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Client Project No.:

TranSystems Project No.: P309060190

Subject: Winter Park Commuter Station Traffic Analysis

Comments:

TranSystems has conducted an analysis of the anticipated impact on vehicular traffic operations related to the proposed Central Florida Commuter Rail station in Winter Park. This analysis looks at the anticipated traffic flows in the vicinity of the station and how the changes related to the station may impact existing traffic operations.

The location of the station is shown on the area map below.

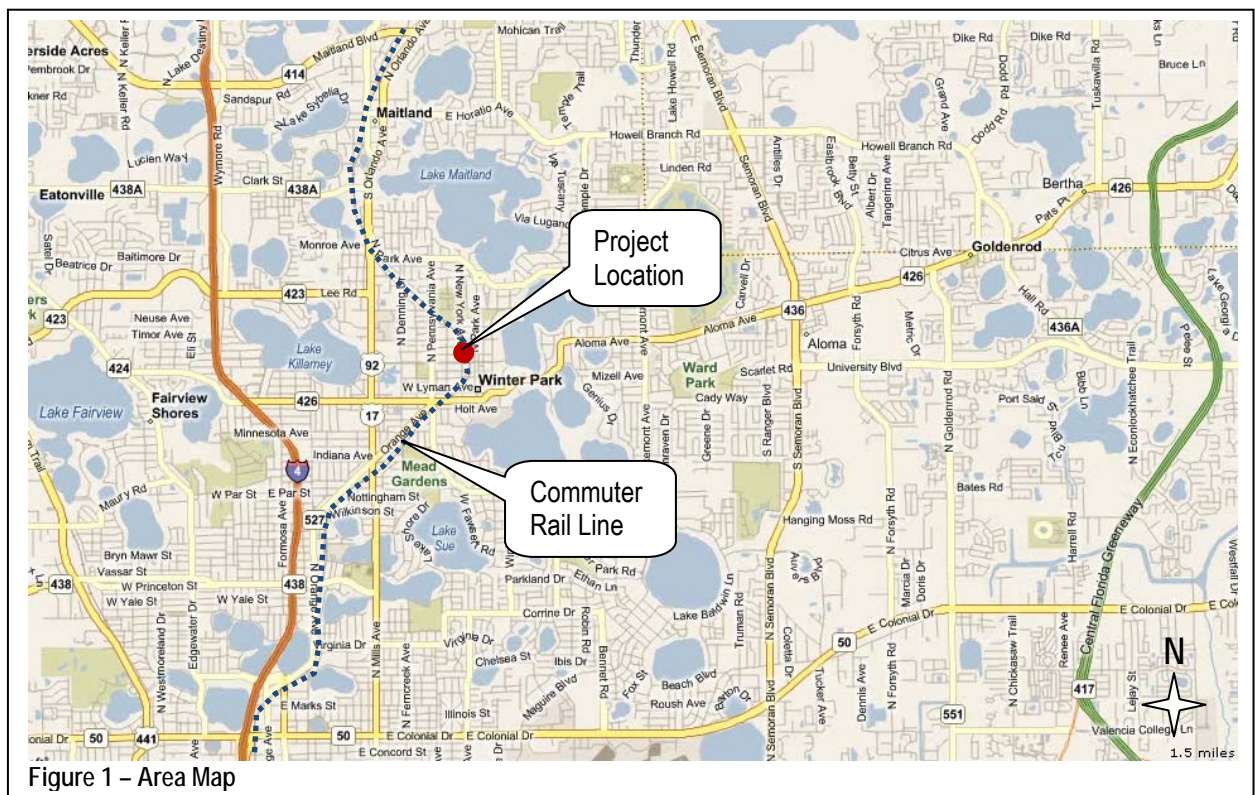
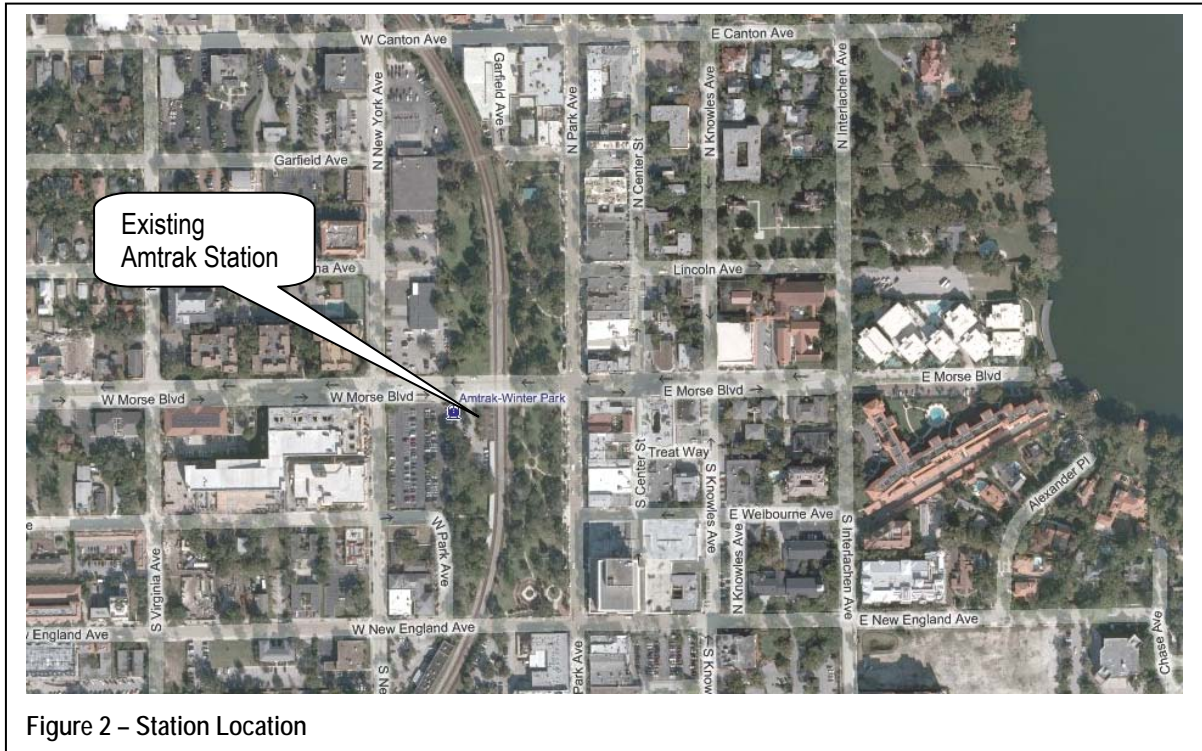


