Arterial Connectivity Study along I-595 Corridor

FM#441954-1-12-01

No Build 2045 Traffic Analysis

Technical Memorandum #3

November 2020

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1. INTRODUCTION

1.1 Introduction

The Arterial Connectivity Study along I-595 Corridor is being conducted to identify and define transportation problems and develop effective solutions to fulfill the goal of providing better connectivity for all modes and to provide congestion relief for travel along the north-south study roadways and their access points with I-595 and SR 84. All types of improvement strategies are being considered including land use and policy strategies; geometric modifications to roadways; pedestrian, bicycle, greenway, and transit infrastructure improvements; and technology and traffic signal improvements.

The Arterial Connectivity Study along I-595 Corridor is being conducted in four main tasks as listed below. Technical Memorandum 3 is part of Task One and is the third of seven deliverables being completed for the Arterial Connectivity Study along I-595 Corridor.

- Task One – Data Collection, Compilation, Development, and Analysis
- Task Two - Develop Deficiency Mitigation Concepts (MCs) and Mitigation Measures (MMs)
- Task Three - Develop a Master Improvement List and Implementation Packages for Mitigation Measures
- Task Four – Outreach and Meetings

This Technical Memorandum #3 documents future year 2045 No Build traffic conditions and deficiencies in the study area. The No Build scenario represents conditions expected in year 2045 assuming no new improvements resulting from this study are implemented. This No Build 2045 Traffic Analysis Technical Memorandum #3 describes the methodology used to project future year 2045 travel demand throughout the roadway network. It also presents the results of the future year 2045 traffic operational analysis and identifies operational deficiencies that should be addressed.

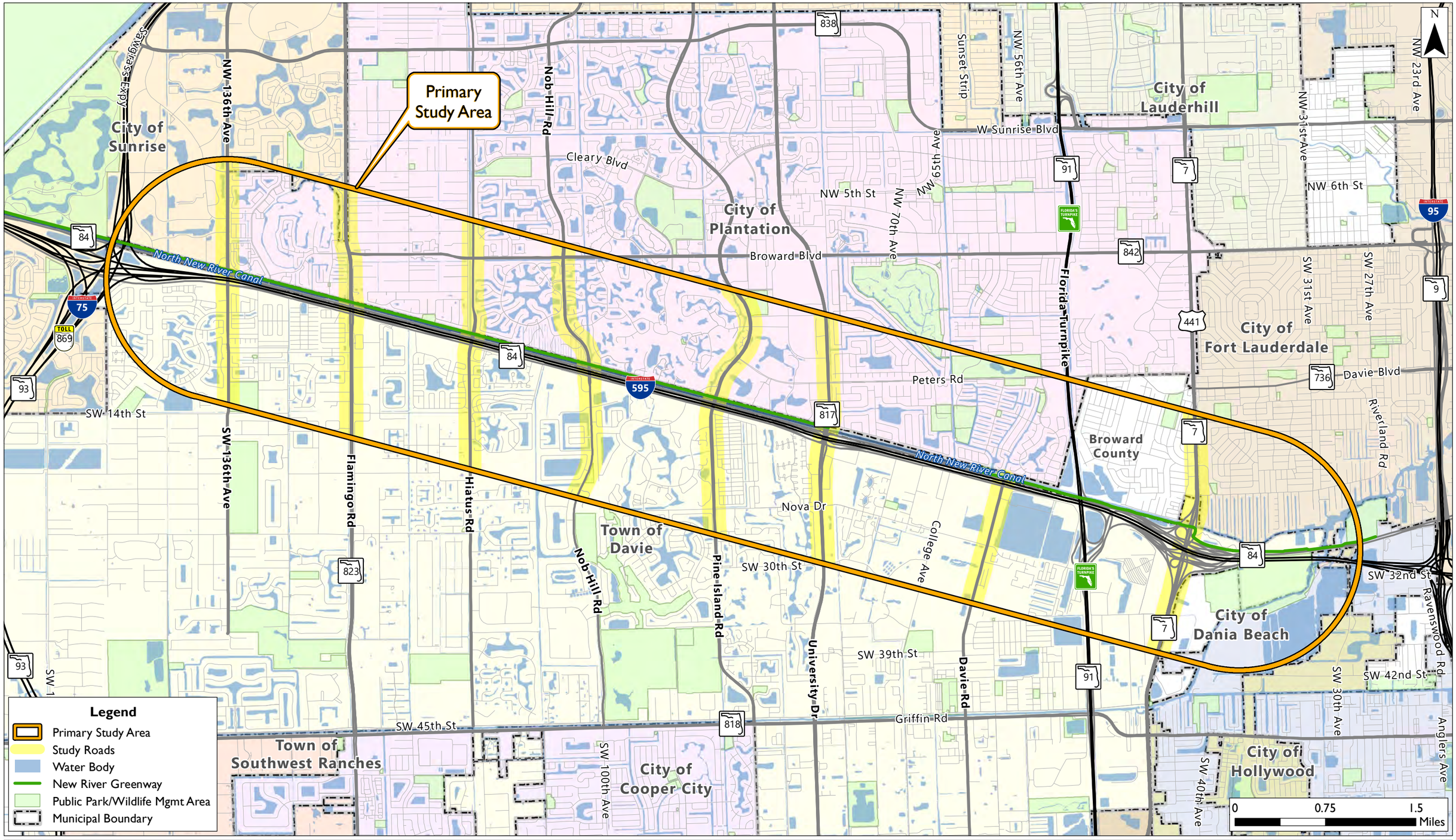
The future year 2045 travel demand forecast, and operational analysis assume that planned and programmed improvement projects identified in the Florida Department of Transportation's adopted Work Program and SIS plans (1st and 2nd Five-Year Plans and 2045 Cost Feasible Plan) and Broward MPO's Long Range 2045 Metropolitan Transportation Plan (MTP) are in place. The No Build 2045 traffic analyses presented herein indicate where future deficiencies are expected to be located within the study area and quantify the severity of the deficiencies. Analyzing this No Build 2045 scenario informs where improvements are needed and helps identify the magnitude and general timeframe of improvements that are needed within the long-term 25-year planning horizon.

1.2 Study Area

The study area is in central Broward County, Florida along the I-595 and SR 84 corridor, between SW 136th Avenue and SR 7/US-441. The study limits extend approximately one mile north and one mile south of I-595 and include the eight north-south arterials that cross I-595 and SR 84. The primary study area and study roadways are shown in Figure 1-1. Below is a list of the primary study roadways along with the approximate limits on each road.

1. SW 136th Avenue from north of NW 8th Street to north of SW 14th Street
2. Flamingo Road / SR 823 from south of NW 8th Street to south of SW 15th Place
3. Hiatus Road from north of Broward Boulevard to south of SW 16th Street / S Harmony Lake Circle
4. Nob Hill Road from Broward Boulevard to SW 22nd Court
5. Pine Island Road from SW 3rd Street to south of Nova Drive
6. University Drive / SR 817 from Federated Road to SW 30th Street
7. Davie Road from I-595 / SR 84 to Broward College entrance / SW 35th Street
8. US-441 / SR 7 from SW 16th Street to Powells Road
9. SR 84 eastbound and westbound from I-75 to I-95

Forty-three intersections have been preliminarily identified for study, within the project limits.



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Study Area

Figure 1-1
March 2020

2. NO BUILD 2045 TRAFFIC VOLUMES

2.1 SERPM 8 Travel Demand Model

The Southeast Florida Regional Planning Model (SERPM), Version 8.051 was used for travel forecasting for this study. SERPM 8 is an Activity-Based Model (ABM) designed to follow the principles of modeling individual travel choices with maximum behavioral realism. The SERPM model simulates both household-level and person-level travel choices including intra-household interactions with household members. The model explicitly considers congestion and pricing effects on time-of-day and peak spreading. SERPM 8 is validated to year 2015 conditions and includes a future year 2045 scenario based on the adopted 2045 Cost Feasible long-range transportation plans of the Miami-Dade TPO, Broward MPO, and Palm Beach TPA.

2.1.1 Model Review and Adjustment

Prior to developing forecasts for future year scenarios, a review was completed of the SERPM 8 base year 2015 model and 2045 model scenario assumptions within the study area. The purpose of the review was to ensure that the model provides an accurate representation of existing and future highway and transit operating conditions. A limited model validation was performed for this study. Roadway network coding within the study area was reviewed in terms of connectivity, directionality, and roadway attributes such as number of lanes, and posted speeds. The population and employment data were also reviewed for reasonableness and consistency with proposed developments. Model performance was also reviewed.

The 2045 No Build scenario includes the adopted Broward MPO's 2045 Cost Feasible plan network plus all committed capital improvement projects in the Broward County Surtax Project Plan that are not already included in the 2045 Cost Feasible network. The SERPM 8 model was reviewed to ensure projects meeting these criteria are included and remove others that do not. The SERPM 8 model was run for the 2045 No Build scenario conditions.

For this No Build 2045 forecasting effort, the highway network coding in the 2045 SERPM 8 model scenario was refined to remove a proposed future new bridge connection in the Midtown Plantation area. It was removed from the No Build model since the bridge was not included in the adopted Cost Feasible long-range transportation plan. However, since the City of Plantation is planning to conduct a PD&E Study and eventually design and construct this new "Midtown Bridge", the "Build" condition for the bridge was modeled and future 2045 AADTs projected for the bridge and surrounding area. This is documented separately in the *Midtown Bridge Traffic Data and Traffic Projections Technical Memorandum*.

2.2 No Build 2045 AADT Forecast

Future project traffic forecast Annual Average Daily Traffic (AADT) volumes were developed for the study roadways for year 2045, based on SERPM 8 modeled volumes and anticipated growth rates. Multiple growth rate estimates were computed based on available data for the area and roadways. The growth rate estimates computed for each study roadway and the overall study area were then evaluated, and appropriate area-wide traffic growth rates were determined for use in forecasting the future year traffic. Traffic growth rates were estimated using three different methods and datasets. These three growth rate estimation methods and the data and tools involved are described in more detail below.

Historical Trend Analysis

Regression analysis was completed using the last five (5) years of historical AADT data from 2015 to 2019. This was completed for all FDOT count stations located within the study area. Count stations and historical AADTs were available for 65 count station locations, and at least one count station was located on each of the eight north-south study arterials and along SR 84 eastbound and westbound. A list of the 65 count stations is included in Appendix A.

The five-year historical data in these years represents the most recent traffic patterns within the study area since the reconstruction of I-595 was completed which implemented reversible tolled express lanes in the median and new braided ramps. Historical trend line analysis consistent with FDOT's Trend Analysis spreadsheet, was used to estimate annual linear growth rates based on the last five years of AADT volumes for each count station. Table A-1 in Appendix A summarizes the resulting annual linear historical AADT trend analysis growth rates estimated for each count FDOT count station using this method. The growth rates in the table are presented by the study intersection with which they are associated.

Some of the highest historical AADT growth rates on any of the study arterials were on NW 136th Avenue north of SR 84 (approximately 6.6%), Davie Road south of Nova Drive (approximately 8.6%), and SR 84 eastbound and westbound near Davie Road (approximately 10.1% to 12.0%). Some of the lowest historical AADT growth rates were on Hiatus Road south of SR 84 (approximately -1.9%), University Drive south of SR 84 (approximately -1.5%), eastbound SR 84 west of Hiatus Road and west of Pine Island Road (approximately -6.7% and -5.3% respectively), and westbound SR 84 west of Nob Hill Road (approximately -5.6%).

Socioeconomic Data Growth Rates

The Southeast Florida Regional Planning Model Version 8 (SERPM 8) is an important tool that is used throughout the region to forecast travel demand based on existing and future inputs including socioeconomic population and employment data. SERPM 8 is an activity-based travel demand model calibrated to a 2015 base year and 2045 forecast year covering Palm Beach, Broward, and Miami-Dade counties.

The population and employment data for each Traffic Analysis Zones (TAZ) within two-miles north and south of the I-595 corridor was extracted from the base year (2015) and future year (2045) SERPM 8 travel demand model scenarios. This included data for over 100 TAZs. For each TAZ within the study area, the total percent change was calculated between the 2015 and 2045 population data, and 2015 and 2045 employment data. The total percent change in population is shown in Figure 2-1, and the total percent change in employment is shown in Figure 2-2. Using the total percent change, a linear annual growth rate was then calculated for the population data, and employment data for each TAZ. These growth rates are summarized in Table A-2 in Appendix A.

North of I-595, the population growth is highest along NW 136th Avenue corridor, and between Pine Island Road and University Drive. South of I-595, the population growth is highest along Davie Road and along US 441 / SR 7. The annual linear population growth rates were typically between 0% and 6%. For the most part, employment growth was consistently estimated to be 1% per year for all TAZs throughout the study area.

SERPM 8 Daily Volume Growth Rates

The daily traffic volumes on each of the study roadways were extracted from the 2015 and 2045 SERPM 8 model runs. The SERPM 8 model volume outputs showing the 2015 directional daily volumes and 2045 No Build directional daily volumes are provided in Appendix A. Annual linear growth rates were calculated between the 2015 and 2045 daily model volume outputs.

Most of the annual linear growth rates calculated based on the daily model volumes, were between 0% and 2%, except near Hiatus Road and SR 84 where they were higher. The higher traffic growth on Hiatus Road is primarily due to the recent extension of the roadway between Sunrise Boulevard and Oakland Park Boulevard, making it a more attractive thoroughfare. This extension was not included in the 2015 model since it was not yet constructed, but it is included in the 2045 model.

Figure 2-1: SERPM 8 Population Data Total Percent Change (2015 to 2045) by TAZ

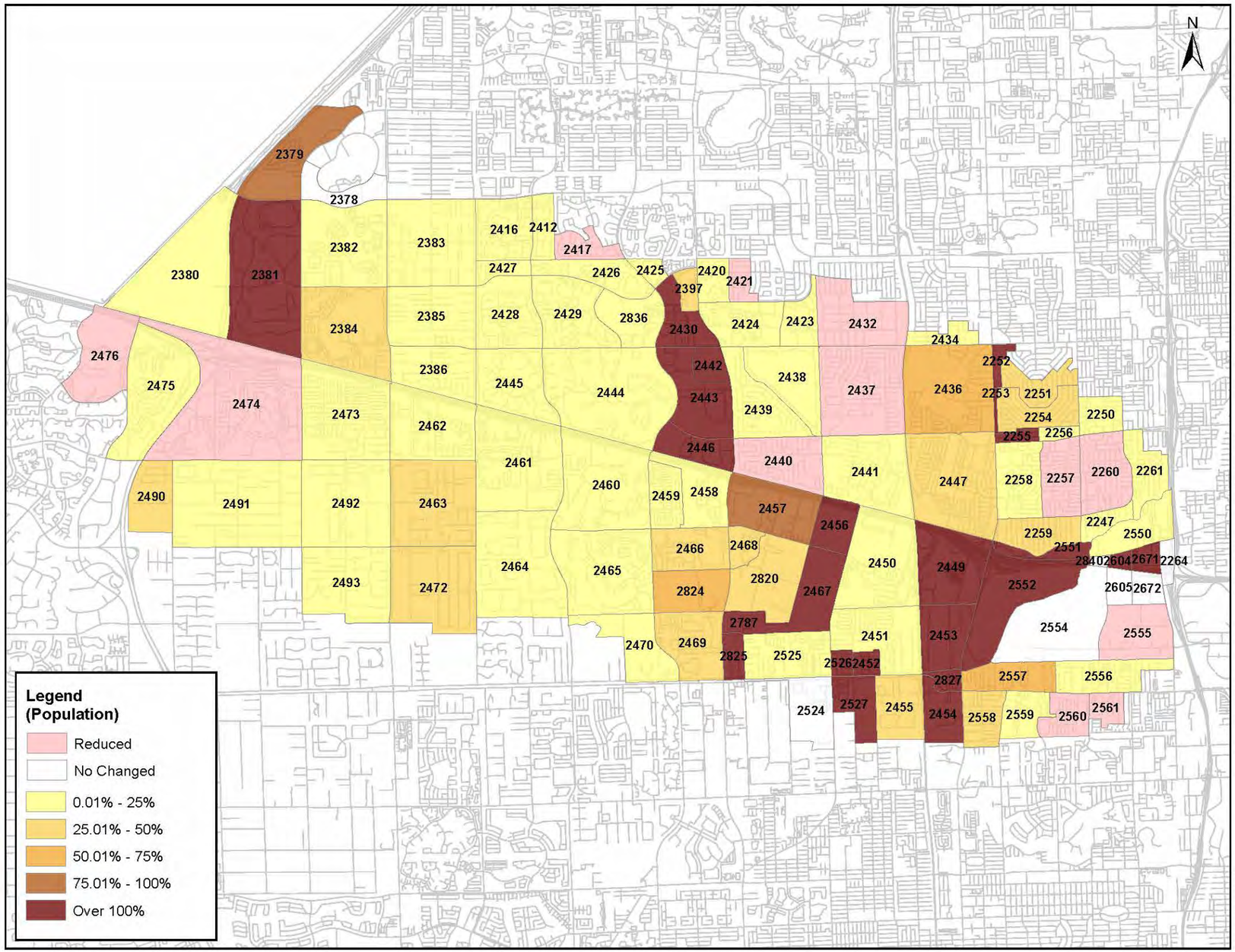
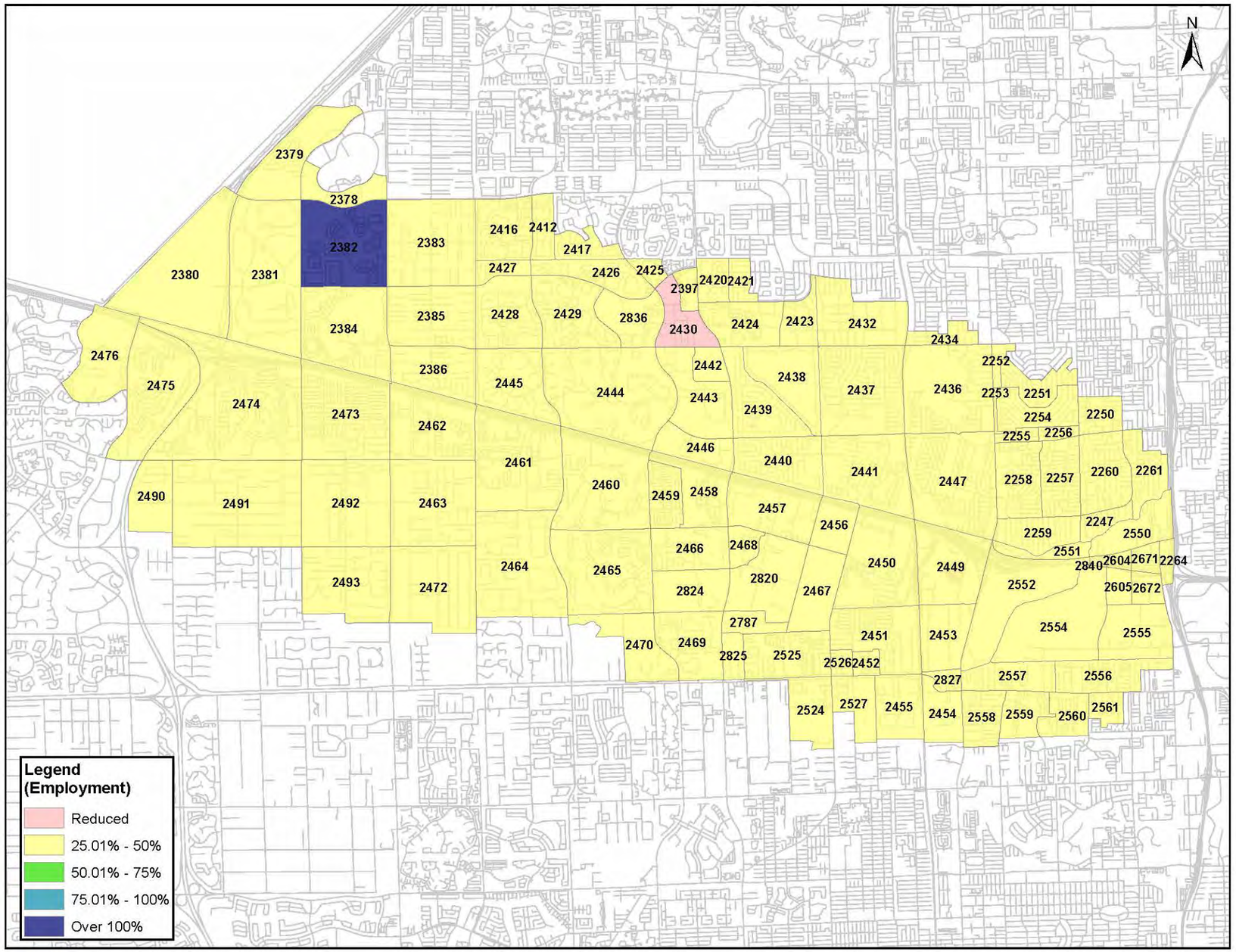


Figure 2-2: SERPM 8 Employment Data Total Percent Change (2015 to 2045) by TAZ



The growth rate estimates from all three methods were reviewed to look at growth patterns throughout the surrounding area. In coordination with FDOT District 4 staff, three area-wide growth rates were recommended for use in forecasting traffic volumes for the 2045 horizon year for roadways within the study area. After reviewing the range of growth expected for the area, a low linear growth rate of 0.8%, medium growth rate of 1.0%, and high growth rate of 1.2%, was recommended for the roadway facilities within the study area.

The recommended growth rate for each roadway was determined by evaluating the growth rates obtained from the various sources and comparing the relative conditions and growth patterns anticipated for each of the study roadways relative to each other.

For example, University Drive south of Peters Road saw a 2.0% growth over the past five years based on historical trends, but the SERPM 8 model only shows a growth rate of 0.2%. On the other hand, the population around the area is expected to grow by 2.5% and employment by 1.0%. A growth rate between 1.0% and 2.0% should be expected and comparing to growth on other roadways within the study area, the high growth rate of 1.2% is recommended for University Drive north of SR 84, and 1.0% is recommended for University Drive south of SR 84. For SW 80th Terrace, only population and employment data for the area are available and based on the growth and planned developments in this area, the same high growth rate as University Drive (1.2%) is appropriate.

For Pine Island Road, Hiatus Road, Flamingo Road and SR-7, the calculated growth rates indicate modest growth for the segments north of I-595, therefore, a medium growth rate of 1.0% was selected for those segments north of I-595. A low growth rate of 0.8% was selected for the segment of Nob Hill Road north of I-595. For SW 136th Avenue, a high growth rate of 1.2% was selected for the segment north of I-595 due to ongoing and future development within the City of Sunrise. A low growth rate of 0.8% was selected for SW 136th Avenue, Flamingo Road, Nob Hill Road and Pine Island Road south of I-595. A medium growth rate of 1.0% was selected for Hiatus Road south of I-595. And a high growth rate of 1.2% was selected for Davie Road and SR-7 south of I-595.

The recommended growth rates along with each of the growth rate estimates determined from the historical AADT data, SERPM 8 model volumes, and SERPM 8 socioeconomic data are shown in Table 2-1. The recommended high, medium, and low growth rates are also shown on a study area map in Figure 2-3. This shows where the recommended growth rates were applied for each study roadway. Table A-3 is also provided in Appendix A which includes more detailed notes regarding the growth rate recommended for each roadway segment.

Future year 2045 AADTs for No Build conditions were calculated by applying the recommended linear annual growth rates to the 2019 AADTs for a time period of 26 years. The resulting 2045 No Build AADTs are provided in Table 2-2. In addition, the 2045 No Build AADTs are shown on Figure 2-4. Recommended AADTs were rounded per the American Association of State Highway Transportation Officials (AASHTO) criteria.

Table 2-1: No Build 2045 Recommended Growth Rates Summary Table

Intersection	Location	Historical Trend Analysis (2015-2019)	2019 AADT	2015 - 2045 SERPM 8 Model									Recommended Growth Rate
				2015 VOL	2045 VOL	2015 POP	2045 POP	2015 EMP	2045 EMP	Growth Rate (VOL)	Growth Rate (POP)	Growth Rate (EMP)	
SW 136th Avenue & Shenandoah Parkway	SW 136th Avenue North of Shenandoah Parkway	1.6%	25,500	30,089	33,192	14,302	14,413	3,851	4,977	0.3%	0.0%	1.0%	0.8%
	Shenandoah Parkway East of SW 136th Avenue		2,800			6,914	7,040	697	901		0.1%	1.0%	0.8%
	SW 136th Avenue South of Shenandoah Parkway	4.3%	16,500	30,089	33,192	14,302	14,413	3,851	4,977	0.3%	0.0%	1.0%	0.8%
	Shenandoah Parkway West of SW 136th Avenue		10,500			7,388	7,373	3,154	4,076		0.0%	1.0%	0.8%
SW 136th Avenue & SR-84 EB	SR-84 EB East of SW 136th Avenue	4.4%	28,500	17,507	10,113	6,914	7,040	697	901	-1.4%	0.1%	1.0%	0.8%
	SW 136th Avenue South of SR-84 EB	1.6%	25,500	30,089	33,192	14,302	14,413	3,851	4,977	0.3%	0.0%	1.0%	0.8%
	SR-84 EB West of SW 136th Avenue	6.9%	20,000	9,791	8,912	7,388	7,373	3,154	4,076	-0.3%	0.0%	1.0%	0.8%
SW 136th Avenue & SR-84 WB	SW 136th Avenue North of SR-84 WB	6.6%	36,500	30,083	34,867	6,270	10,997	16,947	21,898	0.5%	2.5%	1.0%	1.2%
	SR-84 WB East of SW 136th Avenue	1.3%	25,000	16,341	18,170	4,795	6,693	663	856	0.4%	1.3%	1.0%	1.0%
	SR-84 WB West of SW 136th Avenue	2.8%	11,000	13,192	12,229	1,475	4,304	16,284	21,042	-0.2%	6.4%	1.0%	1.0%
SW 136th Avenue & NW 2nd Street	SW 136th Avenue North of NW 2nd Street	2.2%	32,000	27,813	43,520	6,270	10,997	16,947	21,898	1.9%	2.5%	1.0%	1.2%
	SW 136th Avenue South of NW 2nd Street	6.6%	36,500	27,813	43,520	6,270	10,997	16,947	21,898	1.9%	2.5%	1.0%	1.2%
	NW 2nd Street West of SW 136th Avenue		7,700			1,475	4,304	16,284	21,042		6.4%	1.0%	1.2%
Flamingo Road & SW 8th Street	Flamingo Road North of SW 8th Street	2.1%	36,500	43,741	54,604	10,382	11,127	2,092	2,703	0.8%	0.2%	1.0%	0.8%
	Flamingo Road South of SW 8th Street	6.1%	36,500	43,741	54,604	10,382	11,127	2,092	2,703	0.8%	0.2%	1.0%	0.8%
	SW 8th Street West of Flamingo Road		7,800			6,914	7,040	697	901		0.1%	1.0%	0.8%
Flamingo Road & SR-84 EB	SR 84 EB East of Flamingo Road	4.5%	25,500	18,935	22,944	3,468	4,087	1,395	1,802	0.7%	0.6%	1.0%	0.8%
	Flamingo Road South of SR 84 EB	2.1%	36,500	43,741	54,604	10,382	11,127	2,092	2,703	0.8%	0.2%	1.0%	0.8%
	SR 84 EB West of Flamingo Road	2.3%	21,000	19,584	18,436	6,914	7,040	697	901	-0.2%	0.1%	1.0%	0.8%
Flamingo Road & SR-84 WB	Flamingo Road North of SR 84 WB	-0.4%	40,500	62,348	72,081	5,807	7,838	1,164	1,503	0.5%	1.2%	1.0%	1.0%
	SR 84 WB East of Flamingo Road	-0.5%	17,500	13,579	17,996	1,012	1,145	501	647	1.1%	0.4%	1.0%	0.8%
	SR 84 WB West of Flamingo Road	0.7%	15,500	6,692	8,167	4,795	6,693	663	856	0.7%	1.3%	1.0%	1.0%
Flamingo Road & Broward Boulevard	Flamingo Road North of Broward Boulevard	4.0%	45,000	41,048	52,746	6,138	8,094	1,718	2,219	0.9%	1.1%	1.0%	1.0%
	Broward Boulevard East of Flamingo Road	-0.5%	19,000	28,385	32,924	2,355	2,546	1,556	2,010	0.5%	0.3%	1.0%	1.0%
	Flamingo Road South of Broward Boulevard	-0.4%	40,500	61,545	71,297	5,807	7,838	1,164	1,503	0.5%	1.2%	1.0%	1.0%
	Broward Boulevard West of Flamingo Road	14.0%	6,800	4,111	4,508	4,795	6,693	663	856	0.3%	1.3%	1.0%	1.0%
Hiatus Road & SR-84 EB	SR-84 EB East of Hiatus Road	1.0%	15,000	8,940	17,596	4,510	4,727	1,086	1,402	3.2%	0.2%	1.0%	0.8%
	Hiatus Road South of SR-84 EB	-1.9%	18,000	18,498	22,994	7,978	8,814	2,481	3,204	0.8%	0.3%	1.0%	1.0%
	SR-84 EB West of Hiatus Road	-6.7%	11,000	7,600	10,184	3,468	4,087	1,395	1,802	1.1%	0.6%	1.0%	0.8%
Hiatus Road & SR-84 WB	Hiatus Road North of SR-84 WB	2.9%	20,000	25,127	45,753	2,545	2,890	627	809	2.7%	0.5%	1.0%	1.0%
	SR-84 WB East of Hiatus Road	8.5%	14,000	7,874	31,005	1,533	1,745	126	162	9.8%	0.5%	1.0%	0.8%
	SR-84 WB West of Hiatus Road	3.0%	13,000	13,721	30,915	1,012	1,145	501	647	4.2%	0.4%	1.0%	0.8%
Hiatus Road & Broward Boulevard	Hiatus Road North of Broward Boulevard	2.9%	27,500	26,327	45,657	4,155	4,353	1,494	1,930	2.4%	0.2%	1.0%	1.0%
	Broward Boulevard East of Hiatus Road	-0.5%	23,500	31,452	36,548	4,345	4,697	565	729	0.5%	0.3%	1.0%	1.0%
	Hiatus Road South of Broward Boulevard	2.9%	20,000	23,377	43,916	2,545	2,890	627	809	2.9%	0.5%	1.0%	1.0%
	Broward Boulevard West of Hiatus Road	-0.5%	27,000	29,306	33,990	2,355	2,546	1,556	2,010	0.5%	0.3%	1.0%	1.0%

Table 2-1: No Build 2045 Recommended Growth Rates Summary Table (Continued)

Intersection	Location	Historical Trend Analysis (2015-2019)	2019 AADT	2015 - 2045 SERPM 8 Model									Recommended Growth Rate
				2015 VOL	2045 VOL	2015 POP	2045 POP	2015 EMP	2045 EMP	Growth Rate (VOL)	Growth Rate (POP)	Growth Rate (EMP)	
Nob Hill Road & SW 13th Street	Nob Hill Road North of SW 13th Street	0.8%	25,000	21,233	30,552	10,756	11,317	2,652	3,425	1.5%	0.2%	1.0%	0.8%
	SW 13th Street East of Nob Hill Road		1,900			6,246	6,590	1,566	2,023		0.2%	1.0%	0.8%
	Nob Hill Road South of SW 13th Street	0.8%	25,000	21,233	30,552	10,756	11,317	2,652	3,425	1.5%	0.2%	1.0%	0.8%
	SW 13th Street West of Nob Hill Road		950			4,510	4,727	1,086	1,402		0.2%	1.0%	0.8%
Nob Hill Road & SW 101st Road	Nob Hill Road North of SW 101st Road	0.8%	25,000	21,233	30,552	10,756	11,317	2,652	3,425	1.5%	0.2%	1.0%	0.8%
	SW 101st Road East of Nob Hill Road		1,700			6,246	6,590	1,566	2,023		0.2%	1.0%	0.8%
	Nob Hill Road South of SW 101st Road	0.8%	25,000	21,233	30,552	10,756	11,317	2,652	3,425	1.5%	0.2%	1.0%	0.8%
	SW 101st Road West of Nob Hill Road		2,600			4,510	4,727	1,086	1,402		0.2%	1.0%	0.8%
Nob Hill Road & SR-84 EB	SR-84 EB East of Nob Hill Road	2.4%	20,500	19,198	21,196	6,246	6,590	1,566	2,023	0.3%	0.2%	1.0%	1.0%
	Nob Hill Road South of SR-84 EB	0.8%	25,000	21,233	30,552	10,756	11,317	2,652	3,425	1.5%	0.2%	1.0%	0.8%
	SR-84 EB West of Nob Hill Road	2.5%	12,500	5,896	7,584	4,510	4,727	1,086	1,402	1.0%	0.2%	1.0%	0.8%
Nob Hill Road & SR-84 WB	Nob Hill Road North of SR-84 WB	6.0%	35,000	38,699	46,028	7,529	8,081	886	1,145	0.6%	0.2%	1.0%	0.8%
	SR-84 WB East of Nob Hill Road	2.2%	16,000	12,418	13,760	5,996	6,336	760	983	0.4%	0.2%	1.0%	1.0%
	SR-84 WB West of Nob Hill Road	-5.6%	8,000	3,833	4,779	1,533	1,745	126	162	0.8%	0.5%	1.0%	0.8%
Nob Hill Road & Hawks View Boulevard	Nob Hill Road North of Hawks View Boulevard	6.0%	35,000	30,254	36,760	7,529	8,081	886	1,145	0.7%	0.2%	1.0%	0.8%
	Nob Hill Road South of Hawks View Boulevard	6.0%	35,000	30,254	36,760	7,529	8,081	886	1,145	0.7%	0.2%	1.0%	0.8%
	Hawks View Boulevard West of Nob Hill Road		6,100			1,533	1,745	126	162		0.5%	1.0%	0.8%
Nob Hill Road & Broward Boulevard	Nob Hill Road North of Broward Boulevard	1.7%	31,500	25,156	28,876	7,103	7,422	1,811	2,340	0.5%	0.1%	1.0%	0.8%
	Broward Boulevard East of Nob Hill Road	1.8%	30,000	39,691	47,714	10,287	10,806	2,132	2,756	0.7%	0.2%	1.0%	0.8%
	Nob Hill Road South of Broward Boulevard	6.0%	35,000	30,254	36,760	7,529	8,081	886	1,145	0.7%	0.2%	1.0%	0.8%
	Broward Boulevard West of Nob Hill Road	-0.5%	22,000	32,297	37,140	4,345	4,697	565	729	0.5%	0.3%	1.0%	0.8%
Pine Island Road & Nova Drive	Pine Island Road North of Nova Drive	4.9%	35,500	38,790	43,965	7,486	7,879	1,621	2,093	0.4%	0.2%	1.0%	0.8%
	Nova Drive East of Pine Island Road	7.5%	12,000	7,657	8,574	1,698	2,539	3,213	4,150	0.4%	1.7%	1.0%	0.8%
	Pine Island Road South of Nova Drive	2.5%	35,000	35,401	42,140	6,671	7,491	916	1,182	0.6%	0.4%	1.0%	0.8%
	Nova Drive West of Pine Island Road	7.5%	12,000			10,641	11,117	1,912	2,469		0.1%	1.0%	0.8%
Pine Island Road & Orange Grove Drive	Pine Island Road North of Orange Grove Drive	4.9%	42,000	39,455	43,943	7,486	7,879	1,621	2,093	0.4%	0.2%	1.0%	0.8%
	Pine Island Road South of Orange Grove Drive	4.9%	35,500	39,455	43,943	7,486	7,879	1,621	2,093	0.4%	0.2%	1.0%	0.8%
	Orange Grove Drive West of Pine Island Road		5,100			6,246	6,590	1,566	2,023		0.2%	1.0%	0.8%
Pine Island Road & SR-84 EB	SR-84 EB East of Pine Island Road	3.5%	21,500	16,462	21,421	3,301	3,534	1,344	1,736	1.0%	0.2%	1.0%	1.2%
	Pine Island Road South of SR-84 EB	4.9%	42,000	39,455	43,943	7,486	7,879	1,621	2,093	0.4%	0.2%	1.0%	0.8%
	SR-84 EB West of Pine Island Road	-5.3%	23,500	21,179	24,952	6,246	6,590	1,566	2,023	0.6%	0.2%	1.0%	1.0%
Pine Island Road & SR-84 WB	Pine Island Road North of SR-84 WB	1.6%	52,000	61,399	69,132	6,454	7,586	3,918	5,063	0.4%	0.6%	1.0%	1.0%
	SR-84 WB East of Pine Island Road	1.3%	23,500	16,581	20,732	458	1,250	3,158	4,080	0.8%	5.8%	1.0%	1.2%
	SR-84 WB West of Pine Island Road	2.6%	22,500	11,550	14,291	5,996	6,336	760	983	0.8%	0.2%	1.0%	1.0%

Table 2-1: No Build 2045 Recommended Growth Rates Summary Table (Continued)

