Public Transportation
Resource Guidebook

Presented to FDOT District Five
Intermodal Systems Development Unit

June 2007
Purpose of the Guidebook

- Provide an introductory overview of public transportation
- Discuss fundamental concepts of different modes
- Develop a public transportation resource inventory

After going through this guidebook, the students/professionals will have understanding of various aspects of different public transportation modes and will know where to find related information for their purposes.
Target Audience

- Entry level engineering and planning professionals dealing with public transportation issues in planning, design, grant administration, project management, right-of-way, construction, maintenance, safety and operations.

- This guidebook will be useful not only to FDOT staff but also to professionals with other public agencies, consulting firms, developers, and business owners.
## Abbreviations

- **APTA**: American Public Transportation Association
- **ATA**: American Trucking Association
- **BRT**: Bus Rapid Transit
- **CRT**: Commuter Rail Transit
- **CFASPP**: Continuing Florida Aviation System Planning Process
- **FAA**: Federal Aviation Administration
- **FHWA**: Federal Highway Administration
- **FPTA**: Florida Public Transportation Association
- **FRA**: Federal Railroad Administration
- **FTA**: Federal Transit Administration
- **LOS**: Level of Service
- **LRT**: Light Rail Transit
- **NAPTA**: National Alliance of Public Transportation Advocates
- **NTD**: National Transit Database
- **SIS**: Strategic Intermodal System
- **TCRP**: Transit Cooperative Research Program
- **TDP**: Transit Development Plan
- **TOD**: Transit Oriented Development
- **TRB**: Transportation Research Board
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Public Transportation Realm

• **Definition of Public Transportation:**
  
  - transportation by bus, rail, or other conveyance, either publicly or privately owned, providing general or special service to the public on a regular and continuing basis
  
  - includes various modes for air, water, and ground transportation (aircraft, cruise ship, cargo ship, ferries, water taxis, high speed rail, trolleys/streetcars, light rail, subways, commuter rail, monorails, buses, bus rapid transit, jitneys, van pool services, paratransit services, etc.)
  
  - synonymous with the terms mass transportation and transit
  
  - sometimes used to mean ground transportation modes only (as opposed to air and water)

• **Multimodal vs. Intermodal:**
  
  - a multimodal system accommodates different modes
  
  - an intermodal system ensures strategic connections between different modes
Public Transportation Realm (continued...)

- **History** of “public transportation” in the US dates back to 1630 (first publicly operated ferryboat in Boston)
- Urban Mass Transportation Act of 1964, first major Federal public transportation program - provided federal aid to transit agencies for capital equipment purchases
- Safe, Accountable, Flexible, Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU), 2005 - authorized higher levels of funding for public transportation
- In 2006 Americans took 10 billion trips using public transportation (source: APTA)

Unlinked Passenger Trips is defined by the number of passengers who board public transportation vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination.
Need for Public Transportation

- provides alternative mode for travel
- reduces traffic congestion, improves mobility / saves system-wide travel time

- Public transportation takes cars off the road. According to Maryland DOT’s estimates, that reduction amounts to 12 cars for a full van, 60 cars for a full bus, 125 cars for a light rail car, and up to 200 cars for a full commuter rail car. (source: APTA)

- 30,000 passengers can be carried on a single U.S. subway line in one hour, 10 additional highway lanes would be needed if these riders drove instead (source: APTA)

- helps lead the Nation towards its goals and policies of protecting the environment, conserving energy, and providing for the health, safety and security of its citizens
Need for Public Transportation (continued...)

