FLORIDA DEPARTMENT OF TRANSPORTATION
American Maglev Technology (AMT) Assessment
Phase I: Data Collection, Data Development, Meetings and Recommendations

Prepared for:

FLORIDA DEPARTMENT OF TRANSPORTATION
CENTRAL OFFICE

DECEMBER 2011

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1.0 INTRODUCTION AND STUDY PURPOSE

At the request of the Florida Department of Transportation (FDOT or Department) Secretary, the Department's Public Transit Office (PTO) was asked to investigate the environmental options available, including, but not limited to, the State Environmental Impact Report (SEIR) process, to assess American Maglev Technology's (AMT) request to utilize state Right-of-Way (ROW) to construct and operate a magnetic levitation (maglev) system. This assessment was expanded to include ROW utilization. This proposed system would operate in a northern east-west alignment between International Drive (I-Drive) and Orlando International Airport (OIA), with several potential interim stops including, but not limited to, the Sand Lake Road SunRail station, Florida Mall, and the intermodal transit center near the Orange County Convention Center; and in a southern east-west alignment from OIA to Walt Disney World (WDW), with several potential interim stops including, but not limited, to Medical City at Lake Nona, the Osceola Parkway SunRail station and at the Gaylord Resort.

The purpose of the analysis is to provide the Department recommendations regarding the AMT proposed maglev project through research, field work, discussions with AMT and Department staff, and meetings with affected local governments and agencies staff. The goal of the study is to provide recommendations regarding potential environmental and ROW utilization processes, a recommended list of items to be accomplished by AMT and the Department, a suggested timeframe for upcoming work and critical next steps.

The following sections of the report present the study scope and process, a description of the project and project alignment, the results of the environmental investigation, an overview of the potential environmental and ROW processes, and a summary of potential options and recommendations.

2.0 STUDY SCOPE AND PROCESS

The PTO requested that their General Engineering Consultant, AECOM Technical Services, Inc. (hereinafter referred to as FDOT's Consultant) develop a general approach, assumptions, a timeline and generalized cost data for evaluating the SEIR option. Based upon that paper and a staff meeting with the Secretary, the PTO requested that the FDOT Consultant pursue Phase 1 of the project approach, which includes meetings, data collection and exchange, data development and summary and recommendations. Phase 1, the subject of this study, was conducted in four work tasks. The general description and assumptions for Phase 1, as well as the work tasks and responsibilities are summarized below.

2.1 General Description

In addition to meeting with the Department, AMT, and local governmental and agency staffs, initial activities included the collection and development of detailed design criteria for input to the conceptual alignment. The FDOT Consultant worked with AMT to refine the AMT alignment, and conducted an environmental investigation, including research and field examinations on the proposed alignment. At the outset, the Department determined that the Environmental Screening Tool (EST) for passenger rail was not to be conducted during Phase 1 of this project, but will be required and screened in Phase 2, using the Efficient Transportation Decision Making (ETDM) process.

2.2 Meetings

An initial meeting was held with the Department to kick off the Phase 1 work effort and obtain approval by the Department of a list of required data needed from AMT. Next, a meeting was held with AMT to transmit the data needs list and to discuss the project scope, schedule and possible outcomes, as well as to receive and exchange data. Several meetings were required with AMT to refine the proposed maglev system conceptual alignment (see next section for description). After the alignment was completed in CADD and placed on an aerial with parcel ownership information, two sets of meetings were held with affected governmental parties, including Orange County, City of Orlando, Orange County Convention Center, Florida Turnpike Enterprise, Orlando Orange County Expressway Authority (OOCEA), MetroPlan Orlando, Greater Orlando Aviation Authority (GOAA), and Osceola County. AMT chose to attend most of these meetings. It should be noted that the FDOT Consultant only met with public entities and not private landowners where AMT has proposed station locations. Attendance lists and meeting summaries were provided for all meetings. The subject of those meetings, summary and meeting minutes are presented later in this report.

2.3 Data Collection

This task included the collection of detailed design criteria, including, but not limited to, typical sections, equipment information, power requirements (for substations), detailed alignments data, structure and substructure information, specific station locations, station parking requirements, noise and vibration data for maglev equipment, and traffic data collection. At the initial meeting with AMT, a list of data needs was presented for the Phase 1 evaluation. AMT provided the minimum alignment, cross section and station information. There were several initial field investigations by appropriate discipline professionals to ascertain alignment and project related issues and opportunities. Data not provided by AMT was researched for availability from other projects in the United States and was utilized for this project.

2.4 Data Development and Environmental Investigation

Data development involved contacts with the local government and agencies along the proposed alignment. For example, public agency ROW along the alignment was identified and the ROW utilization requirements of those agencies for private sector passenger rail service was assessed and summarized. In addition, route sections that may qualify for Categorical Exclusion from Federal action agencies were identified, as were SunRail and CFOMA (CSX) requirements and restrictions. Department ROW utilization permitting processes were identified for portions of the alignments on state ROW. Route segments of the AMT alignment that are off the state ROW were identified along with general permitting requirements. A list of potential environmental criteria was developed as part of Phase 1, and an environmental investigation was conducted to serve as the basis for the Department decision making process. Major issues addressed included, but was not limited to, traffic, visual, noise and vibration, wetland and drainage impacts. This task included detailed field investigations by appropriate discipline professionals to ascertain alignment and project related issues and opportunities.

2.5 Summary and Recommendations

The results of this work scope include a summary of the meetings held with AMT and local government and agencies, as well as a detailed summary of the information from the above data collection and development activities. The work product includes a summary of the potential environmental and Department processes upon which the Department and/or AMT could proceed, as well as recommendations for next steps. This study and analysis should result in enough information for the Department and AMT to make a go/no go decision for Phase 2.

3.0 DESCRIPTION OF PROJECT AND ALIGNMENT

The section outlines proposed project and alignment details, including how the alignment was developed with AMT. It should be noted that the AMT system details and proposal has been altered during the study process. Below is a representation of the AMT alignment and system proposal as of early December 2011.

3.1 Proposed System

AMT has proposed a private, for profit, three phase fully automated transportation system in public ROW that is based on magnetic levitation, or maglev technology. This technology depends on a linear induction motor for its propulsion, and attractive electromagnetic fields for levitation. The majority of the double track system is on grade separated aerial structure. The system can be at grade, but must be totally separated from any potential intrusion.

The proposed alignment details are described in a subsequent subsection. Phase 1, or the North Alignment, is a 14.9 mile, five station corridor that runs from OIA to the Orange County Convention Center. AMT has indicated that this phase can be constructed in 18 months, at a cost of $315.2 million. The five train system would operate 365 days per year, 20 hours a day on 10 minute headways, with a peak hour capacity of 1,320 persons. While the top speed is 50 mph, the estimated travel time is 30 minutes, with an estimated annual Operations and Maintenance (O&M) cost of $9.1 million.

Phase 2 is part of the South Alignment, and is a 4.9 mile corridor that runs from OIA to a station in Medical City at Lake Nona. AMT has indicated that this phase can be constructed in 18 months, at a cost of $103.8 million. Two additional trains would be required, and the system would have the same operating characteristics as Phase 1. The estimated travel time is 10 minutes, with an estimated incremental annual O&M cost of $1.6 million.

Phase 3, which is also part of the South Alignment, is a 19.4 mile, three to four station corridor that runs from Medical City to Walt Disney World. AMT has indicated that this phase can be constructed in 18 months, at a cost of $387.6 million. Five additional trains would be required, would operate 365 days per year, 20 hours a day on 10 minute headways, with a peak hour capacity of 9,429 persons. The top speed is 65 mph, the estimated travel time is 22 minutes, with an estimated annual O&M cost of $4.5 million.

3.2 Alignment Development and Design Standards

At the outset of this study, the Department and the FDOT Consultant requested the AMT CADD drawings, any conceptual engineering plans, and the engineering and design standards for the proposed system. The FDOT Consultant received a line drawing on an aerial, and a

set of cross section and aerial structure drawings, an alignment narrative and a general design summary. With that, the FDOT Consultant prepared a set of conceptual alignment drawings on aerials with property ownership outlined, utilizing CADD. These drawings were reviewed by the Department and AMT, and modifications were made based on review comments. This iterative process was completed again, prior to providing the conceptual alignments to the local governments and agencies for their review and comment. Again, the requested modifications were reviewed, discussed and made. Before beginning to the field investigation, another set of changes were made to the drawings, slightly modifying the alignment and adding and subtracting stations. Prior to the drafting of this report, another change was made to a station location.

Based on this process, a set of final conceptual alignment drawings were developed and utilized in the analysis process. These drawings are provided in **Appendix A**. In general, the design standards as indicated by AMT for the proposed AMT system are as indicated below, recognizing that the alignment and the standards are subject to change.

- Guideway-Elevated Dual Beam Structure
- Beam Length - 60 to 120 feet
- Maximum Longitudinal Slope - 10%
- Desirable Longitudinal Slope - 3%
- Minimum Turning Radius - 100 feet
- Minimum Desirable Turning Radius - 600 feet
- Radius per Speed and Passengers

Design speed	Standing passengers	Seated passengers
30 mph	600 ft	240 ft
40 mph	1,070 ft	430 ft
50 mph	1,670 ft	670 ft
60 mph	2,400 ft	960 ft

- Vertical Curvature - limited to 10,000 ft radius
- Station Platform - Dual 200 foot ADA compliant platforms
- Vehicle - 60 feet long, 10 feet wide, 572 square feet
- Vehicle Capacity - 225 passengers with 95 seated passengers
- Vehicle Maximum Design Load - 110,000 pounds
- Vehicle Control - 100% automated
- Minimum Guideway Width - 30 feet
- Support Column Diameter - 5 feet

3.3 Conceptual AMT Alignment

The AMT proposed North Alignment begins at the Orlando International Airport planned South Terminal. The double track route proceeds north at-grade in the GOAA designated rail corridor under the south cross field taxiway on the route shown on the GOAA Airport Layout Plan (ALP). It continues along the eastern edge of Airport Boulevard East (Jeff Fuqua Drive), past the North Terminal and Hyatt Hotel, passing under the Automated People Mover structures. The alignment passes under the north cross field taxiway and Cargo Road, then continues quickly to an aerial span structure and elevates to cross the North Access Road. It passes over the OIA ponds in a long radius curve that extends over the Beach Line (SR 528) to the northern edge of McCoy Road.

The system drops quickly to parallel the northern edge of McCoy Road and is built at-grade or near-grade in order to clear the Obstacle Free Zone (OFZ) that extends off the end of the west runways. Once the OFZ is cleared, the alignment continues west along the northern McCoy Road ROW and elevates quickly in order to clear South Conway Road. From this point on, the alignment is totally elevated in aerial structure. The alignment continues on the south shoulder of McCoy Road to the intersection with Sand Lake Road. The alignment proceeds west for approximately 2,500 feet down the center lane of Sand Lake Road with the pier columns located in new landscaped islands that are coordinated with left turn requirements for the properties along Sand Lake Road.

Near the intersection of Sand Lake and Orange Avenue, the alignment moves to the north shoulder of Sand Lake Road, crossing Orange Avenue and locating above the SunRail Sand Lake Road Station on the Sand Lake Road bridge. From the Orange Avenue SunRail Station, the alignment proceeds west along the north shoulder of Sand Lake Road and transitions to the center of Sand Lake Road. The system proceeds west in the center of Sand Lake Road, and crosses over John Young Parkway and then moves to the south shoulder of Sand Lake Road, crossing onto Florida Mall property to the Florida Mall Station. The alignment leaves the Florida Mall station and returns to Sand Lake Road, heading west and crossing US 441 (Orange Blossom Trail) on the south side of Sand Lake Road and then returning to the center median of Sand Lake Road. The alignment proceeds west to the International Drive Activity Center in the center median of Sand Lake Road. As the alignment approaches Universal Boulevard, the alignment turns south in a 1600 foot radius curve to connect with a potential future station at the southeast corner of Sand Lake Road and Universal Boulevard.

From the potential future station, the alignment proceeds south along the eastern edge transitioning to the center of Universal Boulevard. West of the intersection of Universal Boulevard and Tradeshow Boulevard, the alignment enters a curve of 1600 foot radius or greater through a portion of non-transportation ROW, to access Tradeshow Boulevard. The alignment crosses Destination Parkway and terminates at a dead end terminal station at the International Drive Intermodal Terminal.

The AMT proposed South Alignment also begins at the Orlando International Airport planned South Terminal Station and extends south from the station at-grade in the general rail corridors GOAA has planned under the future cross field taxiway. From the cross field taxiway, the alignment will become aerial span (from this point on, the alignment is above grade on aerial structure), crossing Heintzelman Boulevard and follows the median of the South Access Road until it reaches the intersection of the OUC Rail Spur ROW near Boggy Creek Road. At this intersection, the alignment will make a 1600 foot radius curve to the south side of the OUC Spur ROW and follow that right of way east to the Central Florida GreeneWay (SR 417). The alignment continues across SR 417 into Medical City property along Lake Nona Boulevard to a Medical City Station location in the proposed Lake Nona Town Center (to be determined).

From the Medical City Station, the alignment continues west along Lake Nona Boulevard to its intersection with Beacon Park Boulevard at Boggy Creek Road. The alignment transitions northwest to the SR 417 south ROW. From there, it transitions to the north side of SR 417, heading west until it reaches Orange Avenue. Here, the alignment will curve south to intersect with the eastern shoulder of Orange Avenue. The alignment will follow the east side of Orange Avenue to the intersection of Orange Avenue and the Florida Turnpike. At this

intersection, a gentle curve of at least 1600 foot radius will take the alignment to the western side of the Turnpike ROW for less than one mile to the east side of the SunRail corridor. The system accesses the Osceola Parkway SunRail station near the intersection of Orange Avenue and Osceola Parkway.

From the Osceola Parkway station, the route alignment generally follows the north side of Osceola Parkway, until it approaches US 441, where it travels west in the center of the ROW. The alignment continues in the center of Osceola Parkway, crossing over John Young Parkway and continuing west to a potential station just east of Vineland Road. Continuing in the center of the Parkway, the alignment crosses SR 417. Near the intersection of Osceola Parkway and SR 417, the alignment moves to the south side of Osceola Parkway for a planned station at Gaylord Plaza Hotel/Xentury on private property. From this station, the alignment leaves private property and returns to the south shoulder of Osceola Parkway, crossing over I-4. On the west side of I-4, the alignment moves to a potential future Disney Station site near Osceola Parkway and World Drive.

4.0 EVALUATION OF ENVIRONMENTAL ISSUES

4.1 Acquisitions and Relocations

The conceptual AMT alignment is divided into North and South routes for the purpose of this evaluation. The North section extends from the Orange County Convention Center to the Orlando International Airport (OIA), and it is approximately 15 miles long. The South section extends from World Drive in Osceola County to the Orlando International Airport (OIA), and it is approximately 24.2 miles long.

Table 4.1 shows a mileage break down for the entire length of the conceptual alignment. Please refer to **Appendix A** for the Conceptual AMT Alignment Plans.