Intersection	Location	Historical Trend Analysis (2015-2019)	2019 AADT	2015 - 2045 SERPM 8 Model									Recommended Growth Rate
				2015 VOL	2045 VOL	2015 POP	2045 POP	2015 EMP	2045 EMP	Growth Rate (VOL)	Growth Rate (POP)	Growth Rate (EMP)	
Pine Island Road & New River Canal Road	Pine Island Road North of New River Canal Road	1.6%	51,500	61,399	69,132	6,454	7,586	3,918	5,063	0.4%	0.6%	1.0%	1.0%
	New River Canal Road East of Pine Island Road		4,100			458	1,250	3,158	4,080		5.8%	1.0%	1.0%
	Pine Island Road South of New River Canal Road	1.6%	52,000	61,399	69,132	6,454	7,586	3,918	5,063	0.4%	0.6%	1.0%	1.0%
	New River Canal Road West of Pine Island Road		1,900			5,996	6,336	760	983		0.2%	1.0%	1.0%
Pine Island Road & Peter Road	Pine Island Road North of Peter Road	-1.6%	53,000	58,464	66,520	28	1,282	9,252	11,955	0.5%	149.3%	1.0%	1.0%
	Peter Road East of Pine Island Road	-2.0%	18,000	12,712	16,908	486	2,532	12,410	16,035	1.1%	14.0%	1.0%	1.0%
	Pine Island Road South of Peter Road	1.6%	51,500	61,399	69,132	458	1,250	3,158	4,080	0.4%	5.8%	1.0%	1.0%
Pine Island Road & SW 6th Court	Pine Island Road North of SW 6th Court	-1.6%	41,500	54,823	59,769	6,024	7,618	10,012	12,938	0.3%	0.9%	1.0%	1.0%
	SW 6th Court East of Pine Island Road	-1.1%	8,000	18,454	25,939	28	1,282	9,252	11,955	1.4%	149.3%	1.0%	1.0%
	Pine Island Road South of SW 6th Court	-1.6%	53,000	58,464	66,520	6,024	7,618	10,012	12,938	0.5%	0.9%	1.0%	1.0%
	SW 6th Court West of Pine Island Road		3,500	1,169	1,497	5,996	6,336	760	983	0.9%	0.2%	1.0%	1.0%
SW 80th Terrace & Peters Road	SW 80th Terrace North of Peters Road		4,100			28	1,282	9,252	11,955		149.3%	1.0%	1.2%
	Peters Road East of SW 80th Terrace	-2.0%	22,500	13,297	18,108	486	2,532	12,410	16,035	1.2%	14.0%	1.0%	1.2%
	SW 80th Terrace South of Peters Road		1,600			458	1,250	3,158	4,080		5.8%	1.0%	1.2%
	Peters Road West of SW 80th Terrace	-2.0%	18,000	13,297	18,108	486	2,532	12,410	16,035	1.2%	14.0%	1.0%	1.2%
University Drive & SW 30th Street	University Drive North of SW 30th Street	2.6%	63,500	44,617	53,822	3,954	5,314	705	910	0.7%	1.1%	1.0%	1.0%
	SW 30th Street East of University Drive	2.3%	18,000	15,456	14,296	3,481	5,031	1,628	2,104	-0.3%	1.5%	1.0%	1.0%
	University Drive South of SW 30th Street	0.2%	51,000	36,909	44,150	2,865	4,408	2,048	2,647	0.7%	1.8%	1.0%	1.0%
	SW 30th Street West of University Drive	10.9%	10,500	3,905	5,849	3,338	4,691	1,125	1,453	1.7%	1.4%	1.0%	1.0%
University Drive & Nova Drive	University Drive North of Nova Drive	-1.5%	67,500	53,232	55,878	3,689	5,186	6,978	9,018	0.2%	1.4%	1.0%	1.0%
	Nova Drive East of University Drive	1.7%	25,500	26,726	24,927	3,306	5,291	5,824	7,526	-0.2%	2.0%	1.0%	1.0%
	University Drive South of Nova Drive	2.6%	63,500	44,617	53,822	3,954	5,314	705	910	0.7%	1.1%	1.0%	1.0%
	Nova Drive West of University Drive	7.5%	13,500	10,069	13,197	4,337	5,209	1,859	2,402	1.0%	0.7%	1.0%	1.0%
University Drive & SW 23rd Street	University Drive North of SW 23rd Street	-1.5%	71,500	53,232	55,878	3,689	5,186	6,978	9,018	0.2%	1.4%	1.0%	1.0%
	SW 23rd Street East of University Drive		15,000			1,628	2,941	5,689	7,352		2.7%	1.0%	1.0%
	University Drive South of SW 23rd Street	-1.5%	67,500	53,232	55,878	3,689	5,186	6,978	9,018	0.2%	1.4%	1.0%	1.0%
	SW 23rd Street West of University Drive		3,200			2,061	2,245	1,289	1,666		0.3%	1.0%	1.0%
University Drive & Kolsky Boulevard	University Drive North of Kolsky Boulevard	-1.5%	60,000	67,489	75,714	3,689	5,186	6,978	9,018	0.4%	1.4%	1.0%	1.0%
	Kolsky Boulevard East of University Drive		14,500			1,628	2,941	5,689	7,352		2.7%	1.0%	1.0%
	University Drive South of Kolsky Boulevard	-1.5%	60,000	67,489	75,714	3,689	5,186	6,978	9,018	0.4%	1.4%	1.0%	1.0%
	Kolsky Boulevard West of University Drive		7,300			2,061	2,245	1,289	1,666		0.3%	1.0%	1.0%
University Drive & SR-84 EB	SR-84 EB East of University Drive	5.4%	21,500	9,599	15,108	1,628	2,941	5,689	7,352	1.9%	2.7%	1.0%	1.2%
	University Drive South of SR-84 EB	-1.5%	62,000	67,489	75,714	3,689	5,186	6,978	9,018	0.4%	1.4%	1.0%	1.0%
	SR-84 EB West of University Drive	1.9%	20,000	12,009	13,303	2,061	2,245	1,289	1,666	0.4%	0.3%	1.0%	1.2%

Table 2-1: No Build 2045 Recommended Growth Rates Summary Table (Continued)

Intersection	Location	Historical Trend Analysis (2015-2019)	2019 AADT	2015 - 2045 SERPM 8 Model									Recommended Growth Rate
				2015 VOL	2045 VOL	2015 POP	2045 POP	2015 EMP	2045 EMP	Growth Rate (VOL)	Growth Rate (POP)	Growth Rate (EMP)	
University Drive & SR-84 WB	University Drive North of SR-84 WB	2.2%	78,500	56,227	62,665	2,459	3,246	3,526	4,555	0.4%	1.1%	1.0%	1.2%
	SR-84 WB East of University Drive	12.0%	31,000	23,311	31,655	2,001	1,996	368	475	1.2%	0.0%	1.0%	1.2%
	SR-84 WB West of University Drive	1.3%	23,500	3,075	4,320	458	1,250	3,158	4,080	1.3%	5.8%	1.0%	1.2%
University Drive & SW 12nd Street	University Drive North of SW 12nd Street	2.0%	65,000	66,197	70,843	1,769	3,073	10,040	12,974	0.2%	2.5%	1.0%	1.2%
	SW 12nd Street East of University Drive	2.0%	29,500	22,209	30,093	3,742	3,787	1,156	1,494	1.2%	0.0%	1.0%	1.2%
	University Drive South of SW 12nd Street	2.2%	81,500	73,076	81,525	2,459	3,246	3,526	4,555	0.4%	1.1%	1.0%	1.2%
	SW 12nd Street West of University Drive	-2.0%	23,000	13,297	18,108	486	2,532	12,410	16,035	1.2%	14.0%	1.0%	1.2%
University Drive & The Fountains	University Drive North of The Fountains	2.0%	64,000	66,197	70,843	1,769	3,073	10,040	12,974	0.2%	2.5%	1.0%	1.2%
	University Drive South of The Fountains	2.0%	65,000	66,197	70,843	1,769	3,073	10,040	12,974	0.2%	2.5%	1.0%	1.2%
	The Fountains West of University Drive	-1.1%	11,000			28	1,282	9,252	11,955		149.3%	1.0%	1.2%
University Drive & Federated Road	University Drive North of Federated Road	2.0%	62,500	68,027	74,626	0	632	994	1,284	0.3%	2106.7%	1.0%	1.2%
	Federated Road East of University Drive		700			1,741	1,791	788	1,019		0.1%	1.0%	1.2%
	University Drive South of Federated Road	2.0%	64,000	68,027	74,626	28	1,282	9,252	11,955	0.3%	149.3%	1.0%	1.2%
	Federated Road West of University Drive	5.7%	7,000			28	1,914	10,246	13,239		224.5%	1.0%	1.2%
Davie Road & Nova Drive	Davie Road North of Nova Drive	-0.2%	46,500	43,642	43,508	0	692	1,802	2,329	0.0%	2306.7%	1.0%	1.2%
	Nova Drive East of Davie Road		13,000	8,497	10,435	2,785	3,449	734	951	0.8%	0.8%	1.0%	1.2%
	Davie Road South of Nova Drive	8.6%	28,000	33,094	41,864	0	692	1,263	1,633	0.9%	2306.7%	1.0%	1.2%
	Nova Drive West of Davie Road	5.6%	25,000	13,453	7,888	0	1,384	3,065	3,962	-1.4%	4613.3%	1.0%	1.2%
Davie Road & Reese Road	Davie Road North of Reese Road	-0.2%	46,500	47,150	47,643	2,785	4,141	2,536	3,280	0.0%	1.6%	1.0%	1.2%
	Reese Road East of Davie Road		12,000			2,785	3,449	734	951		0.8%	1.0%	1.2%
	Davie Road South of Reese Road	-0.2%	46,500	47,150	47,643	2,785	4,141	2,536	3,280	0.0%	1.6%	1.0%	1.2%
	Reese Road West of Davie Road		200			0	692	1,802	2,329		2306.7%	1.0%	1.2%
Davie Road & SR-84 EB	SR-84 EB East of Davie Road	10.1%	19,500	17,718	19,254	2,785	3,449	734	951	0.3%	0.8%	1.0%	1.2%
	Davie Road South of SR-84 EB	-0.2%	46,500	47,150	47,643	2,785	4,141	2,536	3,280	0.0%	1.6%	1.0%	1.2%
	SR-84 EB West of Davie Road	2.3%	17,500	11,472	14,753	0	692	1,802	2,329	1.0%	2306.7%	1.0%	1.2%
Davie Road & SR-84 WB	SR-84 WB East of Davie Road	2.3%	21,500	27,105	28,862	2,785	3,449	734	951	0.2%	0.8%	1.0%	1.2%
	SR-84 WB West of Davie Road	12.0%	29,000	15,487	18,069	0	692	1,802	2,329	0.6%	2306.7%	1.0%	1.2%
SR-7 & Oakes Road	SR-7 North of Oakes Road	2.1%	63,500	62,766	74,167	26	574	1,226	1,586	0.6%	70.3%	1.0%	1.2%
	SR-7 South of Oakes Road	2.1%	55,500	62,482	73,594	1	477	3,404	4,399	0.6%	1586.7%	1.0%	1.2%
	Oakes Road West of SR-7		13,000			27	1,051	4,630	5,985		126.4%	1.0%	1.2%
SR-7 & Riverland Road	SR-7 North of Riverland Road	2.2%	53,000	69,196	68,834	2,875	2,926	1,300	1,681	0.0%	0.1%	1.0%	1.0%
	Riverland Road East of SR-7	13.9%	13,500	12,087	18,668	4,284	5,000	1,686	2,181	1.8%	0.6%	1.0%	1.0%
	SR-7 South of Riverland Road	2.2%	61,000	78,933	85,304	1,409	2,074	386	500	0.3%	1.6%	1.0%	1.0%
	Riverland Road West of SR-7		8,400			7,453	9,382	1,682	2,174		0.9%	1.0%	1.0%

Figure 2-3: No Build 2045 Recommended Growth Rates on Study Area Map

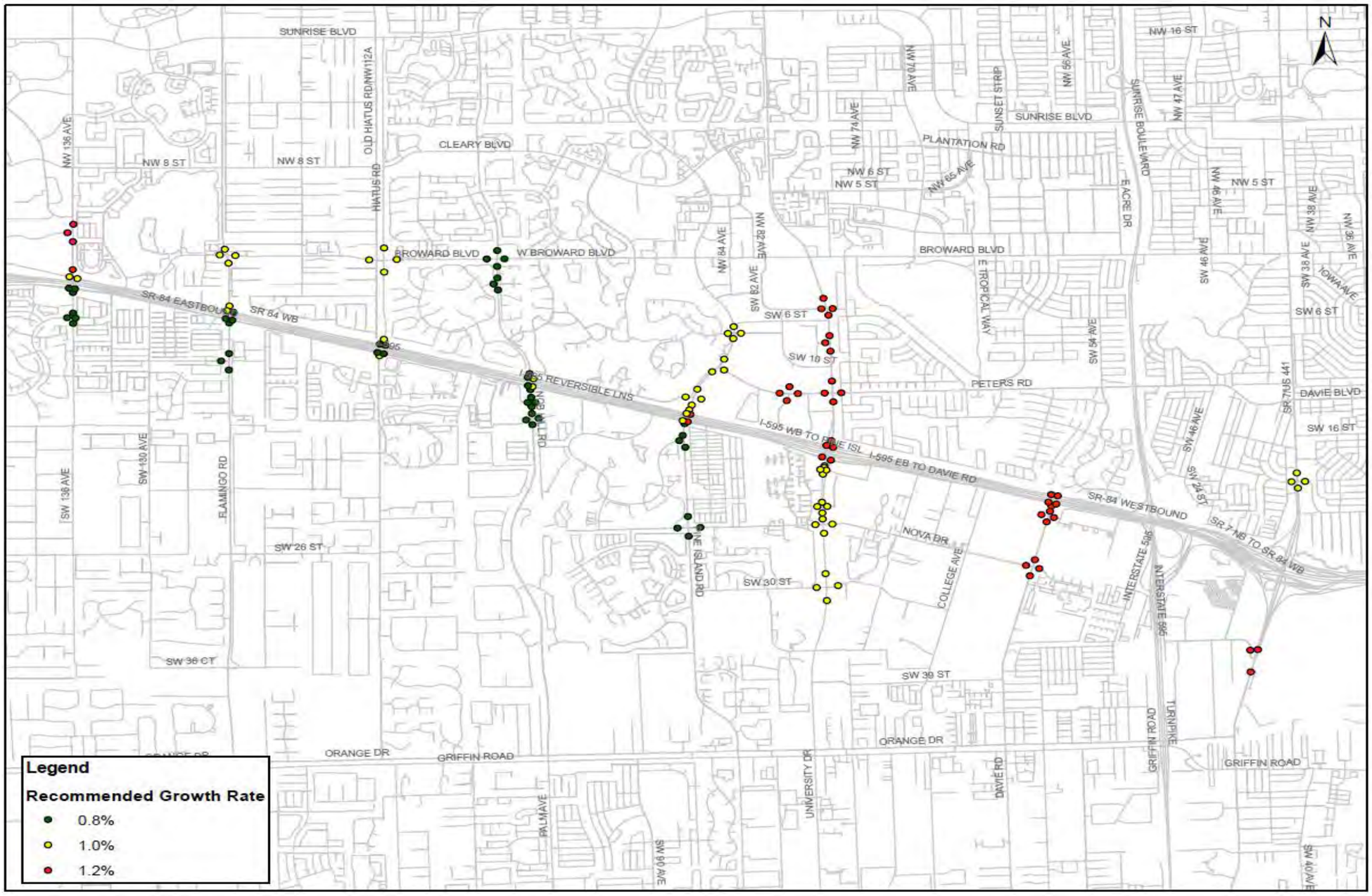
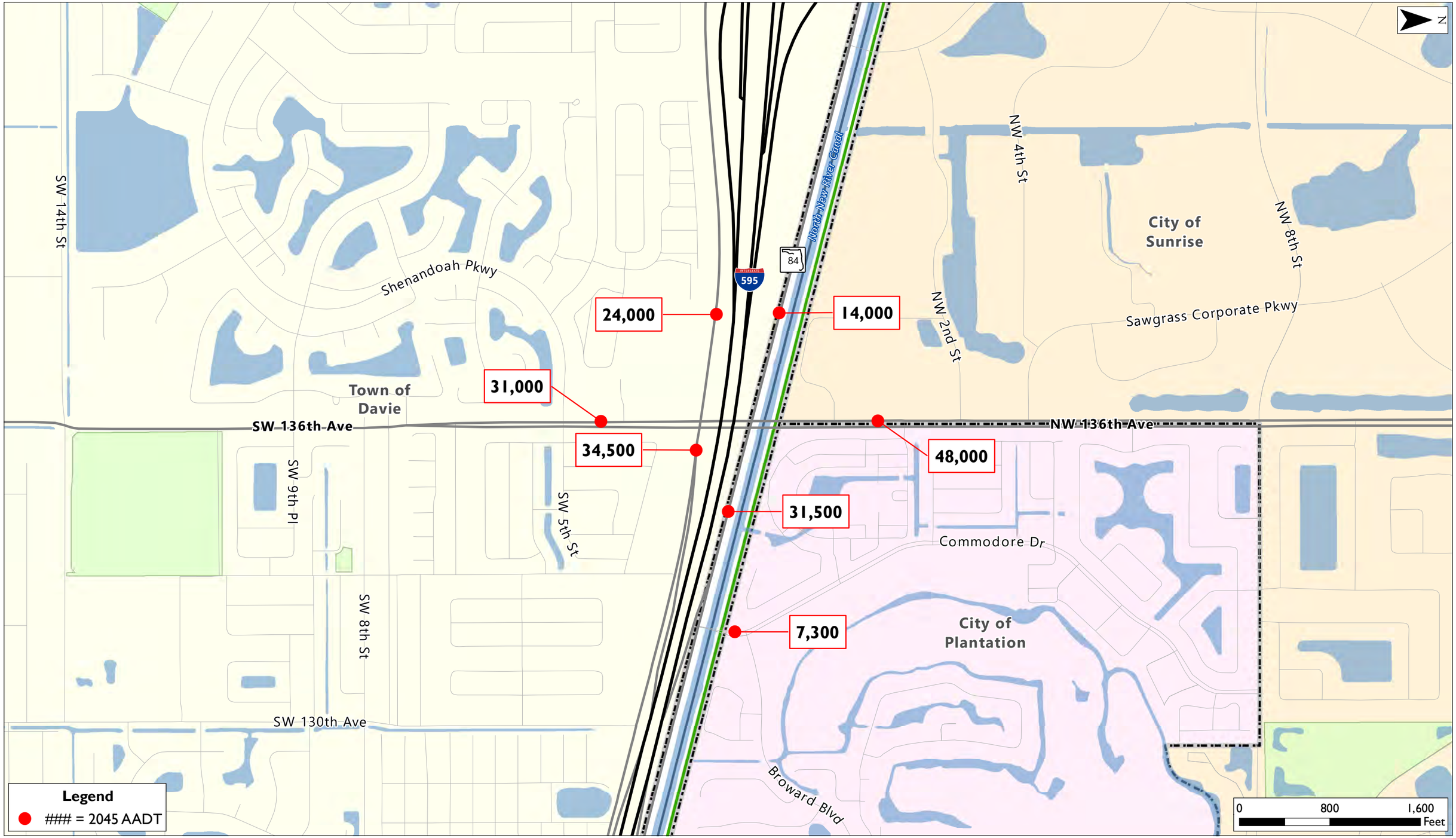


Table 2-2: No Build 2045 AADTs

Intersection	Location	2019 AADT	Growth Rate	2045 No-Build AADT
SW 136th Avenue & Shenandoah Parkway	SW 136th Avenue North of Shenandoah Parkway	25,500	0.8%	31,000
	Shenandoah Parkway East of SW 136th Avenue	2,800	0.8%	3,400
	SW 136th Avenue South of Shenandoah Parkway	16,500	0.8%	20,000
	Shenandoah Parkway West of SW 136th Avenue	10,500	0.8%	12,500
SW 136th Avenue & SR-84 EB	SR-84 EB East of SW 136th Avenue	28,500	0.8%	34,500
	SW 136th Avenue South of SR-84 EB	25,500	0.8%	31,000
	SR-84 EB West of SW 136th Avenue	20,000	0.8%	24,000
SW 136th Avenue & SR-84 WB	SW 136th Avenue North of SR-84 WB	36,500	1.2%	48,000
	SR-84 WB East of SW 136th Avenue	25,000	1.0%	31,500
	SR-84 WB West of SW 136th Avenue	11,000	1.0%	14,000
SW 136th Avenue & NW 2nd Street	SW 136th Avenue North of NW 2nd Street	32,000	1.2%	42,000
	SW 136th Avenue South of NW 2nd Street	36,500	1.2%	48,000
	NW 2nd Street West of SW 136th Avenue	7,700	1.2%	10,000
Commodore Dr north of SR-84 WB	Commodore Dr north of SR-84 WB	5,600	1.2%	7,300
SW 125 Ave north of SR-84 WB	SW 125 Ave north of SR-84 WB	950	1.2%	1,200
Flamingo Road & SW 8th Street	Flamingo Road North of SW 8th Street	36,500	0.8%	44,000
	Flamingo Road South of SW 8th Street	36,500	0.8%	44,000
	SW 8th Street West of Flamingo Road	7,800	0.8%	9,400
Flamingo Road & SR-84 EB	SR 84 EB East of Flamingo Road	25,500	0.8%	31,000
	Flamingo Road South of SR 84 EB	36,500	0.8%	44,000
	SR 84 EB West of Flamingo Road	21,000	0.8%	25,500
Flamingo Road & SR-84 WB	Flamingo Road North of SR 84 WB	40,500	1.0%	51,000
	SR 84 WB East of Flamingo Road	17,500	0.8%	21,000
	SR 84 WB West of Flamingo Road	15,500	1.0%	19,500
Flamingo Road & Broward Boulevard	Flamingo Road North of Broward Boulevard	45,000	1.0%	56,500
	Broward Boulevard East of Flamingo Road	19,000	1.0%	24,000
	Flamingo Road South of Broward Boulevard	40,500	1.0%	51,000
	Broward Boulevard West of Flamingo Road	6,800	1.0%	8,600
Hiatus Road & SR-84 EB	SR-84 EB East of Hiatus Road	15,000	0.8%	18,000
	Hiatus Road South of SR-84 EB	18,000	1.0%	22,500
	SR-84 EB West of Hiatus Road	11,000	0.8%	13,500
Hiatus Road & SR-84 WB	Hiatus Road North of SR-84 WB	20,000	1.0%	25,000
	SR-84 WB East of Hiatus Road	14,000	0.8%	17,000
	SR-84 WB West of Hiatus Road	13,000	0.8%	15,500
Hiatus Road & Broward Boulevard	Hiatus Road North of Broward Boulevard	27,500	1.0%	34,500
	Broward Boulevard East of Hiatus Road	23,500	1.0%	29,500
	Hiatus Road South of Broward Boulevard	20,000	1.0%	25,000
	Broward Boulevard West of Hiatus Road	27,000	1.0%	34,000
Nob Hill Road & SW 13th Street	Nob Hill Road North of SW 13th Street	25,000	0.8%	30,000
	SW 13th Street East of Nob Hill Road	1,900	0.8%	2,300
	Nob Hill Road South of SW 13th Street	25,000	0.8%	30,000
	SW 13th Street West of Nob Hill Road	950	0.8%	1,100
Nob Hill Road & SW 101st Road	Nob Hill Road North of SW 101st Road	25,000	0.8%	30,000
	SW 101st Road East of Nob Hill Road	1,700	0.8%	2,100
	Nob Hill Road South of SW 101st Road	25,000	0.8%	30,000
	SW 101st Road West of Nob Hill Road	2,600	0.8%	3,100
Nob Hill Road & SR-84 EB	SR-84 EB East of Nob Hill Road	20,500	1.0%	26,000
	Nob Hill Road South of SR-84 EB	25,000	0.8%	30,000
	SR-84 EB West of Nob Hill Road	12,500	0.8%	15,000
Nob Hill Road & SR-84 WB	Nob Hill Road North of SR-84 WB	35,000	0.8%	42,500
	SR-84 WB East of Nob Hill Road	16,000	1.0%	20,000
	SR-84 WB West of Nob Hill Road	8,000	0.8%	9,700
Nob Hill Road & Hawks View Boulevard	Nob Hill Road North of Hawks View Boulevard	35,000	0.8%	42,500
	Nob Hill Road South of Hawks View Boulevard	35,000	0.8%	42,500
	Hawks View Boulevard West of Nob Hill Road	6,100	0.8%	7,400
Nob Hill Road & Broward Boulevard	Nob Hill Road North of Broward Boulevard	31,500	0.8%	38,000
	Broward Boulevard East of Nob Hill Road	30,000	0.8%	36,000
	Nob Hill Road South of Broward Boulevard	35,000	0.8%	42,500
	Broward Boulevard West of Nob Hill Road	22,000	0.8%	26,500
Pine Island Road & Nova Drive	Pine Island Road North of Nova Drive	35,500	0.8%	43,000
	Nova Drive East of Pine Island Road	12,000	0.8%	14,500
	Pine Island Road South of Nova Drive	35,000	0.8%	42,500
	Nova Drive West of Pine Island Road	12,000	0.8%	14,500
Pine Island Road & Orange Grove Drive	Pine Island Road North of Orange Grove Drive	42,000	0.8%	50,500
	Pine Island Road South of Orange Grove Drive	35,500	0.8%	43,000
	Orange Grove Drive West of Pine Island Road	5,100	0.8%	6,200
Pine Island Road & SR-84 EB	SR-84 EB East of Pine Island Road	21,500	1.2%	28,000
	Pine Island Road South of SR-84 EB	42,000	0.8%	50,500
	SR-84 EB West of Pine Island Road	23,500	1.0%	29,500

Table 2-2: No Build 2045 AADTs (Continued)

Intersection	Location	2019 AADT	Growth Rate	2045 No-Build AADT
Pine Island Road & SR-84 WB	Pine Island Road North of SR-84 WB	52,000	1.0%	65,500
	SR-84 WB East of Pine Island Road	23,500	1.2%	31,000
	SR-84 WB West of Pine Island Road	22,500	1.0%	28,500
Pine Island Road & New River Canal Road	Pine Island Road North of New River Canal Road	51,500	1.0%	65,000
	New River Canal Road East of Pine Island Road	4,100	1.0%	5,200
	Pine Island Road South of New River Canal Road	52,000	1.0%	65,500
	New River Canal Road West of Pine Island Road	1,900	1.0%	2,400
Pine Island Road & Peter Road	Pine Island Road North of Peter Road	53,000	1.0%	67,000
	Peter Road East of Pine Island Road	18,000	1.0%	22,500
	Pine Island Road South of Peter Road	51,500	1.0%	65,000
Pine Island Road & SW 6th Court	Pine Island Road North of SW 6th Court	41,500	1.0%	52,500
	SW 6th Court East of Pine Island Road	8,000	1.0%	10,000
	Pine Island Road South of SW 6th Court	53,000	1.0%	67,000
	SW 6th Court West of Pine Island Road	3,500	1.0%	4,400
SW 80th Terrace & Peters Road	SW 80th Terrace North of Peters Road	4,100	1.2%	5,400
	Peters Road East of SW 80th Terrace	22,500	1.2%	29,500
	SW 80th Terrace South of Peters Road	1,600	1.2%	2,100
	Peters Road West of SW 80th Terrace	18,000	1.2%	23,500
SW 81 Ave south of SR-84 EB	SW 81 Ave south of SR-84 EB	3,800	1.0%	4,800
University Drive & SW 30th Street	University Drive North of SW 30th Street	63,500	1.0%	80,000
	SW 30th Street East of University Drive	18,000	1.0%	22,500
	University Drive South of SW 30th Street	51,000	1.0%	64,500
	SW 30th Street West of University Drive	10,500	1.0%	13,000
University Drive & Nova Drive	University Drive North of Nova Drive	67,500	1.0%	85,000
	Nova Drive East of University Drive	25,500	1.0%	32,000
	University Drive South of Nova Drive	63,500	1.0%	80,000
	Nova Drive West of University Drive	13,500	1.0%	17,000
University Drive & SW 23rd Street	University Drive North of SW 23rd Street	71,500	1.0%	90,000
	SW 23rd Street East of University Drive	15,000	1.0%	19,000
	University Drive South of SW 23rd Street	67,500	1.0%	85,000
	SW 23rd Street West of University Drive	3,200	1.0%	4,000
University Drive & Kolsky Boulevard	University Drive North of Kolsky Boulevard	60,000	1.0%	75,500
	Kolsky Boulevard East of University Drive	14,500	1.0%	18,500
	University Drive South of Kolsky Boulevard	60,000	1.0%	75,500
	Kolsky Boulevard West of University Drive	7,300	1.0%	9,200
University Drive & SR-84 EB	SR-84 EB East of University Drive	21,500	1.2%	28,000
	University Drive South of SR-84 EB	62,000	1.0%	78,000
	SR-84 EB West of University Drive	20,000	1.2%	26,000
University Drive & SR-84 WB	University Drive North of SR-84 WB	78,500	1.2%	103,000
	SR-84 WB East of University Drive	31,000	1.2%	40,500
	SR-84 WB West of University Drive	23,500	1.2%	31,000
University Drive & SW 12nd Street	University Drive North of SW 12nd Street	65,000	1.2%	85,500
	SW 12nd Street East of University Drive	29,500	1.2%	38,500
	University Drive South of SW 12nd Street	81,500	1.2%	107,000
	SW 12nd Street West of University Drive	23,000	1.2%	30,000
University Drive & The Fountains	University Drive North of The Fountains	64,000	1.2%	84,000
	University Drive South of The Fountains	65,000	1.2%	85,500
	The Fountains West of University Drive	11,000	1.2%	14,500
University Drive & Federated Road	University Drive North of Federated Road	62,500	1.2%	82,000
	Federated Road East of University Drive	700	1.2%	900
	University Drive South of Federated Road	64,000	1.2%	84,000
	Federated Road West of University Drive	7,000	1.2%	9,200
Davie Road & Nova Drive	Davie Road North of Nova Drive	46,500	1.2%	61,000
	Nova Drive East of Davie Road	13,000	1.2%	17,000
	Davie Road South of Nova Drive	28,000	1.2%	36,500
	Nova Drive West of Davie Road	25,000	1.2%	33,000
Davie Road & Reese Road	Davie Road North of Reese Road	46,500	1.2%	61,000
	Reese Road East of Davie Road	12,000	1.2%	15,500
	Davie Road South of Reese Road	46,500	1.2%	61,000
	Reese Road West of Davie Road	200	1.2%	250
Davie Road & SR-84 EB	SR-84 EB East of Davie Road	19,500	1.2%	25,500
	Davie Road South of SR-84 EB	46,500	1.2%	61,000
	SR-84 EB West of Davie Road	17,500	1.2%	23,000
Davie Road & SR-84 WB	SR-84 WB East of Davie Road	21,500	1.2%	28,000
	SR-84 WB West of Davie Road	29,000	1.2%	38,000
SR-7 & Oakes Road	SR-7 North of Oakes Road	63,500	1.2%	83,500
	SR-7 South of Oakes Road	55,500	1.2%	73,000
	Oakes Road West of SR-7	13,000	1.2%	17,000
SR-7 & Riverland Road	SR-7 North of Riverland Road	53,000	1.0%	67,000
	Riverland Road East of SR-7	13,500	1.0%	17,000
	SR-7 South of Riverland Road	61,000	1.0%	77,000
	Riverland Road West of SR-7	8,400	1.0%	10,500



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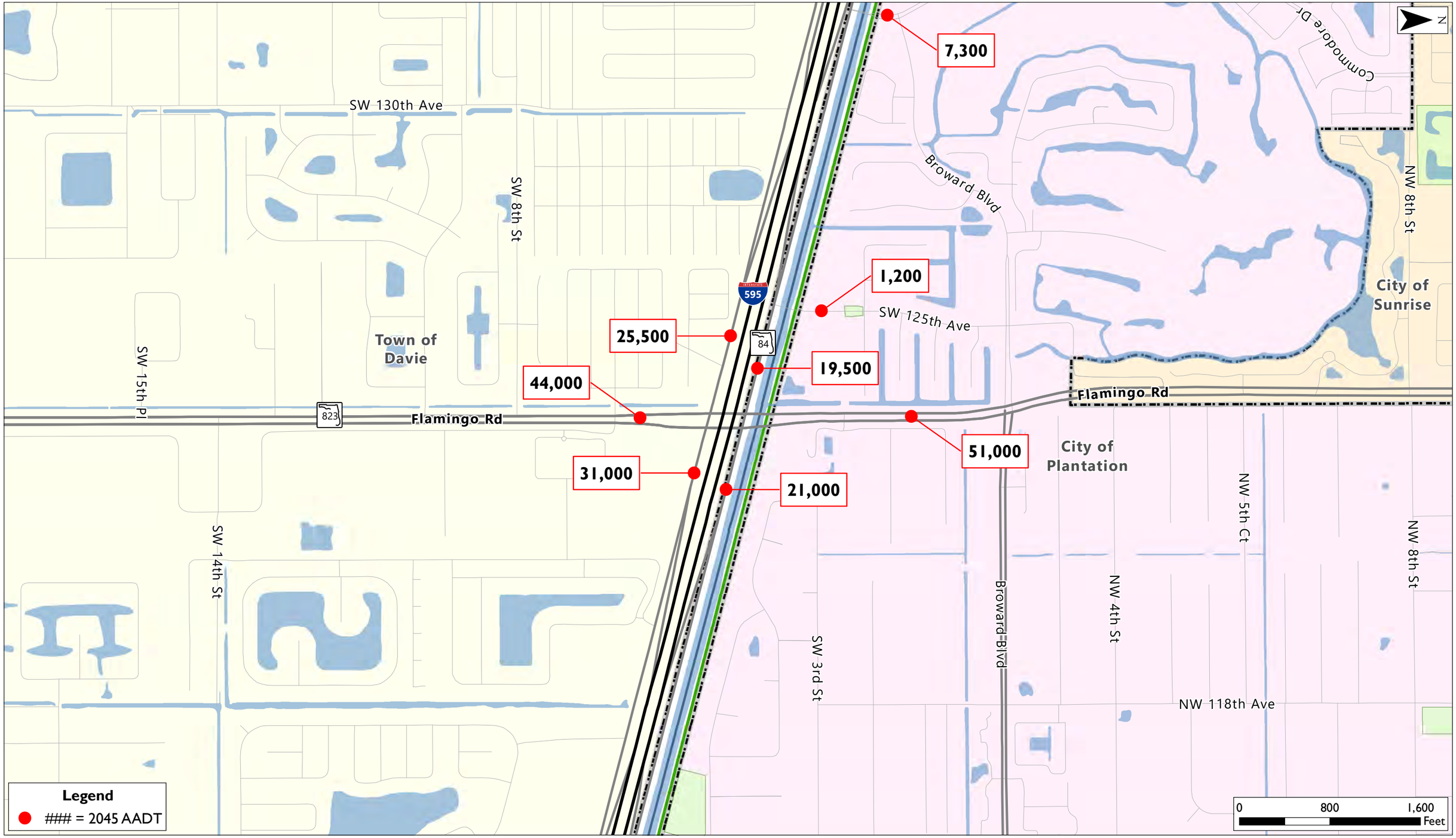
Arterial Connectivity Study Along I-595
FM# 441954-1-12-01

No Build 2045 Annual Average Daily Traffic (AADT)

Figure 2-4
Sheet 1 of 8
September 2020



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No Build 2045 Annual Average Daily Traffic (AADT)

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Arterial Connectivity Study Along I-595
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No Build 2045 Annual Average Daily Traffic (AADT)

Figure 2-4
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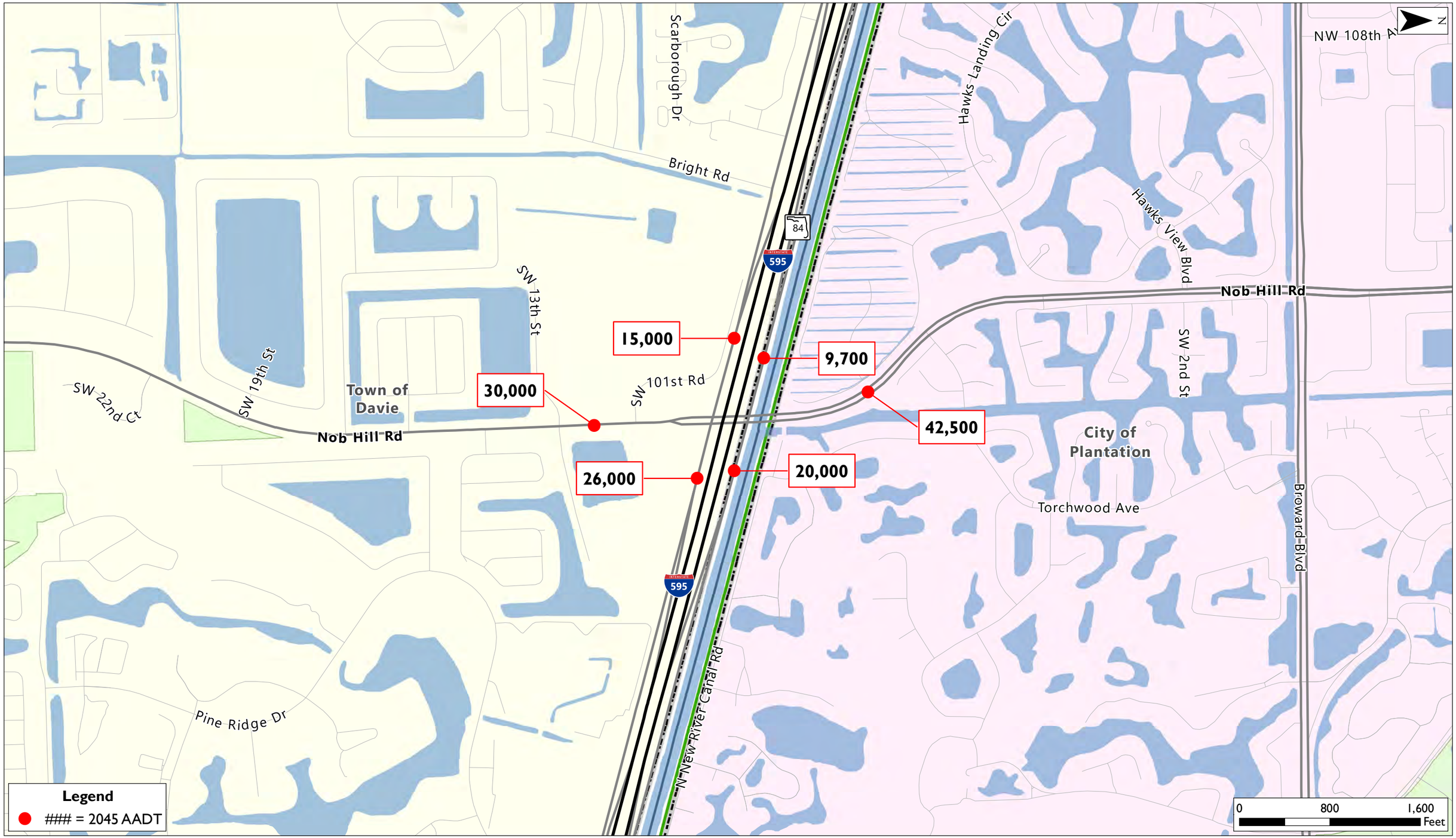

Broward MPO Metropolitan Planning Organization / FDOT	**Arterial Connectivity Study Along I-595** **FM# 441954-1-12-01**	**No Build 2045 Annual Average Daily Traffic (AADT)**