- provides redundancy and resiliency in the transportation network critical for emergency situations
- enhances economic opportunities by creating vibrant communities, revitalizing business districts and activity centers
- supports equity objectives by providing increased options for the transportation disadvantaged (low income population, senior citizens, children, citizens with disabilities, etc.)
- increasing importance of Public Transportation across the Nation (in last six years use of public transportation increased by 22% - source: APTA)

- Every $10 million invested in transit capital projects yields $30 million in business sales, and the same investment in transit operations generates $32 million. (source: APTA)
### Comparison of transit modes

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Bus</th>
<th>BRT</th>
<th>Streetcar</th>
<th>Light Rail</th>
<th>Commuter Rail</th>
<th>Heavy Rail / High Speed Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel Market (Trip market served)</td>
<td>Local/Commuter</td>
<td>Local/Commuter</td>
<td>Local</td>
<td>Local/Commuter</td>
<td>Commuter</td>
<td>Long Distance (Intercity)</td>
</tr>
<tr>
<td>Economic Development (Impact on business)</td>
<td>Minimal</td>
<td>Moderate</td>
<td>Significant</td>
<td>Significant</td>
<td>Significant</td>
<td>Significant</td>
</tr>
<tr>
<td>Speed (Operating speed in MPH)</td>
<td>10 - 25</td>
<td>20 - 50</td>
<td>7 - 15</td>
<td>20 - 30</td>
<td>30-50</td>
<td>30 - 70</td>
</tr>
<tr>
<td>Right of Way (Shared/ dedicated)</td>
<td>Shared</td>
<td>Dedicated</td>
<td>Shared/Dedicated</td>
<td>Dedicated</td>
<td>Dedicated</td>
<td>Dedicated</td>
</tr>
<tr>
<td>Construction Disruption (Impact on traffic and business during construction)</td>
<td>Minimal</td>
<td>Minimal</td>
<td>Minimal</td>
<td>Significant</td>
<td>Significant</td>
<td>Significant</td>
</tr>
</tbody>
</table>

- Density is a critical concern in transit planning – min 7 dwelling units per acre or 50-60 employees per acre are required to support 30 min bus headway
- Rail investment is generally more capital intensive as compared to bus investment
The Federal Transit Administration (FTA) administers federal funding to support a variety of locally planned, constructed, and operated public transportation systems throughout the U.S., including buses, subways, light rail, commuter rail, streetcars, monorail, passenger ferry boats, inclined railways, and people movers - authorized by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users of 2005 (SAFETEA-LU) - http://www.fta.dot.gov/

**FTA Resources**
- Planning and Environment (includes New Starts) - http://www.fta.dot.gov/planning_environment.html

The Transit Cooperative Research Program (TCRP) - a cooperative effort of FTA, the Transportation Research Board (TRB), the Transit Development Corporation (TDC), and the American Public Transportation Association (APTA) - http://www.tcrponline.org/index.cgi

**Examples**
Transit – Bus & Rail (continued...)

- TRB Research In Progress (RiP) Database - http://rip.trb.org/
- American Public Transportation Association (APTA) - serves and leads its diverse membership through advocacy, innovation and information sharing (http://www.apta.com/)
- APTA Streetcar and Heritage Trolley - http://www.heritagetrolley.org/
- National BRT Institute, a part of the Center for Urban Transportation Research (CUTR) at University of South Florida (USF) - http://www.nbri.org/index2.html
- National Alliance of Public Transportation Advocates (NAPTA), a national organization representing local transit coalitions who support increasing federal investment in public transportation - http://www.napta.net/
- Federal Railroad Administration (FRA), one of the ten agencies within USDOT - http://www.fra.dot.gov/us/home
- High Speed Ground Transportation Association - http://peyser.com/hsgta/
- Midwest High Speed Rail Association - http://www.midwesthsr.org/
- Public Transportation - http://www.publictransportation.org/
Transit – Bus & Rail (continued...)

- **FDOT Transit Office** – Planning, Grants Administration, & Operations sections (http://www.dot.state.fl.us/Transit/)