Figure 1 - Area Map

The proposed commuter station would be at the location of the existing Amtrak station on Morse Boulevard between New York Avenue and Park Avenue in downtown Winter Park. More detailed maps showing the location is provided on Figure 2 and Figure 3.



## Background Information

A general assessment of the transportation impacts of the proposed station are provided in Section 4 of the *Central Florida Commuter Rail Transit Environmental Assessment*, March 2007. Some of the key components of that assessment are summarized below:

- It is projected that the “stations do not generate any new trips per se; the transit improvements will divert traffic that is already on the roadway network.” This is not to say that there will not be traffic increases in the immediate vicinity of the stations, but overall, the net effect of providing transit should be to reduce traffic volumes in the region.
- The following rail operations were assumed on the line through Winter Park: One Amtrak train and four transit trains each in the A.M. and P.M. peak hours (the peak hour is the period of highest traffic on the area roadways, typically “rush hour”). This is a future (2025) “worst case” scenario and does not reflect the initial operating conditions, which will have transit trains less frequently (two in each peak hour). The Amtrak trains may also operate outside of the peak hour as they currently do. Note that freight train operations would also be eliminated along the line in the proposed scenario.



Figure 3 – Station Location

- The regional travel demand model was utilized to project the amount of passengers at each station and how they would arrive at the station: commuters that park near the station and switch to the train, commuters that are dropped off (“kiss-and-ride”), those that ride the bus and then transfer to the train, and those that live or work in the area and walk to the train. At the Winter Park station, it was projected that there will be 193 vehicles each in the A.M. and P.M. peak hours associated with the train station by the year 2025. This consists of 138 entering vehicles and 55 exiting vehicles in the morning and 55 entering and 138 exiting vehicles in the evening. It is anticipated that this traffic would primarily be would be kiss-and-ride (dropping off or picking up passengers) and “destination” traffic (those coming to the area to shop or work).
- The Winter Park station will be a CRT destination station and therefore will not require on-site parking. New parking is being planned in the area that could, in part, accommodate the parking demand related to the station.

There are currently three bus routes that serve the area – LYNX Routes 1, 9 and 23. All three of these routes run along New York Avenue south of Morse Boulevard and along Morse Boulevard west of New York Avenue. Each of the routes is bi-directional and each runs once per hour in each direction on weekdays. Thus there are a total of three busses per hour in each direction that pass through the study area. There are not designated stop locations in the study area, busses stop on demand.

### Proposed Improvements

The proposed improvements at the commuter train station would include reconfiguring Morse Boulevard between New York Avenue and the railroad tracks to include a widened median and a traffic circle. Part of the purpose of this traffic circle would be to provide a drop off area for kiss-and-ride vehicles as well as bus stop locations that are convenient for passengers transferring to and from the commuter train. The bus routes would be adjusted slightly to turn onto Morse Boulevard and loop through the traffic circle, stopping on the south side of the circle as shown below on Figure 5.