Figure 2-4
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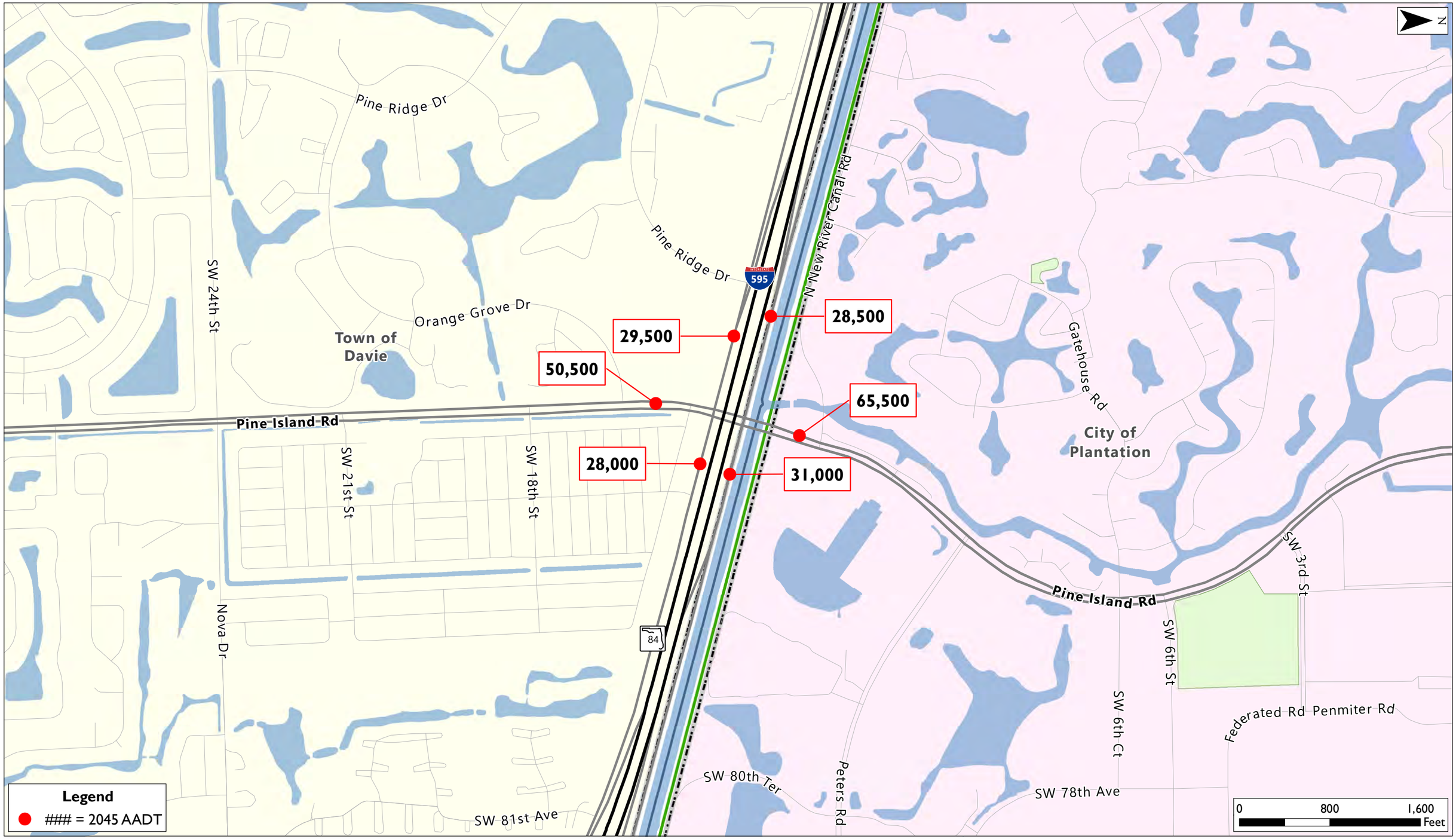

Broward MPO Metropolitan Planning Organization / FDOT	**Arterial Connectivity Study Along I-595** **FM# 441954-1-12-01**	**No Build 2045 Annual Average Daily Traffic (AADT)**

Figure 2-4
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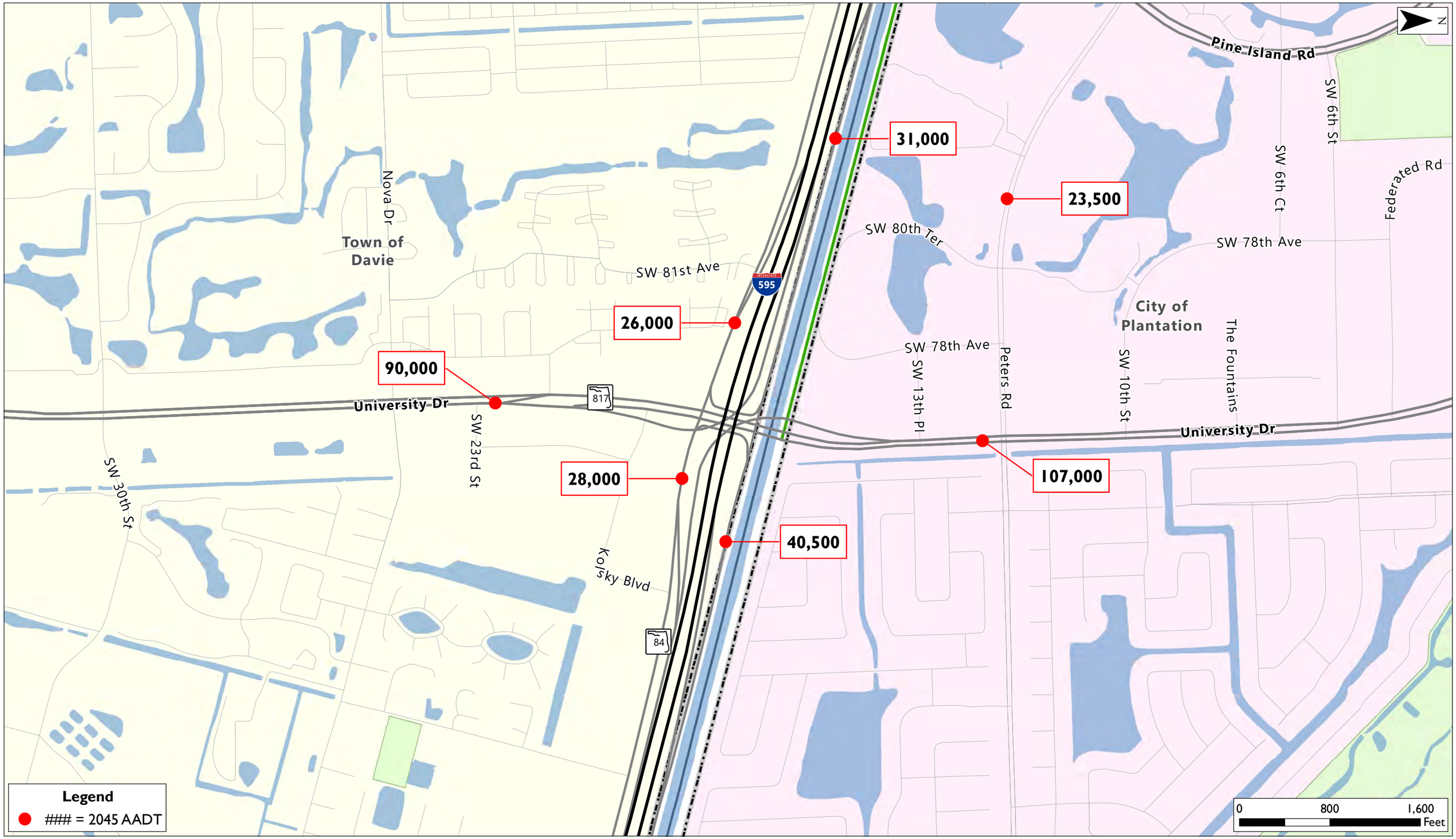

Broward MPO Metropolitan Planning Organization / FDOT	**Arterial Connectivity Study Along I-595** **FM# 441954-1-12-01**	**No Build 2045 Annual Average Daily Traffic (AADT)**

Figure 2-4
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No Build 2045 Annual Average Daily Traffic (AADT)

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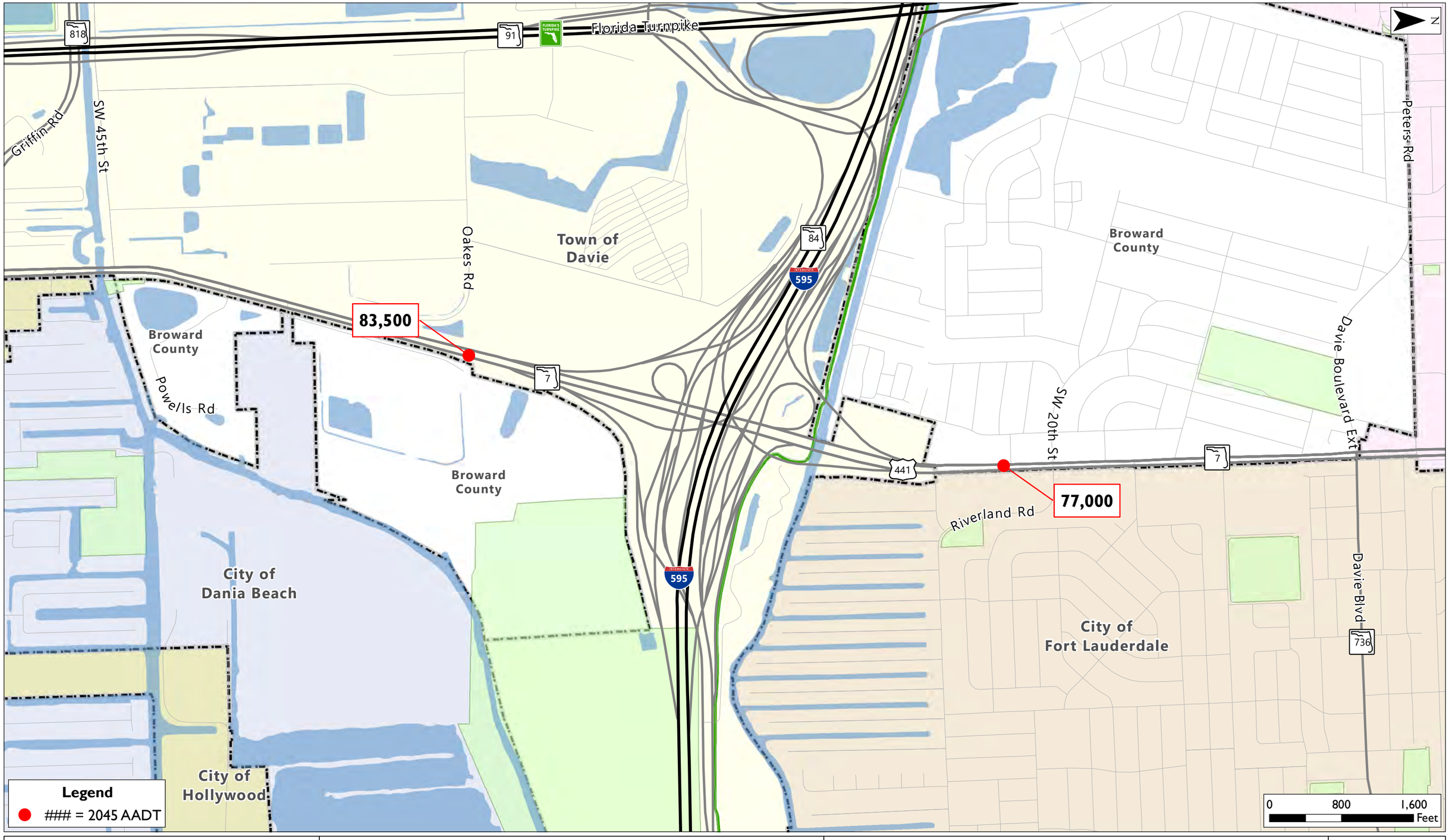

Broward MPO Metropolitan Planning Organization / FDOT	**Arterial Connectivity Study Along I-595** **FM# 441954-1-12-01**	**No Build 2045 Annual Average Daily Traffic (AADT)**

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2.3 No Build 2045 Turning Movement Volumes

TMTool, Version 2 developed by FDOT District 4 was the default tool used for developing the future year 2045 intersection turning movement volumes. The balanced AM and PM peak hour existing year (2019) turning movement volumes, existing year AADT, future year AADT, and design hour factors (K and D) were input into TMTool to estimate turning movement volumes for future years. In coordination with FDOT District Four, it was agreed that standard K would be used for all study roads within the study area for the Arterial Connectivity Study along I-595 Corridor that are classified as Major Collectors and above. Existing AM and PM peak-to-daily ratios were used for Minor Collectors and lower classified roads such as driveways and minor side streets. Considering the specific roadway and traffic characteristics, standard K factors were also used for the following crossroads along University Drive:

- Peters Road
- SW 78th Ave
- Nova Drive

TMTool was used for most study intersections, however, there were a few locations where it was not recommended due to unique intersection configurations. Instead of using TMTool, future turning movement volumes were estimated using growth factors applied directly to the turning movement volumes on each leg of the intersection. This alternate approach was used for the three study intersections that have only two approaches instead of four, and the University Drive and SR 84 intersections which have flyovers. This method was selected, since existing turning movement volume patterns are not expected to change under the No Build conditions, and this method produced more reasonable forecasted volumes given the unique intersection configurations. The five intersections are noted below.

- Westbound SR 84 at Commodore Drive
- Westbound SR 84 at SW 125th Avenue
- Eastbound SR 84 at SW 81st Avenue
- University Drive & SR 84 EB
- University Drive & SR 84 WB

The other three intersections where the growth rate method was used have only two approaches (example: westbound SR 84 and southbound Commodore Drive). The TMTool spreadsheet is not structured to forecast volumes for intersections with only two approaches. In addition, AADTs are not available for every intersection approach at these intersections. At the University Drive and SR 84 intersections flyovers exist and they separate movements from the other turning movements that occur at the signalized intersections. At these intersections TMTool produced unusually large volumes for certain movements yet low growth for others.

Intersections along SR 84 Corridor

For the intersections of the north-south study roads with eastbound SR 84 and westbound SR 84, one single TMTool file was used to forecast the future turning movement volumes. In addition, it is notable that all study intersections along SR 84 have eastbound and westbound separate u-turn lanes on SR 84. Because of the special geometric configurations at these intersections and large u-turn volumes, the u-turn volumes were not treated as part of left turns in TMTool as this would falsely inflate the forecasted volumes on the receiving legs. Instead, they were treated as one separate and independent turning movement. Future u-turn volumes were estimated using the directly applied annual linear growth rate method.

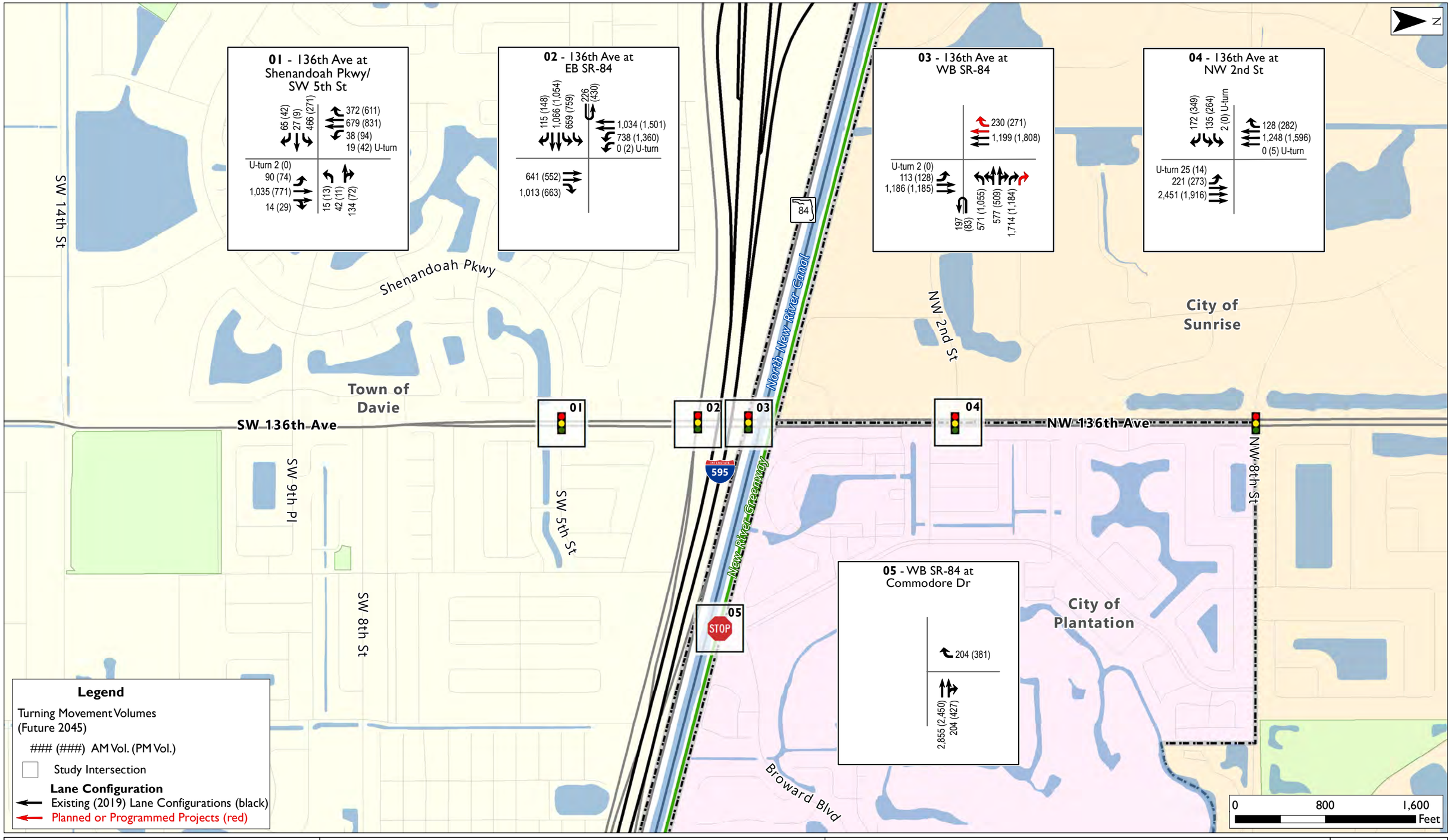
For the SR 84 intersections where TMTool was used to forecast the turning movement volumes, the daily u-turn volumes were subtracted from the total AADTs. This was done, because the daily volume of u-turns are included in the AADTs for both east and west legs at the SR 84 intersections, and would influence the estimated future left, right and through turning movement forecasts in TMTool.

An example of the process used to adjust the AADTs and forecast the u-turn volumes is documented in Appendix A, following the TMTool files.

Balancing

Once the initial future year 2045 No Build turning movement volumes were forecasted using TMTool or directly applied growth rate method, the AM and PM peak hour volumes were then balanced using an Excel spreadsheet to adjust the turning movement volumes. The peak hour volumes were adjusted based on network conditions during a balancing process to make sure the departure volumes and approach volumes at adjacent intersections are within a reasonable range (+/-7%). The volumes were balanced to 0% difference between the study intersections where there were no intersections or driveways to cause an increase or decrease. Finally, the 2045 No Build peak hour volumes for the SR 7 and SR 84 ramp volumes were calculated as part of the balancing process, to ensure the volumes upstream and downstream were balanced to a 0% difference.

Figure 2-5 depicts the forecasted and balanced 2045 No Build AM and PM peak hour turning movement volumes for each study intersection, along with the 2045 No Build intersection lane geometry. A copy of the TMTool and growth rate method spreadsheets can be found in Appendix A.



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No Build 2045 Peak Hour Turning Movement Volumes

Figure 2-5
Sheet 1 of 8
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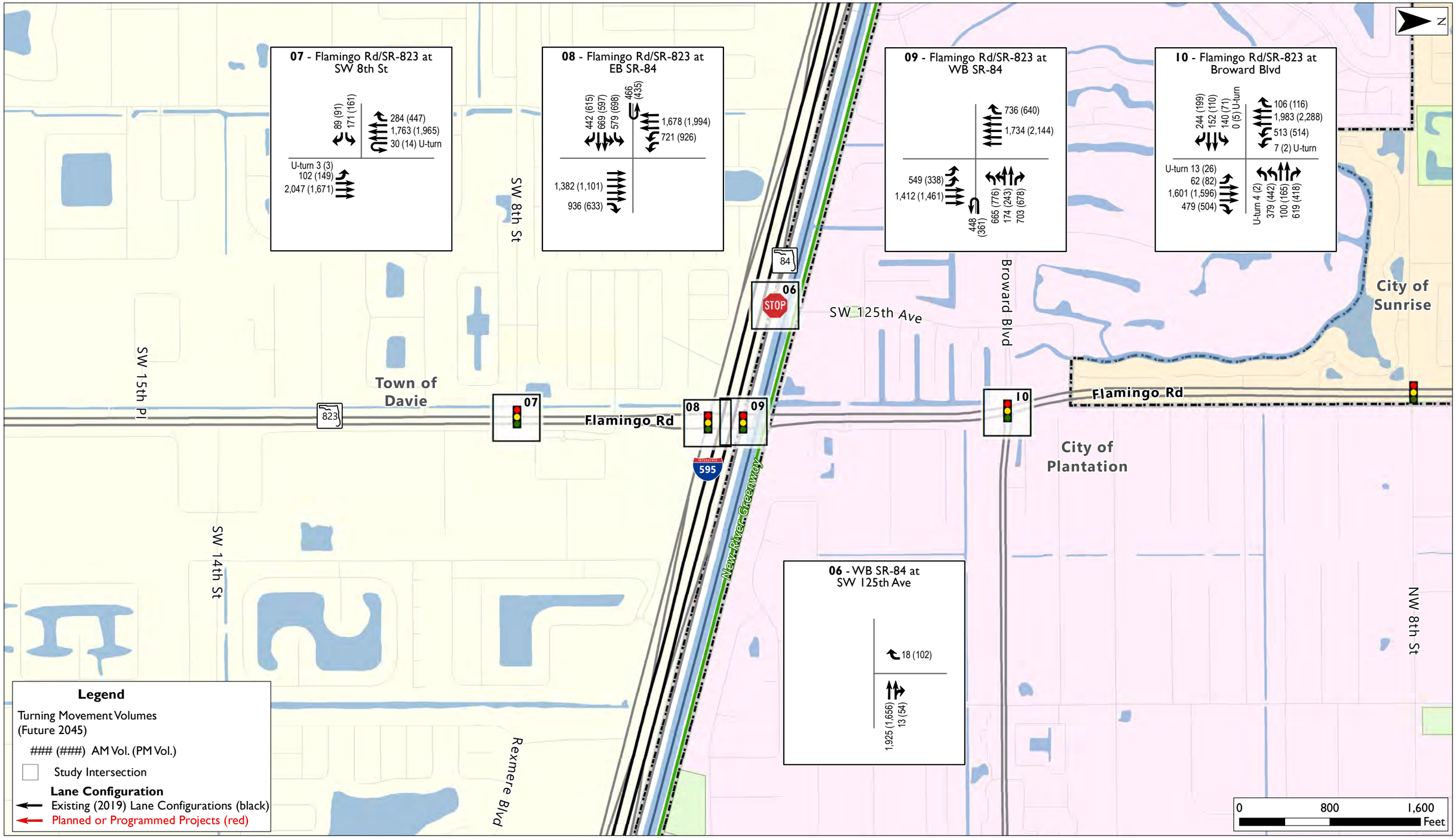

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No Build 2045 Peak Hour Turning Movement Volumes

Figure 2-5
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No Build 2045 Peak Hour Turning Movement Volumes

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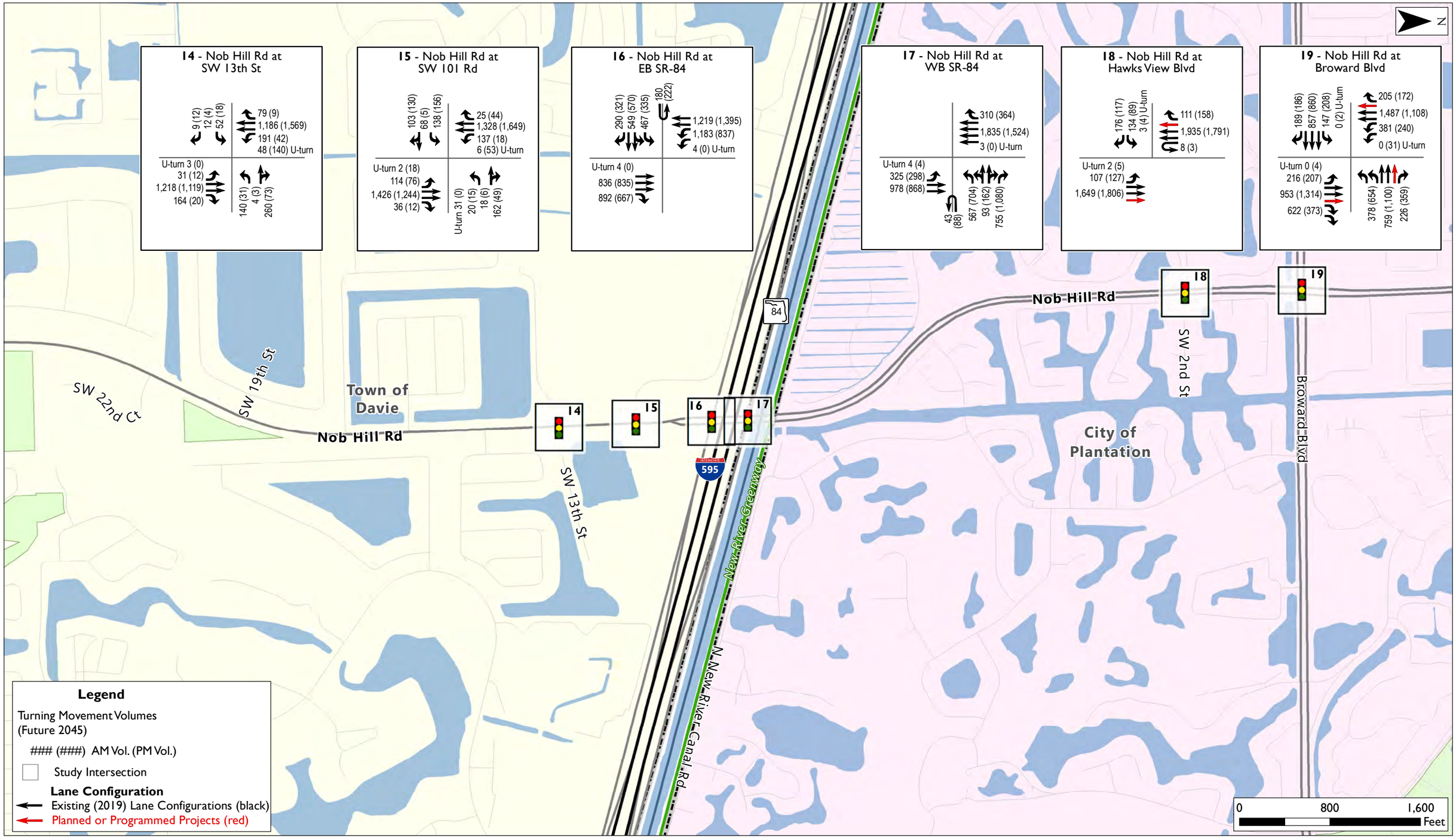

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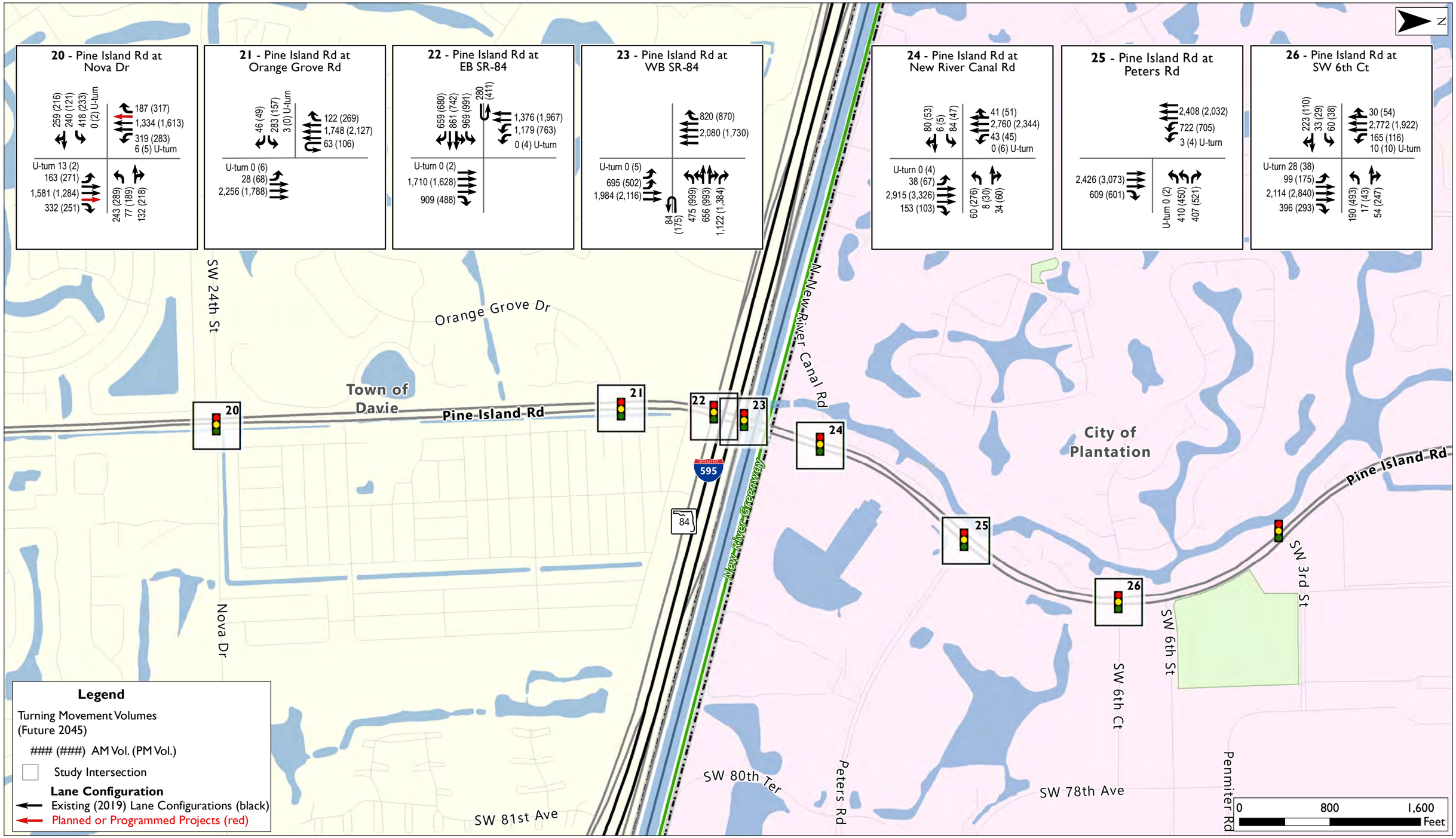

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No Build 2045 Peak Hour Turning Movement Volumes

Figure 2-5
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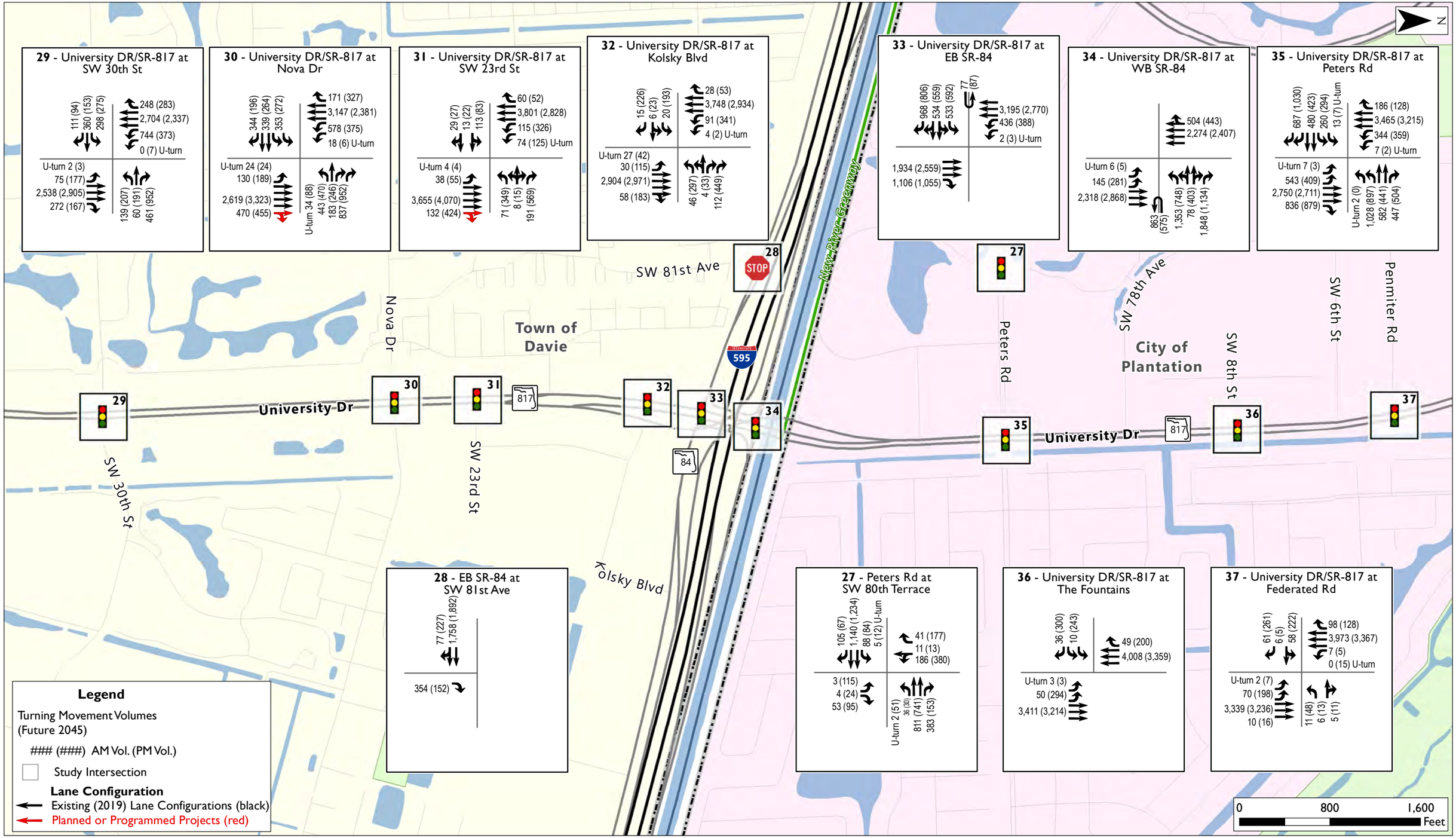

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No Build 2045 Peak Hour Turning Movement Volumes

Figure 2-5
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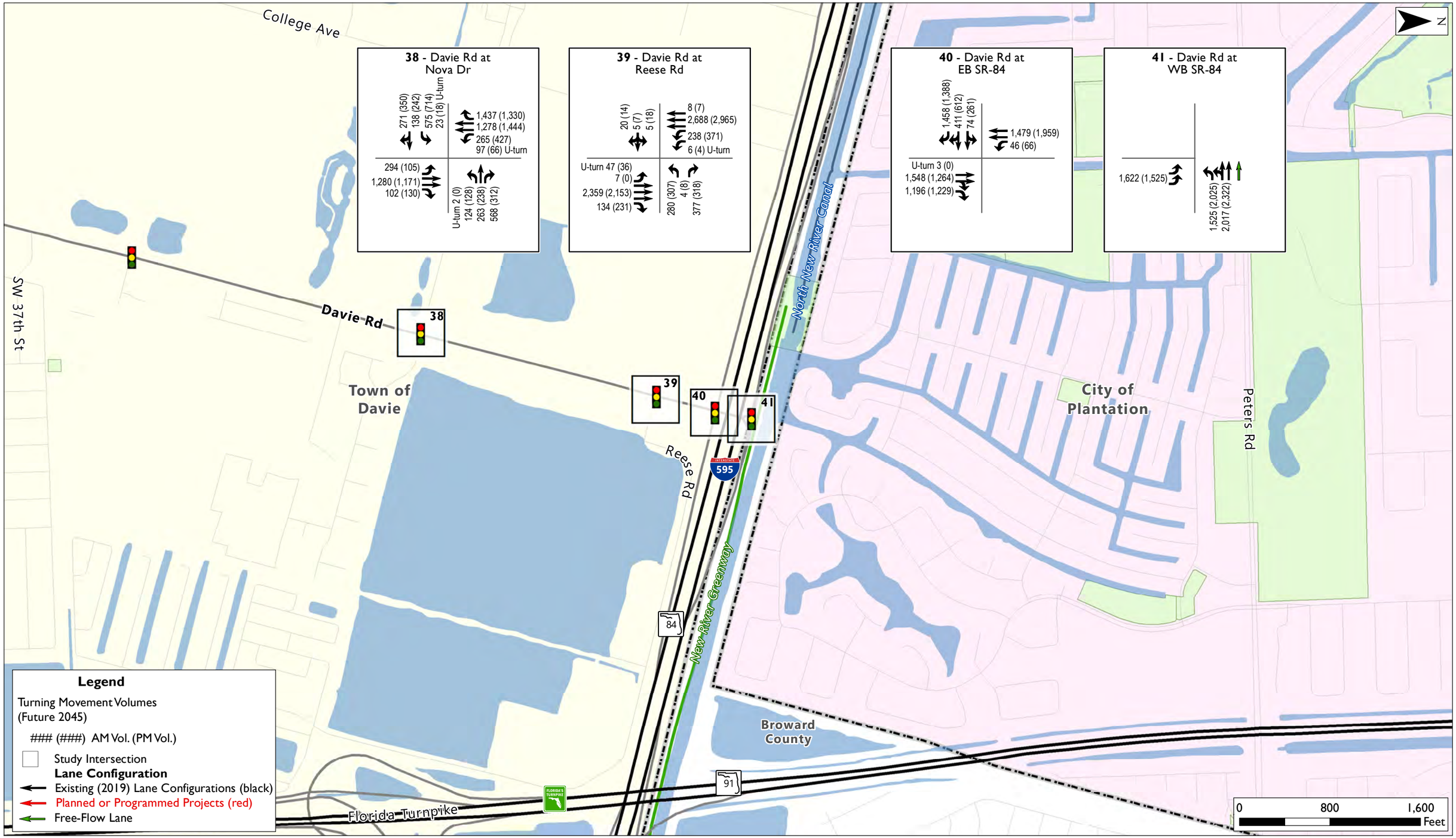

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No Build 2045 Peak Hour Turning Movement Volumes

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No Build 2045 Peak Hour Turning Movement Volumes

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3. NO BUILD 2045 TRAFFIC ANALYSIS

3.1 Level of Service Targets and Performance Measures

As with the existing conditions traffic analysis, the results of the 2045 No Build conditions traffic analysis were compared to the FDOT's Level of Service (LOS) targets, as set forth in the FDOT Policy Topic No. 000-525-006c. This policy provides LOS targets for the State Highway System based on the area type. The policy states:

> *"It is the Department's intent to plan, design and operate the State Highway System at an acceptable level of service for the traveling public. The automobile mode level of service targets for the State Highway System during peak travel hours are "D" in urbanized areas and "C" outside urbanized areas. The Department shall work with local governments to establish appropriate level of service targets for multimodal mobility and system design. The targets shall be responsive to all users, for context, roadway function, network design, and user safety."*

A LOS D is the target for the operational analyses of the study roadways since all are located within the urbanized area. For purposes of this study, improvements will be evaluated whenever a roadway segment or overall intersection is determined to operate below the LOS D target.

