

# Multi-Modal Transportation

## Transportation



## MULTI-MODAL TRANSPORTATION ELEMENT INTRODUCTION

### Element Purpose

The Multi-Modal Transportation Element provides strategic planning directions which will enhance the City's multi-modal transportation system. The guidelines ensure that West Melbourne develops a variety of transportation alternatives including walking, biking, transit, and driving. The result is a multi-modal transportation system that provides for an excellent quality of life.

### Introduction

Like most Florida communities established and developed with the last 50 years, the predominant development pattern in West Melbourne is based upon an auto-oriented, separated land use, suburban model. However, the City's community planning vision is based upon a desire to emulate communities where traditional development was laid out on a grid pattern with a mixture uses and walkable neighborhoods. This vision would provide multiple transportation options as residents would be able to walk or bike to local businesses and restaurants, community services, professional offices, schools and parks and recreation. In order to improve the interconnectivity of the City and ease the transition from one section of the City to another, the City community planning vision focuses future development practices on the establishment of interconnected development patterns.

While the predominant form of transportation in the West Melbourne is the car, there are other alternatives including transit, walking, and biking. Alternative transportation resources:

- Improve the connectivity between different parts of the community.
- Provide outdoor recreation and destination access.
- Link areas that promote inter-modal connectivity, providing the ability to:
  - Drive to a transportation hub to utilize other forms of transportation like a bus or car-pool.
  - Drive or bike to an area, then walk to access a variety of services, shops, and restaurants.
  - Utilize bike racks on buses.

A better-connected transportation system will increase the versatility of alternative modes of transportation.

### Evaluation and Appraisal Report: Identified Concerns

Concerns related to Transportation Service Standards were discussed in all chapters of the 2009 Evaluation and Appraisal Report (EAR).

- **Chapter 1—Community Identity and Image:** Concerns are related to how to utilize the City's transportation system to promote a distinct sense of place, high quality of life, and integrated community identity.
- **Chapter 2—Community Core, Neighborhood Centers, and Gathering Spaces:** Concerns are related to utilize the City's pedestrian and bicycle oriented transportation resources to both link together the City's community and neighborhood centers and park areas as well as provide additional park resources.
- **Chapter 3—Integrated Development Patterns:** Concerns are related to how to facilitate the development of traditional neighborhoods and mixed use activity centers that utilize a variety of transportation resources to provide the community varied live-work-play opportunities.
- **Chapter 4—Community Connectivity and Multimodal Transportation Systems:** Concerns are related to the why multiple transportation opportunities and multimodal transportation master planning strategies are essential to the City's community planning vision.
- **Chapter 5—Standards for Public Facilities and Infrastructure Systems:** Concerns are related to how to develop and finance a transportation system that meets the varied needs of the systems' many users—drivers, pedestrians, cyclists, and transit riders.
- **Chapter 6—Land Development Practices and Design Standards:** Concerns are related to how to utilize the City's future new and redevelopment planning efforts to foster traditional neighborhoods and interconnected community resources.

One of the primary concerns identified by the 2009 Evaluation and Appraisal Report (EAR) regarded the lack of community connectivity within and between the community's segregated land uses. This land use segregation is the result of the development of autocentric, suburban neighborhoods with low-densities and separated land uses. These suburban development patterns are the predominant form of development in the neighborhoods and commercial areas. The EAR stated that the community ought to improve its transitional areas and foster mixed-use community centers that enable people to rely less on their cars by establishing traditional neighborhoods.

Traditional neighborhood development (TND) is based on a grid structure with mixed uses and walkable neighborhoods. TND enables community members to walk or bike instead of use their cars. However, the City's current suburban development pattern does not promote walking and biking, as the current transportation system is designed to accommodate the needs of cars. To improve the walkability and

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bikeability of the City and ease the transition from one land use area to another, the EAR recommended that the Horizon 2030 Comprehensive Plan establish policies that promote interconnected development patterns. The report suggested that this goal may be accomplished by identifying central community village areas, mixed use commercial corridors, and improving the connection between them and the surrounding neighborhoods.

Specifically, the EAR recommended that the Horizon 2030 Comprehensive Plan establish policies that:

- Link the community's transportation system together.
- Recognize the connection between cars and land uses.
- Reestablish development forms which enable alternative forms of transportation.
- Promote alternative modes of connectivity by focusing on the development of comprehensive transportation networks including pedestrian accessways, bikeways, and transit resources.
- Recognize that transportation problems are land use problems and address this issue by instituting mixed-use, traditional neighborhood planning practices.
- Encourage people to use alternative modes of transportation and establish development patterns that ease accessibility to such opportunities.

