



Sarasota/Manatee Public Transportation System Analysis
Final Technical Memorandum
April 2002



RECOMMENDED PUBLIC TRANSPORTATION SYSTEM PLAN

INTRODUCTION TO THE SYSTEM PLAN

This section describes the recommended system plan for public transportation in Sarasota and Manatee Counties. It is important to note that this system plan is intended to provide a sense of overall direction and guidance concerning strategic investments in public transportation alternatives to improve mobility and access for the region through the year 2025. As such, the system plan identifies a complementary set of transit-supportive strategies that, in combination with a well-defined institutional framework, will provide residents, workers and visitors with a higher level of personal mobility and increased travel choices linking the region.

With this long-range, strategic vision perspective in mind, it is worth noting that the system plan is not a detailed operations plan for transit service, nor an incremental allocation of resources to enhance existing service. That function is provided by the five-year Transit Development Plan (TDP), which is updated annually by the two transit agencies. It is also not a marketing plan that identifies steps to build public support and awareness of available transit services. Rather, this system plan serves as a complement to the MPO's adopted 2025 Long Range Transportation Plan to guide decisions that will need to be made over the next several years concerning implementation of regional transit service priorities, supporting elements like land use, parking and employer-based travel demand management strategies, and funding.

The recommendations included in this system plan are based on a combination of technical analysis (market assessment and alternatives evaluation), interviews and meetings with key community representatives, such as employers, economic development specialists and social service agencies, and results of three public workshops held at key milestones in the project. Those activities, undertaken by the MPO, have guided the Public Transportation System Analysis (PTSA) study process.



SYSTEM PLAN OVERVIEW

Like much of Florida and the nation, the Sarasota/Manatee region is overwhelmingly dependent on the automobile as its transportation system, and for the last several decades has geared the vast majority of transportation system improvements toward facilitating safe and efficient automobile travel. While this strategy has afforded the area's population with convenient travel and historically high levels of mobility, rising congestion levels from continued growth and development require increasing levels of funding for roads that is outstripping the region's ability to pay for those improvements. Furthermore, continuing the region's single-minded focus on road building and widening threatens natural resources, contributes to worsening air quality and promotes sprawl development patterns. Worse yet, by focusing on roads to serve travel needs exclusively by private automobile, people who have mobility limitations, such as the elderly, lower income, disabled and children under age 16, face real challenges in meeting essential daily needs such as shopping, getting to jobs and school, social interaction and obtaining medicine or other services.

The objective of the PTSA is to identify a strategy to help the region achieve a more balanced transportation system in the future, one that offers a greater variety of travel options to help reduce the need for the billion-dollar backlog of unfunded road construction projects. The premise behind a more balanced transportation system is that an integrated and complementary set of strategies can satisfy the area's mobility needs through more efficient and equitable use of public resources.

In support of that objective, this system plan addresses the inter-relationships between different types of transit service options that need to work in a coordinated fashion to meet the area's mobility needs in the future. Achieving a balanced transportation system requires that multiple strategies be employed to reflect different trip purposes, travel needs and personal preferences. Such transit options include:

- Traditional fixed route bus service;
- Park-and-ride lots with express shuttle bus service;



- Transportation demand management strategies like vanpools, carpools, rideshare matching, flexible work hours and other related programs;
- Advanced Public Transportation Management Systems, such as traveler information, signal system priority and automated fare payment methods, and
- Parking management strategies that address parking location, pricing and availability in appropriate areas.

Public transportation cannot operate effectively or efficiently in a vacuum. In this area, simply putting more buses into revenue service to increase route frequency and coverage is only part of the equation. Land use policies that promote transit-supportive building design, higher densities and a mix of land uses around major transit stops, along with adequate transit infrastructure (e.g. wider sidewalks, shelters with benches and information kiosks), is necessary to increase the convenience and comfort for patrons. Without such programs, there is ample evidence that the system will be unable to attract many riders who have a choice of travel options, further marginalizing support for public transportation in the area.

To encourage a reasonable shift in travel mode share toward public transportation, the area's future transit system must offer more competitive travel times along major corridors linking centers of activity. Among the transit alternatives evaluated for the PTSA, Bus Rapid Transit (BRT) is recommended as an economically feasible long-term public transportation strategy for the Sarasota/Manatee MPO. This alternative provides the most cost-effective approach to meeting the region's future mobility needs and supporting community development objectives. The recommended 2025 Public Transportation System Plan is presented below in Figure 5.



Sarasota/Manatee Public Transportation System Analysis
Final Technical Memorandum
April 2002



Figure 5 Recommended System Plan

Please see the PTSA System Plan Map on the Website



Mobility Needs

The area cannot sustain a road construction program that will keep pace with expected future congestion levels. The region has many six-lane roads, and the only way to add substantial capacity to these roadways is to build grade-separated interchanges, (e.g. US 19 in Pinellas County). The monetary cost for such interchanges is often prohibitive, requiring purchase of extensive rights-of-way for ramps and storm water retention. The community impacts can also be quite high, with wider, built-up roads creating visual blight, increasing traffic speeds, reducing access and separating neighborhoods and commercial areas. State policy precludes widening state roads beyond six lanes, largely because of these negative impacts and limited benefits to the transportation system. Similarly, road-widening projects face increasing opposition from neighborhood groups and growth management advocates.

While additional roadway capacity will certainly be needed in the future, the region should diversify its transportation investments. Providing transportation alternatives prolongs the useful life of the system and increases accessibility for all citizens, not just those who are physically or financially able to operate their own personal vehicle.

Public transportation in its various forms has been marginalized for many years in Sarasota and Manatee Counties. The transit systems in the two counties have historically operated largely independently from each other, and currently provide substantially different service levels within their respective counties. Existing transit service also provides limited opportunity for inter-county travel. A lack of public support and limited funding have led the two transit systems to focus on serving a core group of transit-dependent riders with relatively few routes. As a result, those who use public transportation to reach jobs or school, or to satisfy shopping and medical needs, generally face long waits and travel times. Long travel times discourage people who have travel options from using the system, thus robbing the system of potential users.

Through interviews with major employers in the region, recruitment and retention of employees is a constant challenge. Because of work shift schedules at area hospitals, hotels and industrial parks, many workers cannot get to work or home from work using public



transportation. This situation effectively precludes many potential workers from the work force, and the inability to fully staff certain positions, due to high turnover, has a ripple effect throughout the area's economy.

Transit-Supportive Land Use

Providing good transit service is only one part of the equation to build an effective transit system. To encourage greater use of public transportation, area local governments must begin to work cooperatively toward development of transit-friendly land use plans and policies. Such policies create gathering points for the transit system at logical places by encouraging accessibility and proximity of buildings so they can be more efficiently and effectively served.

Specifically, land use plans and transit-oriented design standards must be developed for key transit corridors and areas surrounding designated transfer centers. Within the US 41 corridor, the two counties should jointly prepare a redevelopment plan or plans. These plans would create a more intensive land use pattern leading to the creation of compact transit centers that include a clustering of different land uses, such as retail, apartments and offices around stations.

Transit centers should be developed as quarter-mile zones or nodes, with a pedestrian scale street pattern and buildings located in relative close proximity to the street and to each other. At this scale, transit service can be effectively integrated into the walking range of most people – elderly, disabled and young alike. An example of this type of pedestrian scale and street interconnectivity is the Hillview neighborhood in Sarasota located immediately south and west of Sarasota Memorial Hospital.

Streets should be easy to cross, so most transit centers will not be located on major six-lane roadways, but to either side of them, in close proximity to buildings and supported by an internal road network. Development of an interconnected, or grid-like local street system is an important element in transit-friendly design. Interconnection of local streets allows for more compact building patterns with on-street parking or smaller off-street lots or parking structures. Rather than forcing pedestrians to wait adjacent to University Parkway or US 41, transit stops in



centers may be located on two-lane interior streets, offering more convenient and comfortable access for pedestrians.

Land use policies and regulations should be adjusted, as necessary, to encourage mixed-use districts for each center with a pedestrian design and a network of interconnected streets. Primary transit centers are employment based, such as downtowns and major mixed-use suburban office parks. Secondary transit centers are retail and residential based, such as Sarasota Square Mall or Siesta Village.

Efforts being undertaken by the cities of Bradenton, Sarasota, Venice and North Port, as well as in Sarasota County and Manatee County, address the creation of transit-supportive centers. These plans should ensure that dedicated bus transfer facilities are incorporated into development plans to provide convenient access to surrounding buildings and facilities.

