



## TECHNICAL MEMORANDUM

### 17th Street Corridor Mobility Plan Traffic Data Collection Summary

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Date: September 28, 2015  
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Project #: 11561.20

The purpose of this project is to perform a multi-model level of service (LOS) analysis for the transportation area of the 17<sup>th</sup> Street corridor. This includes developing a prioritized, time-constrained list of implementable recommendations with estimated capital and operations costs. Recommendations may include policy changes, infrastructure, service, and operational practices.

This technical memorandum provides a summary of the data collection performed, comparison of collected data against other sources, and the concluding results.

## DATA COLLECTION

Vehicular, bicycle, and pedestrian counts were collected as per the scope of services. The count types and locations are:

1. Vehicle Counts:
  - a. 24-hour bi-directional volume counts (6):
    - i. Federal Highway (US 1) (North of SE 14<sup>th</sup> Court)
    - ii. Federal Highway (US 1) (North of SE 21<sup>st</sup> Street)
    - iii. Miami Road (North of SE 16<sup>th</sup> Street)
    - iv. SR 84 (West of Federal Highway)
    - v. SE 17<sup>th</sup> Street (West of Federal Highway)
    - vi. Davie Boulevard (West of Federal Highway)
  - b. 72-hour bi-directional volume counts (8):
    - i. 10<sup>th</sup> Ave (North of SE 17<sup>th</sup> Street)
    - ii. 10<sup>th</sup> Ave (South of SE 17<sup>th</sup> Street)
    - iii. SE 3<sup>rd</sup> Ave (South of SE 17<sup>th</sup> Street)
    - iv. Cordova Road (North of SE 17<sup>th</sup> Street)
    - v. Cordova Road (South of SE 17<sup>th</sup> Street)
    - vi. Eisenhower Boulevard (North of SE 17<sup>th</sup> Street)
    - vii. 15<sup>th</sup> Street (East of Federal Highway)
    - viii. Miami Road (South of SE 17<sup>th</sup> Street)
  - c. 6-hour peak period (AM/PM) turning movement counts (12):
    - i. Andrews Avenue at SW 17<sup>th</sup> St
    - ii. SE 3<sup>rd</sup> Avenue at SE 17<sup>th</sup> St
    - iii. Federal Highway (US 1) at SE 17<sup>th</sup> St
    - iv. Miami Rd at SE 17<sup>th</sup> St
    - v. SE 10<sup>th</sup> Avenue at SE 17<sup>th</sup> St

- vi. Cordova Road at SE 17<sup>th</sup> St
- vii. SE 15<sup>th</sup> Avenue at SE 17<sup>th</sup> St (Unsignalized)
- viii. Eisenhower Boulevard at SE 17<sup>th</sup> St
- ix. SE 23<sup>rd</sup> Avenue at SE 17<sup>th</sup> St
- x. Mayan Drive at SE 17<sup>th</sup> St/SR A1A
- xi. Federal Highway (US 1) at Davie Boulevard
- xii. Federal Highway (US 1) at SE 24<sup>th</sup> Street (SR 84)
- d. 7-Day bi-directional volume counts (2):
  - i. SE 17<sup>th</sup> Street (East of SE 23<sup>rd</sup> Ave, West of Mayan Drive)
  - ii. SE 17<sup>th</sup> Street (East of Cordova Rd, West of 15<sup>th</sup> Ave)
2. Bicycle and Pedestrian Counts:
  - a. 6-hour peak period (AM/PM) volume counts (4):
    - i. Federal Highway (US 1) at SE 17<sup>th</sup> Street
    - ii. SE 10<sup>th</sup> Avenue at SE 17<sup>th</sup> Street
    - iii. Cordova Road at SE 17<sup>th</sup> Street
    - iv. Eisenhower Boulevard at SE 17<sup>th</sup> Street

Data collections were performed on the following dates:

- 24-hour bi-directional volume counts and speed – July 16 (Th), July 21 (T)
- 72-hour bi-directional volume counts and speed – July 21-23 (T-Th)
- 7-day bi-directional volume counts and speed – July 21-27 (T-M), July 24-30 (F-Th)
- 6-hour peak period (AM/PM) turning movement counts (incl. ped and bike) – July 16 (Th), July 22, (W), July 29 (W)

According to the Fort Lauderdale Convention Center Calendar of Events, all days where pedestrian and bicycle information was collected, there was at least one ongoing event at the Convention Center. The relevant events are as follows:

- Conference on Global Leadership, Learning, & Research – July 12-16 (Su – Th)
- USA Karate National Championships & Team Trials (Public Event) – July 15-19 (W-Su)
- Junior US Open Judo Championships (Public Event) – July 17-19 (F-Su)
- National Cheerleaders Association Camp (Public Event) – July 21-24 (T-F)
- All Aboard Florida (Public Event) – July 22 (W)
- National Urban League Conference – July 29 – 1 (W-Sa)

## Traffic Volume Adjustment and Verification

### *Daily Traffic*

US 1 and 17<sup>th</sup> Street are both under the jurisdiction of the FDOT. The methodology followed for the development of typical daily traffic for this study is consistent with the FDOT's 2014 *Project Traffic Forecasting Handbook*.

Short-term counts are adjusted to reflect the seasonal changes in traffic volumes. The FDOT TranStat office determines the Seasonal Adjustment Factor (SF) using traffic data collected from permanent count locations. There are no permanent count locations within the study area. Therefore, the SF was

taken from the FDOT’s 2014 Peak Season Factor Category Report for this area of Broward County. The applicable SF for all days where data was collected is 1.06.