### Land Use – Transportation – Energy Planning Coordination

In 2008, the State of Florida adopted FS 697, which established new local planning requirements relating to energy efficient land use patterns, transportation strategies that address greenhouse gas reductions, energy conservation and energy efficient housing. These new requirements became effective on July 1, 2008. While this issue has been addressed throughout the Horizon 2030 Comprehensive Plan, it is particularly addressed through the land use and transportation planning strategies established in the Multi-Modal Transportation Element.

The goals, objectives, and policies and analysis presented in this Element have been designed to address the following planning concerns identified by the Florida Department of Community Affairs (DCA):

- Reduction of vehicle miles traveled (VMT) in order to reduce carbon dioxide emissions.
- Increased coordination between land use planning and transportation service mode provision.
- Establishment of efficient multi-modal transportation land use patterns.
- Discouragement of sprawl and auto-oriented transportation systems.

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### **Data Assessment**

The data addressed through this Element and the accompanying Transportation Service Standards Element, contains information pertaining to how well existing transportation services and systems address the community's need for a multiple transportation alternatives and options. Specifically, as required by Florida Statute, the analysis includes an examination of data pertaining to:

- Multi-modal transportation options for transit, pedestrian access, and biking.
- Availability of bike-ped facilities and acknowledgement that the city, through its recently adopted Sidewalk Plan, has made a commitment to increasing sidewalk and trail facilities.
- Accessibility to transit, sidewalks, pedestrian pathways, bikeways, and other multi-modal resources.
- Identification of needed transit service improvements.

### **Policy Framework**

To address the challenges identified through the EAR and data assessment related to providing multi-modal options in West Melbourne, the following objective and policy series have been developed. The primary goal of this policy framework is to promote an interconnected, multi-modal transportation system which provides the community several transportation options. By achieving this goal, these objectives will achieve the directive of FS 697.

**Objective 1** – Community Connectivity System: “Foster a comprehensive multi-modal system that provides for the needs of pedestrians, bikers, public transportation riders, and motorists.”

- Through this objective the City seeks to ensure that future development provide for the varied transportation needs of the community in order that people have viable, safe, and accessible options for walking and riding bikes. This will ensure that residents and business people do not have to drive throughout the community.

**Objective 2** – Financing Strategies: “Establish user based financing strategies are the preferred means to fund new transportation (including mass public transportation) improvements and programs.”

- Through this objective the City ensure that multi-modal transportation alternatives receive the proper funding needed to implement the type of transportation options desire by the community. Without proper funding and fiscal budgeting instruments, the City will not be able to ensure that bike, pedestrian, and transit options are constructed as desired by this element and required by FS 697.

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**Objective 3** – Transportation Land Use Master Planning Strategies: Utilize transportation land use master planning strategies to coordinate future land use practices with the expansion and improvement of a comprehensive multi-modal transportation system.

- Through this objective the City coordinates its land use and transportation planning activities in order to discourage sprawl, encourage a variety of transportation options, and curb greenhouse gases.

## IDENTIFICATION AND ANALYSIS OF MULTI MODAL TRANSPORTATION RESOURCES

The City of West Melbourne has budgeted funds in its 2010-2100 fiscal year for the following roadway projects, which will include construction of sidewalks on at least one side of the road:

- Doherty Drive: extending south from Henry Avenue to Heritage Oaks Boulevard.
- Fell Road: extending east from Hollywood Boulevard to Dairy Road.
- Henry Avenue: extending east from Park Hill Boulevard to Dairy Road.

### Multi-Modal Alternatives Approach to Congestion Management

The City's existing transportation system is comprised of more than roadways. Mass transit service in the City is provided by Space Coast Area Transit, a Countywide bus authority. The City will be reviewing ways that residents and those working in the City can more easily utilize the transit available. The City will also continue to work with the transit agency to evaluate the days and hours of operation and alternate routes. Bicycles and pedestrian paths/sidewalks are another important component of the City's transportation system.

The City's sidewalks currently do not provide pedestrian and bicycle access along all segments of all major roadways. As part of its commitment to linking the community together through an integrated, multi-modal transportation system that provides transportation alternatives, the City has already conducted a sidewalk gap study and will work towards prioritizing needed facilities during this planning period to increase options for alternate transportation modes for the residents of the City.

Recognizing the importance of an interconnected, multi-modal transportation system and the need to address the impact of cars on the ability to walk/bicycle in the community, the City may consider establishing a multi-modal transportation district in the form of a Transportation Concurrency Exception Area (TCEA) through an amendment to the Comprehensive Plan. The City was deemed a Dense Urban Land Area (DULA) under the Florida Statutes legislative changes in 2009, with the ability to establish

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DULA as a Transportation Concurrency Exception Area if the City enacted changes to its Comprehensive Plan by June 2011. The City, along with other communities in Brevard County who were designated as a DULA is considering the financing methods through a revised traffic impact fee and the coordination that would need to occur with Brevard County, which is not a designated DULA. The county-wide discussion on the Transportation Concurrency Exception Areas (TCEA) is occurring in conjunction with the Space Coast Transportation Planning Organization (TPO). Should the City decide to proceed with the TCEA, the City will delineate those exception areas on the Future Land Use map. The TCEA will incorporate community design features that will reduce the number of automobile trips and will support an integrated, multi-modal transportation system. As per State concurrency requirements, the City will coordinate with FDOT in relation to the impact such TCEA districts would have on the level of service (LOS) of the strategic intermodal system facilities.