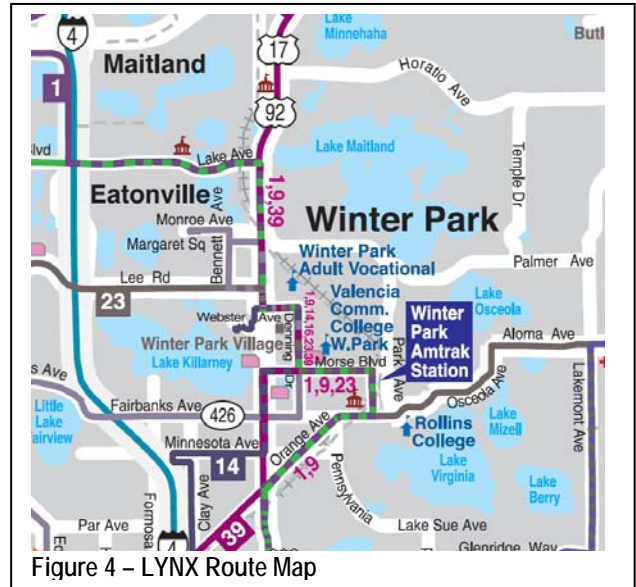


Figure 4 - LYNX Route Map

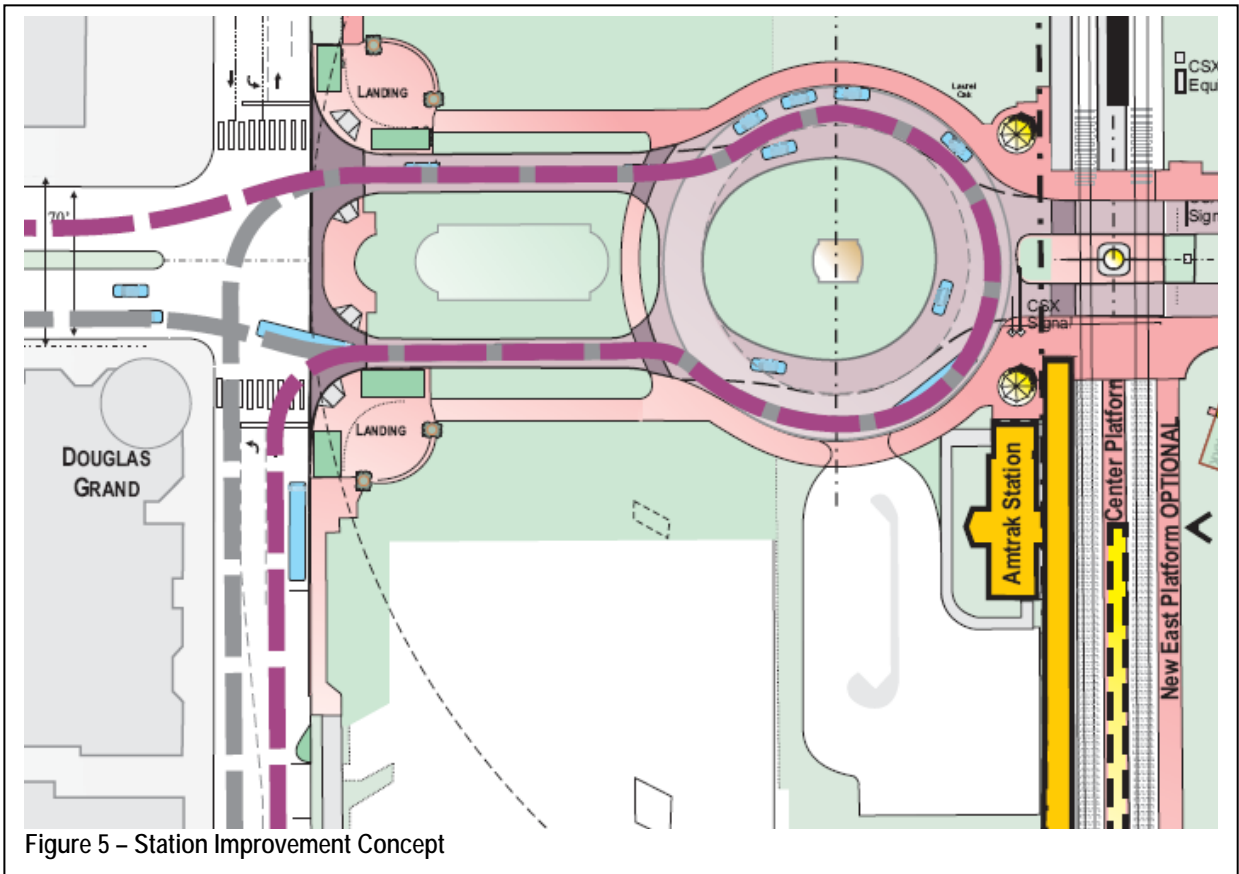


Figure 5 - Station Improvement Concept

## Traffic Projections

Traffic projections for the year 2025 were provided in the Environmental Assessment Report. These projections included general traffic growth in the area as well as traffic associated with the proposed commuter station. In this study, it was assumed that all of the traffic associated with the commuter station, both kiss-and-ride and park-and-ride would utilize the Amtrak parking lot. In reality, this will not be the case as a kiss-and-ride drop off area will be provided with the improvements on Morse Boulevard and park-and-ride traffic will use parking available in the area and not all of this traffic will travel along Morse Boulevard. Therefore, these projections are conservative but are utilized for this analysis. Using the projections from the Environmental Assessment and subtracting the commuter rail related traffic gives an estimate of what conditions would be like in 2025 without the commuter station. These values were calculated by TranSystems. The projected 2025 peak hour traffic volumes with and without the commuter station are summarized on Figure 6 through Figure 9.

## Operational Analysis

The study intersections were evaluated based on the methodologies outlined in the Highway Capacity Manual, 2000 Edition, published by the Transportation Research Board. The operating conditions at an intersection are graded by the “level of service” experienced by drivers. Level of service (LOS) describes the quality of traffic operating conditions and is rated from “A” to “F”. LOS A represents the most desirable condition with free-flow movement of traffic with minimal delays. LOS F generally indicates severely congested conditions with excessive delays to motorists. Intermediate grades of B, C, D, and E reflect incremental increases in the average delay per stopped vehicle. Table 1 shows the upper limit of delay associated with each level of service for signalized and unsignalized intersections.

Level of Service (LOS)	Signalized	Unsignalized
A	< 10 Seconds	< 10 Seconds
B	< 20 Seconds	< 15 Seconds
C	< 35 Seconds	< 25 Seconds
D	< 55 Seconds	< 35 Seconds
E	< 80 Seconds	< 50 Seconds
F	≥ 80 Seconds	≥ 50 Seconds