To assess performance the following performance measures are reported herein and used to compare traffic operations:

<u>Study Roadway Segments</u>

- LOS
- Volume to Capacity (V/C) ratio

<u>Study Intersections</u>

- LOS
- Control delay

3.2 No Build 2045 Roadway Level of Service Analysis

A level of service analysis was completed for the eight north-south study roadways and SR 84 eastbound and westbound. The 2045 No Build AADTs were compared to the LOS D daily volume thresholds for state signalized arterials from the latest FDOT Quality/Level of Service Handbook, Table 1 for Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. LOS F conditions are anticipated to occur along road segments where the AADTs exceed LOS D threshold volumes. The results are shown in Table 3-1.

Based on the 2045 No Build analysis, the daily volumes on five of the eight north-south arterial study roadways are expected to exceed capacity. This is a notable change from the existing conditions analysis which showed only two of the roadways have volumes that currently exceed capacity (University Drive and SR 7). In addition, nine of the fourteen eastbound SR 84 study segments show 2045 AADTs will exceed the capacity, and 2045 AADTs on four westbound SR 84 study segments will exceed capacity. Again, this is a notable change from the existing conditions analysis which showed three eastbound SR 84 segments are over capacity, and one westbound SR 84 segment. The segments with 2045 AADTs that will exceed capacity are listed below.

1. Nob Hill Road north of SR 84 (7% over capacity)
2. Pine Island Road north of SR 84 (9% over capacity)
3. University Drive/SR 817 north of SR 84 (76% over capacity)
4. University Drive/SR 817 south of SR 84 (50% over capacity)
5. Davie Road south of SR 84 (22% over capacity)
6. SR 7/ US 441 north of SR 84 (29% over capacity)
7. SR 7/ US 441 south of SR 84 (39% over capacity)
8. SR 84 eastbound west of SW/NW 136th Avenue (1% over capacity)
9. SR 84 eastbound east SW/NW 136th Avenue (44% over capacity)

10. SR 84 eastbound east of Flamingo Road (30% over capacity)
11. SR 84 eastbound east of Nob Hill Road (9% over capacity)
12. SR 84 eastbound west of Pine Island Road (24% over capacity)
13. SR 84 eastbound east of Pine Island Road (17% over capacity)
14. SR 84 eastbound west of University Drive/SR 817 (9% over capacity)
15. SR 84 eastbound east of University Drive/SR 817 (17% over capacity)
16. SR 84 eastbound east of Davie Road (67% over capacity)
17. SR 84 westbound east of SW/NW 136th Avenue (32% over capacity)
18. SR 84 westbound west of Pine Island Road (19% over capacity)
19. SR 84 westbound west of University Drive/SR 817 (30% over capacity)
20. SR 84 westbound east of University Drive/SR 817 (13% over capacity)
21. SR 84 westbound west of Davie Road (6% over capacity)

Where the 2045 AADTs exceed the planning level capacity, it indicates a deficiency and a need for further analysis. Improvements will be considered to address the deficiencies. Where the volumes significantly exceed capacity, significant modifications may be needed such as additional travel lanes, and/or demand reducing strategies such as improving or adding alternative routes.

Table 3-1: No Build 2045 Roadway Level of Service Analysis

Seg. No.	Study Roadway	2045 AADT	No. of Lanes	Speed Limit (mph)	Daily Capacity	V/C Ratio	LOS
1	136th Avenue north of SR 84	48,000	6LD	45	59,900	0.80	C
2	136th Avenue south of SR 84	31,000	4LD	40	39,800	0.78	C
3	Flamingo Road north of SR 84	51,000	6LD	45	59,900	0.85	C
4	Flamingo Road south of SR 84	44,000	6LD	50	59,900	0.73	C
5	Hiatus Road north of SR 84	25,000	6LD	45	59,900	0.42	C
6	Hiatus Road south of SR 84	22,500	4LD	45	39,800	0.57	C
7	Nob Hill Road north of SR 84	42,500	4LD	45	39,800	**1.07**	**F**
8	Nob Hill Road south of SR 84	30,000	4LD	45	39,800	0.75	C
9	Pine Island Road north of SR 84	65,500	6LD	45	59,900	**1.09**	**F**
10	Pine Island Road south of SR 84	50,500	6LD	45	59,900	0.84	C
11	University Drive north of SR 84	107,000	6LD	45	59,900	**1.76**	**F**
12	University Drive south of SR 84	90,000	6LD	45	59,900	**1.50**	**F**
13	Davie Road south of SR 84	61,000	6LD	35	50,000	**1.22**	**F**
14	SR 7 / US 441 north of SR 84	77,000	6LD	45	59,900	**1.29**	**F**
15	SR 7 / US 441 south of SR 84	83,500	6LD	45	59,900	**1.39**	**F**
16	SR 84 WB west of 136th Ave	14,000	2-lane 1-way	45	23,880	0.59	C
17	SR 84 EB west of 136th Ave	24,000	2-lane 1-way	45	23,880	**1.01**	**F**
18	SR 84 WB east of 136th Ave	31,500	2-lane 1-way	45	23,880	**1.32**	**F**
19	SR 84 EB east of 136th Ave	34,500	2-lane 1-way	45	23,880	**1.44**	**F**
20	SR 84 WB west of Flamingo Rd	19,500	2-lane 1-way	45	23,880	0.82	C
21	SR 84 EB west of Flamingo Rd	25,500	3-lane 1-way	45	35,940	0.71	C
22	SR 84 WB east of Flamingo Rd	21,000	3-lane 1-way	45	35,940	0.58	C
23	SR 84 EB east of Flamingo Rd	31,000	2-lane 1-way	45	23,880	**1.30**	**F**
24	SR 84 WB west of Hiatus Rd	15,500	2-lane 1-way	45	23,880	0.65	C
25	SR 84 EB west of Hiatus Rd	13,500	2-lane 1-way	45	23,880	0.57	C
26	SR 84 WB east of Hiatus Rd	17,000	2-lane 1-way	45	23,880	0.71	C
27	SR 84 EB east of Hiatus Rd	18,000	2-lane 1-way	45	23,880	0.75	C
28	SR 84 WB west of Nob Hill Rd	9,700	2-lane 1-way	45	23,880	0.41	C
29	SR 84 EB west of Nob Hill Rd	15,000	3-lane 1-way	45	35,940	0.42	C
30	SR 84 WB east of Nob Hill Rd	20,000	3-lane 1-way	45	35,940	0.56	C
31	SR 84 EB east of Nob Hill Rd	26,000	2-lane 1-way	45	23,880	**1.09**	**F**
32	SR 84 WB west of Pine Island Rd	28,500	2-lane 1-way	45	23,880	**1.19**	**F**
33	SR 84 EB west of Pine Island Rd	29,500	2-lane 1-way	45	23,880	**1.24**	**F**
34	SR 84 WB east of Pine Island Rd	31,000	3-lane 1-way	45	35,940	0.86	C
35	SR 84 EB east of Pine Island Rd	28,000	2-lane 1-way	45	23,880	**1.17**	**F**
36	SR 84 WB west of University Drive	31,000	2-lane 1-way	45	23,880	**1.30**	**F**
37	SR 84 EB west of University Drive	26,000	2-lane 1-way	45	23,880	**1.09**	**F**
38	SR 84 WB east of University Drive	40,500	3-lane 1-way	45	35,940	**1.13**	**F**
39	SR 84 EB east of University Drive	28,000	2-lane 1-way	45	23,880	**1.17**	**F**
40	SR 84 WB west of Davie Rd	38,000	3-lane 1-way	45	35,940	**1.06**	**F**
41	SR 84 EB west of Davie Rd	23,000	2-lane 1-way	45	23,880	0.96	C
42	SR 84 WB east of Davie Rd	28,000	4-lane 1-way	45	48,060	0.58	C
43	SR 84 EB east of Davie Rd	25,500	2-lane 1-way uninterrupted	45	15,246	**1.67**	**F**

3.3 No Build 2045 Intersection Operational Analysis

The Highway Capacity Manual (HCM) 2000 methodology within the Synchro software (version 10) was used to calculate delay and Level of Service (LOS) for the signalized and unsignalized study intersections. The HCM2000 methodology was utilized, since HCM 6th Edition and HCM 2010 procedures do not cover signalized intersections that operate with non-standard NEMA signal phasing, and many of the signalized study intersections either operate dual signals (clusters) on one controller or have other unique phasing. Therefore, to utilize a consistent methodology for reporting all delays and LOS for existing and future conditions at all study intersections, it was decided to report the HCM2000 delays and LOS for all study intersections.

A Peak Hour Factor (PHF) of 0.95 was used for the No Build (2045) AM peak hour (7:30 am to 8:30 am) and PM peak hour (5:00 pm to 6:00 pm) analyses. The 0.95 PHF is allowable for planning level analyses per guidelines in the FDOT Traffic Analysis Handbook on freeway facilities and urban arterials. Detailed existing PHFs determined from the 2019 15-minute count data were used for existing conditions analysis. However, a 0.95 PHF was determined to be more appropriate for future year 2045 analysis. This is because conditions are expected to change over the next 25 years and the 15-minute variability of traffic cannot be precisely predicted that far in the future. Therefore, a consistent PHF for all study intersections for year 2045 analysis was recommended and accepted by the FDOT for this study.

Bicycle and pedestrian crossing volumes recorded as part of the 2019 traffic counts, were assumed to remain approximately the same in 2045 as in existing conditions. Therefore, the 2019 pedestrian and bicycle crossing volumes were also used in the 2045 intersection analysis. For intersection approaches with a volume of more than 5 pedestrians and bicyclists in the peak hour, the signal timings for the Walk and Flash Don't Walk times, along with the volume of pedestrian and bicycle traffic, were incorporated into the intersection analysis. This approach recognizes that where pedestrian volumes are very low, pedestrian actuations will be very rare, and hence will not have any significant impacts on traffic operations.

Signal timings (e.g. cycle lengths, phasing, and splits) used for the 2045 No Build signalized intersection analysis were based on the existing signal timings obtained from Broward County Traffic Engineering. The cycle lengths were held constant and the splits were optimized for the No Build AM and PM peak hour volumes.

No Build 2045 intersection conditions were analyzed assuming the 2045 AM and PM peak hour turning movement volumes and lane geometry presented in Figure 2-5. The lane geometry for some study intersections is different from the existing conditions, because planned background improvements are assumed to be constructed and in place by year 2045. Projects currently under construction or planned to be under construction within the study timeframe (through year 2045), and that were identified in one of the adopted funding plans and that would have an impact on the study area were identified in Technical Memorandum #1. The improvements that are expected to modify the study area roadway lane geometry were incorporated into the 2045 No Build conditions analysis. Available construction plans and conceptual improvement studies were referenced to incorporate the planned lane geometry changes. These projects and lane geometry changes are listed below. The lane geometry changes are noted by red arrows in Figure 2-5.

1. Intersection of SW 136th Avenue and westbound SR 84 – FDOT project FM #437851 is currently under construction at this location. A designated westbound SR 84 right-turn lane, and an additional southbound through lane on SW 136th Avenue at SR 84 are being added. The project is estimated to be completed in year 2020.

2. Broward Boulevard from Nob Hill Road to Hiatus Road – A Broward County road capacity expansion project was identified in the County Surtax Plan with construction funded in year 2027. The project will add a third eastbound and westbound through lane on Broward

Boulevard. Three eastbound and three westbound lanes are assumed on Broward Boulevard at the intersection of Hiatus Road, and at the intersection of Nob Hill Road to account for the widening.

3. Nob Hill Road from I-595 to Broward Boulevard – A Broward County road capacity expansion project was identified in the County Surtax Plan with construction funded in year 2027. The project will add a third northbound and southbound through lane on Nob Hill Road. Three northbound and three southbound lanes are assumed on Nob Hill Road at the intersection of Hawks View Boulevard, and at the intersection of Broward Boulevard to account for the widening.

4. Pine Island Road from Nova Drive to Griffin Road – A Broward County road capacity expansion project was identified in the County Surtax Plan with construction funded in year 2020. The project will add a third northbound and southbound through lane on Pine Island Road. Three northbound and three southbound lanes are assumed on Pine Island Road at the intersection of Nova Drive.

5. University Drive northbound from south of Nova Drive to the I-595 flyover – FDOT project FM #445624 is a safety project to be funded for construction in fiscal year 2025/2026. A northbound auxiliary lane will be added along University Drive from south of Nova Drive to the on-ramp flyover to westbound I-595. This additional northbound lane is assumed at the intersections of University Drive and Nova Drive and University Drive at SW 23rd Street.

6. Intersection of SR 7/US-441 and Riverland Road/SW 20th Street – FDOT has a planned concept development project that includes an improvement to the eastbound I-595 off-ramp to northbound SR 7, and intersection improvements at the intersection of SR 7 and Riverland Road. This is expected to be funded for design and construction in the next five-year Work Program. At the intersection of SR 7 and Riverland Road, this project will reconfigure the eastbound and westbound approaches to align them and modify the lane geometry. This will allow the east and west approaches to have a simultaneous green phase during the traffic signal cycle. The westbound approach lane geometry will consist of two dedicated left-turn lanes and one shared through/right-turn lane. The eastbound approach will consist of a dedicated left-turn lane, one through lane, and a dedicated right-turn lane.

The 2045 No Build intersection traffic operational analysis was completed to identify future year operational deficiencies. The HCM2000 intersection operational analysis reports for each study intersection for the AM and PM peak hours are provided in Appendix B. In addition, the LOS and delay for each movement, approach and overall intersection are summarized in Tables B-1 through B-13 in Appendix B.

Table 3-2 presents a summary of the overall intersection delay and LOS for each study intersection. In the table, intersections with an estimated overall intersection LOS below the LOS D target in either peak hour, are highlighted in red.

Due to increased volumes, the 17 study intersections currently operating at LOS E or F under existing conditions, will continue to operate below LOS D in 2045, with even longer delays. In addition to the 17 intersections with existing deficiencies, 14 more study intersections are expected to operate at LOS E or F in peak hours by 2045. No Build 2045 peak hour intersection operational analysis results indicate that all SR 84 study intersections with the north-south study arterials will operate at an unacceptable overall LOS E or F. As shown in Table 3-2, the following 31 study intersections do not meet the target LOS D in the AM and/or PM peak hour.

1. **NW/SW 136th Avenue at SR 84 eastbound** in both AM and PM peak hour – Similar to existing conditions, high demand with long delays for the northbound right as well as southbound left turn movement (average > 300 seconds per vehicle) causes this intersection to operate at an overall LOS F in the AM and PM peak hours.

2. **NW/SW 136th Avenue at SR 84 westbound** in both AM and PM peak hours – The westbound movements (left, through, and right turn) all experience long delays during both peak hours, which causes the intersection to operate at an overall LOS F in the AM and PM peak hours.

3. **SR 84 westbound at Commodore Drive** in both AM and PM peak hours – This unsignalized intersection will degrade to a LOS F in both peak hours. The substandard operating conditions are due to delay experienced by southbound drivers that are turning right onto westbound SR 84. They must wait in excess of 300 seconds in both the AM and PM peak hours to make their turn.

4. **Flamingo Road / SR 823 at SR 84 eastbound** in both AM and PM peak hours - This intersection will continue to operate at an overall LOS F in the AM and PM peak hours. The substandard operating conditions are due to both the eastbound and northbound movements which experience long delays during both peak hours.

5. **Flamingo Road / SR 823 at SR 84 westbound** in both AM and PM peak hours – Both the westbound and southbound movements experience long delays during both peak hours. This causes the intersection to degrade further to an overall LOS F in both peak hours.

6. **Flamingo Road at Broward Boulevard** in the AM peak hour – This intersection was not failing in existing conditions, but by 2045, all approaches experience long delays with the most delay for the westbound approach with an average delay of 109 seconds per vehicle. The long delays cause the intersection to operate at LOS E during the AM peak hour.

7. **Hiatus Road at SR 84 eastbound** in both AM and PM peak hours – As with existing conditions, during both peak hours, all eastbound movements, the northbound through movement, and southbound left turn movement will continue to experience long delays. These long delays cause the intersection to operate at LOS F during the AM and PM peak hours.

8. **Hiatus Road at SR 84 westbound** in both AM and PM peak hours – The intersection will continue to operate at a LOS F in both AM and PM peak hours, due to long delays experienced on the westbound and southbound movements.

9. **Hiatus Road at Broward Boulevard** in both AM and PM peak hours – During both AM and PM peak hours the intersection will operate at a LOS F, due to long delays experienced on all approach movements.

10. **Nob Hill Road at SR 84 eastbound** in both AM and PM peak hours - This intersection delay increases in the future, and the intersection will operate at an overall LOS F during both peak hours. The substandard operating conditions remain related to both the eastbound and northbound movements which experience long delays during both peak hours.

11. **Nob Hill Road at SR 84 westbound** in both AM and PM peak hours - Both the westbound and southbound movements will continue to experience long delays during both peak hours. These long delays cause the intersection to degrade further to an overall LOS F in the AM and PM peak hours.

12. **Nob Hill Road at Broward Boulevard** in the PM peak hour - The westbound movements, northbound movements, and southbound movements all experience long delays during the PM peak. These long delays continue to cause the intersection to operate at an overall LOS E in the PM peak hour.

13. **Pine Island Road at SW 24th Street / Nova Drive** in both AM and PM peak hours – By 2045 the intersection will operate at an overall LOS E during both peak hours. The greater delays are observed in the eastbound and westbound approaches, however northbound and southbound approach are near failing thresholds.

14. **Pine Island Road at SR 84 eastbound** in both AM and PM peak hours - The intersection will continue to operate at an overall LOS F during the AM peak hour, and will begin to operate at LOS F during the PM peak hour by 2045. The substandard operating conditions are due to the long delay experienced for all eastbound movements and northbound movements.

15. **Pine Island Road at SR 84 westbound** in both AM and PM peak hours - Long delay will continue for all westbound and southbound movements, keeping the intersection operating at an overall LOS F during both the AM peak hour and PM peak hour.

16. **Pine Island Road at Peters Road** in PM peak hour – The westbound left and right movements along with the northbound through movement will experience high delays. This will cause the intersection to operate at an overall LOS F during the PM peak hour by 2045.

17. **Pine Island Road at SW 6th Court** in both AM and PM peak hours – The westbound left, northbound left and southbound left-turn movements experience high delays. This will contribute to an overall intersection LOS E in the AM peak period and LOS F in the PM peak period by 2045.

18. **SR 84 eastbound at SW 81st Avenue** in both AM and PM peak hours - This unsignalized intersection will operate at a LOS F in both peak hours in year 2045. This is due to the delay experienced by northbound drivers that are turning right onto eastbound SR 84. They must wait an average excess of 267 seconds in the AM peak hour and 68 seconds in the PM peak hour to make their turn.

19. **University Drive / SR 817 at SW 30th Street** in both AM and PM peak hours – The northbound approach experiences the longest delay in both AM and PM peak hours. By 2045, the overall intersection operates at LOS F in both peak hours.

20. **University Drive / SR 817 at Nova Drive** in both AM and PM peak hours – The overall intersection will operate at LOS F in the AM and PM peak hours by 2045. The westbound approach experiences maximum delays exceeding 300 seconds per vehicle in the AM peak hour. Also, the southbound approach experiences maximum delays exceeding 153 seconds per vehicle in and PM peak hour.

21. **University Drive / SR 817 at SW 23rd Street** in both AM and PM peak hour – The intersection will operate at an overall LOS E during the AM peak hour and LOS F during the PM peak hour by year 2045. This is primarily due to delays that will be experienced by the eastbound and westbound approaches in the AM peak hour and northbound and southbound approaches in the PM peak hour.

22. **University Drive / SR 817 at Kolsky Boulevard** in the PM peak hour - Long delay in the northbound and southbound through movements will result in the intersection operating at an overall LOS F during the PM peak hour by 2045.

23. **University Drive / SR 817 at SR 84 eastbound** in both AM and PM peak hours – Eastbound approach delays in both AM and PM peak hours will contribute to the intersection operating at a LOS E in both AM and PM peak hours by 2045.

24. **University Drive / SR 817 at SR 84 westbound** in both AM and PM peak hours - The westbound movements all experience excessive delays, which causes the intersection to further degrade and by 2045 operate at an overall LOS F in the AM peak hour and LOS E in the PM peak hour.

25. **University Drive / SR 817 at Peters Road** in both AM and PM peak hours – By 2045 the intersection operations worsen, and it will operate at an overall LOS F not only during the AM peak hour, but in the PM peak hour as well. This is due to long delays experienced on all four approaches.

26. **University Drive / SR 817 at Federated Road** in both AM and PM peak hours – by 2045, heavier southbound through movements contribute to high delays in both AM and PM peak hours. The intersection will operate at an overall LOS E in the AM peak hour and LOS F in the PM peak hour.

27. **Davie Road at Nova Drive** in both AM and PM peak hours – The intersection is expected to operate at an overall LOS F during both peak hours by year 2045. This is due to long delays experienced on all four approaches.

28. **Davie Road at SR 84 eastbound** in both AM and PM peak hours - The intersection currently operates at an overall LOS F during the AM and PM peak hours, and it is expected to continue to operate at LOS F in 2045. This is due to the long delay experienced by the eastbound movements and the northbound through movement.

29. **Davie Road at SR 84 westbound** in both AM and PM peak hours - The intersection will operate at an overall LOS F during the AM and PM peak hours by 2045. This is due to the long delay experienced by the westbound movements.

30. **SR 7/US-441 at Oakes Road** in both AM and PM peak hours – By year 2045, the intersection will operate at an overall LOS E during the AM peak hour and LOS F during the PM peak hour. This is primarily due to long delays experienced by the eastbound left-turn movements and northbound left-turn movements.

31. **SR 7/US-441 at SW 20th Street / Riverland Road** in both AM and PM peak hours – The intersection will continue to operate at an overall LOS F during the AM peak hour and LOS E during the PM peak hour. These substandard operating conditions are mainly due to long delays experienced by vehicles on the eastbound and westbound approaches during both peak hours.

The No Build peak hour operating conditions at the above noted intersections indicate a need for improvements.

Table 3-2: No Build 2045 Conditions Study Intersection LOS

Cross Road	Intersection Ref. No.	Intersection With:	Control Type	2045 No Build LOS	
				AM	PM
1. NW/SW 136th Avenue	1	Shenandoah Parkway / SW 5th Street	Signal	C	B
	2	SR 84 Eastbound	Signal	F	F
	3	SR 84 Westbound	Signal	F	F
	4	NW 2nd Street	Signal	A	B
2. SR 84 Westbound	5	Commodore Drive	Stop Control	F	F
	6	SW 125th Avenue	Stop Control	C	D
3. Flamingo Road / SR 823	7	SW 8th Street	Signal	B	B
	8	SR 84 Eastbound	Signal	F	F
	9	SR 84 Westbound	Signal	F	F
	10	Broward Boulevard	Signal	E	D
4. Hiatus Road	11	SR 84 Eastbound	Signal	F	F
	12	SR 84 Westbound	Signal	F	F
	13	Broward Boulevard	Signal	F	F
5. Nob Hill Road	14	SW 13th Street	Signal	C	A
	15	SW 101 Road	Signal	B	B
	16	SR 84 Eastbound	Signal	F	F
	17	SR 84 Westbound	Signal	F	F
	18	Hawks View Boulevard	Signal	B	B
	19	Broward Boulevard	Signal	D	E
6. Pine Island Road	20	SW 24th Street / Nova Drive	Signal	E	E
	21	Orange Grove Road	Signal	B	B
	22	SR 84 Eastbound	Signal	F	F
	23	SR 84 Westbound	Signal	F	F
	24	New River Canal Road	Signal	B	C
	25	Peters Road	Signal	D	F
	26	SW 6th Court	Signal	E	F
7. Peters Road	27	SW 80th Terrace	Signal	B	D
8. SR 84 Eastbound	28	SW 81st Avenue	Stop Control	F	F
9. University Drive / SR 817	29	SW 30th Street	Signal	F	F
	30	Nova Drive	Signal	F	F
	31	SW 23rd Street	Signal	E	F
	32	Kolsky Boulevard	Signal	D	F
	33	SR 84 Eastbound	Signal	E	E
	34	SR 84 Westbound	Signal	F	E
	35	Peters Road	Signal	F	F
	36	The Fountains	Signal	C	C
	37	Federated Road	Signal	E	F
10. Davie Road	38	Nova Drive	Signal	F	F
	39	Reese Road	Signal	C	D
	40	SR 84 Eastbound	Signal	F	F
	41	SR 84 Westbound	Signal	F	F
11. SR 7 / US 441	42	Oakes Road	Signal	E	F
	43	SW 20th Street / Riverland Road	Signal	F	E

4. SUMMARY OF NO BUILD 2045 DEFICIENCIES

This No Build 2045 Traffic Analysis Technical Memorandum 3 documents the traffic volumes forecasted for year 2045 and the intersections LOS analyses and operational deficiencies. No Build 2045 conditions analyses presented herein indicate where deficiencies are located within the study area and quantify the severity of the deficiencies. This information, along with the previously documented existing conditions analysis, informs where improvements are currently needed and for the long term.

The findings from the No Build 2045 AADT LOS analysis for each of the study roadways, and the peak hour intersection operational analysis are summarized below.

4.1 No Build 2045 Roadway Level of Service Analysis

A level of service analysis was completed for the eight north-south study roadways and SR 84 eastbound and westbound, using the forecasted No Build 2045 AADTs. The results show the following roadways will operate at LOS F with AADTs that exceed the daily generalized roadway capacity. This indicates where significant modifications may be needed such as additional travel lanes, and/or volume reducing strategies such as improving or adding alternative routes.

1. Nob Hill Road north of SR 84/I-595 – exceeds capacity by 7%
2. Pine Island Road north of SR 84/I-595 – exceeds capacity by 9%
3. University Drive/SR 817 north of SR 84/I-595 – exceeds capacity by 79%
4. University Drive/SR 817 south of SR 84/I-595 – exceeds capacity by 50%
5. Davie Road south of SR 84/I-595 – exceeds capacity by 22%
6. SR 7 / US 441 north of SR 84/I-595 – exceeds capacity by 29%
7. SR 7 / US 441 south of SR 84/I-595 – exceeds capacity by 39%
8. Westbound SR 84 east of SW/NW 136th Avenue – exceeds capacity by 32%
9. Westbound SR 84 west of Pine Island Road – exceeds capacity by 19%
10. Westbound SR 84 west of University Drive/SR 817 – exceeds capacity by 30%
11. Westbound SR 84 east of University Drive/SR 817 – exceeds capacity by 13%
12. Westbound SR 84 west of Davie Road – exceeds capacity by 6%
13. Eastbound SR 84 west of SW/NW 136th Avenue – exceeds capacity by 1%
14. Eastbound SR 84 east of SW/NW 136th Avenue – exceeds capacity by 44%
15. Eastbound SR 84 east of Flamingo Road – exceeds capacity by 30%
16. Eastbound SR 84 east of Nob Hill Road – exceeds capacity by 9%
17. Eastbound SR 84 west of Pine Island Road – exceeds capacity by 24%
18. Eastbound SR 84 east of Pine Island Road – exceeds capacity by 17%
19. Eastbound SR 84 west of University Drive/SR 817 – exceeds capacity by 9%
20. Eastbound SR 84 east of University Drive/SR 817 – exceeds capacity by 17%
21. Eastbound SR 84 east of Davie Road - exceeds capacity by 67%

4.2 No Build 2045 Intersection Operational Analysis

The following 31 study intersections do not meet the target LOS D in the 2045 AM or PM peak hour. The No Build 2045 peak hour operations at these intersections indicate a need for improvement.

1. NW/SW 136th Avenue at SR 84 eastbound in the AM peak hour.
2. NW/SW 136th Avenue at SR 84 westbound in both AM and PM peak hours.
3. SR 84 westbound at Commodore Drive in both AM and PM peak hours.
4. Flamingo Road / SR 823 at SR 84 eastbound in both AM and PM peak hours.
5. Flamingo Road / SR 823 at SR 84 westbound in both AM and PM peak hours.
6. Flamingo Road / SR 823 at Broward Boulevard in both AM and PM peak hours.
7. Hiatus Road at SR 84 eastbound in both AM and PM peak hours.
8. Hiatus Road at SR 84 westbound in both AM and PM peak hours.
9. Hiatus Road at Broward Boulevard in both AM and PM peak hours.
10. Nob Hill Road at SR 84 eastbound in both AM and PM peak hours.

11. Nob Hill Road at SR 84 westbound in both AM and PM peak hours.
12. Nob Hill Road at Broward Boulevard in the PM peak hour.
13. Pine Island Road at SW 24th Street / Nova Drive in both AM and PM peak hours
14. Pine Island Road at SR 84 eastbound in both AM and PM peak hours.
15. Pine Island Road at SR 84 westbound in both AM and PM peak hours.
16. Pine Island Road at Peters Road in PM peak hour.
17. Pine Island Road at SW 6th Court in in both AM and PM peak hours.
18. SR-84 eastbound at SW 81st Avenue in both AM and PM peak hours.
19. University Drive / SR 817 at SW 30th Street in both AM and PM peak hours.
20. University Drive / SR 817 at Nova Drive in both AM and PM peak hours.
21. University Drive / SR 817 at SW 23rd Street in both AM and PM peak hours.
22. University Drive / SR 817 at Kolsky in PM peak hour.
23. University Drive / SR 817 at SR 84 eastbound in both AM and PM peak hours.
24. University Drive / SR 817 at SR 84 westbound in both AM and PM peak hours.
25. University Drive / SR 817 at Peters Road in both AM and PM peak hours.
26. University Drive / SR 817 at Federated Road in both AM and PM peak hours.
27. Davie Road at Nova Drive in both AM and PM peak hours.
28. Davie Road at SR 84 eastbound in both AM and PM peak hours.
29. Davie Road at SR 84 westbound in both AM and PM peak hours.
30. SR 7/US-441 at Oakes Road in both AM and PM peak hours.
31. SR 7/US-441 at SW 20th Street / Riverland Road in both AM and PM peak hours.

APPENDICES

APPENDIX A - Traffic Forecasting Support Materials

APPENDIX A-1
LIST OF FDOT COUNT STATIONS

APPENDIX A

LIST OF FDOT COUNT STATIONS USED FOR REGRESSION ANALYSIS

A list of the FDOT count stations where data was used for the regression analysis, is provided below.

1) 865320: SW 136th Avenue North of I-595/SR-862 & Westbound SR-84
2) 865321: SW 136th Avenue South of I-595/SR-862 & Eastbound SR-84
3) 867332: NW 136th Avenue South of Sunrise Boulevard
4) 869649: SW 136th Avenue North of SW 14th Street
5) 865120: CR-823/Flamingo Road North of SR-84
6) 860127: SR-823/Flamingo Road South of SR-84
7) 865308: SR-823/Flamingo Road North of SW 20th Street
8) 867071: Flamingo Road North of Broward Boulevard
9) 860143: Hiatus Road North of I-595/SR-862 & Westbound SR-84
10) 865319: Hiatus Road South of I-595/SR-862 & Eastbound SR-84
11) 865316: Nob Hill Road North of I-595/SR-862 & Westbound SR-84
12) 865317: Nob Hill Road/100 Avenue South of I-595/SR-862 & Eastbound SR-84
13) 869150: Nob Hill Road North of Broward Boulevard
14) 865314: Pine Island Road North of I-595/SR-862 & Westbound SR-84
15) 865315: Pine Island Road South of I-595/SR-862 & Eastbound SR-84
16) 867694: Pine Island Road South of Broward Boulevard
17) 869455: Pine Island Road South of Nova Drive
18) 860044: SR-817/University Drive North of Orange Drive
19) 860045: SR-817/University Drive South of Northbound Ramp to Westbound I-595
20) 860114: SR-817/University Drive South of Nova Drive
21) 860471: SR-817/University Drive North of I-595 South of Peters Road
22) 867129: University Drive North of Broward Boulevard
23) 865313: Davie Road South of I-595/SR-862 & Eastbound SR-84
24) 867970: Davie Road North of SW 39th Street
25) 860010: SR-7/US-441 North of Riverland Road
26) 860089: SR-7/US-441 North of Orange Drive
27) 860605: SR-84 (Eastbound) West of SW 136th Avenue, One Way
28) 860610: SR-84 (Eastbound) East of SW 136th Avenue, West of I-595 On Ramp
29) 860625: SR-84 (Eastbound) West of Flamingo Road
30) 860604: SR-84 (Eastbound) East of Flamingo Road, West of I-595 On Ramp
31) 860626: SR-84 (Eastbound) West of Hiatus Road
32) 860603: SR-84 (Eastbound) East of Hiatus Road, West of I-595 On Ramp
33) 860627: SR-84 (Eastbound) 1000' West of Nob Hill Road

APPENDIX A

LIST OF FDOT COUNT STATIONS USED FOR REGRESSION ANALYSIS

34) 860608: SR-84 (Eastbound) East of Nob Hill Road
35) 860628: SR-84 (Eastbound) 1000' West of Pine Island Road
36) 860601: SR-84 (Eastbound) East of Pine Island Road
37) 860629: SR-84 (Eastbound) East of Ramp 020, 300' West of University Drive
38) 865233: SR-84 (Eastbound) East of University Drive
39) 860630: SR-84 (Eastbound) East of Ramp 026, 800' West of Davie Road
40) 864226: SR-84 (Eastbound) From Davie Road
41) 860616: SR-84 (Westbound) West of SW 136th Avenue
42) 860621: SR-84 (Westbound) East of SW 136th Avenue
43) 860609: SR-84 (Westbound) West of Flamingo Road
44) 860620: SR-84 (Westbound) East of Flamingo Road
45) 860615: SR-84 (Westbound) West of Hiatus Road
46) 860619: SR-84 (Westbound) 1000' East of Hiatus Road
47) 860602: SR-84 (Westbound) West of Nob Hill Road
48) 860618: SR-84 (Westbound) 1000' East of Nob Hill Road
49) 860607: SR-84 (Westbound) West of Pine Island Road, East of I-595 On Ramp
50) 860600: SR-84 (Westbound) West of University Drive, West of Westbound I-595 Off Ramp
51) 860617: SR-84 (Westbound) West of Davie Road, West of I-595 Off Ramp
52) 864298: SR-84 (Westbound) East of Davie Road
53) 867047: Nova Drive West of Davie Road
54) 867328: Nova Drive East of University Drive
55) 867703: Nova Drive East of Pine Island Road
56) 867057: Peters Road East of University Drive
57) 867341: Peters Road East of Pine Island Road
58) 867811: Broward Boulevard, East of Nob Hill Road
59) 869227: Broward Boulevard West of Nob Hill Road
60) 869395: Broward Boulevard East of Commodore Drive
61) 869447: SW 30th Street West of University Drive
62) 869449: SW 30th Street East of University Drive
63) 867937: Riverland Road East of SW 31st Avenue
64) 869734: SW 6th Street West of University Drive
65) 869735: Perimeter Road South of Broward Boulevard