SYSTEM PLAN ELEMENTS

Three key principles guide the development of this recommended system plan. The principals reflect the work of previous study tasks to define the transit market, develop alternatives and evaluate viable transit strategies. The guiding principles for the MPO's transit system plan are:

1. Address existing and future traffic congestion "choke points" by providing expanded mobility options within constrained road segments, such as bridges and redevelopment districts;
2. Support economic development and jobs access through direct, convenient and fully accessible transit service linking residential areas to employment destinations, and
3. Integrate public transportation with land use through development of highly accessible community centers that support transit, walking and bicycling, and help reduce air pollution.



Each of those principles entail development of a complementary set of public transportation services and policies, ranging from improved coordination of the Transportation Disadvantaged program, to development of commute options and supporting strategies addressing parking, land use/design and traveler information.

The corridor that runs generally along US 41 and US 301 between Palmetto, through downtown Bradenton and downtown Sarasota, to the Sarasota Memorial Hospital and South Gate Plaza shopping center, should serve as the backbone of the region's future public transportation system. This corridor is currently the economic and civic heart of the Sarasota/Manatee region, and is expected to contain more than 100,000 jobs in the future. The area is also home to many existing residents, and offers substantial opportunities for infill or redevelopment that would increase the population and employment base. In fact, many of the area's senior citizens have historically located in proximity to the US 41 corridor to remain close both to services and the region's natural beauty of its waterways and beaches. Traffic congestion is projected to significantly worsen on roads within this corridor or on major roads leading into this corridor, such as SR 64, SR 70, Cortez Road, University Parkway and Fruitville Road.

Bus Rapid Transit

The framework for the system plan is built around a core investment in Bus Rapid Transit (BRT) operating in the US 41 corridor linking Ellenton and Palmetto on the north shore of the Manatee River with Bradenton, Manatee Community College, the airport area, downtown Sarasota, Sarasota Memorial Hospital, Southgate Plaza and the Sarasota Square Mall. This system would entail use of a single lane of roadway designed exclusively for use by transit vehicles with supporting transit infrastructure, such as well-lighted and visible shelters, sidewalks and pedestrian amenities, and information kiosks to display bus arrival times and connecting routes. At selected locations along the route, a bus pullout lane that would enable northbound and southbound vehicles to pass would augment the single lane for transit vehicles. Such locations should occur at key stops where adjacent land use provides a destination or useful transfer opportunity (e.g., connecting transit routes, taxi stations, park-n-ride lots for private



vehicles, vanpools, jitneys, etc). The BRT corridor should be supported by an interconnecting grid of higher frequency, linear bus routes serving major east-west corridors throughout the two counties.

For purposes of this study, a corridor is defined as an area of about one mile in width linking an origin and a destination. A corridor may include multiple streets or modes. For example, a portion of the recommended BRT system may operate on a road like Cocoanut Avenue, which is within the US 41 corridor. In this example, it may be more feasible to re-stripe and designate Cocoanut Avenue with a bus-only lane than US 41. Alternatively, the existing CSX tracks could be used for bus-only service, pending successful negotiations with CSX. Such options will need to be determined in the next phase of the BRT development – the alternatives analysis and draft Environmental Impact Statement.

Transit service for the BRT mode should operate from approximately 5:30 AM to 10 PM, at 15-20 minute frequency. Service during peak hours (6 – 10 AM and 3 – 7 PM) may be more frequent than during the off-peak period. This span of service would support work trips as well as those related to entertainment (e.g. theater, dining, etc.) and civic activities.

If BRT service proves successful within this primary corridor, expansion of the BRT south from Sarasota Square Mall to downtown Venice should occur. This corridor includes constrained segments of US 41, and would offer a competitive transit incentive for South Sarasota County residents and workers who wish to travel north.

Bus Rapid Transit is also recommended for an east-west corridor linking the rapidly growing eastern edge of the urbanized area along I-75 with the employment, recreation and commercial areas to the west. The service could operate on either University Parkway or Fruitville Road, as both corridors include heavily-traveled six-lane arterial roads that connect higher density residential and employment centers. Furthermore, Amtrak has identified the Fruitville Road area for a future high-speed rail station, although the actual station location could be somewhere between Fruitville Road and University Parkway.

Fruitville Road is the stronger transit corridor given its direct access to downtown, redevelopment potential and density/intensity and proximity of adjacent land uses. University Parkway lacks transit-supportive land uses, but is the major future east-west commuting route,



and links the emerging employment center of Lakewood Ranch with the Sarasota-Bradenton International Airport and surrounding industrial and institutional land uses. Whereas on Fruitville Road transit would need to make frequent stops, University Parkway has relatively few transit-oriented land uses and the service would benefit from the faster speeds and fewer stops offered by Bus Rapid Transit.

The market should determine whether Fruitville Road or University Parkway ultimately enjoys BRT service. Both corridors are recommended to have express/commuter-oriented bus service, and good local fixed route service operating with shorter headways and longer service periods to address different transit markets. To serve both areas and allow the market to determine whether a more intensive transit investment is made, a “U-shaped” route is recommended. This route would begin at the airport, where it would link with the Route 41 BRT system, continuing along University Parkway to I-75 and then turn south at the Lakewood Ranch business center east of I-75 to connect with Fruitville Road along a planned interconnecting road network. The service would connect with the Amtrak high speed rail station, and then travel along Fruitville Road to downtown Sarasota and across the Ringling Causeway to Longboat Key. Service would operate in both directions to reduce time waiting for the bus.

For the purpose of deriving BRT cost estimates for an east/west corridor, University Parkway was used in the analysis because of apparent right-of-way availability. However, in selecting a preferred east/west BRT corridor, equal consideration will be given to University Parkway and Fruitville Road in future alignment studies based on transit ridership and development characteristics.

BRT is a cost-effective alternative to Light Rail Transit and other forms of fixed guideway investments. Development of the BRT system within the US 41 northern corridor is considerably less expensive than development of a fixed guideway system, even if such a system operated on existing CSX rail tracks. A well-designed BRT system with attractive signature buses and street amenities offers nearly all the competitive advantages of light rail at less cost. Given the employment densities of the Sarasota/Manatee region, Light Rail Transit is not feasible within the study’s 25-year time frame; however, a successful BRT application could lead to future conversion to Light Rail Transit or other fixed guideway technology.



The CSX Rail Corridor

Although not recommended as the highest priority, the Sarasota/Manatee MPO should leave open the possibility of using the existing rail tracks for some form of passenger rail transportation service or dedicated bus lanes in the future. The existing tracks lie in an area that is not as productive for transit as US 41 or even Old 301 and costs for rail transit are high; however, the tracks do link the region's major employment centers and opportunities for their lower cost use may arise in the future. It may be possible to develop joint use of the rail corridor for transit and bicycling, thus expanding intermodal access throughout the region.

Other Regional Services

The Sarasota/Manatee MPO should support development of high-speed regional rail service in the Southwest Florida area between Naples/Fort Myers and Tampa. Amtrak and the Florida Department of Transportation have completed a feasibility study of high-speed passenger rail service in the I-75 corridor, which recommends up to three stations in the Sarasota/Manatee area (two in Sarasota County, one in Manatee County). Such service would operate at speeds of up to 80 miles per hour, and could provide an important link of a statewide high-speed rail service.

Express bus service should ultimately be developed to link the Sarasota/Manatee region with larger population and employment centers in Pinellas County and Hillsborough County. Based on interviews with selected employers such as Home Shopping Network, Aegon, Bic Reprographics and Raymond James Financial in Pinellas County's Mid-County office and industrial area, as much as 10 percent of the workers are estimated to reside in Manatee or Sarasota Counties.

In lieu of the AMTRAK high speed rail proposal, the potential for commuter rail service between Bradenton and employment centers to the north should be examined. The recommended system plan identifies the CSX rail line as a potential corridor for this service. The commuter market to areas such as the Pinellas Mid-County regional are expected to show a



high level of growth. The employment base in Mid-County is projected to grow by roughly 37% between now and 2025, while the resident population is only expected to increase by 11%.