Collected traffic volumes were adjusted to reflect the average day. The collected 24-hour, 72-hour, and 7-day counts provide an Average Daily Traffic (ADT) that is converted to Average Annual Daily Traffic (AADT) to represent the typical daily traffic on a road segment. This is carried out by applying a SF and Axle Correction Factor (ACF) to the collected ADT.

The following table shows the ACF taken from the FDOT’s 2014 Weekly Axle Factor Category Report.

**Table 1 Axle Correction Factors**

Roadway	From	To	ACF
SR 84/SE 24th Street	SR 7	SR 5/US 1/ Federal Highway	0.96
A1A/SE 17 <sup>th</sup> Street	SR 5/US 1	SR 814/ Atlantic Boulevard	0.98
SR 736/Davie Boulevard	SR 7	SR 5/US 1/ Federal Highway	0.83
SR 5/US 1/Federal Highway	I-595	SR 870/ Commercial Boulevard	0.98
Intracoastal Water Way Bridge Crossings – South Broward County			0.99
Broward County Roads			0.98

The table below summarizes the AADT development of the collected traffic counts. Where applicable, a comparison is provided to the 2014 AADT provided by the FDOT. As seen, the calculated AADT from this study’s data collection efforts are generally consistent with or greater than those published by the FDOT for the A1A/SE 17<sup>th</sup> Street and SR 5/US 1 locations.

**Table 2 AADT Calculation and Comparison**

Roadway	Location	Count Duration	ADT (vpd)	SF	ACF	17th St. Study 2015 AADT (vpd)	FDOT 2014 AADT (vpd)
SE 17th St.	West of SR 5/US 1	24hr	13,923	1.06	0.98	14,000	12,000
A1A/SE 17th St.	East of SR 5/US 1	-	-	-	-	-	44,500
A1A/SE 17th St.	East of Cordova Road	7-day	35,427	1.06	0.98	37,000	42,000
A1A/SE 17th St.	East of Eisenhower Blvd	-	-	-	-	-	29,000
A1A/SE 17th St.	East of SE 23rd Ave	7-day	23,941	1.06	0.98	25,000	-
SR 5/US 1	North of SE 14th Court	24-hr	41,830	1.06	0.98	43,000	44,000
SR 5/US 1	North of SE 21st Street	24-hr	52,044	1.06	0.98	54,000	54,000

***Vehicular Turning Movements***

Turning movements collected were compared to historical turning movement counts. The most recent counts available were taken in March 2014 for the *Hampton Inn & Suites Traffic Study*. Based

on the Seasonal Factors published by the FDOT, the highest traffic demand is typically in the month of March.

Comparisons were performed using the number of vehicles entering the intersection during the AM and PM peak hour. The comparison numbers can be seen in Table 3 below. Only intersections with turning movements collected in both March 2014 and July 2015 are included in the comparison.

**Table 3 Intersection Peak Hour Entering Vehicles**

Intersection	AM peak			PM Peak		
	Hampton Inn March 2014 (veh)	17 St. Study July 2015 (veh)	Difference	Hampton Inn March 2014 (veh)	17 St. Study July 2015 (veh)	Difference
SE 17 <sup>th</sup> St & US 1	4,983	4,957	-0.5%	5,333	5,649	+5.9%
SE 17 <sup>th</sup> St & SE 10 <sup>th</sup> Ave	2,776	3,001	+8.1%	3,783	3,749	-0.9%
SE 17 <sup>th</sup> St & Cordova Rd	2,877	3,040	+5.7%	3,715	3,980	+7.1%
SE 17 <sup>th</sup> St & Eisenhower Blvd	2,408	2,420	+0.5%	2,938	2,868	-2.4%

As seen, the peak hour turning movement volumes collected in July 2015 are generally greater than those collected in March 2014.

**Pedestrian Counts**

Similar to the turning movement counts, pedestrian counts were compared to historical counts. The most recent counts available were taken in March 2014 for the *Hampton Inn & Suites Traffic Study*.

Comparisons were performed using the total number of pedestrians crossing at the intersection during the AM and PM peak hour. The comparison numbers can be seen in Table 4 below. Only intersections with turning movements collected in both March 2014 and July 2015 are included in the comparison.

**Table 4 Intersection Pedestrian Counts**

Intersection	Weekday AM peak			Weekday PM Peak		
	Seminole River Landings March 2014 (ped)	17 St. Study July 2015 (ped)	Difference	Seminole River Landings March 2014 (ped)	17 St. Study July 2015 (ped)	Difference
SE 17th St & US 1	17	28	+64.7%	22	49	+123%
SE 17th St & SE 10th Ave	44	22	-50.0%	74	74	0.0%
SE 17th St & Cordova Rd	10	43	+330%	30	141	+370%
SE 17th St & Eisenhower Blvd	25	225	+800%	59	163	+176%

As seen, the peak hour pedestrian volumes collected in July 2015 are generally greater than those collected in March 2014.

## CONCLUSION

The comparisons performed show that the traffic data collected for this study in July 2015 are acceptable to use. The AADTs developed from the bi-directional counts along US 1 and 17<sup>th</sup> Street are generally consistent with or greater than the published 2014 AADT's by the FDOT. Similarly, peak hour turning movement counts and pedestrian counts are generally greater than those collected during the peak season of 2014.