Table 4.1 – Route Miles

MAGLEV DRAFT ALIGNMENT (NORTH & SOUTH)					
OWNER	**COLOR**	**DESCRIPTION**	**TOTAL LENGTH (LF)**	**TOTAL LENGTH (MILES)**	**PERCENTAGE**
City of Orlando	Brown	OUC, Lake Nona Blvd., GOAA	43000	8.1	20.77%
	Purple	GOAA (OIA)	Included with the City of Orlando		
FDOT	Cyan	Sand Lake Rd, CSX, Turnpike, SR 528	43100	8.2	20.82%
OOCEA	Blue	SR 417, SR 528	42300	8.0	20.43%
Orange County	Red	S Orange Ave, Universal Blvd, Tradeport Blvd	16700	3.2	8.07%
Osceola County	Orange	Osceola Parkway	50600	9.6	24.44%
Private Property	Green	RC, Florida Mall, Universal	11300	2.1	5.46%
Total				**39.2**	**100.00%**

AMT has requested the use of public right-of-way (ROW) from the agencies listed in the above table. Any private ROW that is required is the responsibility of AMT. Locations where ROW or private easements are necessary are primarily in the transition from station areas to public ROW. It should be noted that this assumes AMT successfully negotiates station area

agreements with individual land owners for private ROW and station areas. **Table 4.2** provides a listing of parcels that may be impacted by the conceptual alignment.

The AMT Alignment along McCoy Road east of Orange Avenue from station 1470+00 to 1504+00 is within a right-of-way that is currently restrained. Along this segment, the right-of-way from the edge of pavement is approximately 7 feet. There are numerous driveways and businesses within this section with sidewalks constructed out to the limits of the existing right-of-way's on both the north and south sides of McCoy Road. AMT has indicated that the columns are 5 feet in diameter, and the guideway is 28 feet wide. This would require that the guideway extend outside of the right-of-way. In order to accommodate the AMT alignment, one possible scenario is to construct guideway columns within the center of the roadway. This will require turn lanes in place of the continuous bi-directional median existing today.

Table 4.2 – Potential ROW Impacts *

LOCATION	STATION	SHEET	PROPERTY NAME	PARCEL ID	LAND USE	COUNTY
Tradeshow Blvd./Universal Blvd.	1023+00 to 1039+00	1	Convention Center	01-24-28-0000-00-007	County	Orange
Universal Blvd./Sand Lake Rd.	1132+00 to 1133+00	3	LMC Properties Inc.	36-23-28-6509-00-010	Commercial	
S. Orange Blossom/Florida Mall	1343+00 to 1346+00	5	Florida Mall Business Center	34-23-29-8610-00-320	Commercial	
S. Orange Blossom/Florida Mall	1347+00 to 1350+00	5	Dowling Kenneth B	34-23-29-8610-00-270	Commercial	
Florida Mall	1352+00 to 1370+00	5-6	Florida Mall Associates	34-23-29-8610-00-160	Commercial	
	1371+00 to 1375+00	6	Florida Mall Associates	34-23-29-8610-00-011	Commercial	
	1375+00 to 1376+00	6	Florida SE Inc.	34-23-29-8610-00-010	Commercial	
Sand Lake Rd./Orange Ave.	1470+00 to 1504+00	7	S Orange Investments LLC	25-23-29-0000-00-090	Commercial	
			Burger King Corp.	25-23-29-0000-00-089	Commercial	
			Strahan Scott E II	25-23-29-0000-00-088	Residential	
				25-23-29-0000-00-057	Commercial	
				25-23-29-0000-00-103	Commercial	
			Gallagher Charles R Jr.	25-23-29-0000-00-102	Commercial	
				25-23-29-0000-00-114		
			Demetro Virginia	25-23-29-0000-00-067	Residential	
			Lacombe Carmen	25-23-29-0000-00-067	Residential	
				25-23-29-0000-00-069	Commercial	
				25-23-29-0000-00-068	Residential	
			Vallecillo Luis	25-23-29-0000-00-059	Commercial	
			McCoy Rd. LLC	30-23-30-0000-00-010	Commercial	
				30-23-30-0000-00-004		
			Lee Leo	30-23-30-0000-00-012	Commercial	
			Racetrac Petroleum Inc.	30-23-30-7285-00-020	Commercial	
			Space Coast Petro Distribution	30-23-30-0000-00-017	Commercial	
			Michael Realty LLC	30-23-30-0000-00-018	Commercial	
			McCoy Rd. LLC	30-23-30-0000-00-001	Commercial	
McCoy	1616+00 to 1632+00	9	Jetamel INC.	28-23-30-0000-00-005	Commercial	
			CP-Orlando Gateway Holding LLC	28-23-30-6331-00-030	Commercial	
			Orlando Gateway Partners LLC	28-23-30-6331-00-040	Commercial	
Lake Nona	3100+00	24A	Lake Nona Land LLC	23-24-30-0000-00-002	Waste Land	
	2924+00 to 2938+00	24	Kenny Real Estate Co	27-24-30-0000-00-006	Grazing	
	2910+00 to 2920+00		Greeneway Park I LLC	28-24-30-0321-05-000	Grazing	
Orange Ave.	2682+00 to 2685+00	21	Lynwood at Southmeadow Condominium	26-24-29-5335-29-001	Residential	
Turnpike	2627+00 to 2628+00	20	Southchase-West Property Owners	35-24-29-0000-00-001	Residential	
Osceola Parkway	2575+00	19	Deerfield Land Corp	325294598000	Commercial	Osceola
Osceola Parkway	2000+00	12	Reedy Creek Imp	36-24-27-0000-00-006	Municipal	Orange

*This information was calculated using aerial photography, Geographic Information Systems (GIS), county property appraiser data, and field-based verification efforts. Tradeshow Blvd.is an easement from the owner.

4.2 Traffic Impacts

Eleven roadway sections were selected for evaluation near the proposed AMT stations. The locations are as follows:

Boggy Creek Road from Central Florida GreeneWay to Osceola County Line
Orange Ave. from Sand Lake Road to Hansel Ave.
Sand Lake Rd. from Orange Blossom Trail to Winegard Rd.
Sand Lake Road from Winegard Rd. to Orange Ave.
Sand Lake Road from Orange Ave to Beachline Expressway
Universal Blvd. from Sand Lake Road to Pointe Plaza Ave.
Universal Blvd. from Point Plaza Ave to Tradeshow Blvd.
Orange Ave. from Osceola Parkway to Orange County line
Osceola Parkway from I-4 to International Dr.
Osceola Parkway from Vineland Rd. to Dyer Rd.
Osceola Parkway from US 441 to Fl. Turnpike

This analysis contains existing daily A.M. and P.M. peak hour levels of service analyses for the above locations utilizing service volumes derived from the current edition of the Highway Capacity Manual. In addition, the estimated trip generation from a proposed AMT station at the SunRail Station at Osceola Parkway and Orange Avenue. This will be used as a typical example of traffic impact at a station. It is anticipated that the 1,000 parking spaces will be in addition to those provided by FDOT at the SunRail Station. Based on the analysis provided in the SunRail Second Supplemental EA, the analysis estimated the future level of service on Orange Avenue and Osceola Parkway given the SunRail station and the Maglev Station were constructed.

The data shows all but two of the study roadway segments currently operate within their level of service standards. The two deficient roadway segments are McCoy Road (SR 482) between Orange Avenue (SR 527) and the Beachline Expressway, and Orange Avenue (CR 527) between Osceola Parkway and the Orange County line.

A review of the planned or programmed roadway improvements scheduled prior to 2030 found that Boggy Creek Road is the only programmed roadway improvement. The other roadway improvements were identified within their respective County Comprehensive Plans as cost feasible long range improvements.

The MagLev Osceola Parkway Station trip generation rates for the proposed SunRail Station at Osceola Parkway were taken from the Supplemental EA report, Vehicle Trips at Stations in Peak Hours. The MagLev Station trip generation data is from the *ITE 8th Edition, Trip Generation Report, 2008.* The trip generation calculations for the two development scenarios show the site's daily, A.M. peak hour and P.M. peak hour trips.

Table 4.3 shows the projected 2015 background traffic volumes for the roadway network adjacent to the Osceola Parkway station were determined via a minimum 2% annual growth

rate (1.0984 growth factor). A review of the projected traffic assignment reveals that all of the study roadway segments will operate at acceptable levels of service. The complete traffic study report is in **Appendix B**.

Table 4.3 – 2015 Projected Roadway Level of Service

2015 Projected Study Roadway Level Of Service

Roadway Name		# Of	Roadway	LOS	Service Volumes	
From	To	Lanes	Class	Standard	Daily	Pk Hour
Orange Avenue (CR 527)						
Osceola Parkway	Orange County Line	4	Minor Arterial	D	36,700	1,960
Osceola Parkway						
US 441	Orange Avenue (CR527)	6	Principal Arterial	D	50,300	2,680
Orange Avenue (CR527)	Fl Turnpike	6	Principal Arterial	D	50,300	2,680

Daily Traffic Volumes

Roadway Name		# Of	Background	Project	Total	
From	To	Lanes	Trips (1)	Trips	Trips	LOS
Orange Avenue (CR 527)						
Osceola Parkway	Orange County Line	4	20,694	483	20,694	B
Osceola Parkway						
US 441	Orange Avenue (CR527)	4	47,275	2,175	47,275	D
Orange Avenue (CR527)	Fl Turnpike	6	47,275	1,994	47,275	D

A.M. Peak Hour

Roadway Name		# Of	Background		Project		Total		
From	To	Lanes	Trips		Trips		Trips		LOS
Orange Avenue (CR 527)			NB	SB	NB	SB	NB	SB	
Osceola Parkway	Orange County Line	4	756	615	23	83	779	698	B
Osceola Parkway			EB	WB	EB	WB	EB	WB	
US 441	Orange Avenue (CR527)	4	1,187	1,566	393	108	1,580	1,674	C
Orange Avenue (CR527)	Fl Turnpike	6	1,187	1,566	94	341	1,281	1,907	C

P.M. Peak Hour

Roadway Name		# Of	Background		Project		Total		
From	To	Lanes	Trips		Trips		Trips		LOS
Orange Avenue (CR 527)			NB	SB	NB	SB	NB	SB	
Osceola Parkway	Orange County Line	4	781	1,022	55	66	836	1,088	B
Osceola Parkway			EB	WB	EB	WB	EB	WB	
US 441	Orange Avenue (CR527)	4	2,023	1,749	314	260	2,337	2,009	D
Orange Avenue (CR527)	Fl Turnpike	6	2,023	1,749	226	272	2,249	2,021	D

(1) 2011 traffic projected to 2015 via 1.0984 growth factor (2% Annual growth rate).

Luke Transportation Engineering Consultants, Inc., 2011

4.3 Noise and Vibration

In FTA's *"Transit Noise and Vibration Impact Assessment 2006"* report, the general screening distance for noise assessments is 175 ft. for a Monorail (low-intermediate capacity transit). The conceptual alignment maps with this boundary are included in **Appendix C**. This distance was applied to the right-of-way line on both sides of the proposed alignment since the exact alignment has not been determined. Noise sensitive land uses include residential, schools, places of worship, and hotels and motels. The following Table 4.4 shows the corridor and alignment station location with noise sensitive land use types.

The northern alignment passes the hotels along Universal Blvd. and businesses along Sand Lake Road and McCoy Road. The greatest potential impact is along McCoy Road from Orange Avenue to the entrance to the Beachline Expressway. This section has numerous businesses and several residences and motels.

The southern alignment on Osceola Parkway passes Gaylord Palms Hotel and the major shopping and retail area at "The Loop" near John Young Parkway.

A detailed noise analysis should be prepared for these areas with detailed vehicle noise data provided by AMT.

Figure 4.1 shows the existing noise zone around the Orlando International Airport, which would establish background noise for the alignment in the area. There are no noise impacts in this area.

Table 4.4 – 2015 Projected Roadway Level of Service

Corridor	Station Range/Location			Sht	Notes	Potential Impact
Universal Blvd	1082+00	TO	113000	2/3	Hotel/Motel on west side	Yes
SR 482 (W Sand Lake Rd)	1184+00			3	Church	Yes
SR 482 (W Sand Lake Rd)	1296+00			5	Continuing Ed school	Yes
SR 528/ McCoy Rd	1480+00	to	1484+00	7	Motel	Yes
SR 528/ McCoy Rd	1490+00	to	0019+94	7	Motel	Yes
SR 528/ McCoy Rd	1528+00	to	1530+00	7	Residential	Yes
SR 528/ McCoy Rd	1554+00	to	1562+00	8	Motel	Yes
Osceola Pkwy	2220+00	to	2270+00	15	Vacation homes-motel	Yes
Osceola Pkwy	2390+30	to	2430+00	17	Residential	Yes
SR 417 (Cen Fl Greenway)	2700+00	to	2720+40	21	Residential	Yes
SR 417 (Cen Fl Greenway)	2796+00	to	2810+00	21/22	Residential	Yes

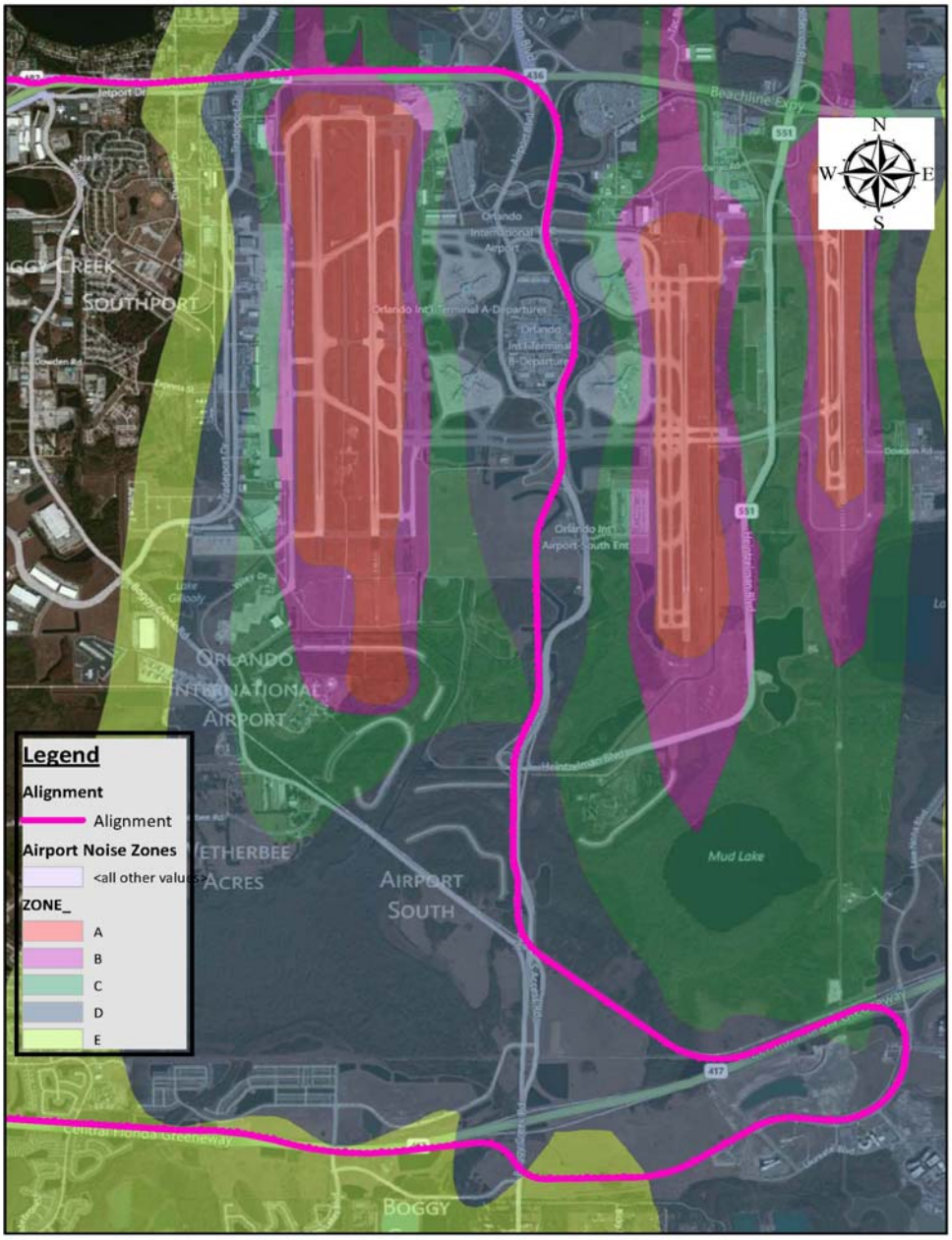


Figure 4.1 – Orlando International Airport Noise Zones

4.4 Community Disruption and Environmental Justice

The main community disruption is in the form of visual impacts. The potential visual impact area was estimated to be 300 feet on either site of the right-of-way along the alignment. The most significant impact would be to the locations of the elevated guideway adjacent to these areas. The elevated guideway would impact the view from the neighborhood or businesses. Spacing of the support columns has been assumed to be 60 to 100 feet and 5 feet in diameter. Future analysis should focus on the actual alignment and utilize actual height and visual shed information for the final guideway alignment.