**FDOT Resources**

- **Transit Planning Section** - [http://www.dot.state.fl.us/Transit/Pages/functionstransitplanning.htm](http://www.dot.state.fl.us/Transit/Pages/functionstransitplanning.htm)
  - From Bus Shelters to Transit Oriented Development ([http://www.dot.state.fl.us/Transit/Pages/FromBusShelterstoTODLiteratureReview.pdf](http://www.dot.state.fl.us/Transit/Pages/FromBusShelterstoTODLiteratureReview.pdf))
  - Transit 2020 ([http://www.dot.state.fl.us/Transit/Pages/transit2020plan.htm](http://www.dot.state.fl.us/Transit/Pages/transit2020plan.htm))
  - Transit Facilities Guidelines ([http://www.dot.state.fl.us/Transit/Pages/TRANSIT%20FACILITIES%20GUIDELINES.pdf](http://www.dot.state.fl.us/Transit/Pages/TRANSIT%20FACILITIES%20GUIDELINES.pdf))
  - Automated Transit Stop Inventory Model: ATSIM ([http://lctr.eng.fiu.edu/atsim.htm](http://lctr.eng.fiu.edu/atsim.htm))
  - Integrated Transit Demand And Supply Model: ITSUP ([http://www.dot.state.fl.us/transit/Pages/itsup.htm](http://www.dot.state.fl.us/transit/Pages/itsup.htm))
  - Transit Level of Service Software (TLOS) ([http://www.dot.state.fl.us/transit/Pages/transitlevelofservicesoftware.htm](http://www.dot.state.fl.us/transit/Pages/transitlevelofservicesoftware.htm))
Transit – Bus & Rail (continued...)

- Florida New Starts Transit Program -
  [http://www.dot.state.fl.us/Transit/Pages/FloridaNewStartsProgram.doc](http://www.dot.state.fl.us/Transit/Pages/FloridaNewStartsProgram.doc)

- District 4 Transit Facilities Guidelines -

- Resource Guide for Transit and Transit-Related Programs -
  [http://www.dot.state.fl.us/Transit/Pages/TransitResourceGuide.PDF](http://www.dot.state.fl.us/Transit/Pages/TransitResourceGuide.PDF)

- Transit Speed-Delay Final Report -
  [http://www.dot.state.fl.us/Transit/Pages/transitspeeddelayfinalreport.PDF](http://www.dot.state.fl.us/Transit/Pages/transitspeeddelayfinalreport.PDF)

- Grant Administration and Commuter Assistance Section -
  [http://www.dot.state.fl.us/Transit/Pages/functionsgrantsadministration.htm](http://www.dot.state.fl.us/Transit/Pages/functionsgrantsadministration.htm)

- Transit Operations and Safety Section -
  [http://www.dot.state.fl.us/Transit/Pages/functionstansitsafety.htm](http://www.dot.state.fl.us/Transit/Pages/functionstansitsafety.htm)

- FDOT Central Transit Office contacts -
  [http://www.dot.state.fl.us/Transit/Pages/staffdirectory.htm](http://www.dot.state.fl.us/Transit/Pages/staffdirectory.htm)

- FDOT Rail Office - [http://www.dot.state.fl.us/rail/](http://www.dot.state.fl.us/rail/)

- FDOT Rail Office publications - [http://www.dot.state.fl.us/rail/railpublications.htm](http://www.dot.state.fl.us/rail/railpublications.htm)

- Central Florida Commuter Rail - [http://www.cfrail.com/](http://www.cfrail.com/)

- 2006 Florida Freight & Passenger Rail Plan -

- FDOT Central Rail Office contacts - [http://www.dot.state.fl.us/rail/COcontacts.htm](http://www.dot.state.fl.us/rail/COcontacts.htm)
Transit – Bus & Rail (continued...)

- Florida Transit Forum - [http://cutrlist.eng.usf.edu/read/?forum=ft-forum](http://cutrlist.eng.usf.edu/read/?forum=ft-forum)
- Transit Agencies in Florida - [http://www.dot.state.fl.us/Transit/Pages/transitagenciesinflorida.htm](http://www.dot.state.fl.us/Transit/Pages/transitagenciesinflorida.htm)
- Florida Public Transportation Association - [http://www.floridatransit.org/default.htm](http://www.floridatransit.org/default.htm)
Aviation

- Aviation or air transport refers to the activities surrounding aircrafts and the aircraft industry.
- The modern age of aviation started with the balloon flight of Montgolfier brothers in Paris in 1783. The Wright brothers first successfully flew their aircraft in 1903. The aviation industry has come a long way since then.
- Today aviation is a critical part of the national economy, providing for the movement of people and goods throughout the world.
- Two major components of aviation – civil and military
- The general aviation fleet size in 2005 - 214,591 aircrafts
- General aviation hours flown in 2005 - 28.3 million
- The FAA Aerospace Forecast Fiscal Years 2007-2020 predicts 768 million passengers to be flying this fiscal year, more-than one billion passengers by 2015, and 1.2 billion by 2020.
Commercial Space Transportation is another interesting dimension of Aviation. Space transportation is the movement of, or means of moving objects, such as communications and observation satellites, to, from, or in space. Television and radio broadcasts, international telephone calls, high speed internet etc. are functions of space transportation.