Up to three express bus routes should connect park-and-ride lots located near I-75 and I-275 in Manatee and Sarasota Counties with Pinellas and Hillsborough Counties. The routes should have a limited number of stops to provide competitive travel times with automobile travel. Candidate destination stops include the University of South Florida, downtown Tampa, the Westshore Employment Center, Rocky Point and Tampa International Airport, downtown St. Petersburg and selected locations in the Pinellas Mid-County office and industrial area (e.g., Gateway, Carillon, Feather Sound, Rubin Icot Center and Bryan Dairy Road). Express service would operate only in the peak hours, with 2-3 trips in the morning and 2-3 return trips in the afternoon, each at hourly intervals. The Mid-County area has an established Transportation Management Organization (Gateway Transportation Management Initiative), and many of the employers participate in programs such as rideshare matching, guaranteed ride home and flexible work schedules to assist commuters to reach their destinations with fewer congestion delays. However, it should be noted that implementation express bus service is usually preceded by establishment of TDM strategies and programs as described below.

Connecting Trunk Line Service

Supporting the BRT operating within the primary north-south corridor would be a series of east-west feeder bus routes linking the Gulf islands and the high-growth areas in the eastern part of the region. Trunk-line service should offer direct routes operating on such major roadways as US 301, SR 64/Manatee Avenue, SR 70/Cortez Road, SR 789/Fruitville Road, Bee Ridge Road and SR 72/Clark Road. On some corridors, such as Fruitville Road, peak period service frequencies may be every 15-20 minutes, with 30-minute frequency during non-peak periods. Other corridors would operate every 30 minutes throughout the day. As with BRT, the hours of operation on these trunk lines should be from about 5:30 AM to 9-10 PM.

Feeder bus service from the I-75 corridor area into the western commercial and employment centers should begin at park-and-ride lots located just east of I-75 at SR 64, SR 70,



University Parkway and Fruitville Road. Unlike express service, the feeder bus service would offer higher frequency of service rather than limited stops.

The BRT would link the two primary central business districts (CBD) in the region – downtown Bradenton and downtown Sarasota. Circulator trolley service would provide a high level of transit service to various destinations within each downtown. As the CBDs evolve into stronger mixed-use residential markets, the circulator trolley service would operate from approximately 7 AM until 10 PM.

On corridors outside of the BRT service area, such as Old 301, US 41 south of Sarasota Memorial Hospital, Clark Road, Swift/Tuttle Avenue, Honore Avenue, Venice Avenue, and Lockwood Ridge Boulevard, bus service should operate every 30-45 minutes.

On the Gulf islands, the region should expand the existing beach trolley service to run from Anna Maria Island south along Longboat Key to St. Armands Circle and through to downtown Sarasota. This service would operate from about 8 AM until 9 PM, with 20-30 minute frequency of service during the peak season (November through April). Off-season service may operate for a shorter span of service (such as until 6 PM) with a frequency of 30 minutes.

Local Bus Routes

Existing local bus routes would likely need to be restructured somewhat to avoid duplication with trunk line routes. Local bus service would need to serve neighborhoods and collector roads to improve access to the trunk line routes and regional transit services. Local bus service would operate at least every hour, with a shorter span of service than the trunk routes (10-12 hours versus 16-18 hours).

Currently, large 40-foot buses are more durable and cost effective than smaller, lighter transit vehicles (12 year average life span versus seven years). However, transit services must blend well into the surrounding land use pattern to attract users and to be effective. Smaller, more maneuverable vehicles may be appropriate on local circulator routes in neighborhoods or to penetrate deeper into high-density condominium buildings. Similarly, using rubber-tired vehicles that look like vintage trolleys have proven to be immensely popular in many communities where

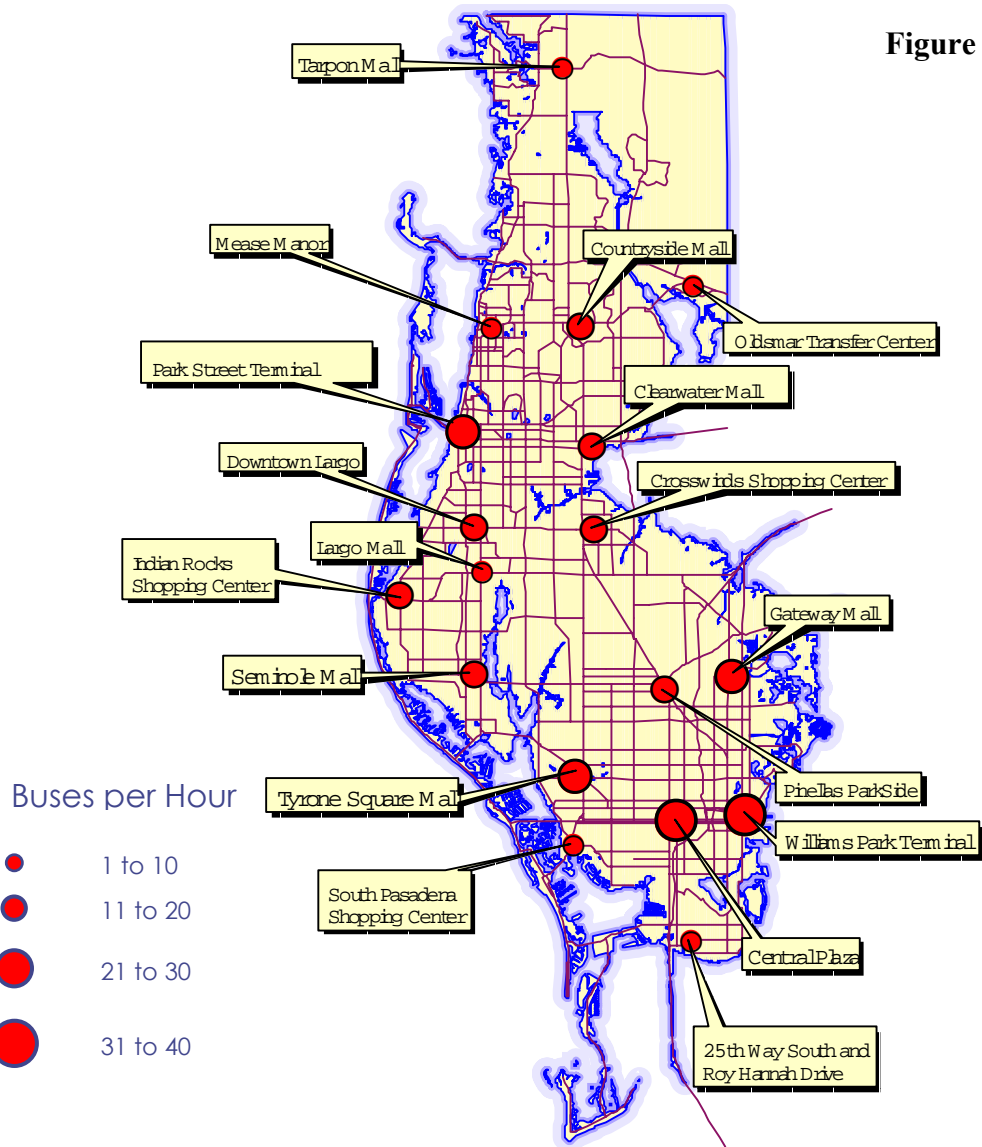


signature vehicles are appropriate. Examples include tourist areas like beach areas and downtown commercial districts. The higher maintenance costs and more frequent vehicle replacement may be a worthwhile trade-off to generate higher ridership levels through effective marketing of a uniquely visible and distinctive service. Smaller transit vehicles would also be appropriate for introduction within places like the Lakewood Ranch community or North Port, where lower density development patterns may not justify larger vehicles and a flexible routing system, like point-deviated service, may be appropriate.

Transfers and Terminals

The Sarasota/Manatee region does not focus on a single, dominant central business district. The area's coastal orientation, suburban development pattern and long distances between traditional and emerging population and employment centers is not well-suited for a radial-type transit system focused on a central downtown transit terminal. Instead, the transit systems serving the two counties should be restructured toward a timed-transfer operating system. As the area grows, it is likely to evolve into a multi-centered urban area focused on retail-oriented development clusters, a pattern that tends to favor timed-transfer bus service. A pulse timed transfer system is designed to facilitate transfers between routes and foster improved transit access between outlying, suburban centers. Multiple routes converge at specific intervals (e.g. every 30 minutes), and depart simultaneously, thus reducing wait time for those who must transfer between routes. In primary transfer centers such as the Bradenton, Sarasota and Venice CBDs, as many as 8-10 routes may converge at each pulse interval. In secondary transfer centers, such as the DeSoto Mall, Lakewood Ranch Business Center or Gulf Gate Mall, 3-5 routes may converge. Pinellas County uses a pulse timed transfer system with 18 transfer centers for a service area of nearly 1 million people and 24 municipalities (see Figure 6 below). Each center accommodates a different number of transit vehicles per hour based on its location and surrounding land use pattern. As the Sarasota/Manatee region grows, it is reasonable to expect there may be 15-20 separate transfer centers. At each terminal, there should be suitable transit infrastructure and a host of complementary services.