Table 4.5 shows the major corridor and the alignment station begin and end points for potential visual and community disruption areas. Neighborhoods, including resort rental homes and businesses such as Gaylord Palms and "The Loop" along Osceola Parkway, show a potential impact by the alignment. Residential areas and Meadow Woods Elementary School located along the Central Florida Greenway also show potential impacts.

The northern alignment may have potential impacts along Universal Blvd. and Sand Lake Road where there are numerous motels, businesses and the Tangelo Park neighborhood. The greatest potential impact is along McCoy Road from Orange Avenue to the entrance to the Beachline Expressway. This section has numerous businesses and several residences and motels.

Once AMT has finalized the alignment and elevations for the guideway, a detailed visual impact analysis of the potential impact areas should be completed.

Table 4.5 – Potential Visual Impact locations

Corridor	Station Range/Location			Sheet	Notes	Potential Significant Impact
Universal Blvd	1088+00	to	1130+00	2/3	Hotels and motets, businesses	Yes
SR 482 (W Sand Lake Rd.)	1136+00	to	1140+00	3	Motel	Yes
SR 482 (W Sand Lake Rd.)	1184+00	to	1226+00	3/4	Church, businesses	Yes
SR 482 (W Sand Lake Rd.)	1248+00	to	1276+00	4	Businesses	Yes
SR 482 (W Sand Lake Rd.)	1288+00	to	1404+00	5/6	Businesses, School	Yes
SR 482 (W Sand Lake Rd.)	1434+00	to	1440+00	6/7	Businesses	Yes
SR 528/ McCoy Rd.	1472+00	to	1568+00	7/8	Residential, businesses, motels	Yes
Osceola Pkwy.	1038+00	to	2068+00	12	Resort hotel, businesses	Yes
Osceola Pkwy.	2118+00		2130+00	13	Resort hotel, businesses	Yes
Osceola Pkwy.	2220+00		2130+00	14	Distribution/Transmission	Yes
Osceola Pkwy.	2220+00		2270+00	15	Residential, businesses	Yes
Osceola Pkwy.	2354+00		2380+00	16	Residential, businesses	Yes
Osceola Pkwy.	2396+00		2572+00	17/18/19	Residential, businesses	Yes
Rail	2582+00		2592+00	19	Business	Yes
SR 91 (Fla's Turnpike)	2634+00	to	2650+00	20	Residential	Yes
SR 91 (Fla's Turnpike)	2658+00	to	2664+00	20	Residential	Yes
SR 417 (Cen Fl Greenway)	2680+00	to	2812+00	21/22	Residential, Business, school	Yes
SR 417 (Cen Fl Greenway)	2828+00		2840+00	23	Residential	Yes
Lake Nona Blvd.	3010+00		304800	24A	Business, school, Medical ctr.	Yes

4.5 Wetlands and Surface Water

In order to identify jurisdictional waters within the project corridor, a review of online resources, including the US Fish and Wildlife Wetlands data (Google Earth layer), the local comprehensive plans, and a windshield survey with aerial maps of the project concept was completed. Jurisdictional waters evaluated include streams, wetlands, and open waters. For purposes of this evaluation, attempts to determine if waters are isolated and potentially considered non-jurisdictional were not completed. Wetlands were identified in the field through visual determinations as to whether hydrology and vegetation were present. Analysis of soils to determine hydric conditions is beyond the scope of this evaluation. The majority of the alignment is located within existing transportation right-of-way (ROW) either within the median or directly adjacent to the corridor. In many cases there are wetland and water areas directly adjacent to the existing transportation ROW, and it appears that sections of the alignment proposed to be within the median could be constructed without impacting adjacent wetlands/waters. However, in other instances where the alignment is outside of the median, or is proposed to be constructed within new ROW, the potential to impact wetlands/waters is more likely. The tables below notes the specific waters features encountered during the windshield survey completed on November 3, 2011, and in order to qualify whether a feature may be impacted, they have been identified as either *Adjacent*- noting that the feature is located next to the corridor, but is not physically crossed by the alignment, or *Potential Impact*- noting that the alignment actually crosses the feature:

Figure 4.2 – Wetlands

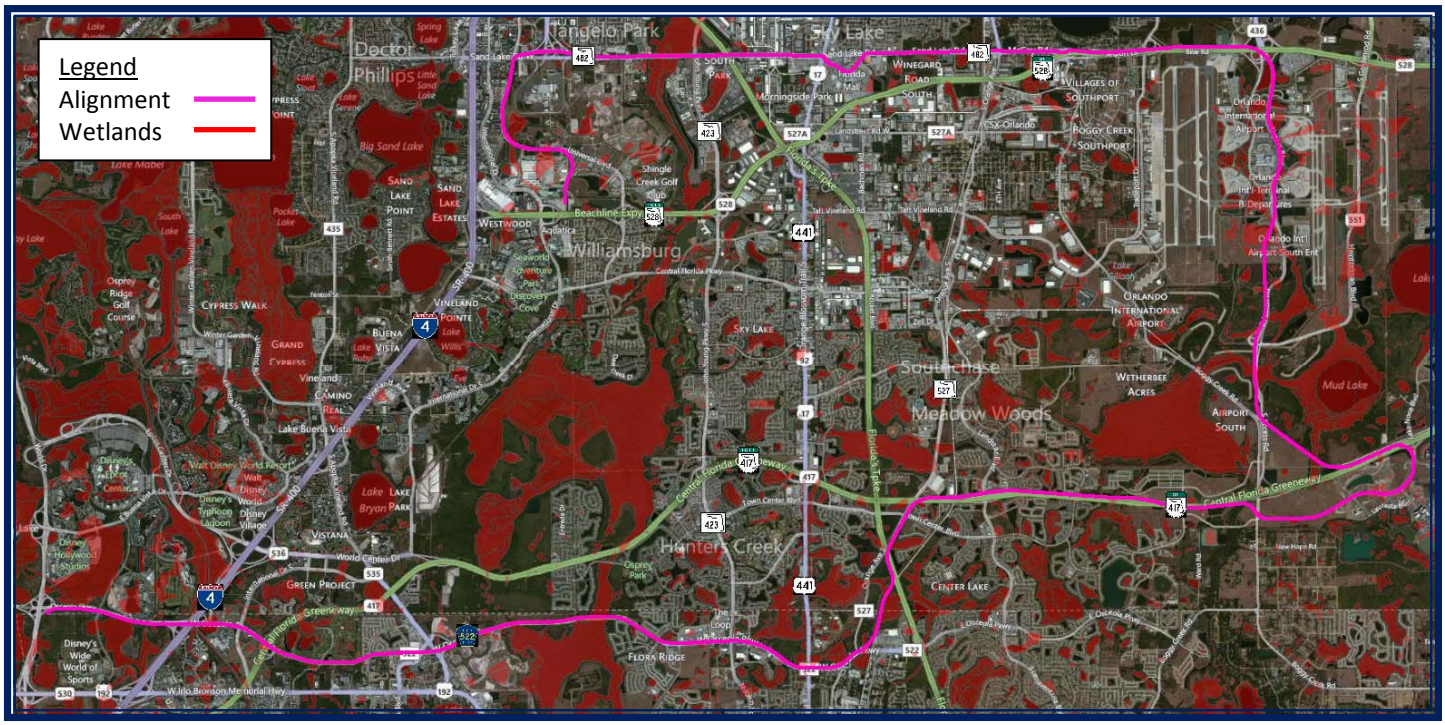


Table 4.6 – North Route Surface Waters

CORRIDOR	STATION/LOCATION			SHEET	RESOURCE TYPE	POTENTIAL IMPACT	ADJACENT
Tradeshow Blvd	1000+00	to	1001+00	1	Weir/Canal	N	Y
Tradeshow Blvd	1002			1	Stream	Y	-
Tradeshow Blvd	1009			1	Stream	Y	-
Universal Blvd	1035+00	to	1037+00	1	Open Water	Y	-
Universal Blvd	1040+00	to	1065+00	1	Open water	N	Y
Universal Blvd	1070+00	to	108000	2	Wetland	N	Y
Universal Blvd	1116+00	to	112100	2	Stream	N	Y
SR 482 (W Sand Lake Rd)	1146+00	to	1160+00	3	Wetland	Y	-
SR 482 (W Sand Lake Rd)	1222+00	to	1250+00	4	Wetland	N	Y
SR 482 (W Sand Lake Rd)	1234+00			4	Stream	Y	-
SR 482 (W Sand Lake Rd)	1280+00	to	128800	5	Wetland	N	Y
SR 482 (W Sand Lake Rd)	1378+00			6	Stream	Y	-
SR 482 (W Sand Lake Rd)	1420+00	to	1430+00	6	Wetland	N	Y
SR 482 (W Sand Lake Rd)	1431+00			6	Stream	N	Y
SR 482 (W Sand Lake Rd)	1432+00			6	Wetland		
SR 482 (W Sand Lake Rd)	1442+00	to	1458+00	7	Wetland	Y	-
SR 482 (W Sand Lake Rd)	1443+00			7	Stream	Y	
SR 482 (W Sand Lake Rd)	1462+00	to	1468+00	7	Wetland/Open Water	Y	-
McCoy Rd	1570+00	to	1580+00	8	Open Water	N	Y
McCoy Rd	1590+00	to	1602+00	9	Open Water	N	Y
McCoy Rd	1602+00	to	1617+00	9	Wetland	Y	-
McCoy Rd	1636+00	to	1640+00	9	Open Water	Y	-
SR 528	1646+00			9	Open Water	N	Y
Jeff Fuqua Blvd	1655+00	to	1710+00	9	Open Water	N	Y
Jeff Fuqua Blvd	1710+00	to	1750+00	10	Wetland	Y	-

Table 4.7 – South Route Surface Waters

CORRIDOR	STATION/LOCATION			SHEET	RESOURCE TYPE	POTENTIAL IMPACT	ADJACENT
Osceola Pkwy	2008+00	to	2043+00	12	Stream (roadside treatment swale)	Y	-
Osceola Pkwy	2090+00		2094+00	13	Open Water	N	Y
Osceola Pkwy	2100+00			13	Stream	Y	-
Osceola Pkwy	2104+00	to	2116+00	13	Open Water	Y	Y
Osceola Pkwy	2126+00	to	2130+00	13	Open Water	N	Y
Osceola Pkwy	2150+00	to	2160+00	14	Open Water	N	Y
Osceola Pkwy	2220+00			14/15	Open Water	N	Y
Osceola Pkwy	2227+00	to	2232+00	15	Open Water	N	Y
Osceola Pkwy	2254+00	to	2260+00	15	Open Water	N	Y
Osceola Pkwy	2272+00	to	2276+00	15	Open Water	Y	Y
Osceola Pkwy	2317+00			16	Stream	Y	-
Osceola Pkwy	2320+00	to	2330+00	16	Wetland	N	Y
Osceola Pkwy	2328+00			16	Stream	N	Y
Osceola Pkwy	2330+00	to	2340+00	16	Open Water	N	Y
Osceola Pkwy	2348+00			16	Stream	Y	Y
Osceola Pkwy	2364+00	to	2390+00	16/17	Wetland	Y	N
Osceola Pkwy	2393+00	to	2404+00	17	Open Water	N	Y
Osceola Pkwy	2408+00	to	2412+00	17	Wetland	N	Y
Osceola Pkwy	2430+00	to	2436+00	17	Wetland	N	Y
Osceola Pkwy	2454+00	to	2460+00	18	Wetland	N	Y
Osceola Pkwy	2475+00	to	2477+00	18	Open Water	N	Y
Osceola Pkwy	2492+00	to	2494+00	18	Wetland	N	Y
Osceola Pkwy	2497+00	to	2501+00	18	Open Water	N	Y
Osceola Pkwy	2511+00	to	2514+00	18	Wetland	N	Y
Osceola Pkwy	2524+00	to	2526+00	19	Open Water	N	Y
Osceola Pkwy	2526+00	to	2534+00	19	Wetland	N	Y
Osceola Pkwy	2536+00	to	2539+00	19	Wetland	N	Y
Osceola Pkwy	2574+00			19	Open Water	Y	Y
Rail	2575+00	to	2581+00	19	Wetland	y	Y
Rail	2590+00			19	Open Water	Y	-

Table 4.8 – South Route Surface Waters

CORRIDOR	STATION/LOCATION			SHEET	RESOURCE TYPE	POTENTIAL IMPACT	ADJACENT
Rail	2593+00	to	2618+00	19/20	Wetland	Y	Y
SR 91 (Fla's Turnpike)	2628+00	to	2640+00	20	Open Water	Y	Y
CR 527 (Orange Ave)	2650+00	to	2654+00	20	Wetland	Y	Y
CR 527 (Orange Ave)	2656+00	to	2664+00	20	Open Water	Y	Y
CR 527 (Orange Ave)	2676+00	to	2682+00	21	Wetland	N	Y
SR 417 (Cen Fl Greeneway)	2685+00	to	2687+00	21	Wetland	Y	Y
SR 417 (Cen Fl Greeneway)	2702+00	to	2706+00	21	Open Water	Y	Y
SR 417 (Cen Fl Greeneway)	2715+00	to	2716+00	21	Open Water	Y	Y
SR 417 (Cen Fl Greeneway)	2723+00	to	2730+00	21	Open Water	Y	Y
SR 417 (Cen Fl Greeneway)	2772+00	to	2785+00	22	Open Water	Y	Y
SR 417 (Cen Fl Greeneway)	2812+00	to	2818+00	22	Open Water	Y	Y
SR 417 (Cen Fl Greeneway)	2818+00	to	2822+00	22	Wetland	Y	Y
SR 417 (Cen Fl Greeneway)	2820+00			22	Stream	Y	-
SR 417 (Cen Fl Greeneway)	2823+00	to	2834+00	23	Open Water	Y	Y
SR 417 (Cen Fl Greeneway)	2884+00	to	2896+00	23	Open Water	Y	Y
SR 417 (Cen Fl Greeneway)	2910+00			24	Wetland	Y	Y
SR 417 (Cen Fl Greeneway)	2910+00			24	Stream	Y	Y
Lake Nona Blvd	2942+00	to	2950+00	24	Wetland	Y	-
Lake Nona Blvd	3050+00	to	3054+00	24A	Open Water	Y	Y
OUC Easement	3104+00	to	3112+00	24A/24	Open Water	Y	Y
OUC Easement	3114+00	to	3126+00	24/25	Wetland	Y	Y
South Access Rd	3182+00			25	Stream	Y	-
South Access Rd	3186+00	to	3204+00	25/26	Wetland	N	Y
South Access Rd	3216+00			26	Stream	Y	-
South Access Rd	3259+00			26	Open Water	Y	
South Access Rd	3271+00			27	Open Water	Y	

4.6 Public Parklands and Recreational Areas

Three Park Land and Recreational areas were identified within ¼ mile along the American Maglev Technology project corridor in both the North and South Alignments. They are listed below and the location maps are in Appendix D.