APPENDIX A-2
Historical AADT Growth Rates

APPENDIX A **TABLE A-1 HISTORICAL AADT GROWTH RATES**

NID	Intersection	Leg	Historical AADT Sites	Raw Data					Linear		Trend Analysis Historical			GR (Historical)	GR (Future)	Historical AADT Growth Rate (Y2015-Y2019)
				2015	2016	2017	2018	2019	Slope	Intercept	2015	2019	2045			
1	SW 136th Avenue & Shenandoah Parkway	North	865321	23,500	25,500	26,500	25,500	25,500	400	-781500	24,500	26,100	36,500	1.63%	1.53%	1.63%
2		East														
3		South	869649	10,000	11,300	11,600	11,800	12,000	450	-896310	10,440	12,240	23,940	4.31%	3.68%	4.31%
4		West														
6	SW 136th Avenue & SR-84 EB	East	860610	22,500	26,000	29,500	24,500	28,500	1050	-2091650	24,100	28,300	55,600	4.36%	3.71%	4.36%
7		South	865321	23,500	25,500	26,500	25,500	25,500	400	-781500	24,500	26,100	36,500	1.63%	1.53%	1.63%
8		West	860605	17,000	15,500	14,000	20,000	20,000	1050	-2100550	15,200	19,400	46,700	6.91%	5.41%	6.91%
9	SW 136th Avenue & SR-84 WB	North	865320	26,500	36,500	34,500	36,500	36,500	2000	-3999900	30,100	38,100	90,100	6.64%	5.25%	6.64%
10		East	860621	23,500	24,000	24,500	24,000	25,000	300	-580900	23,600	24,800	32,600	1.27%	1.21%	1.27%
12		West	860616	9,600	11,000	11,000	11,000	11,000	280	-554040	10,160	11,280	18,560	2.76%	2.48%	2.76%
13	SW 136th Avenue & NW 2nd Street	North	867332	26,500	28,000	29,000	29,000	29,000	600	-1181900	27,100	29,500	45,100	2.21%	2.03%	2.21%
15		South	865320	26,500	36,500	34,500	36,500	36,500	2000	-3999900	30,100	38,100	90,100	6.64%	5.25%	6.64%
16		West														
17	Flamingo Road & SW 8th Street	North	860127	34,000	37,000	35,000	39,500	36,500	750	-1476350	34,900	37,900	57,400	2.15%	1.98%	2.15%
19		South	865308	29,500	32,500	33,000	33,500	38,000	1800	-3597300	29,700	36,900	83,700	6.06%	4.88%	6.06%
20		West														
22	Flamingo Road & SR-84 EB	East	860604	21,000	25,000	28,500	26,500	25,500	1050	-2092550	23,200	27,400	54,700	4.53%	3.83%	4.53%
23		South	860127	34,000	37,000	35,000	39,500	36,500	750	-1476350	34,900	37,900	57,400	2.15%	1.98%	2.15%
24		West	860625	19,500	20,500	21,000	22,000	21,000	450	-886850	19,900	21,700	33,400	2.26%	2.07%	2.26%
25	Flamingo Road & SR-84 WB	North	865120	40,000	43,000	42,500	40,500	40,500	-150	343850	41,600	41,000	37,100	-0.36%	-0.37%	-0.36%
26		East	860620	17,500	19,500	18,500	18,500	17,500	-100	220000	18,500	18,100	15,500	-0.54%	-0.55%	-0.54%
28		West	860609	14,000	17,000	15,000	15,000	15,500	100	-186400	15,100	15,500	18,100	0.66%	0.65%	0.66%
29	Flamingo Road & Broward Boulevard	North	867071	38,000	43,000	44,000	45,000	45,000	1600	-3184200	39,800	46,200	87,800	4.02%	3.46%	4.02%
30		East	869227	23,000	21,100	21,900	22,000	22,000	-110	243870	22,220	21,780	18,920	-0.50%	-0.51%	-0.50%
31		South	865120	40,000	43,000	42,500	40,500	40,500	-150	343850	41,600	41,000	37,100	-0.36%	-0.37%	-0.36%
32		West	869395	2,800	5,100	5,300	5,300	5,300	520	-1044080	3,720	5,800	19,320	13.98%	8.97%	13.98%
34	Hiatus Road & SR-84 EB	East	860603	14,500	15,500	15,500	16,000	15,000	150	-287250	15,000	15,600	19,500	1.00%	0.96%	1.00%
35		South	865319	17,900	21,500	14,800	17,800	18,000	-350	723950	18,700	17,300	8,200	-1.87%	-2.02%	-1.87%
36		West	860626	15,500	13,500	12,500	12,500	11,000	-1000	2030000	15,000	11,000	-15,000	-6.67%	-9.09%	-6.67%
37	Hiatus Road & SR-84 WB	North	860143	17,300	19,900	23,500	20,000	20,000	550	-1089210	19,040	21,240	35,540	2.89%	2.59%	2.89%
38		East	860619	11,000	11,000	12,000	14,000	14,000	900	-1802900	10,600	14,200	37,600	8.49%	6.34%	8.49%
40		West	860615	11,500	12,500	11,500	13,000	13,000	350	-693650	11,600	13,000	22,100	3.02%	2.69%	3.02%
41	Hiatus Road & Broward Boulevard	North	860143	17,300	19,900	23,500	20,000	20,000	550	-1089210	19,040	21,240	35,540	2.89%	2.59%	2.89%
42		East	869227	23,000	21,100	21,900	22,000	22,000	-110	243870	22,220	21,780	18,920	-0.50%	-0.51%	-0.50%
43		South	860143	17,300	19,900	23,500	20,000	20,000	550	-1089210	19,040	21,240	35,540	2.89%	2.59%	2.89%
44		West	869227	23,000	21,100	21,900	22,000	22,000	-110	243870	22,220	21,780	18,920	-0.50%	-0.51%	-0.50%
45	Nob Hill Road & SW 13th Street	North	865317	22,000	29,000	25,000	25,000	25,000	200	-378200	24,800	25,600	30,800	0.81%	0.78%	0.81%
46		East														
47		South	865317	22,000	29,000	25,000	25,000	25,000	200	-378200	24,800	25,600	30,800	0.81%	0.78%	0.81%
48		West														
49	Nob Hill Road & SW 101st Road	North	865317	22,000	29,000	25,000	25,000	25,000	200	-378200	24,800	25,600	30,800	0.81%	0.78%	0.81%
50		East														
51		South	865317	22,000	29,000	25,000	25,000	25,000	200	-378200	24,800	25,600	30,800	0.81%	0.78%	0.81%
52		West														
54	Nob Hill Road & SR-84 EB	East	860608	18,500	20,500	19,000	21,000	20,500	450	-887750	19,000	20,800	32,500	2.37%	2.16%	2.37%
55		South	865317	22,000	29,000	25,000	25,000	25,000	200	-378200	24,800	25,600	30,800	0.81%	0.78%	0.81%
56		West	860627	11,500	12,500	13,000	13,500	12,500	300	-592500	12,000	13,200	21,000	2.50%	2.27%	2.50%
57	Nob Hill Road & SR-84 WB	North	865316	28,000	31,500	35,000	35,000	35,000	1750	-3496850	29,400	36,400	81,900	5.95%	4.81%	5.95%
58		East	860618	16,500	15,000	16,500	19,500	16,000	350	-689250	16,000	17,400	26,500	2.19%	2.01%	2.19%
60		West	860602	10,500	8,400	7,500	8,000	8,000	-540	1097660	9,560	7,400	-6,640	-5.65%	-7.30%	-5.65%
61	Nob Hill Road & Hawks View Boulevard	North	865316	28,000	31,500	35,000	35,000	35,000	1750	-3496850	29,400	36,400	81,900	5.95%	4.81%	5.95%
63		South	865316	28,000	31,500	35,000	35,000	35,000	1750	-3496850	29,400	36,400	81,900	5.95%	4.81%	5.95%
64		West														
65	Nob Hill Road & Broward Boulevard	North	869150	29,500	30,500	31,500	31,500	31,500	500	-977600	29,900	31,900	44,900	1.67%	1.57%	1.67%
66		East	867811	28,000	29,000	30,000	30,000	30,000	500	-979100	28,400	30,400	43,400	1.76%	1.64%	1.76%
67		South	865316	28,000	31,500	35,000	35,000	35,000	1750	-3496850	29,400	36,400	81,900	5.95%	4.81%	5.95%
68		West	869227	23,000	21,100	21,900	22,000	22,000	-110	243870	22,220	21,780	18,920	-0.50%	-0.51%	-0.50%
69	Pine Island Road & Nova Drive	North	865315	29,000	33,500	34,500	35,500	35,500	1500	-2991900	30,600	36,600	75,600	4.90%	4.10%	4.90%
70		East	867703	8,700	11,400	11,700	11,900	12,100	730	-1461250	9,700	12,620	31,600	7.53%	5.78%	7.53%
71		South	869455	32,000	33,000	34,000	35,000	35,000	800	-1579800	32,200	35,400	56,200	2.48%	2.26%	2.48%
72		West	867703	8,700	11,400	11,700	11,900	12,100	730	-1461250	9,700	12,620	31,600	7.53%	5.78%	7.53%
73	Pine Island Road & Orange Grove Drive	North	865315	29,000	33,500	34,500	35,500	35,500	1500	-2991900	30,600	36,600	75,600	4.90%	4.10%	4.90%
75		South	865315	29,000	33,500	34,500	35,500	35,500	1500	-2991900	30,600	36,600	75,600	4.90%	4.10%	4.90%
76		West														
78	Pine Island Road & SR-84 EB	East	860601	19,500	20,500	22,500	23,500	21,500	700	-1390400	20,100	22,900	41,100	3.48%	3.06%	3.48%
79		South	865315	29,000	33,500	34,500	35,500	35,500	1500	-2991900	30,600	36,600	75,600	4.90%	4.10%	4.90%
80		West	860628	30,500	22,000	20,000	22,000	23,500	-1400	2847400	26,400	20,800	-15,600	-5.30%	-6.73%	-5.30%
81	Pine Island Road & SR-84 WB	North	865314	50,500	47,000	44,500	51,500	52,000	750	-1463650	47,600	50,600	70,100	1.58%	1.48%	1.58%
82		East	860600	22,000	24,000	23,000	24,000	23,500	300	-581800	22,700	23,900	31,700	1.32%	1.26%	1.32%
84		West	860607	19,500	22,000	24,000	21,500	22,500	550	-1087450	20,800	23,000	37,300	2.64%	2.39%	2.64%
85	Pine Island Road & New River Canal Road	North	865314	50,500	47,000	44,500	51,500	52,000	750	-1463650	47,600	50,600	70,100	1.58%	1.48%	1.58%
86		East														
87		South	865314	50,500	47,000	44,500	51,500	52,000	750	-1463650	47,600	50,600	70,100	1.58%	1.48%	1.58%
88		West														
89	Pine Island Road & Peter Road	North	867694	46,000	39,500	40,500	41,500	41,500	-700	1453700	43,200	40,400	22,200	-1.62%	-1.73%	-1.62%
90		East	867341	20,000	17,000	17,400	17,600	17,800	-380	784420	18,720	17,200	7,320	-2.03%	-2.21%	-2.03%
91		South	865314	50,500	47,000	44,500	51,500	52,000	750	-1463650	47,600	50,600	70,100	1.58%	1.48%	1.58%
93	Pine Island Road & SW 6th Court	North	867694	46,000	39,500	40,500	41,500	41,500	-700	1453700	43,200	40,400	22,200	-1.62%	-1.73%	-1.62%
94		East	869734	3,600	3,400	3,400	3,400	3,400	-40	84120	3,520	3,360	2,320	-1.14%	-1.19%	-1.14%
95		South	867694	46,000	39,500	40,500	41,500	41,500	-700	1453700	43,200	40,400	22,200	-1.62%	-1.73%	-1.62%
96		West														
97	SW 80th Terrace & Peters Road	North														
98		East	867341	20,000	17,000	17,400	17,600	17,800	-380	784420	18,720	17,200	7,320	-2.03%	-2.21%	-2.03%
99		South														
100		West	867341	20,000	17,000	17,400	17,600	17,800	-380	784420	18,720	17,200	7,320	-2.03%	-2.21%	-2.03%
101	University Drive & SW 30th Street	North	860114	50,500	50,000	49,000	48,500	57,500	1250	-2470150	48,600	53,600	86,100	2.57%	2.33%	2.57%
102		East	869449	12,700	13,100	13,500	13,700	13,900	300	-591720	12,780	13,980	21,780	2.35%	2.15%	2.35%
103		South	860044	50,500	51,500	52,500	52,500	50,500	100	-150200	51,300	51,700	54,300	0.19%	0.19%	0.19%
104		West	869447	7,600	11,600	11,900	12,100	12,300	990	-1985730	9,120	13,080	38,820	10.86%	7.57%	10.86%
105	University Drive & Nova Drive	North	860045	64,500	66,500	68,500	61,500	62,000	-1000	2081600	66,600	62,600	36,600	-1.50%	-1.60%	-1.50%
106		East	867328	17,400	17,800	18,200	18,400	18,600	300	-587020	17,480	18,680	26,480	1.72%	1.61%	1.72%
107		South	860114	50,500	50,000	49,000	48,500	57,500	1250	-2470150	48,600	53,600	86,100	2.57%	2.33%	2.57%
108		West	867703	8,700	11,400	11,700	11,900	12,100	730	-1461250	9,700	12,620	31,600	7.53%	5.78%	7.53%
109	University Drive & SW 23rd Street	North	860045	64,500	66,500	68,500	61,500	62,000	-1000	2081600	66,600	62,600	36,600	-1.50%	-1.60%	-1.50%
110		East														
111		South	860045	64,500	66,500	68,500	61,500	62,000	-1000	2081600	66,600	62,600	36,600	-1.50%	-1.60%	-1.50%
112		West														
113	University Drive & Kolsky Boulevard	North	860045	64,500	66,500	68,500	61,500	62,000	-1000	2081600	66,600	62,600	36,600	-1.50%	-1.60%	-1.50%
114		East														
115		South	860045	64,500	66,500	68,500	61,500	62,000	-1000	2081600	66,600	62,600	36,600	-1.50%	-1.60%	-1.50%
116		West														
118	University Drive & SR-84 EB	East	865233	18,000	18,500	19,000	21,000	21,500	950	-1896550	17,700	21,500	46,200	5.37%	4.42%	5.37%
119		South	860045	64,500	66,500	68,500	61,500	62,000	-1000	2081600	66,600	62,600	36,600	-1.50%	-1.60%	-1.50%
120		West	860629	18,500	20,000	19,000	20,500	20,000	350	-686350	18,900	20,300	29,400	1.85%	1.72%	1.85%
121	University Drive & SR-84 WB	North	860471	74,000	76,000	82,500	83,500	78,500	1650	-3249150	75,600	82,200	125,100	2.18%	2.01%	2.18%
122		East	860617	20,000	21,500	28,500	28,000	29,000	2450	-4916250	20,500	30,300	94,000	11.95%	8.09%	11.95%
124		West	860600	22,000	24,000	23,000	24,000	23,500	300	-581800	22,700	23,900	31,700	1.32%	1.26%	1.32%
125	University Drive & SW 12nd Street	North	867129	47,500	53,500	49,000	52,500	53,000	1000	-1965900	49,100	53,100	79,100	2.04%	1.88%	2.04%
126		East	867057	25,000	26,000	27,000	27,000	27,000	500	-982100	25,400	27,400	40,400	1.97%	1.82%	1.97%
127		South	860471	74,000	76,000	82,500	83,500	78,500	1650	-3249150	75,600	82,200	125,100	2.18%	2.01%	2.18%
128		West	867341	20,000	17,000	17,400	17,600	17,800	-380	784420	18,720	17,200	7,320	-2.03%	-2.21%	-2.03%
129	University Drive & The Fountains	North	867129	47,500	53,500	49,000	52,500	53,000	1000	-1965900	49,100	53,100	79,100	2.04%	1.88%	2.04%
131		South	867129	47,500	53,500	49,000	52,500	53,000	1000	-1965900	49,100	53,100	79,100	2.04%	1.88%	2.04%
132		West	869734	3,600	3,400	3,400	3,400	3,400	-40	84120	3,520	3,360	2,320	-1.14%	-1.19%	-1.14%
133	University Drive & Federated Road	North	867129	47,500	53,500	49,000	52,500	53,000	1000	-1965900	49,100	53,100	79,100	2.04%	1.88%	2.04%
134		East														
135		South	867129	47,500	53,500	49,000	52,500	53,000	1000	-1965900	49,100	53,100	79,100	2.04%	1.88%	2.04%
136		West	869735	8,200	1,900	1,900	1,900	9,400	240	-479420	4,180	5,140	11,380	5.74%	4.67%	5.74%
137	Davie Road & Nova Drive	North	865313	46,500	47,500	47,000	46,500	46,500	-100	248500	47,000	46,600	44,000	-0.21%	-0.21%	-0.21%
138		East														
139		South	867970	25,500	36,000	37,000	37,500	37,500	2550	-5108650	29,600	39,800	106,100	8.61%	6.41%	8.61%
140		West	867047	19,500	24,000	25,000	25,000	25,000	1200	-2396700	21,300	26,100	57,300	5.63%	4.60%	5.63%
141	Davie Road & Reese Road	North	865313	46,500	47,500	47,000	46,500	46,500	-100	248500	47,000	46,600	44,000	-0.21%	-0.21%	-0.21%
142		East														
143		South	865313	46,500	47,500	47,000	46,500	46,500	-100	248500	47,000	46,600	44,000	-0.21%	-0.21%	-0.21%
144		West														
146	Davie Road & SR-84 EB	East	864226	13,000	17,000	18,000	19,500	19,000	1450	-2907350	14,400	20,200	57,900	10.07%	7.18%	10.07%
147		South	865313	46,500	47,500	47,000	46,500	46,500	-100	248500	47,000	46,600	44,000	-0.21%	-0.21%	-0.21%
148		West	860630	15,000	17,000	16,000	15,500	17,500	350	-689750	15,500	16,900	26,000	2.26%	2.07%	2.26%
150	Davie Road & SR-84 WB	East	864298	19,000	21,000	22,000	20,500	21,500	450	-886850	19,900	21,700	33,400	2.26%	2.07%	2.26%
152		West	860617	20,000	21,500	28,500	28,000	29,000	2450	-4916250	20,500	30,300	94,000	11.95%	8.09%	11.95%
153	SR-7 & Oakes Road	North	860089	49,000	50,000	53,500	53,500	52,500	1050	-2066150	49,600	53,800	81,100	2.12%	1.95%	2.12%
155		South	860089	49,000	50,000	53,500	53,500	52,500	1050	-2066150	49,600	53,800	81,100	2.12%	1.95%	2.12%
156		West														
157	SR-7 & Riverland Road	North	860010	47,000	48,000	51,500	51,500	50,500	1050	-2068150	47,600	51,800	79,100	2.21%	2.03%	2.21%
158		East	867937	4,900	9,600	9,600	9,600	9,600	940	-1887320	6,780	10,540	34,980	13.86%	8.92%	13.86%
159		South	860010	47,000	48,000	51,500	51,500	50,500	1050	-2068150	47,600	51,800	79,100	2.21%	2.03%	2.21%
160		West														

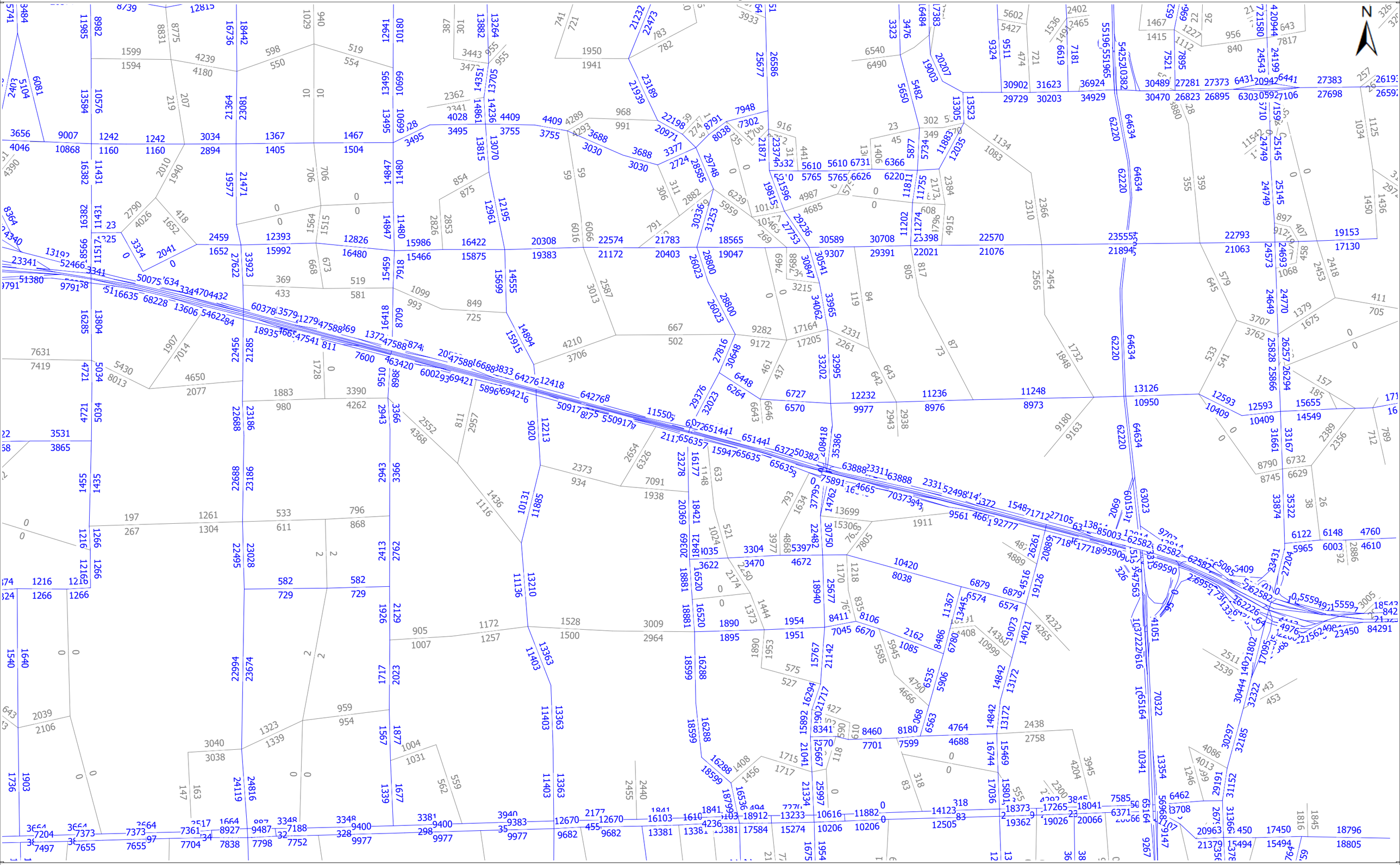
APPENDIX A-3
Population and Employment Growth Rates

APPENDIX A **TABLE A-2 POPULATION AND EMPLOYMENT GROWTH RATES**

NID	Intersection	Leg	TAZ Zones	pop_2015	pop_2045	emp_2015	emp_2045	POP_CHANGE	SE DATA Growth Rate (Population)	EMP_CHANGE	SE DATA Growth Rate (Employment)
1	SW 136th Avenue & Shenandoah Parkway	North	2473+2474	14,302	14,413	3,851	4,977	0.8%	0.0%	29.2%	1.0%
2		East	2473	6,914	7,040	697	901	1.8%	0.1%	29.3%	1.0%
3		South	2473+2474	14,302	14,413	3,851	4,977	0.8%	0.0%	29.2%	1.0%
4		West	2474	7,388	7,373	3,154	4,076	-0.2%	0.0%	29.2%	1.0%
6	SW 136th Avenue & SR-84 EB	East	2473	6,914	7,040	697	901	1.8%	0.1%	29.3%	1.0%
7		South	2473+2474	14,302	14,413	3,851	4,977	0.8%	0.0%	29.2%	1.0%
8		West	2474	7,388	7,373	3,154	4,076	-0.2%	0.0%	29.2%	1.0%
9	SW 136th Avenue & SR-84 WB	North	2384+2381	6,270	10,997	16,947	21,898	75.4%	2.5%	29.2%	1.0%
10		East	2384	4,795	6,693	663	856	39.6%	1.3%	29.1%	1.0%
12		West	2381	1,475	4,304	16,284	21,042	191.8%	6.4%	29.2%	1.0%
13	SW 136th Avenue & NW 2nd Street	North	2384+2381	6,270	10,997	16,947	21,898	75.4%	2.5%	29.2%	1.0%
15		South	2384+2381	6,270	10,997	16,947	21,898	75.4%	2.5%	29.2%	1.0%
16		West	2381	1,475	4,304	16,284	21,042	191.8%	6.4%	29.2%	1.0%
17	Flamingo Road & SW 8th Street	North	2462+2473	10,382	11,127	2,092	2,703	7.2%	0.2%	29.2%	1.0%
19		South	2462+2473	10,382	11,127	2,092	2,703	7.2%	0.2%	29.2%	1.0%
20		West	2473	6,914	7,040	697	901	1.8%	0.1%	29.3%	1.0%
22	Flamingo Road & SR-84 EB	East	2462	3,468	4,087	1,395	1,802	17.8%	0.6%	29.2%	1.0%
23		South	2462+2473	10,382	11,127	2,092	2,703	7.2%	0.2%	29.2%	1.0%
24		West	2473	6,914	7,040	697	901	1.8%	0.1%	29.3%	1.0%
25	Flamingo Road & SR-84 WB	North	2386+2384	5,807	7,838	1,164	1,503	35.0%	1.2%	29.1%	1.0%
26		East	2386	1,012	1,145	501	647	13.1%	0.4%	29.1%	1.0%
28		West	2384	4,795	6,693	663	856	39.6%	1.3%	29.1%	1.0%
29	Flamingo Road & Broward Boulevard	North	2385+2384	6,138	8,094	1,718	2,219	31.9%	1.1%	29.2%	1.0%
30		East	2385+2386	2,355	2,546	1,556	2,010	8.1%	0.3%	29.2%	1.0%
31		South	2386+2384	5,807	7,838	1,164	1,503	35.0%	1.2%	29.1%	1.0%
32		West	2384	4,795	6,693	663	856	39.6%	1.3%	29.1%	1.0%
34	Hiatus Road & SR-84 EB	East	2461	4,510	4,727	1,086	1,402	4.8%	0.2%	29.1%	1.0%
35		South	2461+2462	7,978	8,814	2,481	3,204	10.5%	0.3%	29.1%	1.0%
36		West	2462	3,468	4,087	1,395	1,802	17.8%	0.6%	29.2%	1.0%
37	Hiatus Road & SR-84 WB	North	2445+2386	2,545	2,890	627	809	13.6%	0.5%	29.0%	1.0%
38		East	2445	1,533	1,745	126	162	13.8%	0.5%	28.6%	1.0%
40		West	2386	1,012	1,145	501	647	13.1%	0.4%	29.1%	1.0%
41	Hiatus Road & Broward Boulevard	North	2428+2385	4,155	4,353	1,494	1,930	4.8%	0.2%	29.2%	1.0%
42		East	2428+2445	4,345	4,697	565	729	8.1%	0.3%	29.0%	1.0%
43		South	2445+2386	2,545	2,890	627	809	13.6%	0.5%	29.0%	1.0%
44		West	2385+2386	2,355	2,546	1,556	2,010	8.1%	0.3%	29.2%	1.0%
45	Nob Hill Road & SW 13th Street	North	2460+2461	10,756	11,317	2,652	3,425	5.2%	0.2%	29.1%	1.0%
46		East	2460	6,246	6,590	1,566	2,023	5.5%	0.2%	29.2%	1.0%
47		South	2460+2461	10,756	11,317	2,652	3,425	5.2%	0.2%	29.1%	1.0%
48		West	2461	4,510	4,727	1,086	1,402	4.8%	0.2%	29.1%	1.0%
49	Nob Hill Road & SW 101st Road	North	2460+2461	10,756	11,317	2,652	3,425	5.2%	0.2%	29.1%	1.0%
50		East	2460	6,246	6,590	1,566	2,023	5.5%	0.2%	29.2%	1.0%
51		South	2460+2461	10,756	11,317	2,652	3,425	5.2%	0.2%	29.1%	1.0%
52		West	2461	4,510	4,727	1,086	1,402	4.8%	0.2%	29.1%	1.0%
54	Nob Hill Road & SR-84 EB	East	2460	6,246	6,590	1,566	2,023	5.5%	0.2%	29.2%	1.0%
55		South	2460+2461	10,756	11,317	2,652	3,425	5.2%	0.2%	29.1%	1.0%
56		West	2461	4,510	4,727	1,086	1,402	4.8%	0.2%	29.1%	1.0%
57	Nob Hill Road & SR-84 WB	North	2444+2445	7,529	8,081	886	1,145	7.3%	0.2%	29.2%	1.0%
58		East	2444	5,996	6,336	760	983	5.7%	0.2%	29.3%	1.0%
60		West	2445	1,533	1,745	126	162	13.8%	0.5%	28.6%	1.0%
61	Nob Hill Road & Hawks View Boulevard	North	2444+2445	7,529	8,081	886	1,145	7.3%	0.2%	29.2%	1.0%
63		South	2444+2445	7,529	8,081	886	1,145	7.3%	0.2%	29.2%	1.0%
64		West	2445	1,533	1,745	126	162	13.8%	0.5%	28.6%	1.0%
65	Nob Hill Road & Broward Boulevard	North	2429+2428	7,103	7,422	1,811	2,340	4.5%	0.1%	29.2%	1.0%
66		East	2429+2444	10,287	10,806	2,132	2,756	5.0%	0.2%	29.3%	1.0%
67		South	2444+2445	7,529	8,081	886	1,145	7.3%	0.2%	29.2%	1.0%
68		West	2428+2445	4,345	4,697	565	729	8.1%	0.3%	29.0%	1.0%
69	Pine Island Road & Nova Drive	North	2459+2460	7,486	7,879	1,621	2,093	5.2%	0.2%	29.1%	1.0%
70		East	2459+2446	1,698	2,539	3,213	4,150	49.5%	1.7%	29.2%	1.0%
71		South	2466+2465	6,671	7,491	916	1,182	12.3%	0.4%	29.0%	1.0%
72		West	2460+2465	10,641	11,117	1,912	2,469	4.5%	0.1%	29.1%	1.0%
73	Pine Island Road & Orange Grove Drive	North	2459+2460	7,486	7,879	1,621	2,093	5.2%	0.2%	29.1%	1.0%
75		South	2459+2460	7,486	7,879	1,621	2,093	5.2%	0.2%	29.1%	1.0%
76		West	2460	6,246	6,590	1,566	2,023	5.5%	0.2%	29.2%	1.0%
78	Pine Island Road & SR-84 EB	East	2458+2459	3,301	3,534	1,344	1,736	7.1%	0.2%	29.2%	1.0%
79		South	2459+2460	7,486	7,879	1,621	2,093	5.2%	0.2%	29.1%	1.0%
80		West	2460	6,246	6,590	1,566	2,023	5.5%	0.2%	29.2%	1.0%
81	Pine Island Road & SR-84 WB	North	2446+2444	6,454	7,586	3,918	5,063	17.5%	0.6%	29.2%	1.0%
82		East	2446	458	1,250	3,158	4,080	172.9%	5.8%	29.2%	1.0%
84		West	2444	5,996	6,336	760	983	5.7%	0.2%	29.3%	1.0%
85	Pine Island Road & New River Canal Road	North	2446+2444	6,454	7,586	3,918	5,063	17.5%	0.6%	29.2%	1.0%
86		East	2446	458	1,250	3,158	4,080	172.9%	5.8%	29.2%	1.0%
87		South	2446+2444	6,454	7,586	3,918	5,063	17.5%	0.6%	29.2%	1.0%
88		West	2444	5,996	6,336	760	983	5.7%	0.2%	29.3%	1.0%
89	Pine Island Road & Peter Road	North	2443	28	1,282	9,252	11,955	4478.6%	149.3%	29.2%	1.0%
90		East	2443+2446	486	2,532	12,410	16,035	421.0%	14.0%	29.2%	1.0%
91		South	2446	458	1,250	3,158	4,080	172.9%	5.8%	29.2%	1.0%
93	Pine Island Road & SW 6th Court	North	2443+2444	6,024	7,618	10,012	12,938	26.5%	0.9%	29.2%	1.0%
94		East	2443	28	1,282	9,252	11,955	4478.6%	149.3%	29.2%	1.0%
95		South	2443+2444	6,024	7,618	10,012	12,938	26.5%	0.9%	29.2%	1.0%
96		West	2444	5,996	6,336	760	983	5.7%	0.2%	29.3%	1.0%
97	SW 80th Terrace & Peters Road	North	2443	28	1,282	9,252	11,955	4478.6%	149.3%	29.2%	1.0%
98		East	2443+2446	486	2,532	12,410	16,035	421.0%	14.0%	29.2%	1.0%
99		South	2446	458	1,250	3,158	4,080	172.9%	5.8%	29.2%	1.0%
100		West	2443+2446	486	2,532	12,410	16,035	421.0%	14.0%	29.2%	1.0%
101	University Drive & SW 30th Street	North	2466+2468	3,954	5,314	705	910	34.4%	1.1%	29.1%	1.0%
102		East	2468+2820	3,481	5,031	1,628	2,104	44.5%	1.5%	29.2%	1.0%
103		South	2824+2820	2,865	4,408	2,048	2,647	53.9%	1.8%	29.2%	1.0%
104		West	2466+2824	3,338	4,691	1,125	1,453	40.5%	1.4%	29.2%	1.0%
105	University Drive & Nova Drive	North	2457+2458	3,689	5,186	6,978	9,018	40.6%	1.4%	29.2%	1.0%
106		East	2468+2457	3,306	5,291	5,824	7,526	60.0%	2.0%	29.2%	1.0%
107		South	2468+2466	3,954	5,314	705	910	34.4%	1.1%	29.1%	1.0%
108		West	2466+2458	4,337	5,209	1,859	2,402	20.1%	0.7%	29.2%	1.0%
109	University Drive & SW 23rd Street	North	2457+2458	3,689	5,186	6,978	9,018	40.6%	1.4%	29.2%	1.0%
110		East	2457	1,628	2,941	5,689	7,352	80.7%	2.7%	29.2%	1.0%
111		South	2457+2458	3,689	5,186	6,978	9,018	40.6%	1.4%	29.2%	1.0%
112		West	2458	2,061	2,245	1,289	1,666	8.9%	0.3%	29.2%	1.0%
113	University Drive & Kolsky Boulevard	North	2457+2458	3,689	5,186	6,978	9,018	40.6%	1.4%	29.2%	1.0%
114		East	2457	1,628	2,941	5,689	7,352	80.7%	2.7%	29.2%	1.0%
115		South	2457+2458	3,689	5,186	6,978	9,018	40.6%	1.4%	29.2%	1.0%
116		West	2458	2,061	2,245	1,289	1,666	8.9%	0.3%	29.2%	1.0%
118	University Drive & SR-84 EB	East	2457	1,628	2,941	5,689	7,352	80.7%	2.7%	29.2%	1.0%
119		South	2457+2458	3,689	5,186	6,978	9,018	40.6%	1.4%	29.2%	1.0%
120		West	2458	2,061	2,245	1,289	1,666	8.9%	0.3%	29.2%	1.0%
121	University Drive & SR-84 WB	North	2440+2446	2,459	3,246	3,526	4,555	32.0%	1.1%	29.2%	1.0%
122		East	2440	2,001	1,996	368	475	-0.2%	0.0%	29.1%	1.0%
124		West	2446	458	1,250	3,158	4,080	172.9%	5.8%	29.2%	1.0%
125	University Drive & SW 12nd Street	North	2443+2439	1,769	3,073	10,040	12,974	73.7%	2.5%	29.2%	1.0%
126		East	2439+2440	3,742	3,787	1,156	1,494	1.2%	0.0%	29.2%	1.0%
127		South	2446+2440	2,459	3,246	3,526	4,555	32.0%	1.1%	29.2%	1.0%
128		West	2443+2446	486	2,532	12,410	16,035	421.0%	14.0%	29.2%	1.0%
129	University Drive & The Fountains	North	2443+2439	1,769	3,073	10,040	12,974	73.7%	2.5%	29.2%	1.0%
131		South	2443+2439	1,769	3,073	10,040	12,974	73.7%	2.5%	29.2%	1.0%
132		West	2443	28	1,282	9,252	11,955	4478.6%	149.3%	29.2%	1.0%
133	University Drive & Federated Road	North	2442	0	632	994	1,284	63200.0%	2106.7%	29.2%	1.0%
134		East	2439	1,741	1,791	788	1,019	2.9%	0.1%	29.3%	1.0%
135		South	2443	28	1,282	9,252	11,955	4478.6%	149.3%	29.2%	1.0%
136		West	2442+2443	28	1,914	10,246	13,239	6735.7%	224.5%	29.2%	1.0%
137	Davie Road & Nova Drive	North	2456	0	692	1,802	2,329	69200.0%	2306.7%	29.2%	1.0%
138		East	2450	2,785	3,449	734	951	23.8%	0.8%	29.6%	1.0%
139		South	2467	0	692	1,263	1,633	69200.0%	2306.7%	29.3%	1.0%
140		West	2456+2467	0	1,384	3,065	3,962	138400.0%	4613.3%	29.3%	1.0%
141	Davie Road & Reese Road	North	2450+2456	2,785	4,141	2,536	3,280	48.7%	1.6%	29.3%	1.0%
142		East	2450	2,785	3,449	734	951	23.8%	0.8%	29.6%	1.0%
143		South	2450+2456	2,785	4,141	2,536	3,280	48.7%	1.6%	29.3%	1.0%
144		West	2456	0	692	1,802	2,329	69200.0%	2306.7%	29.2%	1.0%
146	Davie Road & SR-84 EB	East	2450	2,785	3,449	734	951	23.8%	0.8%	29.6%	1.0%
147		South	2450+2456	2,785	4,141	2,536	3,280	48.7%	1.6%	29.3%	1.0%
148		West	2456	0	692	1,802	2,329	69200.0%	2306.7%	29.2%	1.0%
150	Davie Road & SR-84 WB	East	2450	2,785	3,449	734	951	23.8%	0.8%	29.6%	1.0%
152		West	2456	0	692	1,802	2,329	69200.0%	2306.7%	29.2%	1.0%
153	SR-7 & Oakes Road	North	2449	26	574	1,226	1,586	2107.7%	70.3%	29.4%	1.0%
155		South	2453	1	477	3,404	4,399	47600.0%	1586.7%	29.2%	1.0%
156		West	2449+2453	27	1,051	4,630	5,985	3792.6%	126.4%	29.3%	1.0%
157	SR-7 & Riverland Road	North	2258	2,875	2,926	1,300	1,681	1.8%	0.1%	29.3%	1.0%
158		East	2258+2259	4,284	5,000	1,686	2,181	16.7%	0.6%	29.4%	1.0%
159		South	2259	1,409	2,074	386	500	47.2%	1.6%	29.5%	1.0%
160		West	2447	7,453	9,382	1,682	2,174	25.9%	0.9%	29.3%	1.0%