The City may desire to establish multi-modal LOS and will justify the designated TCEAs through an analysis. The analysis will demonstrate that the existing and planned community design will provide an adequate level of mobility within the district. The analysis will also demonstrate that the capital improvements required to promote community design are financially feasible. A determination of financial feasibility shall be based on currently available funding or funding that could reasonably be expected to become available over the planning period. Again, the provision of a TCEA in the City will involve coordination with other adjacent cities, Brevard County and the TPO.

However, the legislation that recently enacted the ability to be a TCEA as a part of the DULA designation is still under litigation and may be overturned. The legislation regarding TCEA's and other transportation concurrency mechanisms will probably continue to evolve as our State continues its population growth.

### **Transit**

Transit service is provided by Space Coast Area Transit (SCAT) (see attached "Existing Mass Transit System" map). One SCAT route serves a large part of the City (Route 24), although other routes travel at the edges of the City along Palm Bay Road (Route 23), and along Dairy Road, Minton Road and US 192 (Route 25). SCAT's route 24 operates on one-hour time intervals from approximately 7:00 a.m. to 9:00 p.m., Monday to Saturday offering transfers to Routes 21, 25, and 28 at stop 1 (Melbourne Square Mall); to Route 28 at stop 11 (Wal-Mart Super Center – Wickham Rd.); and to Route 1, 21, and 26 at stop 12 (Melbourne International Airport). SCAT has a stop or route to service Hammock Landing, in addition to the transfer station function it serves, in accordance with the Development of Regional Impact Development Order.

In general, fixed routes offered by SCAT operate from 6 am to almost 9 pm to cover the peak hours during the work week, with limited weekend hours. In 2005, countywide, per the 2008-2013 TDP, SCAT

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had 1.45 million riders with a fleet of 176 vehicles. In 2005, according to the SCAT 2008-2013 TDP, the average number of riders per hour on SCAT's fixed routes was 17.

Headways or frequency of service is the primary determinant of the quality of transit from the perspective of the rider. The preferred headway for transit is 10 to 15 minutes during the peak hours and 20 to 30 minutes during off-peak hours. Headways or frequency of service is the primary determinant of the quality of transit from the perspective of the transit rider. The shorter headways, the more convenient it is for the potential transit rider to choose transit over other modes of travel. Typical headways (frequency of service) on SCAT's fixed routes are one hour.

The 2008-2013 TDP contains short and long term recommendations for improving SCAT's services. Data on the peak hour headways of Route 25, one of the major routes that traverses many sides of West Melbourne (Minton, US 192, Norfolk Parkway) is not available. However, US 192 has been identified in the 2008-2013 TDP as one of eight "key corridors" where the focus will be on improving frequency of fixed route stops, extending service times and perhaps implementing premium types of services. The western terminus of the US 192 route is two miles west of I-95, approximately at the location of the proposed St. Johns Heritage Parkway.

SCAT's other support services include car/vanpool matching, fixed route buses, employer parking incentive programs, developing park-n-ride locations, telecommuting options, a vanpool leasing program, alternative work scheduling, bicycle commuting, pedestrian commuting, or a combination of the above elements.

The City would benefit from SCAT increasing the frequency and areas covered by buses and by encouraging more use of the support services of SCAT as well as additional park and ride facilities.

### **Bicycle**

According to the Florida Bicycle Association, bicycling is one of the most efficient modes for shorter local trips. The availability of bicycle facilities plays an important role in encouraging the use of bicycle as a mode of travel. In communities that have a good bicycle network, considerable shares of shorter vehicular trips are substituted by bicycle trips. Additionally, bicycling offers the potential for recreation and positively contributes to the health of the residents.

The lack of bicycling facilities is a concern to the residents of the City of West Melbourne. This issue was raised in the Horizon 2030 visioning process in November 2007, and subsequently a study of the current sidewalk gaps was conducted (see attached "Sidewalk Gap Study" map). The current TPO Bicycle Plan

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was adopted in 1988 and the TPO developed a comprehensive pedestrian plan in 1993. The TPO 2025 LRTP includes goals, objectives, and policies that address pedestrian and bicyclist needs. A Brevard County trail system was proposed and is being implemented. The TPO is currently conducting an update to the Long Range Plan, namely the TPO 2035 LRTP. This update also has a component focused on non-vehicular modes of transportation.