Sheet 8, Station 1510+00. Lagoon Park is located within the American Maglev Technology North Alignment corridor at station 1510+00 (sheet 8) at approximately 800' north of the project corridor. City of Belle Isle holds jurisdictional rights of Lagoon Park. Lagoon Park is 2.3 acres and includes a boat dock that services Lake Conway. Due to the distance from the proposed AMT corridor, there appears to be no significant potential impact to this Park Land area.

Sheet 14, Station 2160+00 to 2220+00. Falcon's Fire Golf Club is located within the American Maglev Technology South Alignment corridor between Station 2160+00 to

Station 2220+00 (sheet 14) along the North side of Osceola Parkway. Falcon's Fire Golf Club is privately owned. The Golf Course is located in the North East quadrant of the Central Florida Greenway and the Osceola Parkway intersection. The AMT alignment runs adjacent to approximately 6,000' of the Golf Course frontage at approximately 60' from the Golf Course Property boundary. Due to the close proximity of the American Maglev Technology corridor, there is potential for visual and noise impact to this recreational site.

Sheet 22, Station 2800+00 to 2810+00. Meadow Woods Park is located within the American Maglev Technology South Alignment Corridor between Station 2800+00 and 2810+00 (sheet 22) at approximately 1,300' north of the project corridor directly adjacent to the Meadow Woods Middle School. Meadow Woods Park is 19 acres and is within Orange County Jurisdiction. Due to the distance from the proposed AMT corridor, there appears to be no significant potential impact to this Park Land area.

4.7 Water Quality and Drainage

The project area is located within the Boggy Creek, Shingle Creek, Reedy Creek, Lake Tohopekaliga, and East Lake Tohopekaliga basins in the South Florida Water Management District's (SFWMD) jurisdiction. There are no navigable waterways and coastal zones in this area. Figure 4.3 identifies the major basins associated with the project.

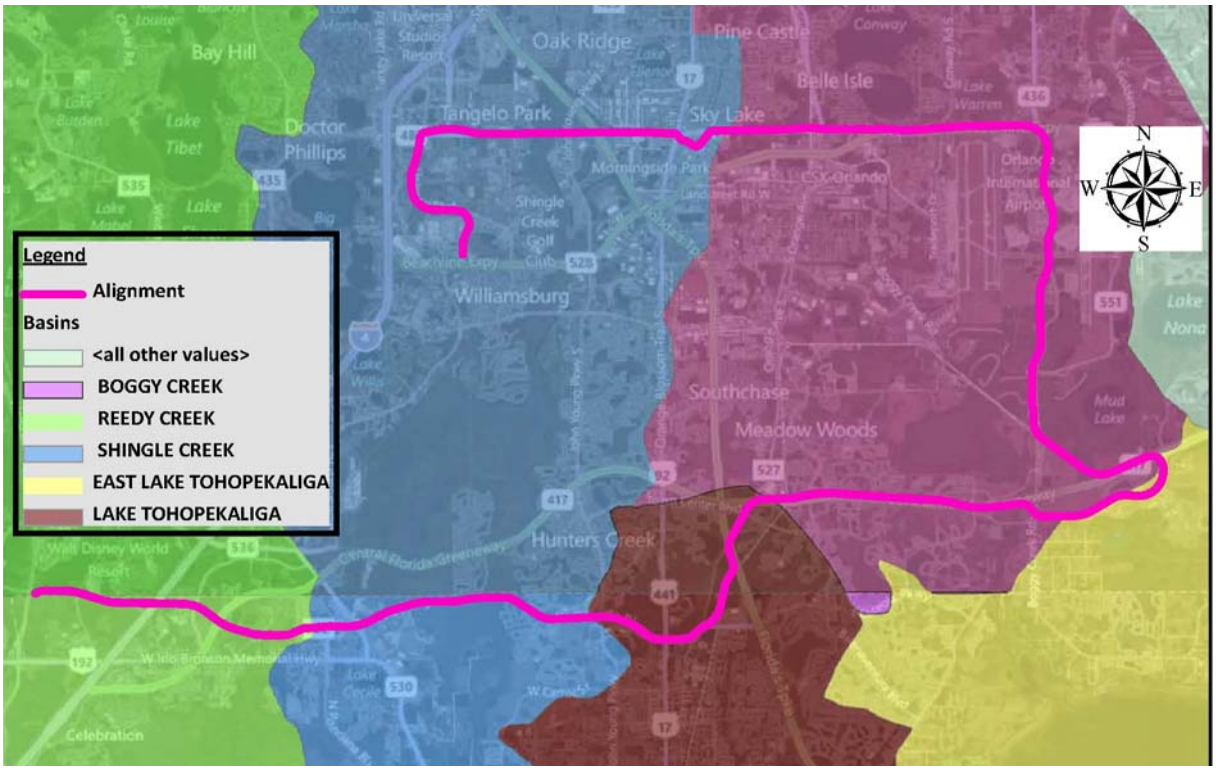
Per the FEMA Flood Insurance Rate Maps (FIRM) there are areas of the project that fall within the 100-year floodplain. Minimal encroachments to the floodplain are expected; however, further evaluation, such as a Location Hydraulic Report (LHR) may be required during the design process. Per FDOT and SFWMD, any encroachment into the floodplain will require replacement of the storage lost up to the flood elevation. The FIRMs can be found in **Appendix E** of this report.

The conceptual AMT alignment will be located in the median or directly adjacent to the corridor within the existing FDOT right-of-way. In some cases there are wetlands and other surface waters (OSW) within the project limits. No navigable waters or coastal zones are found in this area. The conceptual alignment will generate new impervious areas, which will be required to meet the SFWMD's criteria.

The project will not have any adverse impacts on the water quality or quantity as stipulated in the WMD's rules. Any additional runoff will be treated and attenuated to meet SFWMD's criteria. There are several existing stormwater ponds located adjacent to or within the existing right-of-way that may have the potential for joint-use. The AMT alignment sections that will be located in grasses, roadway medians and shoulders, local adjustments of drainage inlets, pipes, headwalls, etc., will need to be considered by AMT in the final design as well.

Outstanding Florida Waters (OFW) are designated and protected due to their natural attributes. There are no Outstanding Florida Waters; however there are three basins within the project limits that have been listed for Total Maximum Daily Loads (TMDL). The project is not located within any designated Aquatic Preserve per the FDOT *Project Development and Environmental Manual* Part2, Chapter 19.

Figure 4.3 – Major Basins



4.8 Ecologically Sensitive Areas and Endangered Species

The project is located in Central Florida, mainly within Orange County and the northwest tip of Osceola County. Geologically, the region is located within a large area of undifferentiated sediments, and partially within the Cypresshead Formation. These areas consist of coastal sedimentary rocks including silciclastics, organics, and freshwater carbonates (USGS, On-line Mineral Resources).

The habitat/land use types along the proposed corridor consist of six different types, including mixed pine/hardwood forest, cypress swamp, pasture/maintained grass, developed, streams and other water areas, and transportation right-of-way /utility easement.

The most prevalent habitat/land use type in the project corridor is Transportation ROW/utility easement, which consists of asphalt and concrete pavement, and maintained grass shoulders adjacent to the paved roadway. Utility easements include gas, sewer, and water pipelines, and overhead electric lines. The utility easements consist of mainly grassed areas with some vines and other common ground cover plants. The transportation ROW areas would have little value for wildlife species as they are almost completely paved and highly disturbed. The utility

ROW, although slightly better than the transportation ROW, would also have little value for wildlife species since these areas are also highly disturbed from the original utility construction and ongoing maintenance.

Mixed pine/hardwood forest is another habitat found within the survey area. Typical vegetation includes longleaf pine, turkey oak, and bluejack oak in the overstory; and aster, bracken fern, grassleaf golden aster, sandhill milkweed, hairy panicum, and yellow indian grass in the understory. This habitat provides foraging space for deer and other mammals, and cover for bird species.

Animals utilizing this community are adapted to stress conditions such as high temperature and drought. The most common animals of this habitat are the fox squirrel, pocket gopher, white-tailed deer, Bobwhite quail, ground dove, rufous-sided towhoe, gopher tortoise and fence lizard.

Pasture/maintained grass included areas of active pasture and undeveloped areas that consisted mainly of various grasses. Grass species noted included bluestem (*Andropogon* sp.), rye grass (*Lolium* sp.), panicgrass (*Panicum* sp.), and tall fescue (*Festuca arundinacea*), and red fescue. These areas would have little value for wildlife species as they are maintained on a regular basis and highly disturbed.

Cypress swamp habitat often occurs along rivers, lake margins, sloughs, and streams. Poorly drained soils and a water table that is at or above ground is typical of this habitat type. Vegetation that characterizes this community includes bald cypress, black gum, and red maple in the overstory; and common buttonbush, southern wax myrtle, and cinnamon fern in the understory. Animals include opossum, raccoon, cotton rat, numerous egrets and other waterfowl, chorus frog, cricket toad, diamondback rattlesnake, and yellow rat snake.

The survey corridor consists of developed areas including residential, commercial, industrial and institutional land uses. The developed areas are characterized by buildings, paved areas, maintained grass, and ornamental shrubs and flowers. Common plant species include crape myrtle (*Lagerstroemia indica*), blue rug juniper (*Juniperus horizontalis*), various palm trees, and oleander. These areas have value for wildlife species such as birds and small mammals, but are limited in resources.

Other aquatic habitat within the project corridor in addition to cypress swamp included freshwater wetlands, open waters, and streams. The approximate location of these habitat areas are identified in more detail below.

State and Federal Protected Species Habitat

An office review of available resources was performed to identify the potential federal and state listed species for the project corridor. There are a number of species in the area that are federally listed as endangered, threatened, or species of special concern. Listed species include the Florida panther, bald eagle, Florida scrub jay, wood stork, red-cockaded woodpecker, indigo snake, sand skink, gopher tortoise, Florida bonamia, scrub lupine, papery whitlow-wort, the sand butterfly pea, hand fern, snowy egret, tricolored heron, white ibis, white squirrel banana, sand skink, Britton's beargrass, scrub milkwort, Small's jointweed, scrub plum, wild coco, Sherman's fox squirrel, scrub stylisma, Florida black bear, and clasping warea.

The majority of the project corridor is located within developed areas and in existing ROW associated with transportation infrastructure. There are three areas of the corridor where more specific site surveys are recommended, from stations 2570 to 2630, from 2910 to 2990 and from 3100 to 3190, to confirm that protected species or suitable habitat are not present.

Critical Habitat

Critical habitat, as defined under the Endangered Species Act (ESA), identifies specific geographic areas that include physical and biological features essential to the conservation of a federally listed species. The federal listing of critical habitats for the protected species was reviewed on November 18, 2011 (U.S. Fish and Wildlife Service 2008). Within Orange and Osceola Counties critical habitat has been designated for the West Indian manatee. However, since there is no habitat for the manatee within the project corridor, impact to this species or its habitat is not anticipated.

There are three areas of the corridor where more specific site surveys are recommended; on Osceola Parkway from station 2570 to 2630, along the future extension of Lake Nona Blvd., from stations 2910 to 2990, and on Central Florida GreeneWay and Boggy Creek Road from stations 3100 to 3190, to confirm that protected species or suitable habitat is not present.

4.9 Utilities

The field review discovered numerous locations where potential utility conflicts with various public utilities and electrical transmission lines exist. These conflict points range from local electrical distribution lines to regional transmission lines. These electrical facilities were attached to wooden, concrete and steel truss towers that were noted to be both perpendicular and parallel to the conceptual alignment. The degree of impact is dependent on the voltage carried, blow out clearance requirements, track elevation, and other factors requiring additional analysis. Although not typically considered during the utility coordination phase, local street lighting, irrigation, and signalization equipment are present throughout the corridor. High mast lighting, which is generally more costly to relocate, was noted. The locations of these electrical and high mast lighting conflict points have been identified on a sheet and station basis in tabular form in Table 4.9.

Service connections, signal equipment, irrigation, etc., and other underground facilities were not identified during this initial field review. A significant coordination and research effort will be required in the future to identify all potential conflicts in the field, which are very likely substantial. Aboveground markers, valves, pull boxes, manholes, etc., witnessed along the corridor include water, sanitary, communications, buried electric, signal interconnect, gas, non-potable water, local street lighting and fiber optics. It should be anticipated that all of these facilities will be impacted to varying degrees by this project, particularly in the more urbanized segments.

Table 4.9 – Potential Utility Conflicts

Corridor	Station Range/Location			Sheet	Type	Notes	Potential Significant Impact
Tradeshow Blvd.	1016+00	to	1036+00	1	OE	Transmission	Yes
Universal Blvd.	1088+00			2	X	Unknown facility fence enclosed	
SR 482 (W Sand Lake Rd.)	1138+00	to	1142+00	3	OE	Transmission	Yes
SR 482 (W Sand Lake Rd.)	1168+00	to	1174+00	3	OE	Transmission	Yes
SR 482 (W Sand Lake Rd.)	1200+00			3	OE	Distribution	
SR 482 (W Sand Lake Rd.)	1206+00	to	1210+00	4	OE	Transmission	Yes
SR 482 (W Sand Lake Rd.)	1280+00			5	OE	Transmission	
SR 482 (W Sand Lake Rd.)	1294+00			5	OE	Distribution	
SR 482 (W Sand Lake Rd.)	1330+00	to	1340+00	5	W	Water	
Florida Mall	1370+00	to	1372+00	6	OH	Distribution/Communication	
SR 482 (W Sand Lake Rd.)	1378+00	to	1382+00	6	OH	Distribution/Comm/Trans	
SR 482 (W Sand Lake Rd.)	1469+50			7	OH	Distribution/Communication	
SR 482 (W Sand Lake Rd)	1469+50	to	1510+00	7	OH	Distribution/Comm/Trans	Yes
SR 528 (Beachline Expwy.)	1500+00	to	1540+00	7/8	X	High Mast Lighting	
SR 528/ McCoy Rd	1557+00			8	OE	Distribution	
SR 528 (Beachline Expwy.)	1560+00			8	X	High Mast Lighting	
SR 528 (Beachline Expwy.)	1571+00			8	X	High Mast Lighting	
N. Frontage Rd/ SR 528	1620+00	to	1632+00	9	OE	Distribution/Transmission	
Jeff Fuqua Blvd.	1700+00	to	1740+00	10	BC	Buried fiber/communications	Yes
Osceola Pkwy.	2147+00			14	OE	Transmission	Yes
Osceola Pkwy.	2174+50			14	OE	Distribution	
Osceola Pkwy.	2180+00			14	OE	Distribution/Transmission	
Osceola Pkwy.	2230+00			15	X	Unknown standpipe	
Osceola Pkwy.	2272+00			15	OE	Transmission	
Rail	2580+00	to	2588+00	19	OE	Transmission	Yes
Rail	2584+50			19	Gas	Gas	
SR 91 (Fla's Turnpike)	2626+00	to	2630+00	20	OE	Transmission	
SR 91 (Fla's Turnpike)	2649+00	to	2684+00	20/21	OH	Distribution/Comm/Trans	
SR 417 (Cen Fl Greeneway)	2694+00	to	2707+00	21	OE	Distribution/Transmission	
SR 417 (Cen Fl Greeneway)	2707+00			21	OE	Transmission	
SR 417 (Cen Fl Greeneway)	2768+00	to	2793+00	21/22	OE	Distribution/Transmission	
SR 527A (Boggy Creek Rd.)	2922+00			24	OH	Distribution/Comm/Trans	
SR 417 (Cen Fl Greeneway)	3102+00	to	3165+00	24A/25	OE	Transmission	Yes
SR 417 (Cen Fl Greeneway)	3100+00			24A	X	Unknown facility fence enclosed	
Lake Nona Blvd.	3024+00			24A	OE	Temp. Distribution	

OE =Overhead electric
OH= Overhead distribution lines

5.0 POTENTIAL ENVIRONMENTAL AND RIGHT OF WAY PROCESS

The purpose of this section is to first present a summary of the American Maglev Technology (AMT) request of the Florida Department of Transportation (FDOT or Department) regarding the proposed maglev system and alignment. Next, an overview is presented of the various environmental and Right-Of-Way utilization processes that could potentially be utilized for this AMT proposal. This section concludes with a summary of the meetings with the local governments and agencies. At these meetings, the staffs of affected local governments and agencies were presented information regarding the project, followed by discussion regarding the project, process and conditions.