It is important that the centers be developed as dedicated transfer facilities, rather than just a stop at the edge of a nondescript shopping mall parking lot. Land should be acquired, or at a minimum, long-term joint use agreements should be reached between landowners and the



transit agency, for development of transit facilities. The sites should include dedicated bus boarding and alighting areas that are out of the traffic stream, benches and shelters, pay phones,



waste receptacles, short- and long-term bicycle parking and kiosks for route and schedule information. For larger centers, restrooms should be included. Each transfer center should also have well-connected sidewalks that allow for safe access from the transfer facility to surrounding land uses.

The implementation of transit centers or stations requires a joint effort between the transit agency and the local government responsible for land use planning and development review. In most cases, stations are acquired through fair market purchase or eminent domain, but quite often, they are negotiated as part of development agreements with major landowners as redevelopment or new development opportunities arise. The first step is ensuring that local development codes allow for the creation of transit centers within certain land use categories or with redevelopment. Transit and local government planners then need to identify and evaluate potential sites for transit stations based on the projected demand for the number of vehicles accessing the station per hour, bus accessibility, pedestrian proximity to nearby land uses and development objectives. For example, a station with 3-4 routes converging at any given time with relatively few amenities may be located on a site of less than one acre in size. A larger location, such as a major transfer facility with 20-30 buses per hour, would likely need up to three acres to accommodate parking for 12-14 buses at any given time, staging areas for buses waiting to pull in, and other necessary infrastructure, including parking for transit agency personnel.

Capital costs for major new facilities may range from \$2-4 million, but more likely are costs in the \$150,000 to \$250,000 range for dedicated transfer facilities at existing transfer locations.

Supporting Transit Services and Policies

Complementing an improved system of fixed public bus routes and BRT is the development of supporting strategies and programs designed to encourage discretionary transit riders to choose alternatives to driving alone. These support services and policies include parking strategies, commute alternatives (rideshare matching, carpools, vanpools, telecommuting, etc.),



guaranteed ride home programs, universal transit access and Advanced Public Transportation Systems (APTS). Each should be developed to help reduce peak hour demand on the area's highway network.

Transportation Demand Management

Transportation Demand Management (TDM) is not one particular strategy, alternative, or mode of transit that is available to one particular agency, but rather it is a dynamic combination of elements designed to reduce the amount of commuter trips in a specific area and/or at a specific time of day. Effective TDM programs are often employed by governmental agencies, private businesses and individuals, and coordinated by a transportation management organization or association.

The primary focus of Transportation Demand Management is to encourage commuters to use modes of transportation that reduce overall vehicular trips. This can be as simple as using public transportation (bus, rail, ferry, etc.) or to use alternative private and/or semi-private transit modes such as carpooling, vanpooling, park-and-ride facilities, bicycling, or walking.

While alternative transportation modes are at the core of TDM programs, additional strategies are usually necessary to maximize the impact and efficiency of the programs. These strategies can include options such as alternative work programs (compressed work weeks, flexible and staggered work schedules, guaranteed ride-home programs, or telecommuting), marketing and promotional incentives (prize drawings or randomly selected free fares for transit riders), financial incentives (transportation allowances, tax breaks or subsidies for transit riders), or time incentives (access to High Occupancy Vehicle lanes, preferential parking for pool vehicles, etc.). These are only a few of the strategies that are available for inclusion into a TDM program. There are a wide variety of other alternatives that are available that can maximize the efficiency of a TDM program.

If a TDM program is to be successful, it must be tailored to the site or area characteristics, and adaptable to accommodate the dynamic nature of transit and population growth. For instance, a company-sponsored vanpool program would have little influence in a



situation where most employees commute relatively short distances to work. Instead, incentives or subsidies targeted at walking or bicycling could prove beneficial. For this reason, in order to maximize the potential and future efficiency of a TDM program, it is necessary to research all of the options that could be applicable to a specific area. It is also important to note, that just because a transit alternative or strategy is not applicable at present, it does not mean that it couldn't play an important role in a TDM program in the future. Additionally, implementation of TDM information and support strategies, such as program marketing and promotions, are also necessary to maximize potential ridership and efficiency of the program. Commuters must be made aware that the programs exist and are available to them. Rideshare placement assistance, employer transportation coordinators, or various marketing strategies can all be effective complementary strategies to a new or existing TDM program.

The following sections describe relevant programs that fall within the TDM umbrella that should be considered as complementary strategies supporting the public transportation system plan for the Sarasota/Manatee region.

Vanpooling

Vanpooling is a group of seven to 15 people who commute together on a regular basis in a van, usually to and from work. One person usually is responsible for driving and maintaining the van, while the riders split the expenses – usually about \$60 to \$120 per month depending on the number of people participating and the distance to be covered each day.

Employers sometimes own and operate vanpools, offering employees the chance to ride at reduced rates from what they would have to spend if they traveled individually. Some transportation agencies also operate vanpool fleets on a lease basis to businesses and private groups. However, it is generally more common for the vanpoolers to pay the full direct costs of acquisition, operation and maintenance of the vehicle. To a small group of private individuals, the prospect of initiating a vanpool could appear to be neither cost nor time effective. However, in many areas, such as Corpus Christi and Austin, Texas there are transportation authority subsidies that will cover as much as 50 percent of the operating costs of the vanpool programs.



Additionally, even for a private group of individuals, research has shown that the long-term benefits are worth the time and money to initiate such a program. Here are some of those benefits for a typical Southern California vanpooler as cited by the Federal Transit Administration in *Vanpooling – A Handbook To Help You Set Up A Program At Your Company*, January 1993:

- **Saving Money** – The average vanpooler in Southern California saves more than \$1500 per year on fuel, car maintenance, and wear and tear. (The driver, often the owner, has use of the van for the rest of the time during the week.)
- **Reduces Driving Stress** – Studies show that people who vanpool arrive at work more relaxed and ready to start the day than their co-workers who drive individually.
- **Time Saver** – In many areas, vanpools may use special carpool lanes saving as much as 20 minutes each way. Preferential parking may also reduce parking time and distance.
- **Environmentally Beneficial** – One vanpool can reduce 14 vehicle trips each way per day, and the average car produces one pound of pollution for each 29 miles traveled. That is about 850 pounds per year. (More subsidies, from a variety of agencies, are becoming available each year as initiatives that support new and more tightly regulated clean environment acts.)

Vanpool programs have enjoyed success in many areas of the nation. However, when initiating a new program, it is especially important to investigate all of the physical and logistical elements in a community that could affect the viability and effectiveness of a vanpool program. According to the Federal Transit Administration, these are some of the basic elements that should be considered when investigating the prospect of initiating a vanpool program:

- **Distance To Work** – Optimally, vanpool participants live at least 15 miles from the work site. The odds of forming a functional vanpool route are much higher if the participants live 20 or miles from work and commute at least 30 minutes each way.



- Optimal Number of Participants per Vanpool – 15 to 30 people for a 12 or 15 passenger vanpool. (Extra participants are needed because of varying attitudes, lifestyles, and schedules – not everyone who can participate will choose to do so all the time.)
- Commute Routes – Clusters along the vanpool route that are composed of smaller groups picked up along the way to work. (Usually no more than three stops each way.)
- Park-and-ride Potential – Most vanpoolers meet at park-and-ride stops.
- Parking – Employees that must pay for parking enjoy the fact that vanpooling allows them to split the parking cost with other vanpoolers. (It is not uncommon for free and/or priority parking to be allocated for vanpools as an added benefit within Transportation Demand Management Programs.)

Because of those factors, the most likely candidate areas in the Sarasota/Manatee region for vanpooling are the North Port area in South Sarasota County, and newly developing or future development areas east of I-75 in both Manatee and Sarasota County. Those areas are sufficiently far from the jobs-rich areas in the western part of the study area, such as the downtowns, industrial parks near the airport and coastal resort areas, where vanpools are more likely to offer a competitive advantage. Park-and-ride lots located in the I-75 corridor would serve as logical gathering points for vanpools.