APPENDIX A-4
2015 AND 2045 SERPM 8 DAILY MODEL VOLUME OUTPUTS

2015 Directional Daily Volumes



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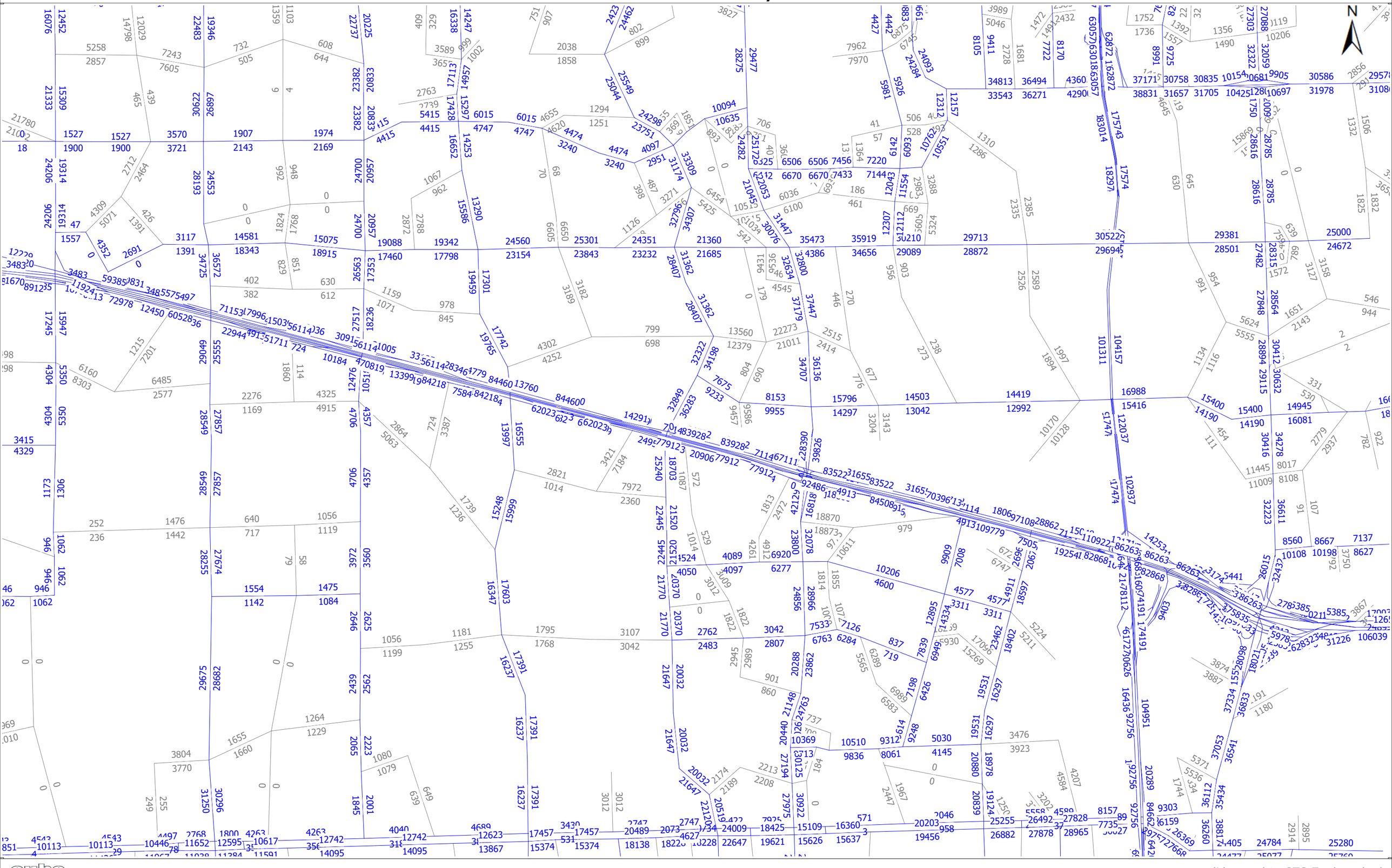
2045 No-Build Directional Daily Volumes



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APPENDIX A-5
Recommended Growth Rate Summary Table

APPENDIX A

TABLE A-3 RECOMMENDED GROWTH RATES

NID	Intersection	Leg	Historical AADT Growth Rate (Y2015-Y2019)	SE DATA Growth Rate (Population)	SE DATA Growth Rate (Employment)	SERPM 8 Model Growth Rate	Recommended Growth Rate	Note
1	SW 136th Avenue & Shenandoah Parkway	North	1.63%	0.03%	0.97%	0.34%	0.8%	Low growth rates observed, use D4 minimum growth rate of 0.5%.
2		East		0.06%	0.98%		0.8%	Low population growth, use a value close to employment growth. Then adjusted downward to be consistent with other segments.
3		South	4.31%	0.03%	0.97%	0.34%	0.8%	Even though historical counts show high growth. However, the counts for the last four years (2015-2019) show slow growth. D4 minimum is recommended.
4		West		-0.01%	0.97%		0.8%	Low population growth, use a value close to employment growth. Then adjusted downward to be consistent with other segments.
6	SW 136th Avenue & SR-84 EB	East	4.36%	0.06%	0.98%	-1.41%	0.8%	SR 84 E W - high historical growth rates but recent count flucuate. Low population growth, negative model growth. Use a value close to employment growth.
7		South	1.63%	0.03%	0.97%	0.34%	0.8%	Low growth rates observed, use D4 minimum growth rate of 0.5%.
8		West	6.91%	-0.01%	0.97%	-0.30%	0.8%	SR 84 E W - high historical growth rates but recent count flucuate. Low population growth, negative model growth. Use a value close to employment growth.
9	SW 136th Avenue & SR-84 WB	North	6.64%	2.51%	0.97%	0.53%	1.2%	Based on model grow rate, which is also between employment and population growth rates. Even though historical growth rate is high (6.6%), however, the traffic counts at the corresponding site 865320 for the most recent three years are similar, indicating a slow growth. The historical grwoth is not considered. Revised from 1.90 to 2.0 to reduce growth rate categories.
10		East	1.27%	1.32%	0.97%	0.37%	1.0%	SR 84 E W - high historical and population growth, low model growth rate. Usa a value slightly less than population growth.
12		West	2.76%	6.39%	0.97%	-0.24%	1.0%	SR 84 E W - high historical growth, but counts vary from 2017-2019. Use a value consistent with thee east approach at the intersection.
13	SW 136th Avenue & NW 2nd Street	North	2.21%	2.51%	0.97%	1.88%	1.2%	Based on model grow rate, which is also between employment and population growth rates, and similar to historical growth rate. Revised from 1.90 to 2.0 to reduce growth rate categories.
15		South	6.64%	2.51%	0.97%	1.88%	1.2%	Based on model grow rate, which is also between employment and population growth rates. Even though historical growth rate is high (6.6%), however, the traffic counts at the corresponding site 865320 for the most recent three years are similar, indicating a slow growth. The historical grwoth is not considered. Revised from 1.90 to 2.0 to reduce growth rate categories.
16		West		6.39%	0.97%		1.2%	High population growth, but use similar growth as the East segment to maintain consistency.
17	Flamingo Road & SW 8th Street	North	2.15%	0.24%	0.97%	0.83%	0.8%	Use model growth, also consistent with other segments on Flamingo.
19		South	6.06%	0.24%	0.97%	0.83%	0.8%	Use model growth, also consistent with other segments on Flamingo.
20		West		0.06%	0.98%		0.8%	Low population growth, low model growth, use a value close to employment growth.
22	Flamingo Road & SR-84 EB	East	4.53%	0.59%	0.97%	0.71%	0.8%	SR 84 E W - High historical growth rates but recent three year counts show decreaseing trend. Low population growth, low model growth. Use a value close to employment growth.
23		South	2.15%	0.24%	0.97%	0.83%	0.8%	Use model growth, also consistent with other segments on Flamingo.
24		West	2.26%	0.06%	0.98%	-0.20%	0.8%	SR 84 E W - high historical growth rates, negative model rate, use a value close to employment but also account for possible historical growth. Also trying to be consistent with other SR 84 segments.
25	Flamingo Road & SR-84 WB	North	-0.36%	1.17%	0.97%	0.52%	1.0%	Historical data shows high growth, but the most recent years show slow or no growth. Model shows slow growth, however, population and employment show similar growth. Use the average of the two. GIS Adjusted.
26		East	-0.54%	0.44%	0.97%	1.08%	0.8%	SR 84 E W - Negative historical growth rates but relatively high model growth. Use a value close to employment growth.
28		West	0.66%	1.32%	0.97%	0.73%	1.0%	SR 84 E W - close to average of historical, population, employment, and model growth rates. Also consistent with other segments on SR 84.
29	Flamingo Road & Broward Boulevard	North	4.02%	1.06%	0.97%	0.95%	1.0%	Even though historical growth is high, traffic counts at Site 867071 for the last four years show slow growth. Other growth rates are similar, recommend using population grow rate. GIS Adjusted
30		East	-0.50%	0.27%	0.97%	0.53%	1.0%	Low population growth, low model growth, use a value close to employment growth.
31		South	-0.36%	1.17%	0.97%	0.53%	1.0%	Historical data shows high growth, but the most recent years show slow or no growth. Model shows slow growth, however, population and employment show similar growth. Use the average of the two. GIS Adjusted.
32		West	13.98%	1.32%	0.97%	0.32%	1.0%	Low population growth, low model growth, use a value close to employment growth.
34	Hiatus Road & SR-84 EB	East	1.00%	0.16%	0.97%	3.23%	0.8%	SR 84 E W - hight histoical rate and high model rate from 2019 to 2045, but this is because of the construction of Hiatus extension. The same rate cannot be sustained in the future. Use lower rate similar to other segments.
35		South	-1.87%	0.35%	0.97%	0.81%	1.0%	Historical data shows negative growth. Model show relatively growth, this is because of the extension of Hiatus Road around 2019. The model volumes shows a low growth between 2015 and 2045. Use employment growth rate.
36		West	-6.67%	0.59%	0.97%	1.13%	0.8%	SR 84 E W - close to average of population and employment growth rates. Also consistent with other segments on SR 84.
37	Hiatus Road & SR-84 WB	North	2.89%	0.45%	0.97%	2.74%	1.0%	Even though historical data shows high growth, the counts at Site 860143 show a decreasing trend for the last three years. Model show relatively growth, this is because of the extension of Hiatus Road around 2019. The model volumes shows a high growth between 2015 and 2045, the actual growth from 2019 to 2045 will be lower. Use employment growth rate.
38		East	8.49%	0.46%	0.95%	9.79%	0.8%	SR 84 E W - hight histoical rate and high model rate from 2019 to 2045, but this is because of the construction of Hiatus extension. The same rate cannot be sustained in the future. Use lower rate similar to other segments.
40		West	3.02%	0.44%	0.97%	4.18%	0.8%	SR 84 E W - hight histoical rate and high model rate from 2019 to 2045, but this is because of the construction of Hiatus extension. The same rate cannot be sustained in the future. Use lower rate similar to other segments.
41	Hiatus Road & Broward Boulevard	North	2.89%	0.16%	0.97%	2.45%	1.0%	Even though historical data shows high growth, the counts at Site 860143 show a decreasing trend for the last three years. Model show relatively growth, this is because of the extension of Hiatus Road around 2019. The model volumes shows a high growth between 2015 and 2045, the actual growth from 2019 to 2045 will be lower. Use employment growth rate.
42		East	-0.50%	0.27%	0.97%	0.54%	1.0%	Low population growth, low model growth, use a value close to employment growth.
43		South	2.89%	0.45%	0.97%	2.93%	1.0%	Even though historical data shows high growth, the counts at Site 860143 show a decreasing trend for the last three years. Model show relatively growth, this is because of the extension of Hiatus Road around 2019. The model volumes shows a high growth between 2015 and 2045, the actual growth from 2019 to 2045 will be lower. Use employment growth rate.
44		West	-0.50%	0.27%	0.97%	0.53%	1.0%	Low population growth, low model growth, use a value close to employment growth.
45	Nob Hill Road & SW 13th Street	North	0.81%	0.17%	0.97%	1.46%	0.8%	Use a rate between population growth and employment growth, close to other segments along Nob Hill
46		East		0.18%	0.97%		0.8%	Low population growth, low model growth, use a value close to employment growth.
47		South	0.81%	0.17%	0.97%	1.46%	0.8%	Use a rate between population growth and employment growth, close to other segments along Nob Hill
48		West		0.16%	0.97%		0.8%	Low population growth, low model growth, use a value close to employment growth.
49	Nob Hill Road & SW 101st Road	North	0.81%	0.17%	0.97%	1.46%	0.8%	Use a rate between population growth and employment growth, close to other segments along Nob Hill
50		East		0.18%	0.97%		0.8%	Low population growth, low model growth, use a value close to employment growth.
51		South	0.81%	0.17%	0.97%	1.46%	0.8%	Use a rate between population growth and employment growth, close to other segments along Nob Hill
52		West		0.16%	0.97%		0.8%	Low population growth, low model growth, use a value close to employment growth.
54	Nob Hill Road & SR-84 EB	East	2.37%	0.18%	0.97%	0.35%	1.0%	SR 84 E W - generally low growth pattern. Use a value similar to other segments nearby.
55		South	0.81%	0.17%	0.97%	1.46%	0.8%	Use a rate between population growth and employment growth, close to other segments along Nob Hill
56		West	2.50%	0.16%	0.97%	0.95%	0.8%	SR 84 E W - generally low growth pattern. Use a value similar to other segments nearby.
57	Nob Hill Road & SR-84 WB	North	5.95%	0.24%	0.97%	0.63%	0.8%	Historical growth is high at Site 865316, but there is no growth from 2017-2019. Use a rate between population growth and employment growth, close to model growth.
58		East	2.19%	0.19%	0.98%	0.36%	1.0%	SR 84 E W - generally low growth pattern. Use a value similar to other segments nearby.
60		West	-5.65%	0.46%	0.95%	0.82%	0.8%	SR 84 E W - generally low growth pattern. Use a value similar to other segments nearby.
61	Nob Hill Road & Hawks View Boulevard	North	5.95%	0.24%	0.97%	0.72%	0.8%	Historical growth is high at Site 865316, but there is no growth from 2017-2019. Use a rate between population growth and employment growth, close to model growth.
63		South	5.95%	0.24%	0.97%	0.72%	0.8%	Historical growth is high at Site 865316, but there is no growth from 2017-2019. Use a rate between population growth and employment growth, close to model growth.
64		West		0.46%	0.95%		0.8%	Low population growth, low model growth, use a value close to employment growth.
65	Nob Hill Road & Broward Boulevard	North	1.67%	0.15%	0.97%	0.49%	0.8%	Average of historical, population, employmen, and model growth rates.
66		East	1.76%	0.17%	0.98%	0.67%	0.8%	Low population growth, low model growth, use a value close to employment growth.
67		South	5.95%	0.24%	0.97%	0.72%	0.8%	Historical growth is high at Site 865316, but there is no growth from 2017-2019. Use a rate between population growth and employment growth, close to model growth.
68		West	-0.50%	0.27%	0.97%	0.50%	0.8%	Low population growth, low model growth, use a value close to employment growth.
69	Pine Island Road & Nova Drive	North	4.90%	0.17%	0.97%	0.44%	0.8%	Even though historical growth is high, traffic counts at Site 85315 for the last four years show slow growth. Other growth rates are similar, recommend using a growth rate between population growth and employment growth, close to employment growth to account for possible high growth in historical data.
70		East	7.53%	1.65%	0.97%	0.40%	0.8%	Low population growth, use a value close to employment growth.
71		South	2.48%	0.41%	0.97%	0.63%	0.8%	Close to average of historical, population, employment, and model growth rates. Revised from 0.8 to 1.0.
72		West	7.53%	0.15%	0.97%		0.8%	Low population growth, use a value close to employment growth.
73	Pine Island Road & Orange Grove Drive	North	4.90%	0.17%	0.97%	0.38%	0.8%	Even though historical growth is high, traffic counts at Site 85315 for the last four years show slow growth. Other growth rates are similar, recommend using a growth rate between population growth and employment growth, close to employment growth to account for possible high growth in historical data.
75		South	4.90%	0.17%	0.97%	0.38%	0.8%	Even though historical growth is high, traffic counts at Site 85315 for the last four years show slow growth. Other growth rates are similar, recommend using a growth rate between population growth and employment growth, close to employment growth to account for possible high growth in historical data.
76		West		0.18%	0.97%		0.8%	Low population growth, use a value close to employment growth.
78	Pine Island Road & SR-84 EB	East	3.48%	0.24%	0.97%	1.00%	1.2%	SR 84 E W - high historical and low population growth. Use a value higher than employment growth rate also consistent with adjacent segments.
79		South	4.90%	0.17%	0.97%	0.38%	0.8%	Even though historical growth is high, traffic counts at Site 85315 for the last four years show slow growth. Other growth rates are similar, recommend using a growth rate between population growth and employment growth, close to employment growth to account for possible high growth in historical data.
80		West	-5.30%	0.18%	0.97%	0.59%	1.0%	SR 84 E W - Shoud be low grow, but use a higher one to be consistent with adjacent segments on SR 84.
81	Pine Island Road & SR-84 WB	North	1.58%	0.58%	0.97%	0.42%	1.0%	Use a rate close to the average of the historical, population, employment, and model growth rates.
82		East	1.32%	5.76%	0.97%	0.83%	1.2%	SR 84 E W - high historical and population growth. Use model growth rate. Adjusted for consistency.
84		West	2.64%	0.19%	0.98%	0.79%	1.0%	SR 84 E W - high historical and low population growth. Use model growth rate. Adjusted for consistency.
85	Pine Island Road & New River Canal Road	North	1.58%	0.58%	0.97%	0.42%	1.0%	Use a rate close to the average of the historical, population, employment, and model growth rates.
86		East		5.76%	0.97%		1.0%	High population growth, use a value higher than employment growth. Revised from 0.80 to 1.40. Then adjusted downward to be consistent with other segments.
87		South	1.58%	0.58%	0.97%	0.42%	1.0%	Use a rate close to the average of the historical, population, employment, and model growth rates.
88		West		0.19%	0.98%		1.0%	Low population growth, use a value close to employment growth.
89	Pine Island Road & Peter Road	North	-1.62%	149.29%	0.97%	0.46%	1.0%	Very high population growth, but low model growth. Recommend a value close to double the employment growth. Revised from 1.0 to 1.8
90		East	-2.03%	14.03%	0.97%	1.10%	1.0%	Negative historical growth, high population growth, use a value moderately higher than employment growth
91		South	1.58%	5.76%	0.97%	0.42%	1.0%	Very high population growth, but low model growth. Recommend a value close to double the employment growth. Revised from 1.0 to 1.8
93	Pine Island Road & SW 6th Court	North	-1.62%	0.88%	0.97%	0.30%	1.0%	Negative historical growth, very low model growth, but relatively high population and employment growth. Use employment growth.
94		East	-1.14%	149.29%	0.97%	1.35%	1.0%	High population and model growth, use a value slightly higher model growth. Revised from 1.40 to 1.50.
95		South	-1.62%	0.88%	0.97%	0.46%	1.0%	Negative historical growth, very low model growth, but relatively high population and employment growth. Use employment growth.
96		West		0.19%	0.98%	0.94%	1.0%	Low population growth, low model growth, use a value close to employment growth.
97	SW 80th Terrace & Peters Road	North		149.29%	0.97%		1.2%	High population growth, recommend a value close to double the employment growth rates.
98		East	-2.03%	14.03%	0.97%	1.21%	1.2%	High population and model growth, use model growth
99		South		5.76%	0.97%		1.2%	High population growth, recommend a value close to double the employment growth rates.
100		West	-2.03%	14.03%	0.97%	1.21%	1.2%	High population and model growth, use model growth
101	University Drive & SW 30th Street	North	2.57%	1.15%	0.97%	0.69%	1.0%	High historical growth, similar population and employment growth, use a value close to the average of historical and employment growth, but also consistent with other adjacent segment.
102		East	2.35%	1.48%	0.97%	-0.25%	1.0%	Moderate historical growth, but negative model growth. Use average population and employment growth. Revised from 0.8 to 1.50.
103		South	0.19%	1.80%	0.97%	0.65%	1.0%	High population growth, use a value between population and employment growth but also consistent with other adjacent segments.
104		West	10.86%	1.35%	0.97%	1.66%	1.0%	High historical growth, but negative model growth. Use average population and employment growth. Revised from 0.8 to 1.50.
105	University Drive & Nova Drive	North	-1.50%	1.35%	0.97%	0.17%	1.0%	Negative historical growth, but similar population and employment growth. Use the average of the two.
106		East	1.72%	2.00%	0.97%	-0.22%	1.0%	Moderate historical growth, but negative model growth. Use average population and employment growth. Revised from 0.8 to 1.50.
107		South	2.57%	1.15%	0.97%	0.69%	1.0%	High historical growth, similar population and employment growth, use a value close to the average of historical and employment growth, but also consistent with other adjacent segment.
108		West	7.53%	0.67%	0.97%	1.04%	1.0%	High historical growth, but negative model growth. Use average population and employment growth. Revised from 0.8 to 1.50.
109	University Drive & SW 23rd Street	North	-1.50%	1.35%	0.97%	0.17%	1.0%	Negative historical growth, but similar population and employment growth. Use the average of the two.
110		East		2.69%	0.97%		1.0%	High population growth, moderate employment growth, use a value higher than employment growth. Revised from 1.0 to 1.5
111		South	-1.50%	1.35%	0.97%	0.17%	1.0%	Negative historical growth, but similar population and employment growth. Use the average of the two.
112		West		0.30%	0.97%		1.0%	Low population growth, use a value slighly smaller than employment growth, also consistent with others in the area
113	University Drive & Kolsky Boulevard	North	-1.50%	1.35%	0.97%	0.41%	1.0%	Negative historical growth, but similar population and employment growth. Use the average of the two.
114		East		2.69%	0.97%		1.0%	High population growth, moderate employment growth, use a value higher than employment growth. Revised from 1.0 to 1.5
115		South	-1.50%	1.35%	0.97%	0.41%	1.0%	Negative historical growth, but similar population and employment growth. Use the average of the two.
116		West		0.30%	0.97%		1.0%	Low population growth, use a value slighly smaller than employment growth, also consistent with others in the area
118	University Drive & SR-84 EB	East	5.37%	2.69%	0.97%	1.91%	1.2%	SR 84 E W - high historical growth, high model growth, use a high value of 2.00, but adjusted for consistency purpose.
119		South	-1.50%	1.35%	0.97%	0.41%	1.0%	Negative historical growth, but similar population and employment growth. Use the average of the two.
120		West	1.85%	0.30%	0.97%	0.36%	1.2%	SR 84 E W - high historical growth. Should be a small number. Adjusted to be consistent with other SR 84 segment.
121	University Drive & SR-84 WB	North	2.18%	1.07%	0.97%	0.38%	1.2%	High historical growth, similar population and employment growth, use a value close to double the employment growth to account for historical growth.
122		East	11.95%	-0.01%	0.97%	1.19%	1.2%	SR 84 E W - Shoud be low grow, but use a higher one to be consistent with adjacent segments on SR 84.
124		West	1.32%	5.76%	0.97%	1.35%	1.2%	SR 84 E W - high population growth. Use a value close to double the employment growth.
125	University Drive & SW 12nd Street	North	2.04%	2.46%	0.97%	0.23%	1.2%	High historical and population growth. Recommend a value close to double the employment and also consistent with other segments.
126		East	1.97%	0.04%	0.97%	1.18%	1.2%	High population growth, no population growth, moderate employment and model growth, use employment growth, but revsied downward to be consistent with other segments in the area
127		South	2.18%	1.07%	0.97%	0.39%	1.2%	High historical and population growth. Recommend a value close to double the employment and also consistent with other segments.
128		West	-2.03%	14.03%	0.97%	1.21%	1.2%	Negative historical growth, high population growth, and moderate employment and model growth, use model growth.
129	University Drive & The Fountains	North	2.04%	2.46%	0.97%	0.23%	1.2%	high population growth, low model, use a value consistent with other segments on Univerisity Dr.
131		South	2.04%	2.46%	0.97%	0.23%	1.2%	high population growth, low model, use a value consistent with other segments on Univerisity Dr.
132		West	-1.14%	149.29%	0.97%		1.2%	Negative historical growth, high population growth, use a value moderately higher than employment growth
133	University Drive & Federated Road	North	2.04%	2106.67%	0.97%	0.32%	1.2%	Very high population growth, but low model growth. Recommend a value close to double the employment growth.
134		East		0.10%	0.98%		1.2%	Low population growth, use a value close to employment growth
135		South	2.04%	149.29%	0.97%	0.32%	1.2%	Very high population growth, but low model growth. Recommend a value close to double the employment growth.
136		West	5.74%	224.52%	0.97%		1.2%	High historical and population growth, use a value moderately higher than employment growth
137	Davie Road & Nova Drive	North	-0.21%	2306.67%	0.97%	-0.01%	1.2%	Negative historical growth, very low model growth, but relatively high population. Recommend doubling the employment growth to acount for population growth.
138		East		0.79%	0.99%	0.76%	1.2%	Similar population and model growth, use population growth
139		South	8.61%	2306.67%	0.98%	0.88%	1.2%	Even though historical growth is high, traffic counts at Site 867970 from 2017 to 2019 are stagnant. Recommend doubling the employment growth to accout for the high population growth.
140		West	5.63%	4613.33%	0.98%	-1.38%	1.2%	High population growth but negative model growth, use a growth rate moderately higher than the employment growth. Revised from 1.40 to 1.50.
141	Davie Road & Reese Road	North	-0.21%	1.62%	0.98%	0.03%	1.2%	Negative historical growth, very low model growth, but relatively high population and employment growth. Use employment growth.
142		East		0.79%	0.99%		1.2%	Similar population and model growth, use population growth
143		South	-0.21%	1.62%	0.98%	0.03%	1.2%	Negative historical growth, very low model growth, but relatively high population and employment growth. Use employment growth.
144		West		2306.67%	0.97%		1.2%	High population growth, use a growth rate close to double the employment growth
146	Davie Road & SR-84 EB	East	10.07%	0.79%	0.99%	0.29%	1.2%	SR 84 E W - Shoud be low grow, but use a higher one to be consistent with adjacent segments on SR 84.
147		South	-0.21%	1.62%	0.98%	0.03%	1.2%	Negative historical growth, very low model growth, but relatively high population and employment growth. Use employment growth.
148		West	2.26%	2306.67%	0.97%	0.95%	1.2%	SR 84 E W - high historical and/or population growth, use a value close to double the employment growth rate.
150	Davie Road & SR-84 WB	East	2.26%	0.79%	0.99%	0.22%	1.2%	SR 84 E W - high historical and/or population growth, use a value close to double the employment growth rate.
152		West	11.95%	2306.67%	0.97%	0.56%	1.2%	SR 84 E W - high historical and/or population growth, use a value close to double the employment growth rate.
153	SR-7 & Oakes Road	North	2.12%	70.26%	0.98%	0.61%	1.2%	High historical growth, but counts for 2017-2019 show low or negative growth. High population growth. Use a value close to double the employment growth to account for high population growth.
155		South	2.12%	1586.67%	0.97%	0.59%	1.2%	High historical growth, but counts for 2017-2019 show low or negative growth. High population growth. Use a value close to double the employment growth to account for high population growth.
156		West		126.42%	0.98%		1.2%	High population growth, moderate employment growth, use a value double the employment growth.
157	SR-7 & Riverland Road	North	2.21%	0.06%	0.98%	-0.02%	1.0%	High historical growth, but counts for 2017-2019 show low or negative growth. Use employment growth.
158		East	13.86%	0.56%	0.98%	1.81%	1.0%	High historical growth, but negative model growth. Use average population and employment growth. Revised from 0.8 to 1.50.
159		South	2.21%	1.57%	0.98%	0.27%	1.0%	High historical growth, but counts for 2017-2019 show low or negative growth. Use employment growth.
160		West		0.86%	0.98%		1.0%	Similar population and model growth, use employment growth

APPENDIX A-6
TMTools and Turning Movement Forecast Spreadsheets

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	1 SW 136th Avenue & Shenandoah Parkway		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		25,500		2,800		16,500		10,500
NO. YEARS 6	2025	1.048	26,500	1.048	2,900	1.048	17,500	1.048	11,000
NO. YEARS 16	2035	1.128	29,000	1.128	3,200	1.128	18,500	1.128	12,000
NO. YEARS 26	2045	1.208	31,000	1.208	3,400	1.208	20,000	1.208	12,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	1,909				203			1,322			824		
		275	479	36	87	39	9	9	685	83	57	23	347	2,129
	% TURNS:	35%	61%	5%	64%	29%	7%	1%	88%	11%	13%	5%	81%	
P.M.	2-Way Pk Hr Vol:	2,112				218			1,241			863		
		567	589	113	65	7	8	19	560	44	21	6	218	2,217
	% TURNS:	45%	46%	9%	81%	9%	10%	3%	90%	7%	9%	2%	89%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	35%	61%	5%	64%	29%	7%	1%	88%	11%	13%	5%	81%
2025	35%	60%	5%	63%	28%	9%	2%	86%	12%	16%	5%	79%
2035	35%	60%	5%	62%	28%	10%	2%	85%	13%	16%	6%	78%
2045	35%	60%	5%	62%	27%	11%	2%	84%	13%	17%	6%	77%
P.M.												
2019	45%	46%	9%	81%	9%	10%	3%	90%	7%	9%	2%	89%
2025	44%	47%	9%	78%	10%	12%	3%	87%	9%	11%	3%	86%
2035	44%	47%	9%	77%	10%	13%	4%	87%	10%	12%	3%	85%
2045	43%	48%	9%	76%	11%	14%	4%	86%	10%	13%	3%	84%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	7.5%	8.3%	7.3%	7.8%	8.0%	7.5%	7.8%	8.2%
2025	7.8%	8.4%	7.3%	7.8%	8.2%	7.9%	7.8%	8.2%
2035	8.4%	8.7%	7.3%	7.8%	8.6%	8.4%	7.8%	8.2%
2045	9.0%	9.0%	7.3%	7.8%	9.0%	9.0%	7.8%	8.2%
D FACTOR								
2019	41.4%	60.1%	66.5%	36.7%	58.8%	50.2%	51.8%	28.4%
2025	41.4%	60.1%	66.5%	36.7%	58.8%	50.3%	51.8%	29.4%
2035	41.4%	60.1%	66.5%	36.7%	58.8%	50.6%	51.8%	31.2%
2045	41.4%	60.1%	66.5%	36.7%	58.8%	50.8%	51.8%	32.9%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 1 SW 136th Avenue & Shenandoah Parkway
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	25500	2800	16500	10500
24 HR EST. AADT	2025	26500	2900	17500	11000
24 HR EST. AADT	2035	29000	3200	18500	12000
24 HR EST. AADT	2045	31000	3400	20000	12500

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		25,500			2,800			16,500			10,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	10,500	16,500	2,800	25,500	10,500	16,500	2,800	25,500	10,500	16,500	2,800	25,500
	35%	55%	9%	49%	20%	31%	7%	66%	27%	37%	6%	57%
2025 2-WAY ADT		26,500			2,900			17,500			11,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	11,000	17,500	2,900	26,500	11,000	17,500	2,900	26,500	11,000	17,500	2,900	26,500
	35%	56%	9%	48%	20%	32%	7%	66%	27%	37%	6%	57%
2035 2-WAY ADT		29,000			3,200			18,500			12,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	12,000	18,500	3,200	29,000	12,000	18,500	3,200	29,000	12,000	18,500	3,200	29,000
	36%	55%	9%	49%	20%	31%	7%	66%	27%	36%	6%	57%
2045 2-WAY ADT		31,000			3,400			20,000			12,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	12,500	20,000	3,400	31,000	12,500	20,000	3,400	31,000	12,500	20,000	3,400	31,000
	35%	56%	9%	49%	20%	31%	7%	66%	27%	37%	6%	57%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	273	478	35	87	38	9	9	685	81	56	22	348
	EST. % TURNS												
2025	EST. TURNS	291	519	39	95	[39]	12	12	757	88	62	[24]	369
	EST. % TURNS												
2035	EST. TURNS	344	589	47	117	[40]	[14]	[13]	882	[89]	[64]	[25]	431
	EST. % TURNS												
2045	EST. TURNS	372	679	57	134	[42]	[15]	[14]	1,035	[91]	[65]	[27]	466
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	564	588	115	65	7	8	19	559	44	21	6	217
	EST. % TURNS												
2025	EST. TURNS	566	637	117	[67]	8	10	23	604	60	30	7	226
	EST. % TURNS												
2035	EST. TURNS	602	726	126	71	[10]	11	24	682	63	34	8	257
	EST. % TURNS												
2045	EST. TURNS	611	831	136	72	[11]	13	29	771	74	42	9	271

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		790	1,120	1,910	135	65	200	777	543	1,320	427	393	820
2019	TURN SUMMARY	786	1,120	1,906	134	66	200	775	543	1,318	426	392	818
CONTROL LINK VOLUMES		859	1,221	2,080	140	70	210	848	592	1,440	447	413	860
2025	TURN SUMMARY	849	1,221	2,070	146	75	221	857	593	1,450	455	418	873
CONTROL LINK VOLUMES		1,010	1,430	2,440	155	75	230	937	653	1,590	486	454	940
2035	TURN SUMMARY	980	1,430	2,410	171	85	256	984	667	1,651	520	473	993
CONTROL LINK VOLUMES		1,155	1,635	2,790	165	85	250	1,058	742	1,800	505	475	980
2045	TURN SUMMARY	1,108	1,635	2,743	191	98	289	1,140	759	1,899	558	505	1,063
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,269	841	2,110	80	140	220	623	617	1,240	245	615	860
2019	TURN SUMMARY	1,267	841	2,108	80	140	220	622	617	1,239	244	615	859
CONTROL LINK VOLUMES		1,345	895	2,240	83	147	230	693	687	1,380	266	634	900
2025	TURN SUMMARY	1,320	898	2,218	85	147	232	687	677	1,364	263	634	897
CONTROL LINK VOLUMES		1,520	1,010	2,530	92	158	250	789	771	1,560	307	673	980
2035	TURN SUMMARY	1,454	1,010	2,464	92	158	250	769	771	1,540	299	675	974
CONTROL LINK VOLUMES		1,676	1,114	2,790	97	173	270	914	886	1,800	337	693	1,030
2045	TURN SUMMARY	1,578	1,114	2,692	96	174	270	874	886	1,760	322	696	1,018

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	2 3 SW 136th Avenue & SR 84		

NOTES:

SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
		0	0	0	0
Model Volume:		0	0	0	0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.2%**	**CGR**	**1.0%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years 2 = Linear Growth Throughout All Years 3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)	**2**	**2**	**2**	**2**

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
		2019		36,500		50,000		25,500		23,000
NO. YEARS	6	2025	1.072	39,000	1.060	53,000	1.048	26,500	1.048	24,000
NO. YEARS	16	2035	1.192	43,500	1.160	58,000	1.128	29,000	1.128	26,000
NO. YEARS	26	2045	1.312	48,000	1.260	63,000	1.208	31,000	1.208	30,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	2,454			3,239			1,920			1,689			
		132	330	303	889	355	386	679	375	77	73	627	425	4,651
% TURNS:		17%	43%	40%	55%	22%	24%	60%	33%	7%	6%	56%	38%	
P.M.	2-Way Pk Hr Vol:	2,170			3,140			2,147			1,483			
		78	327	576	454	160	820	506	304	68	122	624	431	4,470
% TURNS:		8%	33%	59%	32%	11%	57%	58%	35%	8%	10%	53%	37%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	17%	43%	40%	55%	22%	24%	60%	33%	7%	6%	56%	38%
2025	18%	41%	41%	53%	22%	24%	59%	33%	8%	8%	55%	37%
2035	18%	41%	41%	53%	22%	24%	58%	33%	9%	8%	54%	37%
2045	18%	40%	41%	53%	23%	24%	57%	33%	9%	9%	54%	37%
P.M.												
2019	8%	33%	59%	32%	11%	57%	58%	35%	8%	10%	53%	37%
2025	9%	33%	58%	33%	13%	54%	56%	35%	9%	12%	52%	36%
2035	10%	32%	58%	33%	13%	54%	56%	35%	9%	12%	52%	36%
2045	11%	32%	57%	34%	14%	52%	55%	35%	10%	12%	52%	36%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	6.7%	5.9%	6.5%	6.3%	7.5%	8.4%	7.3%	6.4%
2025	7.2%	6.7%	7.1%	6.9%	7.9%	8.6%	7.7%	7.0%
2035	8.1%	7.8%	8.0%	8.0%	8.4%	8.8%	8.4%	8.0%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	31.2%	45.2%	50.3%	45.7%	58.9%	40.9%	66.6%	79.4%
2025	31.6%	45.2%	50.4%	45.7%	58.9%	40.9%	66.6%	76.5%
2035	32.2%	45.2%	50.6%	45.7%	58.9%	40.9%	66.6%	71.8%
2045	32.9%	45.2%	50.8%	45.7%	58.9%	40.9%	66.6%	67.1%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 2 3 SW 136th Avenue & SR 84
PREPARED BY:
FILE:

DATE:
NOTES: SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	36500	50000	25500	23000
24 HR EST. AADT	2025	39000	53000	26500	24000
24 HR EST. AADT	2035	43500	58000	29000	26000
24 HR EST. AADT	2045	48000	63000	31000	30500

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2019 2-WAY ADT		36,500			50,000			25,500			23,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		23,000	25,500	50,000	36,500	23,000	25,500	50,000	36,500	23,000	25,500	50,000	36,500
		23%	26%	51%	43%	27%	30%	46%	33%	21%	23%	45%	33%
	2025 2-WAY ADT		39,000			53,000			26,500			24,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		24,000	26,500	53,000	39,000	24,000	26,500	53,000	39,000	24,000	26,500	53,000	39,000
		23%	26%	51%	44%	27%	30%	46%	34%	21%	22%	45%	33%
	2035 2-WAY ADT		43,500			58,000			29,000			26,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		26,000	29,000	58,000	43,500	26,000	29,000	58,000	43,500	26,000	29,000	58,000	43,500
		23%	26%	51%	44%	26%	29%	45%	34%	20%	22%	44%	33%
	2045 2-WAY ADT		48,000			63,000			31,000			30,500	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		30,500	31,000	63,000	48,000	30,500	31,000	63,000	48,000	30,500	31,000	63,000	48,000
		24%	25%	51%	44%	28%	28%	45%	34%	22%	22%	44%	34%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	132	330	303	887	356	386	679	374	77	73	628	424
	EST. % TURNS												
2025	EST. TURNS	145	345	407	1,079	385	430	746	403	85	87	700	455
	EST. % TURNS												
2035	EST. TURNS	174	406	566	1,403	456	509	895	465	92	94	841	524
	EST. % TURNS												
2045	EST. TURNS	229	459	731	1,718	579	573	1,004	525	114	115	1,055	657
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	77	328	576	454	158	822	506	304	67	122	624	431
	EST. % TURNS												
2025	EST. TURNS	106	382	740	615	214	867	542	324	76	130	706	479
	EST. % TURNS												
2035	EST. TURNS	165	399	1,045	892	324	979	614	379	95	131	843	590
	EST. % TURNS												
2045	EST. TURNS	271	446	1,362	1,184	509	1,055	663	424	128	148	1,054	759