### **Pedestrian**

All modes of travel begin and end with walking, therefore, the existence of pedestrian facilities and amenities is integral to the success of all other travel modes. The success of the multi-modal transportation system is directly dependent on the availability of pedestrian infrastructure around transit stops.

During the 2007 Horizon 2030 visioning process, residents commented there is a need for additional sidewalks to allow for safe travel near roadways and to create connections between destination points. In 2009, the City conducted a sidewalk gap study to identify roadways that may not have adequate sidewalks (see attached “Sidewalk Gap Study” map).

### ***Development Standards***

In 1998, the City of West Melbourne amended its land development regulations (LDR) to require sidewalks to be built as part of new constructions throughout the City, with a couple exceptions. As of 2009, the City had over 50 miles of sidewalks.

The Planning and Zoning Board reviews all site and development plans and preliminary subdivision plats to ensure that developments meet the requirements in the LDRs. Part of the review process includes the evaluation of pedestrian connectivity . The City works with the County to ensure that all sidewalk projects are planned and coordinated along County owned and maintained roadways. The City also informs the TPO of upcoming sidewalk projects on City owned and maintained roads.

### ***Sidewalk Gap Study***

In May 2009, the City of West Melbourne conducted a sidewalk gap study titled “Safe Routes to School Infrastructure Grant Application and Sidewalk Gap Study” that included local roads and roads within the city limits that are owned and maintained by other entities including Brevard County and FDOT (see attached “Sidewalk Gap Study” map). The study determined the following roads lack complete sidewalks or need sidewalk improvements:

- Minton Road: need sidewalks wider than five feet to accommodate two sets of pedestrians.



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- Hollywood Boulevard: intermittent sidewalks on both sides of the road.
- Sheridan Road: needs sidewalks, none present.
- Milwaukee Avenue: intersection improvements needed on the County side of Minton Road to make the crosswalk wider.
- Henry Avenue: needs ADA ramps, better signage and restriping at the crosswalks.

All parks and each of the five public or charter schools—Imagine Schools at West Melbourne, West Melbourne School of Science, Meadowlane Primary Elementary School, Meadowlane Intermediate Elementary School, and Central Middle School—have sidewalks leading up to their entrances. The City received a grant as a result of the “Safe Routes to School” program to add sidewalks on the west side of Hollywood Boulevard from Fell Road north to Henry Avenue. The City will also be adding road segments and sidewalks to the following:

- Doherty Drive: extending south from Henry Road to Heritage Oaks Boulevard.
- Fell Road: extending east from Hollywood Boulevard to Dairy Road.
- Henry Avenue: extending east from Park Hill Boulevard to Dairy Road.

### Greenways and Trails

In 2001, the TPO adopted the Brevard County Greenways and Trails Master Plan and oversees its implementation. This multi-modal plan was written to develop a comprehensive system whereby the County’s trail and greenway resources would be utilized to both improve resident’s quality of life and provide alternative modes of transportation. According to the plan’s objectives, the plan is to be utilized in two ways:

1. Provide direction about day-to-day management and development the greenway and trail system.
2. Direct future development and construction of trail and greenway resources.

The 2009 EAR determined that in order for the City to have good connectivity, West Melbourne will need to develop a local trail, bikeway, and pathway strategy which coordinates with the Space Coast TPO to:

- Link current community assets (parks, recreational areas, neighborhoods, schools, and commercial centers) to future activity centers.
- Define design guidelines to provide appropriate safety and aesthetics on all linkages.
- Integrate Brevard County efforts to promote a regional multi-modal transportation system.

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There are two methods the City uses to coordinate its role in helping the TPO achieve its overall vision of having a county-wide trail (non-vehicular) system including specific City and County funded sidewalk projects and projects funded by FDOT. By programming the construction of sidewalks with transportation impact fee funds along Doherty Drive, Fell Road and Henry Avenue and by being awarded the "Safe Routes to School" grant from FDOT for construction of a sidewalk along Hollywood Boulevard, the City has initiated coordination of sidewalk interconnectivity between the City and County resources.

### **Other Modes Of Transportation**

During the Horizon 2030 Visioning process, there was a suggestion by West Melbourne residents for trails and pathways to accommodate small electric vehicles such as golf carts and similar open air vehicles. The City's first priority is to build sidewalks and paths for pedestrian and bicycle passage. The City did research the State legislation regarding allowance of golf carts on roads. Since all of the city roads connect to county and state roads and these collector and arterial roads have speed limits of 40 miles per hour (MPH) or greater, it will be difficult for the City to offer significant connection to employment centers, retail areas and institutions given the State of Florida's and the County's restriction of these types of vehicles on high speed roads (over 30 MPH) at this time.