Another, growing part of the commercial space transportation industry in the United States is the development of private or state-operated launch, re-entry, and processing sites known as “spaceports”. These spaceports provide space transportation service providers and their customers with an alternative to the traditional U.S. federal launch sites and ranges operated by either the U.S. Air Force or the National Aeronautics and Space Administration (NASA). Typically a spaceport site is large enough that, should a vehicle explode, it will not endanger human lives or adjacent launch pads.
Federal Aviation Administration (FAA) promotes safety, encourages and develops civil aeronautics, and regulates U.S. commercial space transportation - http://www.faa.gov/

International Air Transport Association (IATA), international trade body, http://www.iata.org/about/

FAA Resources
- Information on airports and airport traffic - http://www.faa.gov/airports_airtraffic/
- FAA regulations and policies - http://www.faa.gov/regulations_policies/
- FAA online library - http://www.faa.gov/library/
- FAA publications - http://www.dot.state.fl.us/Aviation/fedpub.htm

National Aeronautics and Space Administration (NASA) - http://www.nasa.gov/about/highlights/index.html
• **FDOT Aviation** - [http://www.dot.state.fl.us/Aviation/default.htm](http://www.dot.state.fl.us/Aviation/default.htm)
• Florida is a national and international leader in aviation - 20% of the world’s flight training occurs in Florida; main point for space exploration and research
• Florida has a total of 860 air facilities including privately and publicly owned facilities. More than half (58%) are airports, and another one-third (35%) are heliports. There are 19 primary airports and 9 planning regions. (Source: Florida Aviation Database, March 2004)
Aviation (continued...)

FDOT Resources

• Florida Aviation System Plan - http://www.cfaspp.com/FASP/FASP.asp
• Florida Aviation Database - http://www.florida-aviation-database.com/
• Florida Aviation Publications - http://www.dot.state.fl.us/Aviation/FLpub.htm
• Airport planning guidelines - http://www.dot.state.fl.us/Aviation/planning.htm
• Airports economic impact - http://www.dot.state.fl.us/aviation/economicimpact.htm
Aviation (continued...)

- Aviation environment management - [http://www.dot.state.fl.us/aviation/environment.htm](http://www.dot.state.fl.us/aviation/environment.htm)
- 3 Dimensional Airspace Analysis Programs (3DAAP) - [http://www.3daap.com/](http://www.3daap.com/)
- Florida aviation data & forecasts - [http://www.dot.state.fl.us/Aviation/dataforecasts.htm](http://www.dot.state.fl.us/Aviation/dataforecasts.htm)
- FDOT virtual transportation library – aviation: [http://www.dot.state.fl.us/planning/library/aviation.htm](http://www.dot.state.fl.us/planning/library/aviation.htm)
- FAA Florida contacts - [http://www.dot.state.fl.us/Aviation/faa.htm](http://www.dot.state.fl.us/Aviation/faa.htm)
- Airport contacts – [http://www.dot.state.fl.us/aviation/authorities.htm](http://www.dot.state.fl.us/aviation/authorities.htm)
- FDOT aviation contacts - [http://www.dot.state.fl.us/Aviation/fdotinfo.htm](http://www.dot.state.fl.us/Aviation/fdotinfo.htm)
Florida’s geography includes about 1,350 miles of coastline which underlines the importance of seaport operations on the economy of Florida.

In Fiscal Year 2004/05, Florida seaports handled 127.4 million tons of cargo (including international and domestic automobiles, apparel, steel, bananas, petroleum, and computer products) of which 56.2 million tons are domestic.