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		765	1,685	2,450	1,630	1,610	3,240	1,131	789	1,920	1,125	565	1,690
2019	TURN SUMMARY	765	1,685	2,450	1,629	1,610	3,239	1,130	789	1,919	1,125	565	1,690
CONTROL LINK VOLUMES		893	1,937	2,830	1,887	1,853	3,740	1,228	862	2,090	1,235	615	1,850
2025	TURN SUMMARY	897	1,937	2,834	1,894	1,853	3,747	1,234	862	2,096	1,242	615	1,857
CONTROL LINK VOLUMES		1,139	2,391	3,530	2,357	2,303	4,660	1,441	1,009	2,450	1,448	722	2,170
2035	TURN SUMMARY	1,146	2,392	3,538	2,368	2,302	4,670	1,452	1,009	2,461	1,459	722	2,181
CONTROL LINK VOLUMES		1,421	2,899	4,320	2,880	2,790	5,670	1,643	1,147	2,790	1,828	922	2,750
2045	TURN SUMMARY	1,419	2,900	4,319	2,870	2,790	5,660	1,643	1,147	2,790	1,827	922	2,749
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		981	1,189	2,170	1,434	1,706	3,140	878	1,272	2,150	1,177	303	1,480
2019	TURN SUMMARY	981	1,189	2,170	1,434	1,706	3,140	877	1,272	2,149	1,177	302	1,479
CONTROL LINK VOLUMES		1,172	1,418	2,590	1,672	1,988	3,660	927	1,343	2,270	1,293	397	1,690
2025	TURN SUMMARY	1,228	1,418	2,646	1,697	1,988	3,685	943	1,379	2,322	1,315	397	1,712
CONTROL LINK VOLUMES		1,539	1,861	3,400	2,108	2,502	4,610	1,041	1,509	2,550	1,497	583	2,080
2035	TURN SUMMARY	1,609	1,861	3,470	2,195	2,502	4,697	1,088	1,509	2,597	1,564	584	2,148
CONTROL LINK VOLUMES		1,953	2,367	4,320	2,591	3,079	5,670	1,141	1,649	2,790	1,842	908	2,750
2045	TURN SUMMARY	2,079	2,367	4,446	2,748	3,079	5,827	1,215	1,649	2,864	1,961	908	2,869

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:		T-INTERSECTION?	Yes
INTERSECTION:	4 NW 136th Avenue & NW 2nd Street	MISSING Leg:	East Leg

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	- -	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Historic + Model Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Base Year Model to Future Year Model GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Recommended Growth Rate:	**1.20%**	**CGR**	**-**	**CGR**	**1.20%**	**CGR**	**1.20%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
				2		**-**		**2**		**2**
		2019		32,000		-		36,500		7,700
NO. YEARS	6	2025	1.072	34,500	-	-	1.072	39,000	1.072	8,300
NO. YEARS	16	2035	1.192	38,000	-	-	1.192	43,500	1.192	9,200
NO. YEARS	26	2045	1.312	42,000	-	-	1.312	48,000	1.312	10,000

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound) RIGHT	THRU	LEFT	FROM EAST LEG (Westbound) RIGHT	THRU	LEFT	FROM SOUTH LEG (Northbound) RIGHT	THRU	LEFT	FROM WEST LEG (Eastbound) RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:		2,399			-			2,354			473		
		125	636	-	-	-	-	-	1,503	135	78	-	133	2,616
	% TURNS:	16%	83%	-	-	-	-	-	92%	8%	37%	-	63%	
P.M.	2-Way Pk Hr Vol:		2,464			-			2,168			794		
		281	831	-	-	-	-	-	1,087	103	145	-	263	2,716
	% TURNS:	25%	75%	-	-	-	-	-	91%	9%	35%	-	64%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG RIGHT	THRU	LEFT	EAST LEG RIGHT	THRU	LEFT	SOUTH LEG RIGHT	THRU	LEFT	WEST LEG RIGHT	THRU	LEFT
A.M.												
2019	16%	83%	-	-	-	-	-	92%	8%	37%	-	63%
2025	17%	83%	-	-	-	-	-	91%	9%	38%	-	61%
2035	17%	83%	-	-	-	-	-	90%	10%	39%	-	61%
2045	17%	83%	-	-	-	-	-	90%	10%	40%	-	60%
P.M.												
2019	25%	75%	-	-	-	-	-	91%	9%	35%	-	64%
2025	24%	75%	-	-	-	-	-	90%	10%	37%	-	63%
2035	24%	76%	-	-	-	-	-	90%	10%	38%	-	62%
2045	24%	76%	-	-	-	-	-	90%	10%	38%	-	61%

K & D FACTORS:

	NORTH LEG AM	PM	EAST LEG AM	PM	SOUTH LEG AM	PM	WEST LEG AM	PM
K FACTOR								
2019	7.5%	7.7%	-	-	6.4%	5.9%	6.1%	10.3%
2025	7.8%	8.0%	-	-	7.0%	6.6%	6.1%	10.3%
2035	8.4%	8.5%	-	-	8.0%	7.8%	6.1%	10.3%
2045	9.0%	9.0%	-	-	9.0%	9.0%	6.1%	10.3%
D FACTOR								
2019	31.8%	45.2%	-	-	69.6%	54.9%	44.8%	51.5%
2025	32.0%	45.2%	-	-	69.0%	54.9%	44.8%	51.5%
2035	32.5%	45.2%	-	-	68.1%	54.9%	44.8%	51.5%
2045	32.9%	45.2%	-	-	67.1%	54.9%	44.8%	51.5%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 4 NW 136th Avenue & NW 2nd Street
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	32,000	-	36,500	7,700
24 HR EST. AADT	2025	34,500	-	39,000	8,300
24 HR EST. AADT	2035	38,000	-	43,500	9,200
24 HR EST. AADT	2045	42,000	-	48,000	10,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS

	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		32,000			-			36,500			7,700	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	7,700	36,500	-	-	-	-	-	32,000	7,700	36,500	-	32,000
	17%	83%	-	-	-	-	-	81%	19%	53%	-	47%
2025 2-WAY ADT		34,500			-			39,000			8,300	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	8,300	39,000	-	-	-	-	-	34,500	8,300	39,000	-	34,500
	18%	82%	-	-	-	-	-	81%	19%	53%	-	47%
2035 2-WAY ADT		38,000			-			43,500			9,200	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	9,200	43,500	-	-	-	-	-	38,000	9,200	43,500	-	38,000
	17%	83%	-	-	-	-	-	81%	19%	53%	-	47%
2045 2-WAY ADT		42,000			-			48,000			10,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	10,000	48,000	-	-	-	-	-	42,000	10,000	48,000	-	42,000
	17%	83%	-	-	-	-	-	81%	19%	53%	-	47%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	124	633	-	-	-	-	-	1,504	133	77	-	133
	EST. % TURNS												
2025	EST. TURNS	126	750	-	-	-	-	-	1,711	161	93	-	134
	EST. % TURNS												
2035	EST. TURNS	127	979	-	-	-	-	-	2,044	212	135	-	135
	EST. % TURNS												
2045	EST. TURNS	128	1,248	-	-	-	-	-	2,429	244	172	-	136
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	278	833	-	-	-	-	-	1,085	102	145	-	261
	EST. % TURNS												
2025	EST. TURNS	279	941	-	-	-	-	-	1,259	143	184	-	262
	EST. % TURNS												
2035	EST. TURNS	280	1,262	-	-	-	-	-	1,553	214	268	-	263
	EST. % TURNS												
2045	EST. TURNS	282	1,596	-	-	-	-	-	1,886	283	349	-	264

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		762	1,638	2,400	-	-	-	1,639	711	2,350	212	258	470
2019	TURN SUMMARY	759	1,638	2,397	-	-	-	1,639	711	2,350	212	258	470
CONTROL LINK VOLUMES		867	1,843	2,710	-	-	-	1,895	845	2,740	228	282	510
2025	TURN SUMMARY	878	1,846	2,724	-	-	-	1,875	844	2,719	229	288	517
CONTROL LINK VOLUMES		1,039	2,161	3,200	-	-	-	2,375	1,115	3,490	253	317	570
2035	TURN SUMMARY	1,108	2,180	3,288	-	-	-	2,259	1,116	3,375	272	340	612
CONTROL LINK VOLUMES		1,244	2,536	3,780	-	-	-	2,899	1,421	4,320	275	335	610
2045	TURN SUMMARY	1,378	2,566	3,944	-	-	-	2,677	1,422	4,099	310	373	683

DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,113	1,347	2,460	-	-	-	1,191	979	2,170	409	381	790
2019	TURN SUMMARY	1,113	1,347	2,460	-	-	-	1,189	979	2,168	408	381	789
CONTROL LINK VOLUMES		1,247	1,513	2,760	-	-	-	1,424	1,166	2,590	441	419	860
2025	TURN SUMMARY	1,222	1,522	2,744	-	-	-	1,405	1,126	2,530	448	423	871
CONTROL LINK VOLUMES		1,460	1,770	3,230	-	-	-	1,869	1,531	3,400	489	461	950
2035	TURN SUMMARY	1,544	1,817	3,361	-	-	-	1,770	1,532	3,302	533	495	1,028
CONTROL LINK VOLUMES		1,709	2,071	3,780	-	-	-	2,373	1,947	4,320	531	499	1,030
2045	TURN SUMMARY	1,879	2,151	4,030	-	-	-	2,173	1,947	4,120	615	566	1,181

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:		T-INTERSECTION?	Yes
INTERSECTION:	7 Flamingo Road & SW 8th Street	MISSING Leg:	East Leg

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	- -	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Historic + Model Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Base Year Model to Future Year Model GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Recommended Growth Rate:	**0.80%**	**CGR**	**-**	**CGR**	**0.80%**	**CGR**	**0.80%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**-**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
	2019		36,500		-		36,500		7,800
NO. YEARS 6	2025	1.048	38,500	-	-	1.048	38,500	1.048	8,200
NO. YEARS 16	2035	1.128	41,000	-	-	1.128	41,000	1.128	8,800
NO. YEARS 26	2045	1.208	44,000	-	-	1.208	44,000	1.208	9,400

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	3,590				-			3,362			536		
	246	1,493	-	-	-	-	-	1,714	74	79	-	135		3,747
% TURNS:	14%	86%	-	-	-	-	-	96%	4%	37%	-	63%		
P.M.	2-Way Pk Hr Vol:	3,532				-			3,161			681		
	435	1,581	-	-	-	-	-	1,424	116	38	-	90		3,690
% TURNS:	22%	78%	-	-	-	-	-	92%	8%	29%	-	70%		

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	14%	86%	-	-	-	-	-	96%	4%	37%	-	63%
2025	14%	85%	-	-	-	-	-	94%	5%	38%	-	62%
2035	15%	85%	-	-	-	-	-	94%	6%	38%	-	61%
2045	15%	85%	-	-	-	-	-	94%	6%	39%	-	61%
P.M.												
2019	22%	78%	-	-	-	-	-	92%	8%	29%	-	70%
2025	21%	79%	-	-	-	-	-	91%	9%	32%	-	68%
2035	21%	79%	-	-	-	-	-	91%	9%	32%	-	67%
2045	21%	79%	-	-	-	-	-	91%	9%	33%	-	66%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	9.8%	9.7%	-	-	9.2%	8.7%	6.9%	8.7%
2025	9.6%	9.5%	-	-	9.2%	8.7%	6.9%	8.7%
2035	9.3%	9.3%	-	-	9.1%	8.9%	6.9%	8.7%
2045	9.0%	9.0%	-	-	9.0%	9.0%	6.9%	8.7%
D FACTOR								
2019	48.5%	57.1%	-	-	53.2%	48.8%	40.1%	18.9%
2025	48.5%	57.1%	-	-	53.2%	48.8%	40.1%	22.2%
2035	48.5%	57.1%	-	-	53.2%	48.8%	40.1%	27.5%
2045	48.5%	57.1%	-	-	53.2%	48.8%	40.1%	32.9%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 7 Flamingo Road & SW 8th Street
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	36,500	-	36,500	7,800
24 HR EST. AADT	2025	38,500	-	38,500	8,200
24 HR EST. AADT	2035	41,000	-	41,000	8,800
24 HR EST. AADT	2045	44,000	-	44,000	9,400

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		36,500			-			36,500			7,800	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	7,800	36,500	-	-	-	-	-	36,500	7,800	36,500	-	36,500
	18%	82%	-	-	-	-	-	82%	18%	50%	-	50%
2025 2-WAY ADT		38,500			-			38,500			8,200	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	8,200	38,500	-	-	-	-	-	38,500	8,200	38,500	-	38,500
	18%	82%	-	-	-	-	-	82%	18%	50%	-	50%
2035 2-WAY ADT		41,000			-			41,000			8,800	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	8,800	41,000	-	-	-	-	-	41,000	8,800	41,000	-	41,000
	18%	82%	-	-	-	-	-	82%	18%	50%	-	50%
2045 2-WAY ADT		44,000			-			44,000			9,400	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	9,400	44,000	-	-	-	-	-	44,000	9,400	44,000	-	44,000
	18%	82%	-	-	-	-	-	82%	18%	50%	-	50%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	249	1,491	-	-	-	-	-	1,715	75	79	-	134
	EST. % TURNS												
2025	EST. TURNS	251	1,564	-	-	-	-	-	1,773	96	87	-	136
	EST. % TURNS												
2035	EST. TURNS	253	1,635	-	-	-	-	-	1,829	120	103	-	137
	EST. % TURNS												
2045	EST. TURNS	255	1,731	-	-	-	-	-	1,902	146	121	-	138
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	434	1,580	-	-	-	-	-	1,423	116	38	-	89
	EST. % TURNS												
2025	EST. TURNS	435	1,649	-	-	-	-	-	1,473	140	52	-	103
	EST. % TURNS												
2035	EST. TURNS	436	1,783	-	-	-	-	-	1,511	169	81	-	120
	EST. % TURNS												
2045	EST. TURNS	438	1,908	-	-	-	-	-	1,565	199	119	-	134

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,740	1,850	3,590	-	-	-	1,789	1,571	3,360	215	325	540
2019	TURN SUMMARY	1,742	1,850	3,592	-	-	-	1,792	1,571	3,363	215	325	540
CONTROL LINK VOLUMES		1,800	1,910	3,710	-	-	-	1,877	1,653	3,530	226	334	560
2025	TURN SUMMARY	1,817	1,910	3,727	-	-	-	1,871	1,652	3,523	225	348	573
CONTROL LINK VOLUMES		1,853	1,967	3,820	-	-	-	1,981	1,739	3,720	243	367	610
2035	TURN SUMMARY	1,890	1,967	3,857	-	-	-	1,951	1,739	3,690	242	374	616
CONTROL LINK VOLUMES		1,921	2,039	3,960	-	-	-	2,107	1,853	3,960	260	390	650
2045	TURN SUMMARY	1,988	2,041	4,029	-	-	-	2,051	1,853	3,904	261	402	663
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,017	1,513	3,530	-	-	-	1,541	1,619	3,160	129	551	680
2019	TURN SUMMARY	2,016	1,513	3,529	-	-	-	1,541	1,619	3,160	129	551	680
CONTROL LINK VOLUMES		2,093	1,577	3,670	-	-	-	1,641	1,719	3,360	159	561	720
2025	TURN SUMMARY	2,086	1,577	3,663	-	-	-	1,616	1,702	3,318	158	576	734
CONTROL LINK VOLUMES		2,168	1,632	3,800	-	-	-	1,774	1,866	3,640	211	559	770
2035	TURN SUMMARY	2,221	1,632	3,853	-	-	-	1,682	1,865	3,547	204	606	810
CONTROL LINK VOLUMES		2,261	1,699	3,960	-	-	-	1,932	2,028	3,960	269	551	820
2045	TURN SUMMARY	2,347	1,700	4,047	-	-	-	1,766	2,028	3,794	256	638	894

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	8 9 Flamingo Road & SR 84		

NOTES:

SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
		0	0	0	0
Model Volume:		0	0	0	0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years 2 = Linear Growth Throughout All Years 3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)	**2**	**2**	**2**	**2**

		YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
		2019		40,500		35,000		36,500		27,500
NO. YEARS	6	2025	1.060	43,000	1.048	36,500	1.048	38,500	1.048	29,000
NO. YEARS	16	2035	1.160	47,000	1.128	39,500	1.128	41,000	1.128	31,000
NO. YEARS	26	2045	1.260	51,000	1.208	43,000	1.208	44,000	1.208	35,000

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	3,060			2,865			3,689			2,402			
		494	761	395	439	102	602	809	600	516	401	518	371	6,008
% TURNS:		30%	46%	24%	38%	9%	53%	42%	31%	27%	31%	40%	29%	
P.M.	2-Way Pk Hr Vol:	3,912			2,990			3,605			2,273			
		473	1040	710	524	150	651	532	660	258	464	423	505	6,390
% TURNS:		21%	47%	32%	40%	11%	49%	37%	46%	18%	33%	30%	36%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	30%	46%	24%	38%	9%	53%	42%	31%	27%	31%	40%	29%
2025	30%	45%	25%	38%	11%	51%	41%	32%	27%	31%	39%	30%
2035	30%	45%	25%	39%	11%	50%	41%	32%	27%	31%	39%	30%
2045	30%	44%	26%	39%	12%	50%	41%	33%	27%	31%	39%	30%
P.M.												
2019	21%	47%	32%	40%	11%	49%	37%	46%	18%	33%	30%	36%
2025	22%	46%	32%	39%	13%	48%	36%	45%	19%	33%	30%	36%
2035	22%	46%	32%	40%	13%	47%	36%	45%	19%	33%	30%	36%
2045	23%	45%	32%	39%	14%	47%	36%	45%	19%	33%	31%	36%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	7.6%	9.7%	8.2%	8.5%	10.1%	9.9%	8.7%	8.3%
2025	7.9%	9.7%	8.4%	8.6%	10.1%	9.9%	8.8%	8.4%
2035	8.4%	9.7%	8.7%	8.8%	10.1%	9.9%	8.9%	8.7%
2045	9.0%	9.7%	9.0%	9.0%	10.1%	9.9%	9.0%	9.0%
D FACTOR								
2019	53.9%	56.8%	39.9%	44.3%	52.2%	40.2%	53.7%	61.2%
2025	53.9%	56.8%	39.9%	44.3%	52.2%	40.2%	53.7%	61.2%
2035	53.9%	56.8%	39.9%	44.3%	52.2%	40.2%	53.7%	61.2%
2045	53.9%	56.8%	39.9%	44.3%	52.2%	40.2%	53.7%	61.2%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 8 9 Flamingo Road & SR 84
PREPARED BY:
FILE:

DATE:
NOTES: SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	40500	35000	36500	27500
24 HR EST. AADT	2025	43000	36500	38500	29000
24 HR EST. AADT	2035	47000	39500	41000	31000
24 HR EST. AADT	2045	51000	43000	44000	35000

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2019 2-WAY ADT		40,500			35,000			36,500			27,500	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		27,500	36,500	35,000	40,500	27,500	36,500	35,000	40,500	27,500	36,500	35,000	40,500
		28%	37%	35%	39%	26%	35%	34%	39%	27%	33%	31%	36%
	2025 2-WAY ADT		43,000			36,500			38,500			29,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		29,000	38,500	36,500	43,000	29,000	38,500	36,500	43,000	29,000	38,500	36,500	43,000
		28%	37%	35%	39%	26%	35%	34%	40%	27%	33%	31%	36%
	2035 2-WAY ADT		47,000			39,500			41,000			31,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		31,000	41,000	39,500	47,000	31,000	41,000	39,500	47,000	31,000	41,000	39,500	47,000
		28%	37%	35%	39%	26%	34%	34%	40%	26%	32%	31%	37%
	2045 2-WAY ADT		51,000			43,000			44,000			35,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		35,000	44,000	43,000	51,000	35,000	44,000	43,000	51,000	35,000	44,000	43,000	51,000
		29%	36%	35%	39%	27%	34%	33%	40%	27%	32%	31%	37%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	493	762	396	439	102	603	811	600	515	401	519	371
	EST. % TURNS												
2025	EST. TURNS	532	829	467	481	125	612	838	667	523	420	536	413
	EST. % TURNS												
2035	EST. TURNS	619	928	591	592	141	635	887	756	536	435	584	482
	EST. % TURNS												
2045	EST. TURNS	736	1,013	721	703	174	665	936	833	549	442	669	579
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	471	1,042	710	523	149	653	533	660	257	465	423	504
	EST. % TURNS												
2025	EST. TURNS	503	1,082	758	554	172	671	554	697	277	501	449	546
	EST. % TURNS												
2035	EST. TURNS	555	1,170	850	620	196	721	592	737	294	538	504	606
	EST. % TURNS												
2045	EST. TURNS	640	1,218	926	678	243	776	633	763	338	615	597	698

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,650	1,410	3,060	1,143	1,727	2,870	1,925	1,765	3,690	1,290	1,110	2,400
2019	TURN SUMMARY	1,651	1,410	3,061	1,144	1,726	2,870	1,926	1,766	3,692	1,291	1,110	2,401
CONTROL LINK VOLUMES		1,829	1,561	3,390	1,219	1,841	3,060	2,030	1,860	3,890	1,370	1,180	2,550
2025	TURN SUMMARY	1,828	1,561	3,389	1,218	1,841	3,059	2,028	1,861	3,889	1,369	1,180	2,549
CONTROL LINK VOLUMES		2,140	1,830	3,970	1,369	2,061	3,430	2,162	1,978	4,140	1,481	1,279	2,760
2035	TURN SUMMARY	2,138	1,830	3,968	1,368	2,062	3,430	2,179	1,998	4,177	1,501	1,296	2,797
CONTROL LINK VOLUMES		2,474	2,116	4,590	1,544	2,326	3,870	2,320	2,120	4,440	1,692	1,458	3,150
2045	TURN SUMMARY	2,470	2,115	4,585	1,542	2,326	3,868	2,318	2,120	4,438	1,690	1,459	3,149
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,223	1,687	3,910	1,325	1,665	2,990	1,450	2,160	3,610	1,392	878	2,270
2019	TURN SUMMARY	2,223	1,687	3,910	1,325	1,666	2,991	1,450	2,160	3,610	1,392	877	2,269
CONTROL LINK VOLUMES		2,363	1,797	4,160	1,399	1,761	3,160	1,530	2,270	3,800	1,498	952	2,450
2025	TURN SUMMARY	2,343	1,797	4,140	1,397	1,761	3,158	1,528	2,254	3,782	1,496	952	2,448
CONTROL LINK VOLUMES		2,586	1,964	4,550	1,544	1,946	3,490	1,631	2,429	4,060	1,655	1,045	2,700
2035	TURN SUMMARY	2,575	1,963	4,538	1,537	1,946	3,483	1,623	2,429	4,052	1,648	1,045	2,693
CONTROL LINK VOLUMES		2,811	2,139	4,950	1,714	2,156	3,870	1,751	2,609	4,360	1,929	1,221	3,150
2045	TURN SUMMARY	2,784	2,139	4,923	1,697	2,156	3,853	1,734	2,609	4,343	1,910	1,221	3,131

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	10 Flamingo Road & Broward Boulevard		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
		0	0	0	0
Model Volume:		0	0	0	0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

			NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
			2		**2**		**2**		**2**	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	
	2019		45,000		19,000		40,500		6,800	
NO. YEARS 6	2025	1.060	47,500	1.060	20,000	1.060	43,000	1.060	7,200	
NO. YEARS 16	2035	1.160	52,000	1.160	22,000	1.160	47,000	1.160	7,900	
NO. YEARS 26	2045	1.260	56,500	1.260	24,000	1.260	51,000	1.260	8,600	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	2,414				1,434			3,137			575		
		32	1113	151	222	93	377	476	866	68	237	115	30	3,780
% TURNS:		2%	86%	12%	32%	13%	54%	34%	61%	5%	62%	30%	8%	
P.M.	2-Way Pk Hr Vol:	3,559				1,736			4,072			617		
		57	1724	318	258	157	414	490	1171	94	179	99	31	4,992
% TURNS:		3%	82%	15%	31%	19%	50%	28%	67%	5%	58%	32%	10%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	2%	86%	12%	32%	13%	54%	34%	61%	5%	62%	30%	8%
2025	3%	83%	13%	34%	13%	53%	33%	62%	5%	60%	29%	11%
2035	3%	83%	14%	34%	13%	53%	33%	62%	5%	59%	29%	12%
2045	4%	82%	14%	35%	12%	53%	33%	62%	6%	58%	28%	14%
P.M.												
2019	3%	82%	15%	31%	19%	50%	28%	67%	5%	58%	32%	10%
2025	3%	80%	16%	33%	18%	49%	28%	66%	6%	56%	31%	13%
2035	4%	80%	17%	33%	17%	49%	28%	66%	6%	56%	30%	14%
2045	4%	79%	17%	34%	17%	49%	28%	66%	6%	55%	30%	16%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	5.4%	7.9%	7.5%	9.1%	7.7%	10.1%	8.5%	9.1%
2025	6.2%	8.2%	7.9%	9.1%	8.0%	9.8%	8.6%	9.1%
2035	7.6%	8.6%	8.4%	9.1%	8.5%	9.4%	8.8%	9.0%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	53.7%	59.0%	48.3%	47.8%	44.9%	43.1%	66.4%	50.1%
2025	53.7%	59.0%	48.3%	47.8%	44.9%	43.1%	66.4%	50.2%
2035	53.7%	59.0%	48.3%	47.8%	44.9%	43.1%	66.4%	50.5%
2045	53.7%	59.0%	48.3%	47.8%	44.9%	43.1%	66.4%	50.8%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 10 Flamingo Road & Broward Boulevard
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	45000	19000	40500	6800
24 HR EST. AADT	2025	47500	20000	43000	7200
24 HR EST. AADT	2035	52000	22000	47000	7900
24 HR EST. AADT	2045	56500	24000	51000	8600

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2019 2-WAY ADT	45,000			19,000			40,500			6,800		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		6,800	40,500	19,000	45,000	6,800	40,500	19,000	45,000	6,800	40,500	19,000	45,000
		10%	61%	29%	49%	7%	44%	27%	64%	10%	39%	18%	43%
	2025 2-WAY ADT	47,500			20,000			43,000			7,200		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		7,200	43,000	20,000	47,500	7,200	43,000	20,000	47,500	7,200	43,000	20,000	47,500
		10%	61%	28%	49%	7%	44%	27%	64%	10%	39%	18%	43%
	2035 2-WAY ADT	52,000			22,000			47,000			7,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		7,900	47,000	22,000	52,000	7,900	47,000	22,000	52,000	7,900	47,000	22,000	52,000
		10%	61%	29%	49%	7%	44%	27%	63%	10%	39%	18%	43%
	2045 2-WAY ADT	56,500			24,000			51,000			8,600		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		8,600	51,000	24,000	56,500	8,600	51,000	24,000	56,500	8,600	51,000	24,000	56,500
		10%	61%	29%	49%	7%	44%	27%	63%	10%	39%	18%	43%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	33	1,115	149	220	95	377	475	865	70	238	114	30
	EST. % TURNS												
2025	EST. TURNS	50	1,298	223	294	97	378	476	1,019	71	239	121	55
	EST. % TURNS												
2035	EST. TURNS	74	1,627	358	446	98	380	477	1,292	72	241	142	90
	EST. % TURNS												
2045	EST. TURNS	106	1,983	520	619	100	381	478	1,601	73	242	152	140
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	58	1,723	320	259	159	413	491	1,171	95	179	100	31
	EST. % TURNS												
2025	EST. TURNS	78	1,830	377	305	160	414	492	1,242	97	180	104	47
	EST. % TURNS												
2035	EST. TURNS	103	1,958	487	396	161	415	493	1,365	99	181	111	67
	EST. % TURNS												
2045	EST. TURNS	136	2,098	613	505	163	417	495	1,489	100	183	118	97

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,296	1,114	2,410	692	738	1,430	1,410	1,730	3,140	382	198	580
2019	TURN SUMMARY	1,297	1,115	2,412	692	738	1,430	1,410	1,730	3,140	382	198	580
CONTROL LINK VOLUMES		1,582	1,368	2,950	761	819	1,580	1,553	1,907	3,460	410	210	620
2025	TURN SUMMARY	1,571	1,368	2,939	769	820	1,589	1,566	1,915	3,481	415	218	633
CONTROL LINK VOLUMES		2,122	1,828	3,950	897	963	1,860	1,798	2,202	4,000	461	229	690
2035	TURN SUMMARY	2,059	1,828	3,887	924	977	1,901	1,841	2,248	4,089	473	244	717
CONTROL LINK VOLUMES		2,730	2,360	5,090	1,043	1,117	2,160	2,061	2,529	4,590	514	256	770
2045	TURN SUMMARY	2,609	2,360	4,969	1,100	1,150	2,250	2,152	2,606	4,758	534	279	813
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,099	1,461	3,560	829	911	1,740	1,755	2,315	4,070	309	311	620
2019	TURN SUMMARY	2,101	1,461	3,562	830	911	1,741	1,757	2,315	4,072	310	312	622
CONTROL LINK VOLUMES		2,286	1,594	3,880	870	950	1,820	1,818	2,402	4,220	328	322	650
2025	TURN SUMMARY	2,284	1,594	3,878	879	973	1,852	1,831	2,424	4,255	331	335	666
CONTROL LINK VOLUMES		2,631	1,829	4,460	952	1,038	1,990	1,905	2,515	4,420	360	350	710
2035	TURN SUMMARY	2,548	1,828	4,376	972	1,091	2,063	1,957	2,554	4,511	359	363	722
CONTROL LINK VOLUMES		2,999	2,091	5,090	1,032	1,128	2,160	1,978	2,612	4,590	393	377	770
2045	TURN SUMMARY	2,847	2,091	4,938	1,085	1,226	2,311	2,084	2,698	4,782	398	399	797

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	11 12 Hiatus Road & SR 84		

NOTES:

SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**0.8%**	**CGR**	**1.0%**	**CGR**	**0.8%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG: 2		EAST LEG: 2		SOUTH LEG: 2		WEST LEG: 2	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		20,000		27,500		18,000		20,500
NO. YEARS 6	2025	1.060	21,000	1.048	29,000	1.060	19,000	1.048	21,500
NO. YEARS 16	2035	1.160	23,000	1.128	31,000	1.160	21,000	1.128	23,000
NO. YEARS 26	2045	1.260	25,000	1.208	33,500	1.260	22,500	1.208	24,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	3,166			2,454			1,592			2,146			
		775	301	837	418	61	244	440	293	197	117	454	542	4,679
% TURNS:		41%	16%	44%	58%	8%	34%	47%	32%	21%	11%	41%	49%	
P.M.	2-Way Pk Hr Vol:	3,228			2,571			1,721			2,208			
		731	376	525	753	90	536	244	222	125	218	423	621	4,864
% TURNS:		45%	23%	32%	55%	7%	39%	41%	38%	21%	17%	34%	49%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	41%	16%	44%	58%	8%	34%	47%	32%	21%	11%	41%	49%
2025	40%	17%	44%	55%	11%	33%	47%	31%	22%	12%	41%	47%
2035	39%	17%	43%	55%	12%	33%	46%	31%	22%	13%	41%	46%
2045	39%	18%	43%	54%	13%	33%	46%	31%	23%	13%	41%	46%
P.M.												
2019	45%	23%	32%	55%	7%	39%	41%	38%	21%	17%	34%	49%
2025	43%	23%	33%	53%	9%	38%	41%	37%	22%	18%	34%	47%
2035	43%	24%	33%	52%	10%	38%	41%	37%	22%	19%	34%	47%
2045	42%	24%	34%	51%	11%	38%	41%	36%	23%	19%	35%	46%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	15.8%	16.1%	8.9%	9.3%	8.8%	9.6%	10.5%	10.8%
2025	15.8%	16.1%	8.9%	9.3%	8.9%	9.6%	10.5%	10.8%
2035	15.8%	16.1%	9.0%	9.1%	8.9%	9.6%	10.5%	10.8%
2045	15.8%	16.1%	9.0%	9.0%	9.0%	9.6%	10.5%	10.8%
D FACTOR								
2019	60.4%	50.6%	29.5%	53.6%	58.4%	34.3%	51.9%	57.2%
2025	60.4%	50.6%	30.3%	53.6%	58.4%	34.3%	51.9%	57.2%
2035	60.4%	50.7%	31.6%	53.6%	58.4%	34.3%	51.9%	57.2%
2045	60.4%	50.8%	32.9%	53.6%	58.4%	34.3%	51.9%	57.2%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 11 12 Hiatus Road & SR 84
PREPARED BY:
FILE:

DATE:
NOTES: SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	20000	27500	18000	20500
24 HR EST. AADT	2025	21000	29000	19000	21500
24 HR EST. AADT	2035	23000	31000	21000	23000
24 HR EST. AADT	2045	25000	33500	22500	24500

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2019 2-WAY ADT		20,000			27,500			18,000			20,500	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		20,500	18,000	27,500	20,000	20,500	18,000	27,500	20,000	20,500	18,000	27,500	20,000
		31%	27%	42%	34%	35%	31%	40%	29%	30%	27%	42%	31%
	2025 2-WAY ADT		21,000			29,000			19,000			21,500	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		21,500	19,000	29,000	21,000	21,500	19,000	29,000	21,000	21,500	19,000	29,000	21,000
		31%	27%	42%	34%	35%	31%	41%	29%	30%	28%	42%	30%
	2035 2-WAY ADT		23,000			31,000			21,000			23,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		23,000	21,000	31,000	23,000	23,000	21,000	31,000	23,000	23,000	21,000	31,000	23,000
		31%	28%	41%	34%	34%	31%	40%	30%	30%	28%	41%	31%
	2045 2-WAY ADT		25,000			33,500			22,500			24,500	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		24,500	22,500	33,500	25,000	24,500	22,500	33,500	25,000	24,500	22,500	33,500	25,000
		30%	28%	42%	35%	34%	31%	40%	30%	30%	28%	41%	31%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	778	300	835	419	61	243	439	294	198	117	453	544
	EST. % TURNS												
2025	EST. TURNS	786	323	881	445	85	248	454	313	211	133	471	554
	EST. % TURNS												
2035	EST. TURNS	836	367	938	492	94	270	484	356	229	146	479	595
	EST. % TURNS												
2045	EST. TURNS	881	398	1,016	551	113	292	510	386	242	157	502	626
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	733	376	524	754	90	536	244	222	125	218	423	622
	EST. % TURNS												
2025	EST. TURNS	736	402	564	780	127	539	250	243	133	241	434	652
	EST. % TURNS												
2035	EST. TURNS	786	487	608	828	132	565	265	284	144	267	438	718
	EST. % TURNS												
2045	EST. TURNS	837	545	669	892	150	586	278	315	152	287	456	778

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,913	1,257	3,170	723	1,727	2,450	930	660	1,590	1,113	1,037	2,150
2019	TURN SUMMARY	1,913	1,257	3,170	723	1,727	2,450	931	660	1,591	1,114	1,037	2,151
CONTROL LINK VOLUMES		2,008	1,312	3,320	785	1,805	2,590	986	704	1,690	1,168	1,082	2,250
2025	TURN SUMMARY	1,990	1,312	3,302	778	1,806	2,584	978	704	1,682	1,158	1,082	2,240
CONTROL LINK VOLUMES		2,197	1,443	3,640	878	1,902	2,780	1,097	783	1,880	1,251	1,159	2,410
2035	TURN SUMMARY	2,141	1,443	3,584	856	1,901	2,757	1,069	783	1,852	1,220	1,159	2,379
CONTROL LINK VOLUMES		2,387	1,563	3,950	992	2,028	3,020	1,183	847	2,030	1,334	1,236	2,570
2045	TURN SUMMARY	2,295	1,563	3,858	956	2,028	2,984	1,138	847	1,985	1,285	1,236	2,521
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,632	1,598	3,230	1,379	1,191	2,570	591	1,129	1,720	1,262	948	2,210
2019	TURN SUMMARY	1,633	1,598	3,231	1,380	1,191	2,571	591	1,130	1,721	1,263	948	2,211
CONTROL LINK VOLUMES		1,715	1,675	3,390	1,442	1,248	2,690	624	1,196	1,820	1,324	996	2,320
2025	TURN SUMMARY	1,703	1,675	3,378	1,446	1,248	2,694	625	1,183	1,808	1,327	996	2,323
CONTROL LINK VOLUMES		1,879	1,831	3,710	1,519	1,311	2,830	691	1,319	2,010	1,418	1,062	2,480
2035	TURN SUMMARY	1,881	1,830	3,711	1,525	1,311	2,836	693	1,319	2,012	1,423	1,062	2,485
CONTROL LINK VOLUMES		2,045	1,985	4,030	1,617	1,403	3,020	741	1,419	2,160	1,512	1,138	2,650
2045	TURN SUMMARY	2,051	1,985	4,036	1,628	1,403	3,031	745	1,418	2,163	1,521	1,139	2,660

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	13 Hiatus Road & Broward Boulevard		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
		2019		27,500		23,500		20,000		27,000
NO. YEARS	6	2025	1.060	29,000	1.060	25,000	1.060	21,000	1.060	28,500
NO. YEARS	16	2035	1.160	32,000	1.160	27,500	1.160	23,000	1.160	31,500
NO. YEARS	26	2045	1.260	34,500	1.260	29,500	1.260	25,000	1.260	34,000