5.1 Summary of AMT Request

In the initial conversation between the executive level of the Department and AMT, the direction was for Department staff and the FDOT Consultant to determine how the AMT project could be implemented in an expedited manner via the Department's rules and procedures. As the work proceeded on this scope, there was an addition to that request. In essence, AMT suggested an additional course of action for the Department and local governments and agencies to streamline the approval process.

AMT suggested that the Department develop a "Master ROW Utilization Permit" that would have an attached list of conditions. This list would contain all the issues raised by the stakeholders (local government and agency staffs), as well as local processes required as conditions that AMT must address and meet in order for the project to proceed. AMT would have their "deal" directly with the Department, and the Department would have intergovernmental agreements with each of the local jurisdictions and entities that would authorize the Department to act on their behalf for purposes of this AMT project only. According to AMT, dealing with the conditions would be totally AMT's responsibility. However, AMT is concerned that the process of working simultaneously with all the stakeholders could require a year of "process" that will delay construction and add costs. AMT indicated that by working with the Department only, the process would be streamlined.

Furthermore, AMT requested that their attorney and the Department General Counsel finish this Permit as soon as practical and perhaps before the end of the calendar year (2011), so AMT would have certainty about proceeding with design, pre-casting, and vehicle assembly work, while all the process conditions are met or achieved. AMT indicated that the above would place some processes that take longer (such as amending the Comprehensive Plans) off the critical path. These local processes, according to AMT, would be accomplished while design is being completed with no fear of delays to the project.

As part of this suggested process, AMT proposed to pay for the ROW use. In the case of OOCEA and Osceola County, AMT understands there are bond covenants, and the authority officers have an obligation to get a fair deal for those bondholders. AMT indicated that this Master ROW Permit gives the authorities the process needed to fulfill obligations to bondholders. AMT indicated that if the stakeholders (local governments and agencies) concur with the Department taking the leadership role and acting on behalf of them for the purposes of this project, and the Department accepts that role, it could cut a year off the schedule and the project could be under construction by (2012). This request was discussed with local government and agency staff, the results of which are presented in Section 5.4 (below).

Finally, one of the original questions asked of the Department was if AMT could avoid doing an extended environmental process on the proposed project. Based on research, discussions with the local governments and agencies, and the results of the environmental investigation, the answer is that an impact analysis will be required. This, in part, is due to the possible impacts to neighborhoods, which would include visual, noise and vibration, and the potential wetlands and drainage impacts.

5.2 Overview of Potential Environmental Procedures

As part of this overview, Chapter 2, *Environmental Class of Action Determination*, and Chapter 10, *Non-Federal Projects*, of the Florida Department of Transportation's ***Project Development and Environmental (PD&E) Manual*** was researched for applicable information. The majority of the information contained in this section is directly from that manual.

A Class of Action determination is required for all Federal actions and establishes the level of environmental documentation required to comply with the ***National Environmental Policy Act*** (***NEPA***) of 1969 as amended, and the regulations of the Council on Environmental Quality (CEQ), ***40 Code of Federal Regulation (CFR) parts 1500 through 1508***. A transportation improvement brings about a Federal action and the mandatory compliance with ***NEPA*** when one of the following conditions exists:

1. Federal funds or assistance is used at some phase of project development or implementation;
2. Federal funding or assistance eligibility is being maintained for subsequent phases;
3. Federal permit(s) is (are) required (e.g., U.S. Coast Guard Bridge permit); or
4. Federal approval of an action is required (e.g., change in Interstate access control).

Regarding potential Federal action, it has not been determined as to whether the AMT proposal will require a Federal permit. At present, the remainder of the Federal conditions do not appear to apply. For projects not involving a Federal action, a similar determination is made by the Department. A determination whether the proposed project is a Major or Non-Major State Action must be made to decide if a State Environmental Impact Report (SEIR) or a Non-Major State Action (NMSA) checklist for non-major transportation projects will be required. Major state-funded projects are also screened through the ETDM process, however, a Federal Class of Action is not required, and a SEIR is the environmental document prepared for the transportation improvement.

The following paragraphs provide an overview of the potential environmental processes available to the Department on the AMT project proposal.

- **NEPA Environmental Impact Statement (EIS)**

There are three classes of actions defined in ***23 CFR 771.115*** that prescribe the level of documentation required in the NEPA process. Class I is an Environmental Impact Statement (EIS). This environmental Class of Action is prepared for actions that significantly affect the environment as defined by CEQ regulations. The types of actions which would normally require an EIS are a new controlled-access freeway; a highway project of four or more lanes on new location; new construction or extension of fixed rail transit facilities (e.g., rapid rail, light rail, commuter rail, automated guideway transit); and new construction or extension of a separate roadway for buses or high occupancy vehicles not located within an existing highway facility.

- **NEPA Categorical Exclusion (CE)**

This environmental Class of Action (Class II) is applied to actions that do not individually or cumulatively have a significant environmental effect. They are actions which: do not induce significant impacts to planned growth or land use for an area; do not require the relocation of significant numbers of people; do not have a significant impact on any natural, cultural, recreational, historic, or other resources; do not involve significant air, noise, or water quality impacts; do not have significant impacts on travel patterns; or do not otherwise, either individually of cumulatively, have any significant environmental impacts. Actions categorically excluded are exempt from the requirements of NEPA. An Environmental Assessment (EA) or Environmental Impact Statement (EIS) is not prepared in these actions.

A Categorical Exclusion (CE) means a project or a category of actions that based upon past experience with similar actions, do not individually or cumulatively have a significant environmental effect, and are excluded from the requirement to prepare an Environmental Assessment or an Environmental Impact Statement. These actions are not considered to be major transportation improvements. CE determinations apply only to projects with a Federal action. A CE must, however, satisfy all other Federal environmental laws and executive orders.

- **NEPA Environmental Assessment (EA)**

This environmental Class of Action is prepared for actions in which the significance of the environmental impact is not clearly established. All actions that are not Class I, EISs or Class II, CEs are Class III. All actions in this class require the preparation of an EA to determine the appropriate environmental documentation required.

- **State Environmental Impact Report (SEIR)**

Once it is determined the project is a non-federal, transportation project, the District must determine if a SEIR is required. Only FDOT non-federal, EST screened projects meeting any of the following qualifying conditions require the preparation of a SEIR:

1. The project (regardless of lead agency) is part of the SHS whether it is or is not on the SIS;
2. FDOT is the lead agency for highways that are not on the SHS but are on the SIS;
3. FDOT is the lead agency and state funds are being used for highways that are not on the SHS or on the SIS;
4. FDOT is the lead agency for a major transit project regardless of whether it is on or off the SIS;
5. The project is a toll project under ***Section 338.251, F.S. – Toll Facilities Revolving Trust Fund***;
6. The project is a privately funded project under **Section 334.30, F.S. –** ***Public-Private Transportation Facilities;*** or
7. Florida's Turnpike Projects as defined in **Section 10-2.2.1.**

A SEIR is not required for transportation projects which are state or locally funded and do not meet the qualifying conditions (***Section 10-2.2.2***). Privately funded transportation projects that meet the qualifying conditions are discussed in ***Section 10-3.7*** of the PD&E manual.

- **Non-Major State Action Checklist (NMSA)**

Typically, project types not found in the list in for SEIRs are NMSAs. Although these projects are excluded from the SEIR process, they still require an environmental evaluation. The District completes a ***Non-Major State Action Checklist*** and includes it in the project file to document consideration of environmental impacts. The ***NMSA Checklist*** is signed by the District Environmental Administrator or designee. If any item on the checklist is marked "YES", then an explanation is provided and the District Environmental Administrator or designee determines if a SEIR is required. Consultation with the Florida Division of Historical Resources (DHR) is required on all projects to support any no adverse effects determination on historic properties by the District, except as set forth in the ***Florida State Historic Preservation Officer (SHPO) and Advisory Council on Historic Preservation (ACHP) ETDM Agency Operating Agreement*** (see ***Part 2, Chapter 12*** of the ***PD&E Manual***). A NMSA does not require a Public Hearing, but may necessitate public involvement activities in accordance with ***Part 1, Chapter 11*** of the ***PD&E Manual***. NMSAs apply only to FDOT non-major projects. The District, at its discretion, may decide to prepare a SEIR on a non-major project if the project may be deemed controversial or if any issues are marked "Yes" on the ***Non-Major State Action Checklist***.

- **Private Environmental Impact Report**

On projects without FDOT involvement**,** a private SEIR is used when FDOT is not the lead agency (See the ETDM matrix); however, compliance with federal, state and local regulations is still required. The same procedures used when developing a SEIR can be followed. This document should not be called a SEIR.

If there is any chance the locally or privately funded project will at some point be turned over to FDOT, the local authority or the private entity must coordinate with the appropriate FDOT District to determine the level of environmental analysis needed for the project. For projects sponsored by a local authority or private entity where an FDOT facility is involved, it is recommended that a private SEIR be prepared. To this end, a coordination meeting should be held to assure all parties understand the SEIR requirements. The ETDM matrix lists the types of projects that require a SEIR. It appears that the AMT project qualifies as the type of project which would require a SEIR type analysis.

- **Summary**

For projects involving a Federal action, the Class of Action Determination is made in consultation with the lead Federal agency, usually, the Federal Highway Administration (FHWA). On occasion, other federal agencies, such as the Federal Transit Administration (FTA), Federal Railroad Administration (FRA), the Federal Aviation Administration (FAA) the U.S. Coast Guard (USCG), or the U.S. Army Corps of Engineers may become the lead Federal agency on a proposed transportation improvement upon consultation and written agreement with FHWA and the Florida Department of Transportation.

The Class of Action for a major transportation project (typically Type 2 CEs, EAs or EISs) is determined during the Programming Phase that takes place as part of the Efficient Transportation Decision Making (ETDM) process. This is described in Chapter 5 of the FDOT's ***ETDM Planning and Programming Manual***. Major transportation projects within an MPO area should have sufficient information on the anticipated impacts to assist in determining the appropriate Class of Action. This information is located in the ***Planning Summary Report*** of the Environmental Screening Tool (EST), and was analyzed as part of the Planning Phase of the ETDM process. All major transportation projects must complete the Programming Phase of ETDM to determine the Class of Action.

5.3 Overview of Potential Right of Way Procedures

As part of this overview, Section 10.6, *Right of Way Property Leases,* and Section 10.9, *Joint Public/Private Development of Right of Way*, of the Florida Department of Transportation's ***Right of Way Manual*** was researched for applicable information, as was Florida State Statutes. The majority of the information contained in this section is directly from that manual and state statue.

The following paragraphs provide an overview of the potential ROW processes available to the Department on the AMT project proposal.

- **Chapter 334.30 Public Private transportation facilities**

The Department may receive or solicit proposals and, with legislative approval as evidenced by approval of the project in the Department's work program, enter into agreements with private entities, or consortia thereof, for the building, operation, ownership, or financing of transportation facilities. The Department may advance projects programmed in the adopted 5-year work program or projects increasing transportation capacity and greater than $500 million in the 10-year Strategic Intermodal Ssystem (SIS) Plan using funds provided by public-private partnerships or private entities to be reimbursed from Department funds for the project as programmed in the adopted work program. The Department shall by rule establish an application fee for the submission of unsolicited proposals under this section. The fee must be sufficient to pay the costs of evaluating the proposals. The Department may engage the services of private consultants to assist in the evaluation. Before approval, the Department must determine that the proposed project:

(a) Is in the public's best interest;

(b) Would not require state funds to be used unless the project is on the State Highway System;

(c) Would have adequate safeguards in place to ensure that no additional costs or service disruptions would be realized by the traveling public and residents of the state in the event of default or cancellation of the agreement by the department;

(d) Would have adequate safeguards in place to ensure that the department or the private entity has the opportunity to add capacity to the proposed project and other transportation facilities serving similar origins and destinations; and

(e) Would be owned by the department upon completion or termination of the agreement.

Each private transportation facility constructed pursuant to this section shall comply with all requirements of federal, state, and local laws; state, regional, and local comprehensive plans; Department rules, policies, procedures, and standards for transportation facilities; and any other conditions which the department determines to be in the public's best interest.

- **Chapter 337.251 Lease of property for joint public private development and areas above or below department property**

The Department may lease to public agencies or private entities, for a term not to exceed 99 years, the use of Department property, including rights-of-way, for joint public-private transportation purposes to further economic development in this state and generate revenue for transportation. The Department may also lease the use of areas above or below state highways or other transportation facilities for commercial purposes. Leases under this section

are subject to any reservations, restrictions, or conditions necessary to ensure adequate protection for the safe and efficient operation and maintenance of all transportation and utility facilities, the adequacy of traffic flow, and the full use of existing and future state transportation facilities. Such joint public-private use or commercial use of property may not interfere with the primary state transportation needs or present or future utility needs for that property nor be contrary to the best interests of the public. The Department may not lease any such property if the proposed use conflicts with zoning or land development codes of any affected local government. The Department shall, prior to entering into such lease, determine that the property subject to the lease has a permanent transportation use related to the responsibilities of the Department, has the potential for such future transportation uses, or constitutes airspace or subsurface rights attached to property having such uses, and is therefore not available for sale as surplus property.

The Department may request proposals for the lease of such property or, if the Department receives a proposal to negotiate a lease, it shall publish a notice in a newspaper of general circulation at least once a week for 2 weeks, stating that it has received the proposal and will accept, for 60 days after the date of publication, other proposals for use of the space. A copy of the notice must be mailed to each local government in the affected area.