Cruise ship operations contribute significantly to Florida’s port activities. In 2005, three out of the top five world’s busiest cruise ports which included Port of Miami, Port Everglades, and Port Canaveral, handled 11,795,516 passenger embarkations and disembarkations together. Furthermore, a total of 14,528,756 passenger movements occurred at all nine of the Florida seaports with cruise operations.

Of the 14 Florida’s deepwater ports, seven are currently designated as SIS facilities (including Port Canaveral) and three are Emerging SIS facilities.

Florida’s 14 Deepwater Seaports
Seaports (continued...)

- FDOT Seaport Office - [http://www.dot.state.fl.us/seaport/default.htm](http://www.dot.state.fl.us/seaport/default.htm)
- Florida’s 14 Deepwater Seaports - [http://www.dot.state.fl.us/seaport/seamap.htm](http://www.dot.state.fl.us/seaport/seamap.htm)
- Seaport Related Statutes - [http://www.dot.state.fl.us/seaport/seaportlawsrules.htm](http://www.dot.state.fl.us/seaport/seaportlawsrules.htm)
- Florida Seaport Transportation and Economic Development Program - [http://www.dot.state.fl.us/seaport/fstedddesc.htm](http://www.dot.state.fl.us/seaport/fstedddesc.htm)
- The Intermodal Development Program - [http://www.dot.state.fl.us/seaport/intermodalpage.htm](http://www.dot.state.fl.us/seaport/intermodalpage.htm)
- Central Office contact information - [http://www.dot.state.fl.us/seaport/2002officelist.htm](http://www.dot.state.fl.us/seaport/2002officelist.htm)
Freight/ Truck

- Freight flows on truck, rail, water, and air (highest % - trucks)
- Congestion is a serious problem for freight transportation – increases cost (Eight worst highway bottlenecks in Florida cause 3.6 million annual hours of delay for trucks at an economic cost of $116 million – source: FHWA)

U.S. Freight Transportation Forecast

Source: U.S. Freight Transportation Forecast to 2017
Freight/ Truck (continued...)

- FHWA freight management and operations - [http://ops.fhwa.dot.gov/freight/](http://ops.fhwa.dot.gov/freight/)
- TRB freight publications [http://www.trb.org/news/search_news.asp?q_aw=&q_ep=&q_sw=&q_nw=&subjectradio=0&subject=17&BlurbTypes=2&day=180&Lower_Date=&Upper_Date=&s=1&st=1&Submit1=Find+Blurbs](http://www.trb.org/news/search_news.asp?q_aw=&q_ep=&q_sw=&q_nw=&subjectradio=0&subject=17&BlurbTypes=2&day=180&Lower_Date=&Upper_Date=&s=1&st=1&Submit1=Find+Blurbs)
- FDOT public transportation publications - [http://www.dot.state.fl.us/publictransportation/publications.htm](http://www.dot.state.fl.us/publictransportation/publications.htm)
- Florida Trucking Association - [http://www.fltrucking.org/](http://www.fltrucking.org/)
- FDOT Seaport Office is responsible for freight movement planning - [http://www.dot.state.fl.us/seaport/](http://www.dot.state.fl.us/seaport/)
Florida’s Strategic Intermodal System (SIS)

- The SIS is a statewide network of high-priority transportation facilities, including the State’s largest and most significant commercial service airports, spaceport, deepwater seaports, freight rail terminals, passenger rail and intercity bus terminals, rail corridors, waterways and highways - [http://www.dot.state.fl.us/planning/sis/default.htm](http://www.dot.state.fl.us/planning/sis/default.htm)
Florida’s Strategic Intermodal System (SIS) (continued…)

- System designation - http://www.dot.state.fl.us/planning/SIS/designation.htm
- Strategic plan - http://www.dot.state.fl.us/planning/SIS/strategicplan/default.htm
- Plan implementation - http://www.dot.state.fl.us/planning/SIS/implementation/default.htm
- Funding - http://www.dot.state.fl.us/planning/SIS/projects/default.htm
- FDOT Contacts - http://www.dot.state.fl.us/planning/SIS/siscontacts.asp
- Florida Transportation Commission - http://www.ftc.state.fl.us/
FDOT PTO Completed Research Projects Archive

