Federal Transit Administration Section 5309 New Starts Criteria documentation should be prepared on the full 38-mile guideway system for submission in September 2003. Additionally, construction phasing of the full guideway program into a series of discrete projects should not be hastily determined now; this should rather be studied later with decisions carefully reached during the next phase of project development (Preliminary Engineering and Environmental Impact Statement).

8.3 MPO ACTIONS

The Pinellas County Metropolitan Planning Organization (MPO) Board met on June 11, 2003. Among other items on its agenda, the MPO considered the recommendation brought before it by the PMI Steering Committee as a result of action taken at the June 2, 2003 meeting. Following substantive discussions, the MPO Board voted to accept the recommendations of the Steering Committee. Specifically, the MPO adopted the full 38-mile monorail system as the Locally Preferred Alternative (LPA) to be included in the *Final Project Report*, with the understanding that the aforementioned western segment running north/south generally along the Alternate US 19 corridor would receive first priority in a supplemental follow-on phase. Moreover, the New Starts documentation for the Federal Transit Administration should be prepared on this LPA for submission to the MPO and FTA in September 2003. This documentation is to be developed with the understanding that construction phasing of the full LPA, and governance will be addressed during the Preliminary Engineering phase of the project.

The MPO Board stressed the need to gauge public support for the proposed guideway transit system, its estimated cost and the proposed sales tax to pay for the system prior to committing substantial funding for further implementation activities. Therefore, additional focus group and public opinion surveys will be performed coincident with FTA review of the New Starts Criteria and related reports. After conduct of these activities, decisions will be made as to how much local funding to provide for additional project implementation items.

8.4 IMPLEMENTATION OPTIONS

Subsequent to the development of the build alternatives summarized herein, several additional implementation options were developed for MPO consideration as the ultimate Locally Preferred Alternative (LPA). These options included an analysis of cost constrained options based upon varying funding scenarios. These options ranged from development of a bus-only implementation scenario to a full 38 mile monorail system implementation scenario, with varying levels of each in between. These various scenarios are summarized in Table 8-1 below, and are provided in Appendix H.

TABLE 8-1
IMPLEMENTATION SCENARIOS CONSIDERED

Implementation Scenario		10 Year Cost Estimates (in millions of $ - 2003)	
		Capital	O&M
A	Bus Only	$26.7	$72.6
B	BRT Only	$105.5	$76.6
C	Downtown Clearwater and Downtown St. Pete monorails only (no BRT)	$225.7	$100.4
D	SPC Airport to Downtown St. Pete monorail (no BRT)	$555.9	$119.6
E	Downtown Clwtr to Downtown St. Pete monorail (no BRT)	$983.2	$131.4
F	Clwtr Beach to Downtown St. Pete monorail, BRT in Central Ave corridor	$1,306.8	$137.1
G	Full monorail system, no BRT	$1527.8	$135.9
H	Clwtr Beach to SPC Airport monorail (no BRT)	$488.6	$104.0

These options were reviewed by the Steering Committee and the MPO Board, with the final decision being made by the Board to pursue full implementation of the 38 mile monorail system, Alternative G, as the basis for the LPA. It was further decided that this Alternative G would be the network to be analyzed during Preliminary Engineering, and that specific segment phasing and prioritization would be developed during the PE phase.

9.0 THE LOCALLY PREFERRED ALTERNATIVE

The newly adopted Locally Preferred Alternative (LPA) for the Pinellas Mobility Initiative represents a comprehensive package of premium transit types and services, incorporating elevated guideway (monorail technology) as its signature component, along with enhanced express bus and rubber-tired trolleys – all in addition to local bus routes. The new LPA is illustrated in Figure 9-1.

System description, system costs, proposed funding sources and so forth for the new LPA may be summarized in outline form as follows (a detailed year-by-year implementation scheme is proposed as presented in Appendix G).