Additionally, vanpools also have the potential for success in gathering workers from lower income neighborhoods to work at hotels on the beach as an access-to-jobs strategy. This strategy has been employed in several Florida panhandle counties where resort hotels on the coast (such as Sandestin in Okaloosa County) must bring in workers from small towns in the northern part of the county like Freeport and Crestview. These vanpools are operated by the private sector because of the need to import workers.

Setting up a vanpool program in Sarasota/Manatee County requires a commitment from a local agency, development association or private company to acquire the vans, develop a marketing and promotions program, and structure maintenance agreements with a public agency



or private business. If maintenance is offered to a private business, vanpool users may further benefit from reduced maintenance costs through an exclusive maintenance agreement.

The importance of marketing and promotions cannot be overstated in developing an effective vanpool program. A dedicated marketing staff is needed for employer education and outreach, development of a media/promotional package and making media buys, and coordination of complementary marketing programs with other agencies. Ideally, this would be the responsibility of an inter-county transportation authority (such as the MPO or Lynx in Orlando) or a development association, such as the Downtown Sarasota TMO. The advantage of using a two-county authority is that it would enable much greater combinations of origins and destinations to target existing and mobility needs within critical corridors or areas. Additionally, it would allow for a more seamless application of marketing for complementary transit strategies, like bus service and vanpools.

Funding for vanpool programs may come from a variety of sources, both public and private. Private funding would be from employers who benefit from increasing worker access to jobs, developer contributions to mitigate traffic impacts, or from advertising on the vans themselves. Public sources of funding typically include the Congestion Mitigation and Air Quality (CMAQ) program in areas with air quality problems, but that is not currently available for the Sarasota-Bradenton urbanized area. Therefore, public funding sources may include an allocation from the MPO's federal funds, appropriations from the two counties or municipalities, impact fees (for capital acquisition) or through funding from an inter-county transportation authority.

Carpooling

Carpooling is an alternative transit mode that has grown in popularity as metropolitan densities have increased throughout the years. It is the most commonly practiced alternative transit mode because it is available to a large sections of the population, coordination tends to be minimal, its level of service closely mirrors that of the single passenger vehicle, it is financially beneficial to its participants, and it can be initiated on a day-to-day basis. Privately organized



carpools also have an added advantage in that their riders do not necessarily have to work together. As long as the riders' destinations are in close proximity to one another, or one destination is on the route to the final destination, the privately organized carpool tends to be a viable transportation alternative.

Casual carpooling has also become a popular practice in San Francisco and Washington D.C., with some activity in Denver and Pittsburgh. Riders wait at independently evolved pickup points around transit stations or stops. Single commuters who want to take advantage of High Occupancy Vehicle (HOV) lanes often stop at these stations to pick up two or more riders. With the addition of two riders, the single commuter's vehicle now becomes a carpool and is eligible to use the HOV lanes. The potential riders are often located at these transit stations or stops but they prefer the carpool alternative as it is a free ride and usually faster to reach their intended destination. However, if no driver comes along, they are still located near a transit point and are able to reach their destination. No transit agencies have promoted or facilitated casual carpooling. It is merely a trend that has evolved on its own.

Rideshare Matching

Ridesharing is one of the most common alternative travel modes, particularly in small towns, rural areas and suburban areas that are not well served by public transportation systems. These programs typically provide carpool matching, vanpool sponsorships, and marketing incentives to reduce daily vehicular trips, and are most commonly implemented by Transportation Management Organizations, employers or transit agencies. Because rideshare matching programs are built around carpool and vanpool alternatives, they are subject to many of the same types of grants, subsidies and financial incentives.

The basis of the rideshare program is matching riders and drivers who are traveling to the same or closely located destinations either from the same or adjacent origins. Large programs use computerized rideshare matching systems that account for each commuter's origin, destination, schedule and special needs. Smaller programs may simply match up drivers and riders by word of mouth or ride notice boards. These notification systems pair potential riders



and drivers who typically would not commute together because they have no way to meet or communicate about their transportation needs.

Ridesharing is currently coordinated in the Tampa Bay region by Bay Area Commuter Services (BACS), which uses both computerized lists for large employment centers and ad hoc ride notice boards through its newspaper. In Sarasota County, rideshare matching would likely fall under the purview of Sarasota County Area Transit, but it is not clear whether that would include Manatee County or if another agency would handle that responsibility. Targeted rideshare programs in the Sarasota/Manatee area should focus on connecting the identified park-and-ride lots in the eastern part of the urban area with employment destinations in downtown Bradenton and Sarasota (including Sarasota Memorial Hospital south of downtown), and with the industrial area surrounding the airport. The recommended system plan identifies key parking ride lot locations in Sarasota and Manatee Counties. These potential park-n-ride lot locations are based on sites identified in earlier planning efforts. Surveys of employees' residential zip codes would be an important data gathering task to begin developing a workable rideshare matching program in the region.

Guaranteed Ride Home Programs

Guaranteed Ride Home (GRH) programs are a strategy designed in the 1980s to augment TDM programs. The GRH offers an added flexibility to vanpool and carpool programs by providing a vehicle to transport a rider, walker or bicycler from work to hospitals, day-care centers, schools, home or to other locations in the event of an emergency. Such programs can also provide flexibility for transit patrons if workers need to stay late after their route ends service for the day or in the event of an emergency. Depending on the GRH program, the vehicles can be company vehicles, rentals, transportation agency vehicles or taxis. Successful implementation of GRH programs should involve several checkpoints:

- Survey employees to determine the level of interest in GRH and the current frequency of carpooling and transit use (best prospects for successful implementation include



solo drivers who are expressing interest in the program and among occasional rideshare patrons whose rideshare frequency might be boosted by a GRH program).

- Designate an employee, employees or department to implement the program.
- It should be considered how emergency trips are to be provided when necessary (via company vehicles, taxis, rentals, etc.)
- What constitutes an emergency trip? (Family affairs, last-minute business meetings, working late unexpectedly, etc.)
- How will eligibility be defined? (Full-time employees, limited work-sites, only to registered carpoolers or vanpoolers, etc.)
- What restrictions will be established? (Number of uses in a given period, maximum mileage allowed in a given period, etc.)
- Designate an employee, employees, or department to document written operating policies and to oversee the day-to-day operations of the GRH program.

The costs of GRH programs depend on the frequency of emergency use and the cost of serving a trip. Generally, the costs are not great in large part because participants generally do not use the ride home services very much. Costs can also be constrained by limiting the number of rides an individual employee can make, and/or requiring employees to cover part of the trip costs or to require a co-payment. Some larger companies and agencies also have to the option to allow rideshare or security staff to drive vehicles for employees during emergency situations. Some examples of program costs are:

- The Warner Center Transportation Management Association in Los Angeles found that about one percent of the 6,000 eligible rideshare patrons used the service in 1989. Seventy-four trips were taken at an average expenditure of \$46 each for a total of \$3,400.
- A survey of 11 GRH programs nationwide found average use is about 13 rides per 100 eligible employees per year.



- The same survey found that much higher usage rates are true among programs where they allow commuters working late or on overtime to utilize the program as well.
- Commuter Transportation Services in Los Angeles suggest for planning purposes that one should estimate between .5 and 20 percent of current rideshare patrons will use the service. The high end of the range applies to companies and agencies that allow ride for overtime, working late, errands and other business trips. The low end of the range applies to those programs that only allow for emergency uses only. Given average trip lengths and taxi rates in Los Angeles, and presuming a population of 350 rideshare patrons in a hypothetical company, the high and low range is \$64 to \$2,240 per year, or between \$0.18 and \$6.40 per rideshare patron per year.
- In 2001, Bay Area Commuter Services spent about \$17,000 on marketing and operational expenses serving the GRH program in the Hillsborough and Pinellas County areas.

Additionally, marketing costs need to be considered when implementing a GRH program. The Warner Center GRH program was initiated with high quality publications and promotions costing approximately \$15,000. The program targeted 6,000 potential users in an area of about 27,000 employees. For most employers and agencies, the costs should be substantially less.