The LOS rating deemed acceptable varies by community, facility type and traffic control device. At unsignalized intersections LOS E and F are often accepted for low to moderate traffic volumes where the installation of a traffic signal is not warranted by the conditions at the intersection or the location has been deemed undesirable for signalization for other reasons, e.g., the close proximity of an existing traffic signal or the presence of a convenient alternative path. For signalized intersections, level of service and average delay relate to all vehicles using the intersection. Most urban cities have identified LOS D as the minimum desirable rating for a signalized intersection. The study intersections were evaluated using the Synchro analysis package based on Highway Capacity Manual methods.

## Projected Conditions

Utilizing these procedures, the intersections along Morse Boulevard including New York Avenue, Park Avenue and the Amtrak Entrance as well as the intersections on New England Avenue at New York Avenue and at Park Avenue

were analyzed for the AM and PM peak periods both with and without the projected commuter rail related traffic. The results of these analyses are summarized on Table 2.

Table 2 Intersection Level of Service 2025 Conditions									
Intersection Approach/Movement	No Commuter Station				With Commuter Station				
	A.M. Peak Hour LOS	A.M. Peak Hour Delay	P.M. Peak Hour LOS	P.M. Peak Hour Delay	A.M. Peak Hour LOS	A.M. Peak Hour Delay	P.M. Peak Hour LOS	P.M. Peak Hour Delay	
New York Ave. & Morse Ave <i>All Movements (Signalized)</i>	B	11.2	B	12.9	B	11.7	B	13.8	
Park Ave. & Morse Ave. <i>All Movements (Signalized)</i>	B	11.9	B	16.2	B	12.3	B	17.7	
Park Ave. & New England Ave. <i>All Movements (Signalized)</i>	B	14.4	B	14.8	B	14.4	B	14.8	
New York Ave. & New England Ave. <i>All Movements (Signalized)</i>	B	11.9	C	18.1	B	12.2	C	19.0	
Morse Ave. & Amtrak Entrance <i>Westbound Left-turn</i> <i>Northbound</i>	--	--	--	--	A B	8.3 13.4	A B	7.9 13.2	

### Conclusion

The analysis indicates that all of the intersections will operate with relatively low delays and good levels of service without the additional commuter rail traffic. With the commuter rail traffic, delays at the intersections increase only slightly and will continue to operate at good levels of service.