A proposal must be selected by the Department based on competitive bidding, except that the Department may consider other relevant factors specified in the request for proposals. The Department may consider such factors as the value of property exchanges, the cost of construction, and other recurring costs for the benefit of the Department by the lessee in lieu of direct revenue to the Department if such other factors are of equal value, including innovative proposals to involve minority businesses. The Department may name a board of advisers which may be composed of accountants, real estate appraisers, design engineers, or other experts experienced in the type of development proposed. The board of advisers shall review the feasibility of the proposals, recommend acceptance or rejection of each proposal, and rank each feasible proposal in the order of technical feasibility and benefit provided to the Department. The board of advisers shall be reasonably compensated for the services provided and all Department costs for evaluating the proposals shall be reimbursed from a proposal application fee to be set by the Department and paid by the applicants. The board of advisers shall not be subject to selection under the provisions of chapter 287.

The requirements of this section apply to complex lease transactions involving extensive capital improvements by the lessee or provisions for exchange of goods or services by the lessee in lieu of cash and do not affect the requirements for other types of leases set forth in s. 337.25(5).

The Department may utilize leaseback or other joint public-private uses of property in lieu of full or partial compensation to a property owner for property acquired by eminent domain or to a landowner who donates property to the department, without competitive proposals and selection, if such use is acceptable to the property owner in lieu of other compensation and such use does not interfere with the public transportation purpose for which the property was acquired.

This section does not require right-of-way lease arrangements for facilities of utilities that provide water, sewer, gas, telecommunication, or electric services for which utilities may obtain permits from the department. The Department shall be indemnified by a lessee for liability which arises from construction on or the use of department property by the lessee.

Mortgages or other liens or encumbrances may not attach to Department property as a result of the financing, construction, or use of the property by the lessee. Improvements constructed on the property by the lessee shall revert to the Department upon expiration of the lease.

Revenue derived from a joint public-private use shall be deposited in the State Transportation Trust Fund. A fixed-guideway transportation system authorized by the Department to be wholly or partially within the Department's right-of-way pursuant to a lease granted under this section may operate at any safe speed.

- **Chapter 341.501 High technology transportation systems; joint project agreement or assistance**

The Department of Transportation may enter into a joint project agreement with, or otherwise assist, private or public entities, or consortia thereof, to facilitate the research, development, and demonstration of high-technology transportation systems, including, but not limited to, systems using magnetic levitation technology. The Department may, subject to s. 339.135, provide funds to match any available federal aid or aid from other states or jurisdictions for effectuating the research, development, and demonstration of high-technology transportation systems. To be eligible for funding under this section, the project must be located in Florida.

5.4 Summary of Local Government Procedures Feedback

As part of the scope of work, the FDOT Consultant held two sets of meetings with affected governmental entities. The first series of meetings were held the week of October 10, 2011, while the second series of meetings were held the week of November 28, 2011. The purpose of the first set of meetings was to present a history of the AMT request of the Department, discuss the scope of work, solicit input on the AMT proposed alignment and solicit input on AMT's request to utilize both FDOT and other agency's Right of Way (ROW). The purpose of the second set of meetings was to discuss the environmental issues that were investigated along the proposed AMT corridor alignment, the potential environmental processes that may be considered for the project by the Department, and the potential right of way utilization process that may be considered by the Department and others. However, the majority of the discussions centered on AMT's request of the FDOT Secretary to help streamline the project's advancement.

The following paragraphs summarize the information collected and received at both sets of meetings. The meeting minutes are attached in **Appendix F**.

5.4.1 MetroPlan Orlando

Regarding the advancement of the AMT project, MetroPlan Orlando indicated both verbally and in writing that, regardless of the FDOT or other local agency process regarding the AMT request, the AMT project must be in the Metropolitan Planning Organization's (MPO) Long Range Transportation Plan (LRTP). As the AMT project is not currently in that plan, there would need to be an amendment to the LRTP.

At the initial meeting held with AMT, Department, FDOT Consultant and MetroPlan representatives, MetroPlan requested information from FDOT's Consultant regarding the AMT project. It was discussed that ridership, technology assessment, project feasibility, constructability, capital cost and operating cost review and financial feasibility analyses was not part of FDOT Consultant's current scope, but may be investigated in subsequent phases. MetroPlan staff indicated that feasibility study type information, such as the aforementioned data, will be needed in order for the AMT project to be placed in the LRTP. AMT indicated

that they were developing ridership data at GOAA's request, and that they have financial data, including costs. The FDOT Consultant indicated that general environmental data would be available as an outcome of this FDOT Phase I analysis.

MetroPlan staff also indicated that the AMT Project will need to have a public sponsor from a member agency in the jurisdiction where the project is located, but not FDOT. Staff indicated that AMT can do the LRTP Amendment work effort, but Osceola County, Orange County and the City of Orlando would have to support the Amendment, and possibly all be sponsors. Again, MetroPlan noted that more information would be required for the LRTP amendment, such as, but not limited to, ridership analysis, technical feasibility, general financial plans, public information involvement, etc.

Subsequently, MetroPlan staff provided FDOT and AMT with the process information on how to obtain a LRTP Amendment **(See Appendix G**). Specifically, Section IX of the MPO's bylaws, entitled *Procedures for Amending the Long Range Transportation Plan and the Transportation Improvement Program (TIP)* states that "Any proposed transportation project that is of a new or prototype technology, and will impact the adopted Long Range Transportation Plan, shall be subject to the amendment request and review process (pg. 22, 1.c.2)." Furthermore, the next sentence indicates that "Any non-Federal or non-State funded proposed transportation project that has a major impact on the transportation systems shall be reported to METROPLAN ORLANDO for addition into the Long Range Transportation Plan (pg. 22, 1.c.3)."

Regarding who may submit an amendment request, the document indicates that "Amendment requests originating from the private sector shall be sponsored by the local government of jurisdiction (pg. 22, 1.d.2)." The remainder of the document transmitted by the MetroPlan Orlando outlines the technical process for amending the LRTP, the types of data required and the rules and procedures the MPO must follow.

At the follow up meeting with MetroPlan Orlando, the AMT streamlining request and the MetroPlan Long Range Transportation Plan (LRTP) adoption process were the topics of conversation. AMT raised a question in regards to the amendment needed for the LRTP. MetroPlan staff indicated again that a local agency must sponsor the Amendment and not the Department. The sponsor would be the local agency that had jurisdiction such as Osceola County for the south alignment and Orange County and City of Orlando for the north alignment. The local agencies would also have to have the changes approved in their Comprehensive Plan, if necessary.

With regard to the requested AMT streamlining, there was discussion indicating that interlocal agency agreements would be required and, could take time to secure, and that the Department would probably not agree to proceed unless all the agencies were on board with the idea. MetroPlan indicated that the LRTP Amendment process could start and possibly run concurrently with the local agency agreements. It was unclear as to whether the LRTP Amendment process can start before the process of notifying the public and other potential vendors is completed, if necessary.

There was discussion regarding the pending OIA to I-Drive Alternatives Analysis (AA) refresh. MetroPlan thought would be of bad form to send out the AA RFP (request for proposal) before there is a better understanding of the AMT project, request, market and level of service and pricing for the commuters. AMT provided clarification after the meeting that they have no position on the AA and have no information about its scope or schedule. The

AMT initiative is a privately financed project and has nothing whatsoever to do with the AA efforts.

Finally, the issue of potential project phasing was discussed. AMT indicated that the LRTP amendment is to include both the north and south alignment. Several other informational items were discussed, including what happens with the Dec. 31st report, and how much time it will take to go through the three local comprehensive plan processes. The preliminary indication was that the local process would take approximately 60-90 days and AMT will have to do the local government process as it is their request of the local boards. As a result, it will probably be at least three months before the AMT project comes to the MetroPlan board for any action, not precluding an introductory presentation.

5.4.2 Orlando Orange County Expressway Authority (OOCEA)

The initial discussion with OOCEA focused on three items: design coordination to eliminate conflicts with authority expansion plans and programmed improvements; analysis of traffic and earning to assess the impact on the authority's toll revenues; and the valuation for the use of the authority's Right-of-Way (ROW). At the outset, OOCEA indicated that they had previously transmitted to AMT their thoughts regarding utilization of the authority's ROW. OOCEA staff indicated they would be looking at how the AMT alignment affects both current and future plans for the system. They indicated there is also fiber optics running along both sides of the ROW and the alignment would need to accommodate that and other utilities in the ROW. In addition, if the OOCEA Board allows this Maglev system in their ROW, there would be a cost associated with its use. In terms of a legal instrument, they would look at perhaps an easement for the ROW use.

OOCEA staff indicated there is also the Bond Covenance to deal with. OOCEA needs a better understanding of the potential loss of revenue that OOCEA would face from loss of toll collection from the riders that would be riding the AMT system instead. Thus, as a competing use, loss of trips both from SR417 and Beachline would need to be investigated and OOCEA would require a Traffic and Earnings analysis of the AMT project OOCEA may have potential sole source issues and may want to look at the technology of maglev versus other vendors who may want the same opportunity to use OOCEA's ROW. OOCEA gave AMT and FDOT's Consultant a legal opinion on the above information, and indicated they had transmitted this to Lew Oliver (at one time associated with AMT) two to three years ago.

OOCEA legal counsel handed out a memorandum dated June 24, 2004 entitled *Use of the Expressway System for Other Forms of Transportation* (**Appendix H**). This document outlines the contractual obligations of OOCEA that place conditions or restrictions on its power to transfer or dispose of its interest in real property considered part of the expressway system. It outlines information on the master resolution covenant on the sale and lease of property, which could require bondholder consent; and other master resolution covenants, which would address loss of revenue, insurance and agency costs, issues resulting from "change in use." There is also a discussion regarding the lease-purchase agreement contained in Florida Statutes, and the potential need to determine surplus property.

At the follow-up meeting with OOCEA, the focus of the conversation was more specificity regarding the OOCEA needs, and the AMT request for streamlining. In order for OOCEA to allow AMT to use their ROW, they would have to surplus their ROW much like the FDOT process, and can do it concurrently with the other local agencies. OOCEA would want their own consultant to produce and analyze the Traffic and Earnings report to determine loss of revenue due to a reduction in traffic, since they are so familiar with OOCEA details.

OOCEA would require an appraisal of the OOCEA ROW to determine the amount AMT would pay for its use as an easement or a permitted use. OOCEA would also like to handle the design issues the same way. OOCEA and AMT would need coordination regarding design parameters, such as specific pier locations, especially where AMT design may impact future OOCEA 8-10 lanes design. OOCEA has given the future typical sections to AMT, and AMT will need to show OOCEA how the maglev structure will span a minimum of 200 feet.

Finally, AMT's request was distributed as part of the meeting materials. OOCEA staff would prefer the Department not speak on behalf of OOCEA, especially regarding design activities, loss of revenue and ROW valuations, especially in dealing with bond covenants rules and laws and protecting the rights of the bond holders. In addition, OOCEA questioned whether AMT is going to indemnify OOCEA and the Department in regards to eminent domain and air rights issues. OOCEA provided another handout to provide AMT guidance (**Appendix I**).

5.4.3 Florida's Turnpike Enterprise

The Turnpike indicated that their basic process would be consistent with that of the Department Central Office, and they would discuss with Central Office how the request to use the ROW by AMT should be handled. In addition, the Turnpike Staff indicated there would be additional requirements, and that they would, in all likelihood, handle the request much like Osceola County for the Osceola Parkway, and OOCEA (issues regarding bond covenants and loss or revenue). Finally, they indicated there would be a fair market cost for the use of the ROW.

At the follow-up meeting with the Turnpike Enterprise, staff indicated again that they were coordinating with Central Office and will have the same issues and processes that Central Office and District 5 will have. In addition, the Turnpike Enterprise will require additional conditions due to bond covenants, cost of right-of-way and potential loss of revenue.

The remainder of the meeting focused on the environmental process, with the Turnpike staff outlining some items that may become issues, and making some suggestions to AMT. For example, AMT indicated that a rail structure height would be 23' because it has to meet AASHTO standards, and the noise walls would be a maximum height of 22'. Turnpike staff indicated that the USDOT will have specific requirements on how AMT would mitigate visual, noise, vibration, etc. As the project impacts Federal agencies, the Turnpike suggested that AMT will need CE's from the Federal action agencies.

Finally, the Turnpike suggested that neighborhood meetings will be needed to deal with the potential noise and the visual issues. Turnpike staff indicated it is generally not a good idea to hold a public hearing without easing people into the project and getting the local officials involved. If AMT goes straight to a public hearing, it may be more difficult for the project. The Turnpike staff felt that it would be better to have earlier meetings up front with the public to inform them before going to a public hearing.

5.4.4 Greater Orlando Aviation Authority (GOAA)

GOAA staff responded to the AMT project with the official answer that GOAA has used over the years for similar projects. That is, in accordance with the FAA's "Policy and Procedures Concerning the Use of Airport Revenue" dated February 16, 1999 (appended as part of this report in **Appendix J),** fair market value for land areas associated with station, rail corridor and maintenance areas must be addressed in a manner that is acceptable to the Federal Government. Ridership data must be prepared that estimates the percentage of rail users that are airport passengers or employees versus those that are just passing through to another location. As an example, if 50% of the rail passengers were estimated to be airport employees

or passengers boarding or alighting at the airport station, and if the FAA and GOAA Board approves, GOAA could only provide 50% of the right-of-way at no cost. The balance would be purchased by AMT at fair market value. In addition, GOAA would require a review of impacts to other airport revenues, both positive and negative, by the rail system, such as concessions and rental car revenue. Any adverse revenue impacts would need to be addressed as part of an interlocal agreement.

At the follow up meeting with GOAA, there was a general discussion regarding environmental and potential design issues including a fiber optic corridor, potential electromagnetic interference in the clear zone at runway, the SR 436/Beachline interchange, the SR 417/South Access road interchange and design activities for the South Terminal (this would be the location for the AMT station, but does not yet exist). In addition, FAA will determine whether a CE will be needed for the project.

There was conversation regarding whether the Department could issue a Right-of-Way Master Utilization Permit until the project exists in the MPO Long Range Transportation Plan and in the local Comprehensive Plans. AMT indicated they would like to see this ROW agreement from all the local agencies by the end of this year, but realistically it may be looking more like March 2012. GOAA indicated they would prefer to see the Department in the lead facilitating this ROW agreement and not have to work directly with the private entity. This is because with a private entity, GOAA would have to go through an open procurement process which would make the process a lot longer and competitive. If they worked directly with the Department, it could be handled as an Interlocal Agency Agreement and a ROW utilization agreement. Then the Department would enter into an agreement with AMT. In essence, GOAA would do a lease agreement to the Department.

As part of the conversation, GOAA used an example of the Goldenrod Road extension project, where there was a private entity involved, as well as five other public entities, but OOCEA became the lead. In this case, a Business Term Sheet was developed that detailed the business terms of the ROW agreement (GOAA provided after meeting-see attached **Appendix K)**. The business terms and conditions became the basis of the negotiations and gave OOCEA the outline on how to proceed. For GOAA, the important issues for an agreement is that the business terms describe what the ridership is, who is using the system, and what the financial impact to the airport is.

The challenge would be how the agencies would handle this agreement with specific Business Terms. GOAA staff indicated that every agency should be required to sign the same Business Terms of Agreement. At the very least, there should be signatory to the same single agreement by all local agencies, but there could be an amendment specific to each agency.