GRH programs are still a relatively new concept. Their long-term effectiveness has not been fully determined as of yet, but initial research studies have been promising. Seattle Metro conducted a research study on the GRH program in Bellevue, Washington, and found that it did increase the number of people using alternative transit modes. Bus Trips increased 12 percent, carpools trips decreased two percent and vanpool trips increased 64 percent. Evaluators did note that the increase in ridership percentages were mostly from solo commuters switching to alternative transit modes.



Transportation Management Organizations

A Transportation Management Organization (TMO) has recently been formed in downtown Sarasota. The purpose of the TMO is to market commute alternatives and improved transit use in the downtown area to reduce congestion levels. Much of the work of a TMO is geared toward promotion of travel choices in the downtown area, as well as telecommuting. Membership in the TMO includes downtown businesses and public agencies.

Through the TMO in Sarasota and the potential future development of TMOs for Bradenton and Venice, the region should pursue a policy of universal transit access in the downtown core or targeted redevelopment areas. Business or agency participation in the TMO would allow employees to ride transit free within designated redevelopment districts. Operation of bus service within fare free zones may be subsidized through business contributions/developer contributions and allocation of funds from existing and potential new revenue sources.

As described previously, the TMO provides a useful framework for organizing and promoting use of alternative forms of transportation that range from traditional public transportation to carpool programs and telecommuting. Requirements include a dedicated staff that should include an executive director, marketing director, analyst and administrative support, and computer equipment to develop promotional programs and a database of potential participants. Costs may be expected to reach about \$100,000 per year including expenses, with funding typically coming from the affected local government(s), private employers and grants. The Florida Department of Transportation is able to offer grants for the activities of a TMO, but this most often occurs in air quality non-attainment areas (like the Tampa Bay region) where the federal Congestion Mitigation/Air Quality program provides a useful funding source. From discussions with specialists in this area, the key to success of a TMO and its programs is sustained commitment of resources to ensure visibility over a multi-year period to raise awareness and promote travel alternatives.



Ferries and Water Taxis

The Section 1207 of the Transportation Equity Act for the 21st Century (TEA-21) provides a special funding category for construction of ferry boats and ferry terminal facilities. The potential location for three urban ferry or water taxi terminals is identified in the recommended system plan. One location was identified on the Manatee River in the City of Bradenton. A second location was identified on the Intracoastal Waterway immediately south of John Ringling Causeway in the vicinity of existing marina facilities. A third potential terminal was identified on the Intracoastal Waterway in the City of Venice. This third terminal would ideally be located at the Intermodal Terminal proposed (in this system plan) at the Historic Venice Train Depot.

Transit Infrastructure

In addition to supporting land use policies, the MPO and its member local governments should adopt policies requiring the construction of appropriate transit infrastructure (e.g., shelters, lighting, pull-off bays, pocket parks, etc.) as part of road widening projects. This requirement may be limited to roads where transit service is currently or projected to be at a certain level of service, but it ensures that the necessary ingredients for a more balanced transportation system are adequately included in the planning and design of roadway facilities. By adopting such policies, it becomes easier for local governments to ensure the dedication of rights-of-way and provision of facilities for transit infrastructure from private development.

Institutional Arrangements

Expanding the level of public transportation in the two-county Sarasota/Manatee region to have a measurable impact on mobility requires the development of the administrative, technical and financial capacity necessary to implement regional transit solutions. Operating as independent transit departments within the general county government (whether public works or social services) reduces visibility, accountability and equity of transit service. As the area



Final Technical Memorandum

April 2002



continues to grow and its transportation problems require increasingly urban solutions, there is a need to create an inter-county authority with responsibility for implementing regional transit service.

Examples of such organizations abound. The Orange-Seminole-Osceola Transit Authority (aka Lynx) in the Orlando region is responsible for a wide range of transit options (including fixed route service, a vanpool program, rideshare matching, Transportation Disadvantaged coordinated service, a “school pool” carpool matching program exclusively for students, planning for light rail and commuter rail and an I-4 motorist assistance program). The Lynx board is comprised of elected officials from the three counties and several of the largest municipalities, independent of the MPO and other organizations. Funding for Lynx is provided through federal, state and local sources, but Lynx does not have a dedicated revenue source (e.g., gas or sales tax) and must depend on annual budget allocations from its funding local governments to achieve local match requirements for state and federal funds.

In nearby Pinellas County, the Pinellas Suncoast Transit Authority (PSTA) is an independent transit agency formed in 1984 from the merger of two systems serving St. Petersburg and Clearwater. Funding is through federal, state and local sources, including a dedicated ad valorem tax of up to .75 mills. Governed by an 11 member Board of Directors, PSTA serves most of the unincorporated area and 19 of the county's 24 municipalities. In addition, service on the Suncoast Beach Trolley is provided under contract to the City of St. Pete Beach and Treasure Island. The cities that are not served are Kenneth City, Belleair Beach and Belleair Shore. PSTA is responsible primarily for fixed route bus service, complementary ADA service and commuter (express) bus service.

Given the system plan objectives for the Sarasota/Manatee region and the need for improved inter-county, regional services, it is recommended that a two-county organization be created to manage and implement public transportation service in the region. Eventually, Charlotte County may be brought into the organization to meet inter-county travel needs to the south. The organization should be representative of Manatee and Sarasota Counties, with participation from the cities and island communities, and governed independently from the Sarasota/Manatee MPO.



Steps for an Inter-County Authority

In the short term, the two existing transit systems should continue to operate as part of the respective county governments. To facilitate the development of regional inter-county transit service, the two counties should form a transit policy board that operates through an interlocal agreement. The policy board may be a committee of the Sarasota/Manatee MPO involving city and county representatives with a major stake in regional transit services, meeting regularly to plan, fund and monitor the development of regional transit services and programs.

Each county will continue to operate its transit service within the existing structure. The interlocal agreement would identify and provide sufficient funding for the transit agency (either SCAT or MCAT) responsible for implementing the first part of regional service within the US 41 corridor. The interlocal agreement would cover vehicle procurement, facilities development, maintenance, operations and sources and uses of funds needed for regional service. It is recommended that initial funding of regional service be through a service development grant from FDOT. Coordination and funding of future regional transit services may also fall under the purview of the West Central Florida MPO Chair's Coordinating Committee (CCC), which includes the Tampa Bay area MPOs and the Polk County TPO.

Within 3-5 years, it is recommended that the MPO and its local government partners pursue creation of an independent transportation authority to plan, fund and operate the public transportation system. Such an authority offers advantages over the current system of separate transit agencies operating within county government structures in terms of marketing/visibility; integration of planning, operations and capital construction activities; greater ability to deal with a range of complementary strategies, such as parking structures, transit facilities and terminals; and ability to secure funding on an equitable basis within a two- or three-county region. It is possible to have an authority that includes more than just one travel mode. The authority may include ports, parking, toll facilities and transit as part of its overall mission, similar to the Jacksonville Transportation Authority.

The inter-county transportation authority does not need to be a major agency initially. By hiring an executive director and administrative support staff, the authority would primarily be



responsible for developing the work scope and seeking grant funding for the BRT and other regional types of transit service through the federal New Starts program and other sources. Once funds are procured, the agency can then begin to staff up and/or hire consultants as necessary to carry out the work program.

Subsequent to the creation of an inter-county transportation authority, it is recommended that the area pursue a dedicated source of transit development funding through reallocation and/or expansion of the gasoline or local sales tax. This is necessary to leverage federal and state funds to develop a Bus Rapid Transit system within the US 41 and University Parkway corridors. Without a committed source of local matching funds, it is not likely that the federal government will participate in funding of substantial transit investments in the region.

SYSTEM PLAN BENEFITS

The benefits that accrue to increased investment in public transportation are not as readily visible or easily measured as traditional roadway improvements. However, the benefits are no less real to the people who must depend on public transportation for their travel needs. The system plan will provide a higher level of direct connectivity between origins and destinations throughout the two-county area, with greater frequency and longer service periods. In combination with a pulse operating system that facilitates transfers and a complementary set of policies and strategies to manage travel demand for work trips, this makes the transit system much more accessible and convenient to potential riders. Such a system provides real travel choices to people who might otherwise be forced to pay for taxis, depend on friends and family, or drive a car. Lacking such means, trips may be postponed or cancelled, people may lose their jobs because of undependable means to arrive to work on time, and the quality of life for many elderly, lower income or disabled residents and visitors begins to suffer.