- Available online at http://www.dot.state.fl.us/research-center/Completed_PTO.htm

Examples –

- Public Transit in America: Analysis of Access Using the 2001 National Household Travel Survey -

- Guidebook for Start-up Transit Agencies -

- Incorporating TDM into the Land Development Process -

- Impacts of Transit Oriented Development on Public Transportation Ridership -
  http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_PTO/FDOT_BD549_05_rpt.pdf

- Innovative Transit Financing in Florida -
• Optimization of Transit Network to Minimize Transfers -
  http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_PTO/FDOT_BD015_02rpt.pdf
• Design Guidelines for Highway Railroad Grade Crossing Profiles in Florida -
• Florida Freight Stakeholders Task Force Technical Report -
• Impacts of Transfer Fares on Transit Ridership and Revenue -
• Effectiveness of Bus Signal Priority -
• Hard copies of final reports, as available, may be obtained from the National Technical Information Service (NTIS), http://www.ntis.gov/.
FDOT PTO Active Research Projects

- FDOT records on TRB RiP - http://www.dot.state.fl.us/research-center/Active_PTO.htm

Examples –
- Integrating Transit and Urban Form - http://rip.trb.org/browse/dproject.asp?n=12853
- Toolbox for Transit Event Investigation - http://rip.trb.org/browse/dproject.asp?n=11130
- Impact of Employer Based Programs on the Transit Ridership and Transportation System Performance - http://rip.trb.org/browse/dproject.asp?n=11311
Vision Statement

- The Intermodal Systems Unit envisions fixed route bus service linking the entire region with a well developed integrated transit system to support commuter rail. Our vision for the future also includes commuter rail extended to serve the entire region, with other fixed guideway transit improvements including light rail and bus rapid transit implemented to serve trips that are more local in nature.
- The Intermodal Systems Unit sees stakeholders working together to maximize the efficiency of intermodal connections in support of goods and passenger movement.
- This includes a fully developed multi-use corridor linking Port Canaveral to the Orlando Airport. Freight movement would be maximized through an enhanced freight network developed through integrated freight planning.
- The Intermodal Systems Unit foresees the integration of multi-modal improvements to serve the transportation needs of special regional activity centers such as the University of Central Florida, the International Drive tourist area, and Downtown Orlando consistent with the Downtown Orlando Transportation Plan.
- The future will include dedicated transit funding and the implementation of proportionate share for transit improvements combined to maximize public-private funding partnerships. This will result in a completely funded integrated transit system which will serve all the needs of the public including transportation disadvantaged throughout the district.
- The Aviation and Seaport unit is envisioned as an integral part of the future of Central Florida. This unit will work to develop and maintain excellent working relationships with all the local government partners. The unit will invest in facilities that safely and efficiently meet the needs and that will enhance the local and state economy. The unit will work with the Aviation office in ensuring adequate resources are available to assist and support the local partners. The unit will be poised and ready to react to the ever changing environment in support of the critical decisions our partners face in responsive and professional manner.
FDOT District Five Intermodal Systems Development Unit (continued...)

District Five SIS Maps –

http://www.dot.state.fl.us/planning/sis/atlas/distmaps/default.htm
Florida Department of Transportation District Five June 2007

FDOT District Five Intermodal Systems Development Unit (continued…)

District Five's only Seaport - Port Canaveral
(http://www.portcanaveral.org/index2.php)

District Five's only Launch and Landing Facility – Kennedy Space Center
(http://www.kennedyspacecenter.com/)

### District Five Commercial Airports

<table>
<thead>
<tr>
<th>Airport</th>
<th>Total Annual Passengers (2005)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orlando International</td>
<td>34,128,048</td>
</tr>
<tr>
<td>Orlando Sanford International</td>
<td>1,649,237</td>
</tr>
<tr>
<td>Daytona Beach International</td>
<td>600,748</td>
</tr>
<tr>
<td>Melbourne International Airport</td>
<td>400,000</td>
</tr>
</tbody>
</table>

- Daytona Beach International – [www.flydaytonairst.com](http://www.flydaytonairst.com)
- Melbourne International Airport – [www.mlbair.com](http://www.mlbair.com)
FDOT District Five Intermodal Systems Development Unit (continued…)