In general, GOAA was generally positive regarding the project, and would like to have dedicated service between OIA and all the activity centers. GOAA has planned for all forms of rail coming through OIA. As AMT wishes to be operational before SunRail opens (May 2014), there was discussion of incremental construction of the intermodal component of the south terminal to meet AMT's schedule. GOAA indicated that if AMT is successful in getting local approvals, GOAA would need to get started sooner than later on the South Terminal and get the skeleton in place. GOAA would build over top of the AMT station with the intermodal facility.

5.4.5 City of Orlando

The initial meeting with the City contained much of the same discussion as at other agency meetings. This discussion included, but was not limited to, items such as the pending AA's,

questions about the alignment and proposed technology, and questions regarding the operating plan and station locations. After the initial meeting, the City's Legal Department advised there are two basic scenarios regarding the type of legal documents that would be required for the proposed AMT project alignment. These are as follows:

1. If the AMT alignment is going through an already platted or deeded area, the City only requires a right of way utilization permit.
2. If the AMT alignment is going through an area where the City has an easement, then the City will have to further look into the easement conditions to determine the necessary legal process needed to move forward.

In either case, in order to determine the appropriate legal process to follow, the AMT project group will need to commission a Title Search once they decide to continue moving forward with the project within the City of Orlando.

At the follow up meeting with the City, there was much discussion regarding the status and feasibility of the project, as well as the AMT request of the Secretary. The City indicated that Orange County is doing a project on Sand Lake Road now with Federal dollars. The limits are from Turkey Lake Road to Orange Blossom Trail. This may impact the type of analysis AMT needs to do, and potentially add another CE. With regards to Federal agencies, after the meeting, AMT indicated that the project is not governed by FRA and is governed instead by FTA rules and procedures, but only to the extent that Federal funds are involved. AMT has not presented any information to FRA or FTA and has not received comments from any federal agency on this project.

The City indicated that the Alternative Analysis (AA) refresh is getting ready to kick off, which will be looking at headways, capacity and station locations among other things. The City found it hard to see this AMT project moving forward without having some understanding of this project versus the other alternatives. There was discussion regarding the purpose of an AA. After the meeting, AMT clarified that AMT has no position on the AA and has no information about its scope or schedule. The AMT initiative is a privately financed project and has nothing whatsoever to do with the AA efforts. As part of the discussion, the City found potentially attractive the ability to continue investigating this AMT project opportunity and still continue to look at alternatives through the AA concurrently.

There was concern on the City's part regarding project feasibility and concern regarding a potential Traffic and Earnings report. At the meetings, AMT indicated they were doing an investment grade study after or overlapping the environmental process. After the meeting, AMT clarified that they are preparing a Demand Study and Ridership Estimate Report that it will share when the work is completed. It should be noted that the City felt an investment grade ridership study would be useful for the next steps that need to be taken for the AMT project.

With regard to the AMT request to have the Department represent the local agencies to help speed the process along, City staff felt that the Department could facilitate the process, but not act or speak on behalf of the City of Orlando. They indicated that local decision makers must have decision authority. There was concern that Mayor Dyer and council members may not want to give up authority on the issue of ROW permit being handled by the Department. They have to answer to constituents.

As an alternative, AMT proposed to let the Department be the facilitator and get every local agency in the room together and discuss how to deal with the ROW utilization permit, similar to what the Department did for SunRail, but not to take as long. AMT felt that once the total cost of ROW was determined, it could be divided up on a percentage basis and distributed to all the entities by the Department. While the City found that to be an interesting concept, there was concern that the toll roads would be worth more because of the ridership issues associated with them.

There were several questions regarding the alignment and station areas. AMT indicated that they could not answer whether the project would access Disney. The City was concerned about the investment grade ridership study if the project had not set the stations. There were questions regarding the Lake Nona and Florida Mall stations. There was discussion regarding modifying the alignment to avoid the OUC corridor. AMT indicated that realignment can occur if needed.

At the end of the meeting, the FDOT Consultant indicated that they will have to make a recommendation on the time line of all the processes, but the first step is to get this project into the LRTP by going through the amendment process. The Department cannot sponsor the project; the rules say it has to be a local entity. The local governments may have to amend their comprehensive plans also. It is possible that these two processes can be done concurrently. The FDOT Consultant indicated the Department would not enter into a Master Right-of-Way plan agreement unless all agencies were on board with the idea, and noted the SunRail agreement took about a year and a half to process; AMT wants to start construction activities in the spring of 2012.

As a result of the conversation, the City Staff was concerned for AMT that both the north and the south alignment are so much to handle immediately. They suggested that AMT go back to the original alignment from eight years ago when the project was OIA to the Convention Center. AMT indicated they see this as a phased construction project, with the north alignment being the first phase. The second phase would be from OIA to Medical City. The third phase would be the rest of the south alignment.

5.4.6 Orange County

Orange County indicated that in order to achieve conceptual approval of the AMT public/private partnership proposal by the Orange County Board of County Commissioners, it will be necessary to finalize the below process in advance, in addition to finalizing the requirements necessary for use of the County's right-of-way. The following are ***initial*** terms that Orange County staff has identified for consideration in the Florida Department of Transportation's preliminary analysis of the AMT proposal:

1. AMT is required to obtain Right-of-Way Use Agreement and/or license from the County.
2. County is to be indemnified and held harmless from any and all liability associated with design, construction, operation, and maintenance of AMT system and affected right-of-way.
3. AMT must provide a Performance Surety (i.e., bond, guaranty, escrow, etc.) of appropriate amount to guarantee completion of construction.

4. AMT must provide a Performance Surety (i.e., bond, guaranty, escrow, etc.) of appropriate amount to guarantee restoration of right-of-way, if necessary, at completion of use agreement/license term, or if system is abandoned.
5. Orange County will require review and approval authority of construction plans.
6. Orange County reserves the Right-of-Way and associated rights necessary for any future transportation improvements.
7. AMT must provide a ridership analysis to determine operational needs for the system.
8. AMT must provide appropriate station access, including pedestrian, bicycle, vehicular, and parking requirements and mitigate any offsite transportation impacts associated with AMT system and station locations as determined necessary by the County.
9. AMT must provide analysis of the system impacts to Right-of-Way and adjacent properties such as light/air, business impacts, stormwater, utilities, landscaping, etc., and mitigate impacts as determined necessary by the County.
10. AMT must provide ongoing system requirements such as maintenance/upkeep, security, etc., including those requirements necessary for Right-of-Way impacted by the system.
11. AMT must develop a public engagement plan/process for review/approval by Orange County, which includes a public hearing before the Orange County Board of County Commissioners.

Staff indicated that all aforementioned requirements are subject to Board of County Commissioners' approval and additional requirements which may be deemed necessary upon further evaluation of the AMT proposal.

At the follow up meeting with the County, there was discussion regarding the results of the environmental investigation and some specifics about the alignment, specifically Tradeshow Boulevard being located on private property. The majority of the conversation focused on the AMT request to the Secretary. AMT emphasized that they do not want to go through a year's process and find out they do not have a deal at the end, and it would take too long to meet individually with the respective governments. Orange County staff felt this is an interesting proposition, but if the Department gets authorization from Orange County to act on the County's behalf, then the Department would also have to accept full responsibility and liability for anything that may arise. Regardless, the County would require performance bonds for the use of their ROW.

The County indicated a single ROW agreement would not be out of the question, but it would be challenging to come up with an agreement that would make everyone happy and they do not know how much time AMT would save by actually doing it this way. They indicated that at some point, there would have to be a half a dozen agencies to negotiate with and it would be a fairly detailed agreement between the Department and the County. Some of the conditions may require further analysis, so it may be more of an interactive process and not just signing over an agreement. AMT indicated they would be willing to risk beginning the design once they know they are firmly on the way to a ROW utilization permit. It may not be all worked out but AMT needs something to show as a guarantee to their investors that AMT will have an agreement in place.

AMT indicated that the City suggested not doing all the 41 miles at once, but do a Phase I (Convention Center to OIA) first, both environmentally and from a ROW standpoint and then move forward with the remainder of the project. Thus, Phase II would be to Medical City and AMT could have right of first refusal for Phase III (Medical City to Disney). There was discussion regarding the Alternative Analysis (AA) studies in the same corridor. Orange, Osceola and Orlando wish to proceed with the studies; while AMT expressed concern regarding the AA's causing them potential delays. AMT did not want a scenario to occur where the results of the AAs keep AMT from building the project; while the local entities do not want to be out of the federal process for a couple of years while they decide whether AMT is a real project.

5.4.7 Osceola County

Osceola County conducted preliminary research on the use of County Right of Way (ROW) for the AMT project being evaluated by the Department. County Staff indicated that, first and foremost, any use of any of the County's ROW for the maglev project or any other unsolicited proposal would need approval by the Osceola County Board of County Commissioners. At a minimum, a ROW Utilization Permit will be necessary and all the requirements listed met. A copy of the requirements was provided, and is appended to this report (**Appendix L**).

County Staff indicated that the issue requiring more discussion, should the AMT project move to another phase past initial review, is the use of the Osceola Parkway ROW. Based on information presented in the County meetings with both the FDOT Consultant and AMT, the majority of the southern portion of the AMT project is located in Osceola Parkway ROW. County Staff noted there exists a Parkway Agreement between Osceola County and Reedy Creek Improvement District (RCID). That agreement (and subsequently included in bond covenants), "provides that neither the County nor RCID will permit the construction or operation of fixed guideway mass transit facilities (such as trains or monorails) in any segment of the Osceola Parkway east of the east right-of-way line of Interstate 4 unless such facilities" meet certain criteria. The most significant among those criteria is that nothing "materially adversely affect the ability (of the Parkway *added*) to generate Net Revenues." Without the benefit of reviewing a finance plan for the maglev project for FDOT's review, Osceola County may require a traffic and revenue study to determine whether or not there would be adverse impacts on the Net Revenues. Any use of Osceola Parkway for the project would require the consent of RCID Board. County Staff attached page 20 from the Series 2004 Bonds (appended to this report in **Appendix M**).

At the follow-up meeting with the County, the focus was on the process, phasing and on the RCID. Regarding process, the FDOT Consultant indicated that any and all ROW processes could be developed and run concurrently, as OOCEA, FDOT and Turnpike have similar processes. Osceola County would not be opposed to the AMT request for the Department taking the lead; their concern is making sure RCID is comfortable with it.

RCID must consent to any process the County agrees to, as well as to a fixed guideway in the Osceola Parkway. Up to this point in time, no one from AMT or the Department has spoken to RCID. AMT indicated they have spoken to Disney and currently, Disney is not interested in the project accessing Disney. The County indicated that regardless, RCID must consent to use of the Parkway for fixed guideway. Staff indicated that using public ROW for private development is a large process and the process may not go as fast as AMT would like, and staff does not want to promise that it will go quicker than it can.

AMT indicated that Phase I is OIA to the Sand Lake Road SunRail Station and to the Convention Center. Phase II is OIA to Medical City. Phase III is Medical City to Osceola County, possibly to the bowling complex. AMT is phasing the project do to the financing, and the possible difficulty in getting the ridership numbers to initially go to Medical City. Osceola staff indicated that being in Phase III is a concern. If County is Phase III, then there is plenty of time to get the project through the County process, in fact, there is really no hurry necessary.

To move forward, the County will need a schedule, a phasing plan, and a draft resolution between either the Department and the County or AMT and the County regarding this project. AMT must assist the County in coordination with RCID, who must consent to a fixed guideway in the Osceola Parkway. The County will also require an investment grade ridership analysis, as well as a Traffic and Earnings report to assess the potential loss of revenue to the County in tolls, and will require fair market value for ROW. That is the information needed to start the process. However, that does not preclude a presentation to the Commission as soon as AMT can present.

6.0 SUMMARY OF POTENTIAL OPTIONS AND RECOMMENDATIONS

The previous section (5.0) of this report presented the potential environmental and ROW procedures that could be utilized for the AMT project, as well as the local government and agency staff reaction and thoughts regarding various processes and procedures. Based upon the results of the environmental investigation presented in Section 4.0, research on the process and procedures, discussions with the Department's Legal Office, Right-of-Way Office, Public Transportation Office (PTO) and Environmental Management Office (EMO) staffs, and discussions with the local government and agency staff, the following paragraphs present recommendations and a potential course of action for moving forward with the AMT project with the Department.

Recommendations regarding environmental and ROW procedures are followed by recommendations regarding initial items required prior to the Department entering into an agreement with AMT. These recommendations are separated by AMT items and the Department items. This section and the report conclude with a suggested accelerated timeframe for implementation and critical next steps.

6.1 Potential Environmental Procedure and Recommendation

The following is a summary of the results of an analysis of potential environmental procedures investigated for use in the proposed AMT project. This summary is followed by a recommended course of action.

- **NEPA Environmental Impact Statement (EIS)**

It is not probable that a full NEPA EIS will be required for the AMT project. A transportation improvement requires a Federal action and mandatory compliance with the National Environmental Policy Act when certain conditions exist. The only condition that exists with this AMT project is that a Federal permit (US Army Corps of Engineers) may be required. While this project is considered new construction of a fixed rail transit facility, there are no Federal funds associated with the project. However, the decision regarding the requirement of an EIS will be determined in consultation with Federal action agencies.

- **NEPA Categorical Exclusion (CE)**

This Class of Action is applied to projects that do not individually or cumulatively have significant environmental effect. The action to be taken is not anticipated to impact a significant number of people, and do not have significant impacts to natural, cultural, recreational or historic resources, either individually or cumulatively. Actions categorically excluded are exempt for the requirements of NEPA, thus an EIS or EA is not prepared. However, CE's are utilized to satisfy all other Federal environmental laws and executive orders. For the AMT project, Categorical Exclusions may be required by FHWA for the I-4 crossing; by FAA at Orlando International Airport; and by FTA/FRA along the CSX tracks and SunRail Stations. The decision regarding the requirement of CEs will be determined in consultation with Federal action agencies.

- **NEPA Environmental Assessment (EA)**

It is not probable that an Environmental Assessment will be required for the AMT project. Environmental Assessments are a Class III Class of Action, in which the significance of the environmental impact is not clearly established. This process is often utilized to determine whether to proceed with an EIS or a CE. Given the results of the environmental investigation contained in this study, and the absence of Federal funding for the project, it is unlikely that an EA will be required. Again, the decision regarding the requirement of an EA will be determined in consultation with Federal action agencies.

- **State Environmental Impact Report (SEIR)**

It is not probable that a SEIR will be required for the AMT project. A SEIR is required for non-Federal transportation projects where FDOT is the lead agency. Once it is determined that the project is a non federal transportation project, the District must determine if a SEIR is required. Only FDOT, non-Federal, Environmental Screening Tool (EST) screened projects, meeting certain qualifications, require the preparation of a SEIR. Privately funded transportation projects that meet the qualifying conditions have another set of qualifications.

- **Non-Major State Action Checklist (NMSA)**

This environmental evaluation is not applicable. NMSA is only required for FDOT projects which do not have significant environmental impact, and where FDOT is the lead agency.

- **Private Environmental Impact Report (PEIR)**

It appears that this is the process that the AMT project should follow for environmental purposes. This process is utilized when FDOT is not the lead agency, but there is a requirement for compliance with federal, state and local regulations. The same procedures as a SEIR can be followed, but this document should not be called a SEIR. For projects sponsored by a local authority or private entity where an FDOT facility is involved, it is recommended that a SEIR be prepared. The process is the same as a SEIR, but not called a SEIR. A reduced or modified set of items can be agreed upon, subject to Advanced Notification.