Mass transit in its typical forms will never eliminate traffic congestion. Even in places like Washington, D.C., New York City, Boston, Chicago and San Francisco, all of which have world-class transit systems, the daily traffic congestion on highways and arterial roads results in tremendous, recurring delays. As people shift over to transit, the highways typically remain



Sarasota/Manatee Public Transportation System Analysis
Final Technical Memorandum
 April 2002



congested from latent demand as motorists perceive better mobility. What transit is able to do, however, is provide an alternative that is less costly, less stressful and, in many cases, saves travel time.

As described in a previous section of this document, the analysis for 2025 revealed that the fixed guideway and BRT alternatives provided comparable door-to-door travel times with the private automobile within major travel corridors (e.g., US 41 from Palmetto to Sarasota and University Parkway from I-75 to the airport). This analysis included time accessing the transit stop and waiting for a vehicle, and reflected the increasing delays at signalized intersections on major roadways, even with improvements contained within the MPO’s cost feasible Long Range Transportation Plan.

In terms of other quantitative benefits, Tables 8 and 9 present system-wide measures of ridership and associated benefits of the recommended system plan. While it is difficult, if not impossible, to say whether the increased ridership from the recommended system plan will reduce the area’s need to make certain road improvements because of latent demand in the more congested corridors, the results indicate that providing more effective transit service can have a measurable impact on travel demand within the region. It should be noted that all of the system-wide results illustrated in the following tables were derived using the MPO’s 2025 Cost Feasible Long Range Transportation Plan land use data.

Table 8
Summary by System-Wide Transit Measures

Alternative	Transportation System Wide Measures			
	Vehicle Hours of Travel (VHT)	Vehicle Miles of Travel (VMT)	Percent Change VHT from CF Plan	Percent Change VMT from CF Plan
Cost Feasible Plan (Trends Scenario)	1,452,431	28,030,454		
System Plan	994,517	24,620,024	-32%	-12%



Sarasota/Manatee Public Transportation System Analysis
Final Technical Memorandum
 April 2002



Table 9
Recommended System Plan - Daily Transit Trips

Corridor	Description	Daily Transit Trips*
North/South	Ellenton to Sarasota Square Mall	15,900
East/West	University Pkwy	800
Total BRT Trips		16,700
Total Transit System Trips (all modes)		57,700

* Unlinked passenger trips

The total Vehicle Miles Traveled (VMT) for the MPO's adopted Cost Feasible 2025 Long Range Transportation Plan is 28,030,454 per day. For the recommended system plan with the BRT element, the total VMT in 2025 is 24,620,024. This is a reduction of 3,410,430, or 12 percent per day.

This reduction in VMT has a direct effect on the cost per household to maintain and operate the transportation system. Data from the Nationwide Personal Transportation Survey (NPTS) indicate that the average household spends about 20 percent of its income on transportation, making it one of the primary sources of household expenditures. As shown below in Table 10, VMT can be converted into a cost per household for the on-going operation of the transportation system, to estimate potential benefits to households from the transit investments outlined in the system plan.

Table 10
Cost Savings Worksheet

Cost Savings Worksheet	2025 Cost Feasible Plan (Trends Scenario)	PTSA Recommended System Plan	Difference
Total Daily VMT (millions)	28.0	24.6	3.4
Annual VMT (millions) ¹	8,970	7,872	1,098
Annual auto operation costs (millions) ²	\$2,691	\$2,362	\$329



Sarasota/Manatee Public Transportation System Analysis
Final Technical Memorandum
 April 2002



Cost Savings Worksheet	2025 Cost Feasible Plan (Trends Scenario)	PTSA Recommended System Plan	Difference
Annual transit operating costs (millions)	\$6	\$19	-\$13
Annual transportation operating costs (millions)	\$2,697	\$2,380	\$316
Annual VMT per Household (HH) ³	14,905	13,081	1,824
Annual auto operating costs per HH ³	\$4,472	\$3,924	\$547
Annual transit operation cost per HH ³	\$10	\$31	-\$21
Annual transportation operation cost per HH ³	\$4,481	\$3,956	\$526

¹ Annualization factor = 320

² Auto operation cost per mile = \$0.30

³ Total projected households in 2025 = 601,769 based on MPO 2025 Cost Feasible Plan.

Thus, although it is difficult to fully quantify the benefits of a transit investment, the recommended system plan results in an annual transportation savings of \$526 per household, or \$44 per month. This amount is the savings in transportation system operating per household resulting from fewer vehicle miles traveled. This may be a conservative figure, even if system ridership estimates prove to be optimistic. The actual cost to operate a private automobile is arguably higher than \$0.30 per mile, and it does not take into account any other savings that might be realized related to time from avoiding being stuck in traffic congestion. Furthermore, this cost savings includes an assumption that the full operating costs for the recommended transit system plan are passed along to households in the form of taxes.

Projected Costs

Costs for capital and operations have been estimated for the recommended system plan based on professionally accepted unit costs and review comments from the MPO's PTSA Steering Committee, as described in a previous section. The costs have been developed in a conservative fashion, (e.g. costs tend to err on the high side) by incorporating the full unit cost estimates even though some cost savings are likely. For example, the capital costs for the US 41



Sarasota/Manatee Public Transportation System Analysis
Final Technical Memorandum
 April 2002



corridor BRT system includes right-of-way acquisition and roadway maintenance costs for an exclusive lane for transit vehicles along the corridor’s entire length. In practical reality, it is likely that the bus would operate in mixed traffic for a portion of the corridor, a conversion of an existing lane may be used for certain segments, or that a parallel roadway, such as Coconut Avenue, may be used instead of buying additional right-of-way. Those cost details will be refined during subsequent stages in the alignment evaluation process.

The operating costs include administration, maintenance and marketing elements, but it is also difficult at this level of analysis to develop those in a refined way that takes into consideration, for example, the need to expand vehicle maintenance facilities and equipment in support of a larger bus fleet. Even so, it is clear that the recommended system plan will require upgrading existing maintenance facilities. For example, preliminary research indicates that construction of a bus maintenance garage can range between \$5 and \$15 million depending on the number of buses to be served by a given facility.

Costs do not include the replacement of transit vehicles in the bus fleet, even though most buses will routinely need to be replaced every 12-15 years. This is because of a gradual phasing in of system recommendations. Some vehicle replacement, perhaps as much as a quarter of the recommended new routes, may need to occur during the 20-25 year planning horizon, but the majority of new vehicles would not begin operating in revenue service until after 2010 or 2015. Table 11 presents a summary of costs for the recommended system plan by 2025, and compares the annual capital and operating costs with data for the two existing transit systems combined.

Table 11
Summary of 2025 System Plan Costs

	Existing*	Recommended System Plan
Fixed Route Fleet Size	54	169
Total Capital Costs (in millions)		\$389.02
Total Operating Costs (in millions)		\$433.34
Annual Capital Costs (in millions)	\$4.20	\$11.56
Annual Operating Costs (in millions)	\$10.72	\$18.84

**Source: 2000 National Transit Database*



As the table indicates, the system plan results in a bus fleet that is triple the size of the existing fixed route service fleet. Capital and operating costs are projected to roughly double the existing cost levels. This reflects the inclusion of right-of-way and roadway maintenance costs in the BRT system, as well as a much longer span of service and service frequency for major corridors.

Revenue Estimates

Sources of revenue to implement the system plan will need to include federal, state and local sources. In general, the federal government pays for capital costs associated with transit system improvements, but for areas the size of the Sarasota/Manatee region operating costs are a state and local responsibility, with local funds covering the majority of those costs. To obtain federal and state capital funding, a 25 percent local match is typically required. Potential sources of funds to pay for the system plan have been described in a previous section of this document. This section provides further detail of two of those sources for consideration by the MPO.

Revenues generated from passenger fares, is the first form of revenue discussed. Existing transit fare revenues for Sarasota and Manatee County systems combined are just over \$1 million for a fleet of 54 buses operating in fixed route revenue service, according to reports filed by the two systems and summarized in the National Transit Database. This results in a very low farebox recovery rate (the amount of operating expenses recovered from passenger fares) of just over 10 percent, due to discount fares implemented by Sarasota County Area Transit. Assuming a more typical farebox recovery rate of 25 percent (comparable to the Lynx system in the Orlando area, but less than the 30 percent recovered by the Pinellas system), the area would receive about \$4.7 million in annual fare revenues to pay for the operating costs for the recommended system plan. That leaves about \$14 million in annual operating expenses that would need to be covered by other, non-federal funding sources.