9.1 SYSTEM CHARACTERISTICS

9.1.1 Medium Performance Monorail – Appendix D presents detailed aerial views of the monorail alignment. Generally, it runs from Clearwater Beach to downtown St. Petersburg, from Clearwater Mall to Countryside Mall, and from Tropicana Field to Park Street. The monorail is characterized by:

- Fully automated (driverless) operation
- 38 miles of dual guideway track
- 28 stations
- Maintenance facility in the area of the proposed Florida High Speed Rail station
- Operating Hours – 19 hours per day

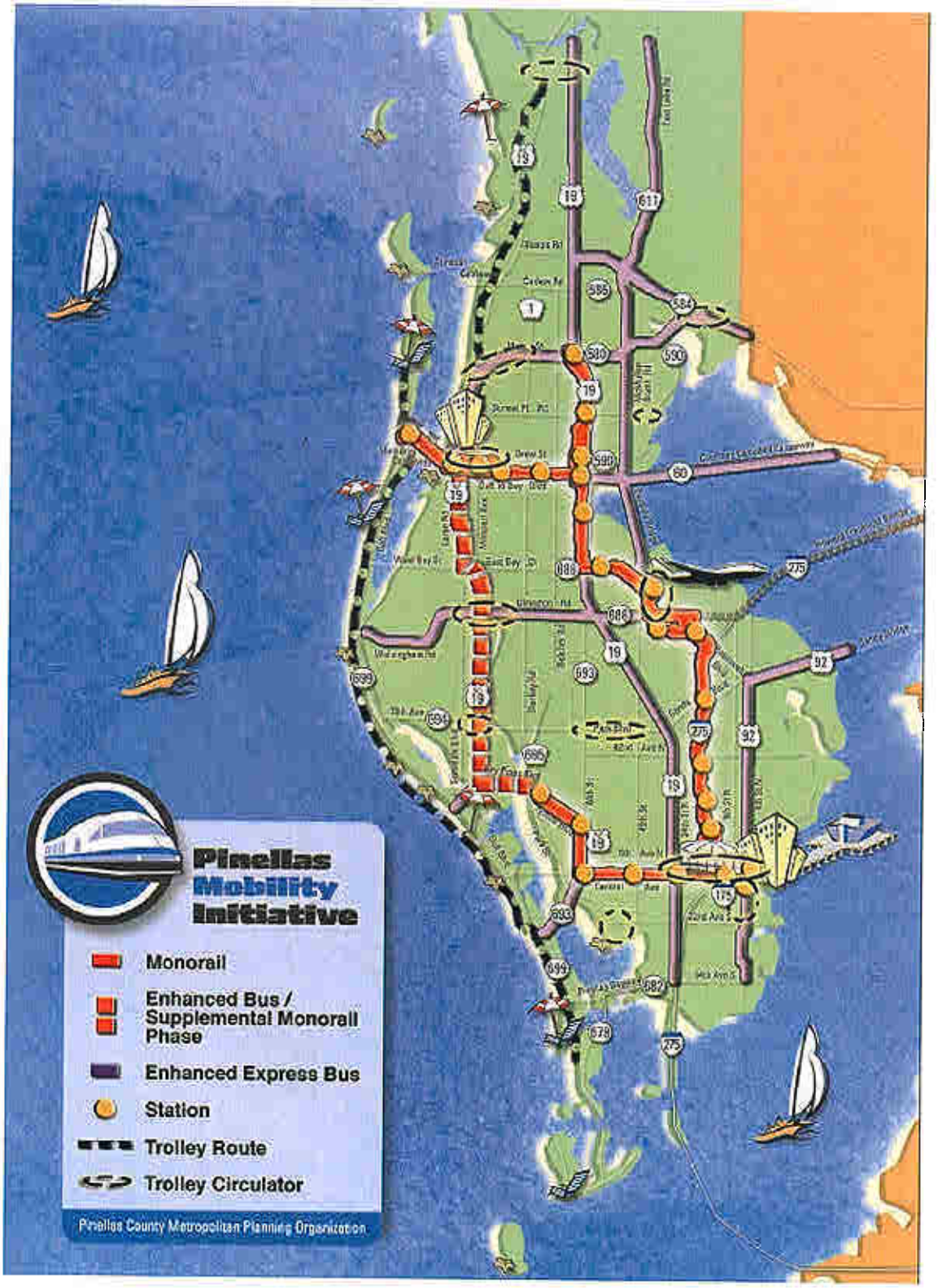
9.1.2 Enhanced Express Bus – Provides enhanced service throughout Pinellas County and connections to Hillsborough and Pasco Counties along select routes:

- 49th Street/McMullen Booth Road – Carillon Office Park to Pasco County
- US 19/34th Street – 54th Avenue South to Pasco County
- Ulmerton Road/Walsingham Boulevard – Gulf Boulevard to I-275
- SR 580 – Alt. US 19 to Hillsborough County
- Tampa Road – US 19 to SR 580
- 4th Street – 54th Avenue South to Gandy Boulevard
- Alt. US 19 – Park Street to Downtown Clearwater
- Welch Causeway – Gulf Boulevard to Alt. US 19
- Corey Causeway – Gulf Blvd to Central Avenue
- Operating hours – Minimum scenario, being 8 hours per day

9.1.3 Trolley and Local Bus Services – Provide circulating trolley service and adjust local bus service on select routes, as follows:

- Trolleys – 12 trolleys circulators each averaging 2-mile routes, operating in one-way loop service for 15 hours per day
- Bus Service – Minor rerouting of existing bus routes to meet guideway stations. Operating hours as per Long Range Transportation Plan until demand builds to levels that warrant change.

FIGURE 9-1
LOCALLY PREFERRED ALTERNATIVE



9.2 SYSTEM COSTS

9.2.1 Pre-Construction Cost

- Preliminary Engineering – Estimated at $12.6 million
- Design – Estimated at $85.0 million

9.2.2 Capital Cost

- Total Capital Cost – Estimated at $1.43 billion

9.2.3 Operating and Maintenance (O&M) Cost

- Maximum Annual Cost – Estimated at $25.0 million
- Total Initial 10-Year Cost – Estimated at $135.9 million, based on phased implementation

9.3 PROPOSED FUNDING SOURCES

9.3.1 Local Funding

- Charter County Transit Surtax - - State legislation that allows Pinellas County to implement a sales tax of up to 1-cent. Up to 25 percent can be used for non-transit purposes. Monies can be spent on capital and operating expenses. Requires Board of County Commissioners action and passage by local referendum. Could generate $116 million or more per year.
- New Local Gas Tax - - Two gas taxes totaling up to 6-cents per gallon. The monies are limited to capital expenditures. Requires a supermajority vote by the Board of County Commissioners or passage of a local referendum. Could generate $21 million per year.
- Penny for Pinellas Sales Tax - - Existing sales tax of 1-cent effective beginning February 1, 1990 to 2000. A second 10-year term is effective through 2010. Some monies may be available for programming through 2010. Extension from 2010 to 2020 could allow for more extensive programming of these funds for transit.

9.3.2 Florida Department of Transportation Funding

- Intermodal Funds - - Funds are reserved for projects that enhance intermodal access and meet FDOT criteria. Applications are currently being accepted for year 2007/2008. The Year 2025 LRTP earmarks $48 million of these funds.

9.3.3 Federal Transit Administration Funding

- Section 5309 grant funds are available assuming criteria are met. Funds can be applied to meet a maximum of 50 percent of the project's capital costs.

9.4 IMPLEMENTATION SCENARIO/PHASING – Estimated at 10 years, as shown in Appendix G

9.5 POLICY PLAN FIRST-PRIORITY SEGMENT

9.5.1 Priority Segment – The LPA was adopted with the understanding that a north/south segment along the County's west side would be constructed in a later follow-on phase, as per the MPO's Policy Plan Guideway Transit Network. The guideway segment on the Policy Plan connecting the Park Street/Tyrone Boulevard area with downtown Clearwater is recommended as the first-priority segment once construction is complete on the 38 miles of monorail shown in Figure 9-1.

9.5.2 Cost – Length of this additional segment is approximately 13 miles. Assuming an aggregate cost of about $40 million per mile, the total cost of this segment is estimated at around $520 million in current dollars.

9.5.3 Funding Potential – In the funding plan drafted for the 38-mile monorail system, it was estimated that the federal matching share would be approximately 25% of the total cost. If the federal matching share were increased, or additional revenue sources were identified, then this segment could be accelerated. Otherwise, it would be the next-stage implementation project beyond the ten-year period identified for the initial 38 miles of monorail, meaning that implementation of this additional segment could occur in years 10-15 of the proposed implementation plan.