6.1.1 Preliminary Recommendations

Initial Department conversations indicated that, in order for the Department to utilize the SEIR or other environmental processes, the AMT project must be in the local MPO Long Range Transportation Plan (LRTP) prior to Phase 2 of this work effort. This was confirmed in meetings with MetroPlan Orlando. This will also be a requirement before the processing of the CEs with FHWA, FRA, FAA and FTA. It is assumed that AMT would be responsible for getting the project placed in the official local and regional plans and programs.

After publication of this report, it is recommended that the Department coordinate with the Federal action agencies, determine environmental process, scope and roles, conduct Efficient Transportation Decision Making (ETDM) screening, and assist AMT with their preparation of the Advance Notification (AN).

6.2 Overview of Potential Right of Way Procedures

The following is a summary of the results of an analysis of potential Right-of-Way procedures investigated for use in the proposed AMT project. This summary is followed by a recommended course of action.

- **Chapter 334.30** Public-private transportation facilities

Based on preliminary review, it appears that Chapter 334.30 is not applicable to the AMT proposal. This process is utilized in cases when the Florida Legislature finds and declares there is a public need for rapid construction of safe and efficient transportation facilities. The Department may receive or solicit proposals, with legislative approval as evidenced by the project being located in the Department's work program. The Department enters into agreements with private entities for the building, operation ownership or financing of the transportation facility. The current AMT proposal does not meet this statue.

- **Chapter 341.501** High technology transportation systems; joint project agreement or assistance

Again, based upon a preliminary review, it appears that Chapter 341.501 is not applicable to the AMT proposal. This statute permits the Department to enter into joint project agreements with private entities and assist in facilitating the research, development and demonstration of high technology systems. While magnetic levitation is specifically mentioned, the AMT proposal is not a research, development or demonstration project. In addition, the statute allows for the Department to match available Federal funds (AMT is requesting none), but does not mention ROW utilization.

- **Chapter 337.251** Lease of property for joint public private development and areas above or below Department property

This is the approach that AMT has suggested for the AMT proposal. The Statue allows the Department to lease to private entities, for a term not to exceed 99 years, the use of Department property, including ROW, for joint public private transportation purposes to further economic development and generate revenue for transportation. The Department may also lease the use of areas above or below state highways and other transportation facilities for commercial purposes. The proposal must be selected by the Department based on competitive bidding. It appears, with the right conditions, protections and agreements in place, this process may be appropriate for the AMT proposal.

6.2.1 Preliminary Recommendations:

The Department Legal and Right-of-Way offices have compiled the following initial list of potential tasks that AMT would have to perform in order to get the project moving forward from a ROW standpoint:

1. Potentially, have FDOT surplus the needed right of way
2. In some areas, coordinate with CSX and Central Florida Commuter Rail Commission
3. Obtain air rights agreements where needed.
4. Follow provisions in existing leases with SunRail and CSX
5. Accept liability for environmental issues and any previous commitments of acceptance of liability by relevant entities
6. Obtain a waiver for commercial advertising in the right of way
7. Coordinate any use of the stations' property with the Central Florida Commuter Rail Commission
8. Determine engineering feasibility of joint use of existing right of way

After publication of this report, it is recommended that the Department coordinate with the local agencies, notably, OOCEA, the Turnpike Enterprise and Osceola County (toll facilities) to determine the process, scope and roles.

6.3 Initial Items Required Prior to Department Agreement

The following paragraphs outline the recommended initial items required prior to any agreement between the Department and AMT. These are presented separately for AMT and the Department (FDOT).

- **American Maglev Technology (AMT)**

In order for the Department to enter into a Preliminary ROW Lease Agreement with AMT, it is recommended that the Department require AMT to accomplish the following initial items. It should be noted that these are not necessarily sequential steps, and that most, if not all can be worked on concurrently. However, the key is that all of the items need to be successfully in place before the Department can actually execute any type of ROW agreement.

1. Secure Local Support

As of this date, AMT has not publically presented the proposed project to any local government board or commission (Osceola and Orange Counties and City of Orlando), or to any agency board (GOAA, OOCEA, and MetroPlan Orlando). It is highly recommended that AMT schedule meetings with these local governments and agencies to present the project in as much detail as possible. AMT should solicit letters of support via board or agency action, including sponsorship for LRTP amendment process, where appropriate. As part of the public meetings, AMT should request local governments and boards to direct staff to work with AMT and FDOT to develop and finalize process, roles and responsibilities for potential advancement of the AMT proposed project. This confirmation of local government support may also allow FDOT to move forward with the necessary permits and agreements to implement the project.

MetroPlan Orlando has determined that the AMT project must be in the Metropolitan Planning Organization's (MPO) Long Range Transportation Plan (LRTP). As the project is not currently in that plan, there would need to be an amendment to the LRTP. MetroPlan also indicated that the AMT project will need to have public sponsors from member agencies in the jurisdictions where the project is located, but not FDOT. After securing project sponsors, AMT must support the MetroPlan

Orlando LRTP amendment process to include AMT project. Likewise, AMT should secure the MetroPlan Orlando LRTP Amendment.

Finally, AMT should schedule and attend meetings with Local Planning Agencies (LPA) of Orange County, Osceola County and City of Orlando, where needed, to amend the comprehensive plans to ensure that the alignment is consistent with local plans and programs. Coupled with this process, it is recommended that AMT begin meetings with potentially impacted neighborhoods, especially with regards to potential or perceived noise and vibration and visual impacts. The comprehensive plan issue is critical to the Department ROW and any environmental process.

Equally as important are private property issues associated with the proposed alignment. The current AMT project depends on utilization of private property for several station locations. Due to the potential impact on the Department ROW and any environmental process, it is recommended that AMT secure preliminary agreements with station area private landowners as part of this initial step.

2. Advance Project Alignment Activities

At present, the AMT proposed project alignment is very conceptual. In order for the project to advance to a Department ROW utilization agreement, AMT must define the final project description, set the alignment (realizing there will be minor changes due to engineering), determine the final station locations, justify the logical termini and determine phasing. As part of this effort, it is recommended that the Department require AMT to begin alignment and station design activities. These design activities must be coordinated with all affected agencies, especially those agencies with eminent expansion plans along the route, including but not limited to OOCEA, GOAA and Orange County.

The next step that will require advancement by AMT is the preparation of engineering studies and designs sufficient for permit approval (including, but not limited to, geo-tech, utility locations, signage, signals, etc.). Prior to entering into an agreement, AMT must identify physical modifications within each agency's ROW or private property necessary to ensure safe system operations and passenger access and transfer. It should be noted that upon approval of the affected agencies, AMT will be responsible for funding and implementing the modifications during construction.

3. Initiate Technical Studies and Provide Information

Every local government and agency has indicated a requirement of either an investment grade ridership study or a Traffic and Earnings (or Revenue) report. OOCEA, Florida's Turnpike, and Osceola County will utilize the results to assess the potential loss of revenue on their respective toll facilities. GOAA will use the information to assess the amount of ridership boardings and alightings at OIA, in order to assist in determining the amount of reduction in fair market value for FAA purposes. MetroPlan Orlando will use the information as part of the LRTP process. Orange County and City of Orlando will use the information assist in assessing project feasibility. As part of the Department agreement process, AMT proposed revenues to the Department are based on potential patronage. The process of producing this type of report is somewhat time consuming, and requires coordination with all parties regarding assumptions and process. It is recommended that the Department require AMT to coordinate with local governments and agencies regarding Traffic and Earnings (T&E) report information, assumptions, format, and process, then initiate the study.

It is suggested that AMT and the Department work to develop the environmental process and scope of work. The Department should take the lead in coordinating with Federal action agencies and to conduct Efficient Transportation Decision Making (ETDM). AMT should hire a firm to conduct the said environmental analysis and begin to schedule meetings with local resource and permitting agencies to ascertain the critical information and individual processes.

Finally, it is recommended that the Department require AMT to provide research and proof regarding AMT's ability to secure liability insurance and AMT providing total indemnification to the Department for private transportation services in public right of way. In addition, based on Department and local government staff observations, it is recommended that AMT provide proof of ability to secure performance bonds to protect the Department in the event that the project requires dismantling within the respective ROW.

4. Coordinate with Federal Agencies

The technology AMT is proposing for the project is not currently in commercial operation in the United States. While a private venture, this system will be transporting the public by a "for profit" provider on public ROW. Thus, it is recommended that the Department require AMT to contact USDOT to secure information regarding any Federal requirements and develop a process for meeting any certification required for the system to safely transport the public. The Department should monitor this process.

Given the Department's recent experience with SunRail, safety and security is a paramount issue with the Federal agencies. As this project proposes to access both OIA and two SunRail stations, it is recommended that the Department require AMT to contact Transportation Security Administration and Homeland Security regarding critical design issues for system and station safety, security and requirements for systems that provide access to airports. The Department should monitor this process.

Finally, in order to proceed with the required environmental report, there are several pieces of data that will be required prior to initiation of the analysis. Two of the most critical elements that were discussed as part of this study process will be the potential for electromagnetic impact to runway and clear zone activities at OIA (GOAA concern), and the potential impact due to noise and vibration (environmental investigation). AMT has provided preliminary information to the Department's team; however, it has not been certified by either FTA or FTA as far as we can ascertain. In the environmental investigation, the FDOT Consultant utilized the technology with the least amount of impact; that is an Automated People Mover. As this project proceeds, actual noise and vibration data for the maglev technology proposed will require certification. Likewise, AMT has provided preliminary information regarding electromagnetic fields. That information needs to be certified by a third party source. It is recommend that AMT work with FRA/FTA to certify noise and vibration levels, as well as potential electromagnetic levels. The Department should monitor this process.

5. Secure Terms and Condition Agreements with FDOT and Local Agencies

It should be noted that the Department's ROW only comprises approximately 21% of the total proposed AMT alignment, and approximately 45% of the AMT proposed Phase I alignment. Thus, a collaborative effort is required with the local governments and agencies

to achieve the AMT project's implementation. After AMT secures the local support outlined in item #1 above, there must be follow-up meetings with the Department, local governments and agencies to develop terms and conditions, then public meetings with local government and agency boards to secure actual agreements on process, roles and responsibilities. After these items are agreed upon, it is probable that local and agency staff may be required to receive confirmation of the agreements by their governing bodies.

While AMT wishes to enter into Preliminary ROW Lease Agreement with the Department, it is recommended that concurrently, AMT enter into the same agreements with the local governments and agencies. It should be noted that the Department Legal and ROW offices should certify that this item #5 can be completed prior to beginning the FS 337.251 process, including ROW and Legal Offices requirements presented previously. There is concern regarding the eventual transparency of that process, and the perceived benefit of the above process to AMT by other potential proposers.

- **Florida Department of Transportation (FDOT or Department)**

In order for the Department to enter into a Preliminary ROW Lease Agreement with AMT, it is recommended that the Department accomplish the following initial items. As in the case of the AMT action items above, these are not necessarily sequential steps, and can be worked on concurrently. It is strongly recommended that all of the items be successfully in place before the Department actually executes any type of ROW lease agreement, preliminary or otherwise.

1. Monitor Completion of Activities by AMT

It is recommended that the Department monitor the AMT activities from the list of five items above. The most critical is the completion of local agreement support process and MPO LRTP amendment process to include the project. The Department should also monitor the technical studies such as the T&E report, and provide input into the system and station design activities. In addition, the Department should monitor USDOT process for certification for the system to transport the public.

2. Contact Federal Action Agencies and Determine Final Environmental Process

The Department staff should contact the Federal action agencies of the USDOT (FHWA, FTA, FAA, and FRA), as well as the Corps of Engineers to discuss the environmental process for potentially impacted Federal resources, and outline the next steps. Next, the Department should conduct the Efficient Transportation Decision Making (ETDM) process in order to assist in the development of the environmental analysis, process and scope. It is recommended that the Department work with AMT to finalize scope for environmental process, and assist in drafting Advanced Notification (AN).

3. Secure Terms and Conditions Agreements with AMT and Local Agencies

It is recommended that the Department work with AMT, local governments and agencies to finalize process, roles and responsibilities to develop business terms and conditions for the project which would govern the project moving forward. This would include meeting with AMT, local governments and agencies to develop terms and conditions, and ensuring that the Department's assets and rights are protected in the draft documents.

4. Monitor and Conduct Technical Assessments

The Department should closely monitor and participate in the development of the assumptions and process for the T&E report for two major reasons. The first is there may

be a potential loss of revenue on Florida Turnpike Enterprise facilities, and this T&E report will provide documentation. The second is that AMT's proposal to the Department includes revenue, which is based on projected project patronage. Again, this document will contain the ridership information. This ridership information will provide direct input to the project's financial plan. Likewise, the Department should review the project's updated financial plan, and it is recommended that the Department conduct a Financial Capacity analysis on the AMT project at the appropriate time.

5. Conduct Preliminary Right-of-Way Activities

The Department should develop and finalize the ROW utilization process, and outline any additional information required of AMT, as well as from the local governments. The Department may want to ensure that the ROW to be leased by AMT is clear, with no restrictions and no potential issues from previous ROW takings. As previously mentioned, it is suggested that the Department Legal and ROW offices certify that AMT item #5 (above) can be completed prior to beginning the FS 337.251 process. The FDOT Consultant has concern regarding the eventual transparency of that process, and the perceived benefit of the above process to AMT by other potential proposers. If permissible, the Department can then enter into a Preliminary ROW Lease Agreement with AMT, local governments and agencies and begin the FS 337.251 process.

6.4 Timeline

The typical timeline for a Federally funded fixed guideway transit related project to go from concept to construction is typically seven (7) to 10 years, if the project is successful in securing Federal funds. For a typical state roadway project, the timeframe is about half of that, three (3) to five (5) years. Based on the results of this study, the local government and agency staff input and discussions with AMT, the FDOT Consultant, in conjunction with Department Public Transportation Office (PTO) and Environmental Management Office (EMO) staff, have determined that the timeline for the AMT project to start construction could be 18 to 24 months. The breakdown is as follows:

- Local/MPO Approval Process 4 to 6 Months
- Environmental and Engineering 10 to 12 Months
- Permitting, Agreements, ROW 4 to 6 Months
- Total Time to Construction 18 to 24 Months

This timeframe is totally dependent on AMT's ability to produce local and regional support, as well as AMT's ability to fast track environmental and engineering for the project. The Department management has indicated that, should the AMT project proceed, it will facilitate and expedite the project implementation process on items the Department controls. It should be noted that there is a potential for AMT to reduce this timeframe. Inversely, the project could take longer to implement due to unforeseen circumstances or failure of local, regional, state, Federal or private parties to produce necessary work tasks or approvals.

6.5 Critical Next Steps

In order for the AMT project to advance to a preliminary ROW agreement with the Department, the immediate and next steps are for AMT to define the project and receive local support. AMT should determine the final project description, set the alignment (realizing there will be minor

changes due to engineering), resolve the final station locations, justify the logical termini and establish a phased implementation plan.

In addition, as of this date, AMT has not publically presented the proposed project to any local government board or commission (Osceola and Orange Counties and City of Orlando), or to any agency board (GOAA, OOCEA, and MetroPlan Orlando). It is recommended that the Department not initiate any process without AMT securing support/approval/board action from all the local government agencies and MetroPlan Orlando. This approval would signify local consent to move forward with the AMT project. The remaining next initial steps are summarized in the sections above.