Another funding source evaluated was the increase by a half-cent in the local sales tax, which is allowed with approval from a voter referendum. The analysis examined the potential revenues that could be generated from an increase in existing sales tax revenue distributions for



Sarasota/Manatee Public Transportation System Analysis
Final Technical Memorandum
 April 2002



the two county area, and compared that with the projected costs for the entire system plan recommendations.

Table 12 shows the existing and potential sources of funds from the local sales tax. Currently, the two counties combined receive about \$498 million total existing sales tax revenues, which is \$79 million per penny. With the actual distribution of a half penny to the county, the sales tax totals \$46 million per year.

Table 12
Likely Local Sales Tax Source:(1)

	FY 2000 (100,000s)	Pennies	\$ Per Penny 100,000s	\$0.05 distribution 100,000s
Sarasota	\$312	6.50	\$48	\$29
Manatee	\$186	6.00	\$31	\$17
Total:	\$498		\$79	\$46

(1) Source: Florida Statistical Abstract, pages 686 and 689

Table 13
Half Cent Sales Tax Revenue Assumptions

Half cent per year (000s)	\$40,000 (conservative relative to distribution)
Life span of improvement (years)	25
Discount rate	6%
Net present value (000s):	\$511,334
Local funding of operations (000s):	\$269,441
Local funding of capital (000s):	\$241,893
State/federal funding of capital (000s):	\$967,574
Total revenues available (000s):	\$1,478,908



Sarasota/Manatee Public Transportation System Analysis
Final Technical Memorandum
April 2002



Total cost of System Plan (in 000s):	\$822,300
Total operating over 25 years:	\$433,300
Total capital:	\$389,000

As shown in Table 13, the revenue from a half-cent sales tax increase would more than cover the local match for capital costs (25%) and the operating costs, generating nearly \$1.5 billion in revenue for a total cost of \$822 million (capital and operating).

Other potential revenue sources may include advertising on vehicles and at shelters, and private developer contributions for large development projects. These sources are difficult to estimate, but it is worth noting that Lynx receives more than \$1 million annually in revenues from its bus painting/advertising program.

IMPLEMENTATION PLAN

The implementation of the recommended system plan is not an all-or-nothing proposition. The plan has been developed as a series of complementary components that would enable a gradual phasing of service enhancements and capital investments over time. For example, the initial series of projects should simply improve service between the two counties and increase service frequency on productive existing local routes (to 30 minutes). The local investment level would be very low for these initial system improvements, and monitoring their effectiveness would help guide area decision-makers regarding subsequent steps.

The steps outlined in this implementation plan describe actions that should occur in the short term (1-5 years), the intermediate term (6-10 years), and the longer term (by 2025) to achieve the system plan vision.

Short Term Implementation Steps

The first priority of the Sarasota/Manatee MPO for public transportation should be to fund improved inter-county transit service operating in the US 41 corridor. Within the next two



years, the MPO and transit agencies should jointly pursue start-up funding from the Florida Department of Transportation to begin operation of a service route linking Ellenton, Palmetto, downtown Bradenton, the Sarasota-Bradenton International Airport, downtown Sarasota, Sarasota Memorial Hospital and the Sarasota Square Mall. The service should operate as a regular fixed route every 30 minutes between 5:30 AM until 7:30 PM. Service development funds provided by FDOT in the amount of approximately \$8 million could fund operating and capital costs for three years. At that point, the MPO and its local agency partners would evaluate the service to determine whether it should continue to be funded through local sources.

To support the acquisition of this grant and guide subsequent transit planning and programming activities, the MPO should form a transit policy subcommittee of elected officials on the MPO board. This group would meet periodically to address planning and funding decisions for near-term transit implementation strategies such as the US 41 inter-county service route and development of a scope of services and funding commitments for the BRT alternatives analysis. Among their responsibilities would be to guide the development of an interlocal agreement between the two counties for the operation, maintenance, evaluation and funding responsibilities for regional service. This interlocal agreement is needed to address how the inter-county service will be implemented using the facilities of the Manatee and Sarasota systems, and considering the relative benefit of the service to each county.

Additionally, the local governments in the area should take a serious look at revising their development codes and comprehensive plans to promote transit-oriented development within the major transit corridors (e.g., US 41, Fruitville Road, University Parkway, Cortez Road, Manatee Avenue and Venice Avenue) and in places where transfer centers may be located. The creation of a transit-oriented overlay district that promotes good pedestrian connections, an interconnecting street network, structured parking and re-oriented buildings would be one strategy for consideration. Within these districts, new development or redevelopment would be encouraged through incentives like density bonuses, impact fee reductions or expedited development review to adhere to pedestrian- and transit-oriented design guidelines.

The local governments should also consider the adoption of multi-modal transportation districts, as allowed by state law, in appropriate locations to manage concurrency within transit



emphasis corridors or districts. Within multi-modal transportation districts, first priority is given to non-auto travel modes while secondary priority is placed on automobile improvements. The law was approved by the 2000 Legislature to support infill and redevelopment policies and reduce the potential for strict adherence on roadway level of service standards to promote sprawl development patterns. Unlike Transportation Concurrency Exception Areas (TCEAs) which typically are allowed only in downtowns, multi-modal transportation districts can be applied to a linear corridor in suburban settings.

Also in the short term, the MPO should initiate the required planning work for development of the Bus Rapid Transit system for the US 41 corridor. This would entail preparation of an alternatives analysis to fully investigate the selection of a preferred alignment, location of stations, determination of environmental impacts and development of a financial plan that meets Federal Transit Administration Section 5309 criteria. A detailed operations plan, cost estimate for the chosen alignment and funding mechanism would be the primary products of the alternatives analysis. The steps would occur as follows:

- Complete Alternatives Analysis to more specifically determine the system alignment and station locations, refine ridership estimates, costs and revenues, and develop a financial plan for the project.
- Prepare a draft and final Environmental Impact Statement to meet federal funding requirements under the National Environmental Policy Act (NEPA). This step may lead to refinement of the alignment, station locations and financial plan.
- Complete the final design for the project to program construction.

This overall process is likely to take 7-10 years, similar to the planning, design and permitting process for road construction projects, but the alternatives analysis portion should be completed within the next 2-5 years.

Intermediate Term Implementation Steps



Mid-term (6-10 years) implementation strategies should focus on further development of the higher frequency grid-like bus service, and the restructuring of the transit system to focus on the pulse or timed transfer system described previously. The local dedicated revenue source to help fund the BRT system would be implemented during this stage as the BRT Environmental Impact Statement (EIS) and final design plans are finalized.

Mid-term strategies may also entail running express bus shuttles within the proposed BRT alignment to “soften up” the corridor with higher levels of transit service in preparation for the BRT implementation. This would be a relatively low cost step prior to completion of the dedicated lanes for transit vehicles, but by providing limited stops the service could realize substantial travel time savings for commuters and others.

Long Term Implementation Steps

The next stage for implementation is in years 11-16, when the BRT service in US 41 could be operating in revenue service. Also during this period, it is expected that the EIS and final design for the University Parkway BRT corridor could be completed, and a system of advanced public transportation management systems to deal with signal priority and/or traveler information could begin to be put into operation.

The final stage of implementation is the 17-25 year time frame, which would entail the initiation of BRT operation within University Parkway in the earliest years. Following that, the region should move into completing the design and implementing service on the BRT corridor from south of Sarasota Square Mall into Venice and, possibly, North Port. This may not fully occur in the 25 year time frame, but substantial progress could be made. Finally, at this stage it may be appropriate to introduce passenger rail service within existing CSX tracks linking Venice with Sarasota and Bradenton.



Sarasota/Manatee Public Transportation System Analysis
Final Technical Memorandum
April 2002



SUMMARY

This document provides an overview of the recommended public transportation system plan for the Sarasota/Manatee region. It is the product of a year's worth of public participation, technical analysis and detailed discussion with a diverse Steering Committee that includes technical staff, citizens and elected officials. The system plan outlines a 25-year vision for achieving a public transportation system that meets the area's mobility needs and provides a travel alternative within an expanding number of congested and constrained roadways. The Public Transportation System Plan is intended to serve as a long-range guide to the development of annual transportation priorities, much like the MPO's 2025 Long Range Transportation Plan guides the preparation of the Transportation Improvement Program (TIP) and the Florida Department of Transportation's five-year work program.