10.0 UPCOMING STEPS GUIDING THE PINELLAS MOBILITY INITIATIVE

Certain actions have already been taken and these are noteworthy. Follow-on steps flow from those actions already taken.

10.1 PROJECT DEVELOPMENT AND IMPLEMENTATION STRATEGY

The MPO Board wishes to move forward into project development with a 38-mile monorail system comprising 28 stations and dual guideway track throughout, run in fully automated (driverless) operation. The needed maintenance facility is recommended to be located generally in the area of the proposed Florida High Speed Rail station. Ten (10) years would be needed to construct the monorail system. The system would be supported/supplemented by express bus services, local bus and trolley services.

For the full monorail system, pre-construction costs are estimated at $12.6 million for Preliminary Engineering/Environmental Impact Statement (Draft and Final) and Final Design services at $85 million. System capital cost is estimated at $1.43 billion. Total ten-year operating and maintenance cost is estimated at $126.6 million.

The bulk of funding for construction is proposed to come from two sources: (1) a local option one-penny transit surtax (sales tax) that would generate approximately $116 million or more per year, or $1.16 billion over ten years; and (2) an FTA Section 5309 New Starts capital grant.

Towards fulfillment of the MPO Board's wishes, the next step towards project development would entail preparation of the Section 5309 New Starts Criteria Report for the full monorail system, and submittal of this documentation to the Federal Transit Administration in September 2003. Two companion documents will also have to be prepared and submitted to FTA, namely the Financial Plan and the Project Management Plan. These reports would serve as the basis for the MPO's follow-on request of FTA for authorization to enter into the next phase of project development: Preliminary Engineering and Environmental Impact Statement (Draft and Final).

10.2 COMPLETION OF STUDY DOCUMENTATION

Once agency reviews have been conducted and comments issued in a timely manner, the PMI consultant will incorporate/address comments and appropriately modify (as needed) the present report. It will then be re-issued as the *Final Project Report.* The Section 5309 *New Starts Criteria Report* for the Pinellas Mobility Initiative, and the companion *Project Management Plan* and *Financial Plan* will be prepared concurrently.

Supplemental analyses may be required to develop additional information needed as the project approaches Preliminary Engineering. These analyses may include:

- Coordination and conduct of vendor presentations to the Steering Committee;
- Vendor liaison;

- Special projects implementation planning, which may include trolleys, express buses, or bus rapid transit systems consistent with the recommended alternative;
- Coordination and additional analyses, if needed, related to transit governance;
- Additional analyses and research into revenue sources and programming of these sources;
- Continued coordination with FDOT, FTA, and local governments;
- Public opinion surveys and focus groups related to project activities;
- Ridership forecast refinement;
- Initial activities relating to the initiation of Preliminary Engineering.

10.3 STEPS NEEDED TO ENTER PRELIMINARY ENGINEERING

There are a number of hurdles that Pinellas County will need to clear prior to entering the Preliminary Engineering/Environmental Impact Statement (PE/EIS) process with federal financial assistance. We have already discussed submittal of the FTA-required *New Starts Criteria Report*, *Project Management Plan* and *Financial Plan*. In addition:

- Adoption of the revised, Locally Preferred Alternative (LPA) into the MPO's Cost Feasible Long Range Transportation Plan (LRTP);
- Completion of the aforementioned FTA New Starts Reports;
- Submission of a formal request to enter PE; and
- Programming of necessary local funds for PE/EIS activities.

10.4 PROJECT PHASING

There has been considerable discussion relative to the prioritization of project segments for implementation. At the Steering Committee meeting of July 21, 2003, this prioritization was discussed at length. It was the decision of the committee that more information was required prior to forming final recommendations on project phasing, and that this data would be developed and analyzed early in the Preliminary Engineering phase of the project. Information to be considered in this prioritization and phasing include:

- Segment ridership forecasts;
- Segment costs;
- The development of logical termini so that segments can open for passenger use as they are completed;
- Potential private sector involvement in segment financing, station construction, or other elements;
- Local government involvement in segment financing, station construction, or other elements.

As these and other data are developed, segment prioritization and project phasing will be evaluated more fully, and recommendations will be developed for sequential project completion.