District Five Transit Systems

<table>
<thead>
<tr>
<th>Transit System</th>
<th>Lynx</th>
<th>Space Coast Area Transit</th>
<th>Votran</th>
<th>SunTran</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area Served</td>
<td>Osceola, Orange, &amp; Seminole Counties</td>
<td>Brevard County</td>
<td>Volusia County</td>
<td>Marion County</td>
</tr>
<tr>
<td>Service Area Population</td>
<td>1,538,900</td>
<td>453,117</td>
<td>468,663</td>
<td>77,515</td>
</tr>
<tr>
<td>Service Area Size (mi²)</td>
<td>2,538</td>
<td>427</td>
<td>1,207</td>
<td>55</td>
</tr>
<tr>
<td>Vehicles Available for Max. Service</td>
<td>456</td>
<td>173</td>
<td>152</td>
<td>9</td>
</tr>
<tr>
<td>Total Operating</td>
<td>$81,613,947</td>
<td>$8,668,600</td>
<td>$14,320,637</td>
<td>$1,261,311</td>
</tr>
<tr>
<td>Annual Passenger Trips</td>
<td>22,730,047</td>
<td>1,135,500</td>
<td>3,200,576</td>
<td>249,578</td>
</tr>
</tbody>
</table>

• Space Coast Area Transit – [www.ridescat.com](http://www.ridescat.com)
• Votran – [www.votran.org](http://www.votran.org)
• SunTran – [www.suntran.org](http://www.suntran.org)

FDOT District Five publishes a Planning Guide and Trends Analysis annually which contains more information. For a copy of the handbook contact - John Zielinski at 407-482-7868 / john.zielinski@dot.state.fl.us
Current land use- transportation trends indicate congested future network and emphasize the importance of enhancing transit services in the region.
The Intermodal Systems Unit envisions integrated rail-bus transit system connecting the entire region.
Central Florida Commuter Rail - [http://www.cfrail.com/](http://www.cfrail.com/)
FDOT Project Manager - Tawny Olore, 407.482.7879, tawny.lore@dot.state.fl.us
FDOT District Five Contact Information

- Frank Hickson, Intermodal System Development Mgr. (407) 482-7852
- Karen Adamson, Strategic Intermodal System Mgr. (407) 482-7861
- John Zielinski, Transit/Intermodal Supervisor/SIS Coordinator (407) 482-7868
- Jim Wikstrom, Aviation/Seaports Supervisor (407) 482-7874
- Brian Fallon (407) 482-7862
- Diane Poitras, Transit Analyst (407) 482-7860
- Karen Paul, Transit Analyst (407) 482-7858
- Sandra Hill, Transit Planner (407) 482-7875
- Betsy Vena, Administrative Assistant (407) 482-7855
- Tressa Smith, Administrative Assistant (407) 482-7857
Training Information

1. National Transit Institute courses - http://www.ntionline.com/
5. ITS learning resources - http://www.pcb.its.dot.gov/
7. FDOT planning training - http://www.dot.state.fl.us/planning/training/default.htm
   - Access management training (http://www.dot.state.fl.us/planning/systems/sm/accman/accmantrn.pdf)
   - Level of service training (http://www.dot.state.fl.us/planning/systems/sm/los/default.htm#training)
   - FSUTMS training (http://www.fsutmsonline.net/modeling_training.aspx)
   - Public involvement training (http://www.dot.state.fl.us/planning/training/Pltraining.htm)
Contact Information

For Further Information Related to this Resource Guidebook,
Please Contact:

John Zielinski
Intermodal Systems Supervisor
133 S. Semoran Blvd.
Orlando FL 32807
407-482-7868 SC 335-7868
FAX 407-275-4188
john.zielinski@dot.state.fl.us

Mansoor Khuwaja or Santanu Roy
HDR Engineering, Inc.
315 E Robinson Street, Suite 400
Orlando, FL 32801-1949
Phone: (407) 420-4200
mansoor.khuwaja@hdrinc.com
santanu.roy@hdrinc.com