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	2,316				2,093			3,167			1,860		
		136	1037	214	151	468	444	368	644	241	433	448	134	4,718
	% TURNS:	10%	75%	15%	14%	44%	42%	29%	51%	19%	43%	44%	13%	
P.M.	2-Way Pk Hr Vol:	2,495				2,310			3,227			2,046		
		110	872	135	140	615	486	288	1072	236	273	646	166	5,039
	% TURNS:	10%	78%	12%	11%	50%	39%	18%	67%	15%	25%	60%	15%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	10%	75%	15%	14%	44%	42%	29%	51%	19%	43%	44%	13%
2025	13%	70%	17%	16%	43%	40%	29%	50%	21%	41%	43%	16%
2035	13%	69%	18%	17%	43%	40%	29%	49%	21%	41%	43%	16%
2045	15%	67%	18%	18%	43%	39%	29%	49%	22%	40%	42%	17%
P.M.												
2019	10%	78%	12%	11%	50%	39%	18%	67%	15%	25%	60%	15%
2025	13%	73%	14%	14%	48%	38%	19%	64%	17%	25%	57%	18%
2035	13%	72%	15%	14%	48%	38%	20%	63%	17%	26%	56%	18%
2045	15%	70%	16%	16%	47%	37%	20%	62%	18%	26%	55%	19%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	8.4%	9.1%	8.9%	9.8%	15.8%	16.1%	6.9%	7.6%
2025	8.6%	9.1%	8.9%	9.6%	14.3%	14.5%	7.4%	7.9%
2035	8.8%	9.0%	9.0%	9.3%	11.6%	11.7%	8.2%	8.5%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	59.9%	44.8%	50.8%	53.7%	39.6%	49.5%	54.6%	53.0%
2025	59.9%	44.8%	50.8%	53.7%	39.6%	49.4%	54.6%	53.0%
2035	59.9%	44.8%	50.8%	53.7%	39.6%	49.3%	54.6%	53.0%
2045	59.9%	44.8%	50.8%	53.7%	39.6%	49.2%	54.6%	53.0%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 13 Hiatus Road & Broward Boulevard
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	27500	23500	20000	27000
24 HR EST. AADT	2025	29000	25000	21000	28500
24 HR EST. AADT	2035	32000	27500	23000	31500
24 HR EST. AADT	2045	34500	29500	25000	34000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		27,500			23,500			20,000			27,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	27,000	20,000	23,500	27,500	27,000	20,000	23,500	27,500	27,000	20,000	23,500	27,500
	38%	28%	33%	37%	36%	27%	30%	35%	35%	28%	33%	39%
2025 2-WAY ADT		29,000			25,000			21,000			28,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	28,500	21,000	25,000	29,000	28,500	21,000	25,000	29,000	28,500	21,000	25,000	29,000
	38%	28%	34%	37%	36%	27%	30%	35%	35%	28%	33%	39%
2035 2-WAY ADT		32,000			27,500			23,000			31,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	31,500	23,000	27,500	32,000	31,500	23,000	27,500	32,000	31,500	23,000	27,500	32,000
	38%	28%	34%	37%	36%	27%	30%	35%	35%	28%	33%	39%
2045 2-WAY ADT		34,500			29,500			25,000			34,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	34,000	25,000	29,500	34,500	34,000	25,000	29,500	34,500	34,000	25,000	29,500	34,500
	38%	28%	33%	37%	36%	27%	30%	35%	35%	28%	33%	39%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	136	1,039	213	152	468	444	367	647	241	434	447	135
	EST. % TURNS												
2025	EST. TURNS	206	1,041	270	200	507	446	368	648	243	435	500	198
	EST. % TURNS												
2035	EST. TURNS	332	1,042	351	263	622	447	369	650	244	437	623	319
	EST. % TURNS												
2045	EST. TURNS	497	1,044	423	318	702	449	371	651	245	439	716	473
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	111	874	135	140	617	486	287	1,076	237	274	647	167
	EST. % TURNS												
2025	EST. TURNS	167	875	178	205	648	487	288	1,077	240	276	677	243
	EST. % TURNS												
2035	EST. TURNS	267	876	225	274	765	489	290	1,079	242	278	771	386
	EST. % TURNS												
2045	EST. TURNS	409	877	275	346	842	490	292	1,080	243	279	829	575

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,387	933	2,320	1,063	1,027	2,090	1,253	1,917	3,170	1,015	845	1,860
2019	TURN SUMMARY	1,388	934	2,322	1,064	1,027	2,091	1,255	1,917	3,172	1,016	845	1,861
CONTROL LINK VOLUMES		1,486	994	2,480	1,134	1,096	2,230	1,185	1,805	2,990	1,147	953	2,100
2025	TURN SUMMARY	1,517	1,046	2,563	1,153	1,138	2,291	1,259	1,922	3,181	1,133	956	2,089
CONTROL LINK VOLUMES		1,682	1,128	2,810	1,252	1,218	2,470	1,059	1,611	2,670	1,407	1,173	2,580
2035	TURN SUMMARY	1,725	1,232	2,957	1,332	1,343	2,675	1,263	1,926	3,189	1,379	1,198	2,577
CONTROL LINK VOLUMES		1,860	1,250	3,110	1,348	1,312	2,660	891	1,359	2,250	1,670	1,390	3,060
2045	TURN SUMMARY	1,964	1,442	3,406	1,469	1,510	2,979	1,267	1,932	3,199	1,628	1,444	3,072
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,117	1,383	2,500	1,241	1,069	2,310	1,596	1,634	3,230	1,085	965	2,050
2019	TURN SUMMARY	1,120	1,383	2,503	1,244	1,069	2,313	1,600	1,634	3,234	1,088	965	2,053
CONTROL LINK VOLUMES		1,176	1,454	2,630	1,294	1,116	2,410	1,503	1,537	3,040	1,195	1,055	2,250
2025	TURN SUMMARY	1,220	1,525	2,745	1,340	1,143	2,483	1,605	1,638	3,243	1,196	1,055	2,251
CONTROL LINK VOLUMES		1,294	1,596	2,890	1,377	1,183	2,560	1,332	1,368	2,700	1,412	1,248	2,660
2035	TURN SUMMARY	1,368	1,739	3,107	1,528	1,286	2,814	1,611	1,643	3,254	1,435	1,274	2,709
CONTROL LINK VOLUMES		1,391	1,719	3,110	1,426	1,234	2,660	1,107	1,143	2,250	1,623	1,437	3,060
2045	TURN SUMMARY	1,561	2,001	3,562	1,678	1,396	3,074	1,615	1,646	3,261	1,683	1,494	3,177

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	14 Nob Hill Road & SW 13th Street		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
				2		**2**		**2**		**2**
		2019		25,000		1,900		25,000		950
NO. YEARS	6	2025	1.048	26,000	1.048	2,000	1.048	26,000	1.048	1,000
NO. YEARS	16	2035	1.128	28,000	1.128	2,100	1.128	28,000	1.128	1,100
NO. YEARS	26	2045	1.208	30,000	1.208	2,300	1.208	30,000	1.208	1,100

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	2,448				654			2,092			150		
		75	943	219	234	0	85	109	932	20	3	7	45	2,672
% TURNS:		6%	76%	18%	73%	0%	27%	10%	88%	2%	5%	13%	82%	
P.M.	2-Way Pk Hr Vol:	2,450				248			2,252			30		
		3	1317	174	47	0	18	9	895	7	6	0	14	2,490
% TURNS:		0%	88%	12%	72%	0%	28%	1%	98%	1%	30%	0%	70%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	6%	76%	18%	73%	0%	27%	10%	88%	2%	5%	13%	82%
2025	6%	78%	17%	71%	0%	29%	10%	88%	2%	10%	12%	78%
2035	6%	78%	16%	70%	0%	29%	10%	88%	2%	11%	12%	78%
2045	6%	78%	16%	69%	0%	30%	10%	88%	2%	13%	11%	76%
P.M.												
2019	0%	88%	12%	72%	0%	28%	1%	98%	1%	30%	0%	70%
2025	1%	88%	11%	70%	0%	30%	2%	97%	1%	32%	0%	68%
2035	1%	88%	11%	69%	0%	30%	2%	97%	1%	32%	0%	67%
2045	1%	88%	11%	68%	0%	31%	2%	97%	1%	33%	1%	66%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	9.8%	9.8%	34.4%	13.1%	8.4%	9.0%	15.8%	3.2%
2025	9.6%	9.6%	34.4%	13.1%	8.5%	9.0%	15.8%	3.2%
2035	9.3%	9.3%	34.4%	13.1%	8.8%	9.0%	15.8%	3.2%
2045	9.0%	9.0%	34.4%	13.1%	9.0%	9.0%	15.8%	3.2%
D FACTOR								
2019	50.5%	61.0%	48.8%	26.2%	50.7%	40.5%	36.7%	66.7%
2025	50.6%	61.0%	48.8%	27.8%	50.7%	40.5%	36.7%	66.7%
2035	50.7%	61.0%	48.8%	30.3%	50.8%	40.5%	36.7%	66.7%
2045	50.8%	61.0%	48.8%	32.9%	50.8%	40.5%	36.7%	66.7%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 14 Nob Hill Road & SW 13th Street
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	25000	1900	25000	950
24 HR EST. AADT	2025	26000	2000	26000	1000
24 HR EST. AADT	2035	28000	2100	28000	1100
24 HR EST. AADT	2045	30000	2300	30000	1100

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		25,000			1,900			25,000			950	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	950	25,000	1,900	25,000	950	25,000	1,900	25,000	950	25,000	1,900	25,000
	3%	90%	7%	49%	2%	49%	7%	90%	3%	48%	4%	48%
2025 2-WAY ADT		26,000			2,000			26,000			1,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	1,000	26,000	2,000	26,000	1,000	26,000	2,000	26,000	1,000	26,000	2,000	26,000
	3%	90%	7%	49%	2%	49%	7%	90%	3%	48%	4%	48%
2035 2-WAY ADT		28,000			2,100			28,000			1,100	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	1,100	28,000	2,100	28,000	1,100	28,000	2,100	28,000	1,100	28,000	2,100	28,000
	4%	90%	7%	49%	2%	49%	7%	90%	4%	48%	4%	48%
2045 2-WAY ADT		30,000			2,300			30,000			1,100	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	1,100	30,000	2,300	30,000	1,100	30,000	2,300	30,000	1,100	30,000	2,300	30,000
	3%	90%	7%	49%	2%	49%	7%	90%	3%	48%	4%	48%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	75	942	217	234	0	84	107	933	20	3	7	45
	EST. % TURNS												
2025	EST. TURNS	76	977	220	[236]	1	104	127	962	26	6	8	[46]
	EST. % TURNS												
2035	EST. TURNS	[77]	1,065	[222]	[238]	[2]	131	152	1,027	32	9	9	[47]
	EST. % TURNS												
2045	EST. TURNS	[79]	1,144	[224]	[239]	[4]	171	194	1,080	39	12	10	[48]
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	3	1,315	176	47	0	18	9	895	7	6	0	14
	EST. % TURNS												
2025	EST. TURNS	4	1,346	[178]	49	[2]	23	16	913	[8]	7	[2]	[15]
	EST. % TURNS												
2035	EST. TURNS	7	1,460	[180]	52	[4]	30	21	956	10	9	[3]	[17]
	EST. % TURNS												
2045	EST. TURNS	[9]	1,553	[181]	55	[5]	43	31	987	[11]	10	[5]	[19]

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,237	1,213	2,450	319	331	650	1,061	1,029	2,090	55	95	150
2019	TURN SUMMARY	1,234	1,212	2,446	318	331	649	1,060	1,029	2,089	55	95	150
CONTROL LINK VOLUMES		1,264	1,236	2,500	336	354	690	1,123	1,087	2,210	58	102	160
2025	TURN SUMMARY	1,273	1,244	2,517	341	355	696	1,115	1,087	2,202	60	103	163
CONTROL LINK VOLUMES		1,321	1,289	2,610	353	367	720	1,245	1,205	2,450	64	106	170
2035	TURN SUMMARY	1,364	1,312	2,676	371	383	754	1,211	1,205	2,416	65	111	176
CONTROL LINK VOLUMES		1,372	1,328	2,700	386	404	790	1,372	1,328	2,700	64	106	170
2045	TURN SUMMARY	1,447	1,367	2,814	414	428	842	1,313	1,327	2,640	70	122	192
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,494	956	2,450	65	185	250	911	1,339	2,250	20	10	30
2019	TURN SUMMARY	1,494	956	2,450	65	185	250	911	1,339	2,250	20	10	30
CONTROL LINK VOLUMES		1,524	976	2,500	73	187	260	948	1,392	2,340	21	9	30
2025	TURN SUMMARY	1,527	977	2,505	74	196	270	937	1,376	2,313	24	14	38
CONTROL LINK VOLUMES		1,589	1,021	2,610	83	187	270	1,021	1,499	2,520	23	17	40
2035	TURN SUMMARY	1,647	1,025	2,672	86	204	290	987	1,499	2,486	29	21	50
CONTROL LINK VOLUMES		1,646	1,054	2,700	99	201	300	1,094	1,606	2,700	23	17	40
2045	TURN SUMMARY	1,743	1,061	2,804	103	217	320	1,029	1,606	2,635	34	25	59

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	15 Nob Hill Road & SW 101st Road		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
				2		**2**		**2**		**2**
		2019		25,000		1,700		25,000		2,600
NO. YEARS	6	2025	1.048	26,000	1.048	1,800	1.048	26,000	1.048	2,700
NO. YEARS	16	2035	1.128	28,000	1.128	1,900	1.128	28,000	1.128	2,900
NO. YEARS	26	2045	1.208	30,000	1.208	2,100	1.208	30,000	1.208	3,100

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	2,640				372			2,511			375		
		3	1136	113	132	12	33	18	1142	95	87	64	114	2,949
	% TURNS:	0%	91%	9%	75%	7%	19%	1%	91%	8%	33%	24%	43%	
P.M.	2-Way Pk Hr Vol:	2,631				115			2,570			352		
		17	1354	60	41	2	9	2	1016	72	117	1	143	2,834
	% TURNS:	1%	95%	4%	79%	4%	17%	0%	93%	7%	45%	0%	55%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	0%	91%	9%	75%	7%	19%	1%	91%	8%	33%	24%	43%
2025	1%	90%	9%	72%	7%	22%	2%	90%	8%	34%	22%	44%
2035	1%	90%	9%	71%	7%	22%	2%	90%	8%	35%	22%	44%
2045	2%	90%	9%	70%	6%	23%	2%	90%	8%	35%	21%	44%
P.M.												
2019	1%	95%	4%	79%	4%	17%	0%	93%	7%	45%	0%	55%
2025	2%	94%	4%	76%	4%	20%	1%	92%	7%	45%	1%	54%
2035	2%	93%	4%	75%	4%	21%	1%	92%	7%	45%	1%	54%
2045	2%	93%	4%	74%	4%	22%	1%	92%	7%	45%	1%	54%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	10.6%	10.5%	21.9%	6.8%	10.0%	10.3%	14.4%	13.5%
2025	10.2%	10.2%	21.9%	6.8%	9.8%	10.0%	14.4%	13.5%
2035	9.6%	9.6%	21.9%	6.8%	9.4%	9.5%	14.4%	13.5%
2045	9.0%	9.0%	21.9%	6.8%	9.0%	9.0%	14.4%	13.5%
D FACTOR								
2019	47.4%	54.4%	47.6%	45.2%	50.0%	42.4%	70.7%	74.1%
2025	47.4%	54.4%	47.6%	45.2%	50.2%	42.4%	69.8%	72.5%
2035	47.4%	54.4%	47.6%	45.2%	50.5%	42.4%	68.5%	69.8%
2045	47.4%	54.4%	47.6%	45.2%	50.8%	42.4%	67.1%	67.1%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 15 Nob Hill Road & SW 101st Road
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	25000	1700	25000	2600
24 HR EST. AADT	2025	26000	1800	26000	2700
24 HR EST. AADT	2035	28000	1900	28000	2900
24 HR EST. AADT	2045	30000	2100	30000	3100

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		25,000			1,700			25,000			2,600	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	2,600	25,000	1,700	25,000	2,600	25,000	1,700	25,000	2,600	25,000	1,700	25,000
	9%	85%	6%	48%	5%	48%	6%	85%	9%	48%	3%	48%
2025 2-WAY ADT		26,000			1,800			26,000			2,700	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	2,700	26,000	1,800	26,000	2,700	26,000	1,800	26,000	2,700	26,000	1,800	26,000
	9%	85%	6%	48%	5%	48%	6%	85%	9%	48%	3%	48%
2035 2-WAY ADT		28,000			1,900			28,000			2,900	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	2,900	28,000	1,900	28,000	2,900	28,000	1,900	28,000	2,900	28,000	1,900	28,000
	9%	85%	6%	48%	5%	48%	6%	85%	9%	48%	3%	48%
2045 2-WAY ADT		30,000			2,100			30,000			3,100	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	3,100	30,000	2,100	30,000	3,100	30,000	2,100	30,000	3,100	30,000	2,100	30,000
	9%	85%	6%	48%	5%	48%	6%	85%	9%	48%	3%	48%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	3	1,136	112	132	13	33	18	1,141	99	87	63	115
	EST. % TURNS												
2025	EST. TURNS	13	1,141	114	133	14	42	26	1,147	102	95	66	116
	EST. % TURNS												
2035	EST. TURNS	15	1,149	120	134	15	48	32	1,169	106	103	70	118
	EST. % TURNS												
2045	EST. TURNS	19	1,153	124	139	16	61	42	1,172	116	114	75	119
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	16	1,353	65	41	2	9	2	1,016	71	118	1	142
	EST. % TURNS												
2025	EST. TURNS	27	1,367	66	42	3	12	8	1,018	75	123	2	143
	EST. % TURNS												
2035	EST. TURNS	31	1,389	67	43	4	13	10	1,034	82	131	3	144
	EST. % TURNS												
2045	EST. TURNS	40	1,402	69	47	6	16	13	1,040	96	138	4	145

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,252	1,388	2,640	177	193	370	1,255	1,255	2,510	265	115	380
2019	TURN SUMMARY	1,251	1,388	2,639	178	193	371	1,258	1,256	2,514	265	115	380
CONTROL LINK VOLUMES		1,258	1,392	2,650	187	203	390	1,279	1,271	2,550	272	118	390
2025	TURN SUMMARY	1,268	1,396	2,664	189	206	395	1,275	1,278	2,553	277	129	406
CONTROL LINK VOLUMES		1,274	1,416	2,690	198	222	420	1,329	1,301	2,630	286	134	420
2035	TURN SUMMARY	1,284	1,421	2,705	197	222	419	1,307	1,300	2,607	291	136	427
CONTROL LINK VOLUMES		1,280	1,420	2,700	219	241	460	1,372	1,328	2,700	300	150	450
2045	TURN SUMMARY	1,296	1,430	2,726	216	241	457	1,330	1,328	2,658	308	151	459
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,431	1,199	2,630	52	68	120	1,090	1,480	2,570	261	89	350
2019	TURN SUMMARY	1,434	1,199	2,633	52	68	120	1,089	1,480	2,569	261	89	350
CONTROL LINK VOLUMES		1,439	1,201	2,640	55	65	120	1,101	1,499	2,600	265	105	370
2025	TURN SUMMARY	1,460	1,203	2,664	57	75	132	1,101	1,502	2,603	268	106	374
CONTROL LINK VOLUMES		1,460	1,220	2,680	58	72	130	1,127	1,533	2,660	274	116	390
2035	TURN SUMMARY	1,487	1,221	2,708	60	80	140	1,126	1,533	2,659	278	117	395
CONTROL LINK VOLUMES		1,469	1,231	2,700	65	75	140	1,145	1,555	2,700	281	139	420
2045	TURN SUMMARY	1,511	1,232	2,743	69	86	155	1,149	1,556	2,705	287	142	429

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	16 17 Nob Hill Road & SR 84		

NOTES:

SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
		0	0	0	0
Model Volume:		0	0	0	0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**0.8%**	**CGR**	**1.0%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG: 2		EAST LEG: 2		SOUTH LEG: 2		WEST LEG: 2	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		35,000		35,500		25,000		17,000
NO. YEARS 6	2025	1.048	36,500	1.060	37,500	1.048	26,000	1.048	18,000
NO. YEARS 16	2035	1.128	39,500	1.160	41,000	1.128	28,000	1.128	19,000
NO. YEARS 26	2045	1.208	42,500	1.260	44,500	1.208	30,000	1.208	20,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	2,675			2,832			2,640			1,657			
		231	510	727	475	45	460	703	370	318	279	422	362	4,902
% TURNS:		16%	35%	50%	48%	5%	47%	51%	27%	23%	26%	40%	34%	
P.M.	2-Way Pk Hr Vol:	3,065			3,234			2,674			1,693			
		308	568	638	877	100	588	549	420	276	273	482	254	5,333
% TURNS:		20%	38%	42%	56%	6%	38%	44%	34%	22%	27%	48%	25%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	16%	35%	50%	48%	5%	47%	51%	27%	23%	26%	40%	34%
2025	16%	34%	49%	48%	6%	45%	50%	28%	23%	26%	39%	34%
2035	16%	34%	49%	48%	7%	45%	49%	28%	22%	26%	39%	34%
2045	17%	34%	49%	48%	8%	44%	49%	29%	22%	26%	39%	34%
P.M.												
2019	20%	38%	42%	56%	6%	38%	44%	34%	22%	27%	48%	25%
2025	21%	37%	43%	55%	8%	37%	44%	34%	22%	27%	47%	26%
2035	20%	37%	43%	55%	8%	37%	44%	34%	22%	27%	47%	27%
2045	21%	37%	43%	54%	9%	37%	44%	35%	22%	27%	46%	27%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	7.6%	8.8%	8.0%	9.1%	10.6%	10.7%	9.7%	10.0%
2025	8.0%	8.8%	8.2%	9.1%	10.6%	10.7%	9.7%	10.0%
2035	8.5%	8.9%	8.6%	9.0%	10.6%	10.7%	9.7%	10.0%
2045	9.0%	9.0%	9.0%	9.0%	10.6%	10.7%	9.7%	10.0%
D FACTOR								
2019	54.9%	49.4%	34.6%	48.4%	52.7%	46.6%	64.2%	59.6%
2025	54.9%	49.4%	34.6%	48.4%	52.7%	46.6%	64.2%	59.6%
2035	54.9%	49.3%	34.6%	48.4%	52.7%	46.6%	64.2%	59.6%
2045	54.9%	49.2%	34.6%	48.4%	52.7%	46.6%	64.2%	59.6%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 16 17 Nob Hill Road & SR 84
PREPARED BY:
FILE:

DATE:
NOTES: SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	35000	35500	25000	17000
24 HR EST. AADT	2025	36500	37500	26000	18000
24 HR EST. AADT	2035	39500	41000	28000	19000
24 HR EST. AADT	2045	42500	44500	30000	20500

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2019 2-WAY ADT		35,000			35,500			25,000			17,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		17,000	25,000	35,500	35,000	17,000	25,000	35,500	35,000	17,000	25,000	35,500	35,000
		22%	32%	46%	45%	22%	32%	41%	40%	19%	26%	37%	37%
	2025 2-WAY ADT		36,500			37,500			26,000			18,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		18,000	26,000	37,500	36,500	18,000	26,000	37,500	36,500	18,000	26,000	37,500	36,500
		22%	32%	46%	45%	22%	32%	41%	40%	20%	26%	38%	37%
	2035 2-WAY ADT		39,500			41,000			28,000			19,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		19,000	28,000	41,000	39,500	19,000	28,000	41,000	39,500	19,000	28,000	41,000	39,500
		22%	32%	47%	46%	22%	32%	41%	40%	19%	26%	38%	36%
	2045 2-WAY ADT		42,500			44,500			30,000			20,500	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		20,500	30,000	44,500	42,500	20,500	30,000	44,500	42,500	20,500	30,000	44,500	42,500
		22%	32%	47%	46%	22%	32%	41%	40%	19%	26%	38%	36%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	232	511	727	477	45	459	702	372	319	279	421	364
	EST. % TURNS												
2025	EST. TURNS	250	535	814	522	66	481	741	401	321	286	459	383
	EST. % TURNS												
2035	EST. TURNS	278	592	993	636	77	524	818	455	323	289	498	421
	EST. % TURNS												
2045	EST. TURNS	310	650	1,183	755	93	567	892	509	325	290	549	467
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	307	568	637	879	99	585	547	422	275	272	480	255
	EST. % TURNS												
2025	EST. TURNS	317	587	684	908	128	612	574	445	276	286	503	279
	EST. % TURNS												
2035	EST. TURNS	339	641	760	996	142	663	624	488	288	301	532	302
	EST. % TURNS												
2045	EST. TURNS	364	689	835	1,080	162	704	667	533	302	321	570	335

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,468	1,212	2,680	980	1,850	2,830	1,391	1,249	2,640	1,063	597	1,660
2019	TURN SUMMARY	1,470	1,213	2,683	981	1,850	2,831	1,393	1,249	2,642	1,064	596	1,660
CONTROL LINK VOLUMES		1,594	1,306	2,900	1,066	2,014	3,080	1,448	1,302	2,750	1,124	626	1,750
2025	TURN SUMMARY	1,599	1,306	2,905	1,069	2,014	3,083	1,463	1,302	2,765	1,128	637	1,765
CONTROL LINK VOLUMES		1,838	1,512	3,350	1,221	2,309	3,530	1,562	1,398	2,960	1,185	665	1,850
2035	TURN SUMMARY	1,863	1,512	3,375	1,237	2,309	3,546	1,596	1,405	3,001	1,208	678	1,886
CONTROL LINK VOLUMES		2,099	1,731	3,830	1,386	2,624	4,010	1,676	1,504	3,180	1,276	714	1,990
2045	TURN SUMMARY	2,143	1,731	3,874	1,415	2,624	4,039	1,726	1,507	3,233	1,306	728	2,034
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,514	1,556	3,070	1,565	1,665	3,230	1,245	1,425	2,670	1,009	681	1,690
2019	TURN SUMMARY	1,512	1,556	3,068	1,563	1,664	3,227	1,244	1,425	2,669	1,007	681	1,688
CONTROL LINK VOLUMES		1,588	1,632	3,220	1,649	1,761	3,410	1,295	1,485	2,780	1,069	721	1,790
2025	TURN SUMMARY	1,588	1,632	3,219	1,648	1,761	3,409	1,295	1,485	2,779	1,068	721	1,789
CONTROL LINK VOLUMES		1,734	1,786	3,520	1,794	1,916	3,710	1,395	1,605	3,000	1,131	769	1,900
2035	TURN SUMMARY	1,740	1,786	3,526	1,801	1,916	3,717	1,400	1,605	3,005	1,135	769	1,904
CONTROL LINK VOLUMES		1,882	1,948	3,830	1,938	2,072	4,010	1,496	1,714	3,210	1,222	828	2,050
2045	TURN SUMMARY	1,888	1,948	3,836	1,946	2,072	4,018	1,502	1,714	3,216	1,226	828	2,054

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:		T-INTERSECTION?	Yes
INTERSECTION:	18 Nob Hill Road & Hawks View Boulevard	MISSING Leg:	East Leg

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	- -	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Historic + Model Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Base Year Model to Future Year Model GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Recommended Growth Rate:	**0.80%**	**CGR**	**-**	**CGR**	**0.80%**	**CGR**	**0.80%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		35,000		-		35,000		6,100
NO. YEARS 6	2025	1.048	36,500	-	-	1.048	36,500	1.048	6,400
NO. YEARS 16	2035	1.128	39,500	-	-	1.128	39,500	1.128	6,900
NO. YEARS 26	2045	1.208	42,500	-	-	1.208	42,500	1.208	7,400

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:		2,604			-			2,679			431		
		79	1,312	-	-	-	-	-	1,113	96	156	-	98	2,860
	% TURNS:	6%	94%	-	-	-	-	-	92%	8%	61%	-	38%	
P.M.	2-Way Pk Hr Vol:		3,070			-			3,063			417		
		135	1,411	-	-	-	-	-	1,446	105	99	-	76	3,278
	% TURNS:	9%	91%	-	-	-	-	-	93%	7%	56%	-	43%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	6%	94%	-	-	-	-	-	92%	8%	61%	-	38%
2025	7%	93%	-	-	-	-	-	91%	9%	60%	-	40%
2035	7%	93%	-	-	-	-	-	91%	9%	60%	-	40%
2045	7%	93%	-	-	-	-	-	91%	9%	59%	-	40%
P.M.												
2019	9%	91%	-	-	-	-	-	93%	7%	56%	-	43%
2025	9%	91%	-	-	-	-	-	92%	8%	56%	-	44%
2035	9%	90%	-	-	-	-	-	92%	8%	55%	-	44%
2045	10%	90%	-	-	-	-	-	92%	8%	55%	-	44%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	7.4%	8.8%	-	-	7.7%	8.8%	7.1%	6.8%
2025	7.8%	8.8%	-	-	8.0%	8.8%	7.1%	6.8%
2035	8.4%	8.9%	-	-	8.5%	8.9%	7.1%	6.8%
2045	9.0%	9.0%	-	-	9.0%	9.0%	7.1%	6.8%
D FACTOR								
2019	53.5%	50.4%	-	-	45.2%	50.7%	59.2%	42.2%
2025	53.5%	50.5%	-	-	45.2%	50.7%	59.2%	42.2%
2035	53.5%	50.6%	-	-	45.2%	50.7%	59.2%	42.2%
2045	53.5%	50.8%	-	-	45.2%	50.8%	59.2%	42.2%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 18 Nob Hill Road & Hawks View Boulevard
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	35,000	-	35,000	6,100
24 HR EST. AADT	2025	36,500	-	36,500	6,400
24 HR EST. AADT	2035	39,500	-	39,500	6,900
24 HR EST. AADT	2045	42,500	-	42,500	7,400

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2019 2-WAY ADT		35,000			-			35,000			6,100	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		6,100	35,000	-	-	-	-	-	35,000	6,100	35,000	-	35,000
		15%	85%	-	-	-	-	-	85%	15%	50%	-	50%
	2025 2-WAY ADT		36,500			-			36,500			6,400	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		6,400	36,500	-	-	-	-	-	36,500	6,400	36,500	-	36,500
		15%	85%	-	-	-	-	-	85%	15%	50%	-	50%
	2035 2-WAY ADT		39,500			-			39,500			6,900	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		6,900	39,500	-	-	-	-	-	39,500	6,900	39,500	-	39,500
		15%	85%	-	-	-	-	-	85%	15%	50%	-	50%
	2045 2-WAY ADT		42,500			-			42,500			7,400	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		7,400	42,500	-	-	-	-	-	42,500	7,400	42,500	-	42,500
		15%	85%	-	-	-	-	-	85%	15%	50%	-	50%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	78	1,313	-	-	-	-	-	1,110	96	156	-	97
	EST. % TURNS												
2025	EST. TURNS	86	1,436	-	-	-	-	-	1,220	98	160	-	107
	EST. % TURNS												
2035	EST. TURNS	98	1,668	-	-	-	-	-	1,424	102	167	-	120
	EST. % TURNS												
2045	EST. TURNS	110	1,924	-	-	-	-	-	1,649	108	176	-	135
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	137	1,409	-	-	-	-	-	1,446	106	98	-	76
	EST. % TURNS												
2025	EST. TURNS	140	1,473	-	-	-	-	-	1,513	115	102	-	80
	EST. % TURNS												
2035	EST. TURNS	149	1,625	-	-	-	-	-	1,650	123	109	-	86
	EST. % TURNS												
2045	EST. TURNS	156	1,770	-	-	-	-	-	1,794	131	116	-	92

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,392	1,208	2,600	-	-	-	1,210	1,470	2,680	255	175	430
2019	TURN SUMMARY	1,393	1,208	2,601	-	-	-	1,208	1,470	2,678	255	175	430
CONTROL LINK VOLUMES		1,522	1,328	2,850	-	-	-	1,313	1,597	2,910	268	182	450
2025	TURN SUMMARY	1,524	1,328	2,852	-	-	-	1,320	1,597	2,917	269	185	454
CONTROL LINK VOLUMES		1,774	1,546	3,320	-	-	-	1,514	1,836	3,350	289	201	490
2035	TURN SUMMARY	1,769	1,545	3,314	-	-	-	1,528	1,836	3,364	289	201	490
CONTROL LINK VOLUMES		2,045	1,785	3,830	-	-	-	1,729	2,101	3,830	311	219	530
2045	TURN SUMMARY	2,037	1,785	3,822	-	-	-	1,759	2,101	3,860	313	219	532

DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,547	1,523	3,070	-	-	-	1,552	1,508	3,060	176	244	420
2019	TURN SUMMARY	1,548	1,523	3,071	-	-	-	1,554	1,508	3,062	176	244	420
CONTROL LINK VOLUMES		1,626	1,594	3,220	-	-	-	1,630	1,590	3,220	184	256	440
2025	TURN SUMMARY	1,616	1,594	3,210	-	-	-	1,630	1,576	3,207	184	256	440
CONTROL LINK VOLUMES		1,783	1,737	3,520	-	-	-	1,785	1,735	3,520	198	272	470
2035	TURN SUMMARY	1,776	1,737	3,513	-	-	-	1,775	1,735	3,510	197	273	470
CONTROL LINK VOLUMES		1,943	1,887	3,830	-	-	-	1,943	1,887	3,830	212	288	500
2045	TURN SUMMARY	1,928	1,887	3,815	-	-	-	1,927	1,887	3,814	210	288	498

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	19 Nob Hill Road & Broward Boulevard		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
		0	0	0	0
Model Volume:		0	0	0	0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

			NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
		YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
		2019		31,500		30,000		35,000		22,000
NO. YEARS	6	2025	1.048	33,000	1.048	31,500	1.048	36,500	1.048	23,000
NO. YEARS	16	2035	1.128	35,500	1.128	34,000	1.128	39,500	1.128	25,000
NO. YEARS	26	2045	1.208	38,000	1.208	36,000	1.208	42,500	1.208	26,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	2,060				2,487			2,607			1,900		
		95	998	183	101	697	272	452	621	140	124	782	62	4,527
% TURNS:		7%	78%	14%	9%	65%	25%	37%	51%	12%	13%	81%	6%	
P.M.	2-Way Pk Hr Vol:	2,724				2,996			3,065			2,259		
		101	939	186	232	1006	506	266	1134	120	100	800	132	5,522
% TURNS:		8%	77%	15%	13%	58%	29%	18%	75%	8%	10%	78%	13%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	7%	78%	14%	9%	65%	25%	37%	51%	12%	13%	81%	6%
2025	9%	74%	16%	12%	61%	27%	37%	50%	13%	15%	76%	9%
2035	10%	73%	17%	13%	60%	27%	37%	49%	13%	16%	75%	10%
2045	10%	72%	18%	14%	58%	28%	37%	49%	14%	17%	72%	11%
P.M.												
2019	8%	77%	15%	13%	58%	29%	18%	75%	8%	10%	78%	13%
2025	10%	73%	17%	16%	54%	30%	19%	71%	10%	12%	73%	15%
2035	10%	72%	18%	16%	54%	30%	20%	70%	10%	13%	72%	15%
2045	11%	71%	18%	17%	52%	31%	21%	68%	11%	14%	70%	16%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	6.5%	8.6%	8.3%	10.0%	7.4%	8.8%	8.6%	10.3%
2025	7.1%	8.7%	8.5%	9.8%	7.8%	8.8%	8.7%	10.0%
2035	8.1%	8.9%	8.7%	9.4%	8.4%	8.9%	8.9%	9.5%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	61.9%	45.0%	43.0%	58.2%	46.5%	49.6%	50.9%	45.7%
2025	61.9%	45.0%	43.0%	58.2%	46.5%	49.5%	50.9%	45.7%
2035	61.9%	45.0%	43.0%	58.2%	46.5%	49.4%	50.9%	45.7%
2045	61.9%	45.0%	43.0%	58.2%	46.5%	49.2%	50.9%	45.7%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 19 Nob Hill Road & Broward Boulevard
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	31500	30000	35000	22000
24 HR EST. AADT	2025	33000	31500	36500	23000
24 HR EST. AADT	2035	35500	34000	39500	25000
24 HR EST. AADT	2045	38000	36000	42500	26500

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2019 2-WAY ADT		31,500			30,000			35,000			22,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		22,000	35,000	30,000	31,500	22,000	35,000	30,000	31,500	22,000	35,000	30,000	31,500
		25%	40%	34%	36%	25%	40%	36%	38%	26%	36%	31%	33%
	2025 2-WAY ADT		33,000			31,500			36,500			23,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		23,000	36,500	31,500	33,000	23,000	36,500	31,500	33,000	23,000	36,500	31,500	33,000
		25%	40%	35%	36%	25%	39%	36%	38%	26%	36%	31%	33%
	2035 2-WAY ADT		35,500			34,000			39,500			25,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		25,000	39,500	34,000	35,500	25,000	39,500	34,000	35,500	25,000	39,500	34,000	35,500
		25%	40%	35%	36%	25%	40%	36%	38%	26%	36%	31%	33%
	2045 2-WAY ADT		38,000			36,000			42,500			26,500	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		26,500	42,500	36,000	38,000	26,500	42,500	36,000	38,000	26,500	42,500	36,000	38,000
		25%	40%	34%	36%	25%	40%	36%	38%	26%	36%	31%	33%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	95	1,000	183	101	697	273	454	621	140	124	783	62
	EST. % TURNS												
2025	EST. TURNS	132	1,069	244	143	713	306	494	662	165	149	802	92
	EST. % TURNS												
2035	EST. TURNS	166	1,271	309	180	740	339	551	792	186	166	834	117
	EST. % TURNS												
2045	EST. TURNS	205	1,483	381	226	759	378	609	929	211	189	857	147
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	101	941	186	231	1,007	509	268	1,132	121	100	802	131
	EST. % TURNS												
2025	EST. TURNS	127	945	219	284	1,008	545	302	1,141	152	131	804	159
	EST. % TURNS												
2035	EST. TURNS	142	1,047	238	310	1,010	587	329	1,248	171	150	805	175
	EST. % TURNS												
2045	EST. TURNS	159	1,145	257	339	1,012	630	359	1,350	197	174	806	192

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,276	784	2,060	1,070	1,420	2,490	1,213	1,397	2,610	968	932	1,900
2019	TURN SUMMARY	1,278	784	2,062	1,071	1,420	2,491	1,215	1,397	2,612	969	932	1,901
CONTROL LINK VOLUMES		1,453	897	2,350	1,146	1,514	2,660	1,326	1,524	2,850	1,022	988	2,010
2025	TURN SUMMARY	1,445	897	2,342	1,162	1,540	2,702	1,321	1,524	2,845	1,043	1,010	2,053
CONTROL LINK VOLUMES		1,771	1,089	2,860	1,276	1,694	2,970	1,544	1,776	3,320	1,129	1,091	2,220
2035	TURN SUMMARY	1,746	1,089	2,835	1,259	1,694	2,953	1,529	1,776	3,305	1,117	1,092	2,209
CONTROL LINK VOLUMES		2,118	1,302	3,420	1,393	1,847	3,240	1,779	2,051	3,830	1,215	1,175	2,390
2045	TURN SUMMARY	2,069	1,302	3,371	1,363	1,847	3,210	1,749	2,050	3,799	1,193	1,175	2,368
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,226	1,494	2,720	1,744	1,256	3,000	1,520	1,550	3,070	1,032	1,228	2,260
2019	TURN SUMMARY	1,228	1,494	2,722	1,746	1,256	3,002	1,521	1,550	3,071	1,033	1,229	2,262
CONTROL LINK VOLUMES		1,296	1,584	2,880	1,789	1,281	3,070	1,592	1,628	3,220	1,048	1,242	2,290
2025	TURN SUMMARY	1,291	1,584	2,875	1,837	1,325	3,162	1,595	1,621	3,216	1,094	1,287	2,381
CONTROL LINK VOLUMES		1,416	1,734	3,150	1,856	1,334	3,190	1,736	1,784	3,520	1,084	1,286	2,370
2035	TURN SUMMARY	1,427	1,733	3,160	1,907	1,372	3,279	1,748	1,784	3,532	1,130	1,323	2,453
CONTROL LINK VOLUMES		1,539	1,881	3,420	1,886	1,354	3,240	1,882	1,948	3,830	1,090	1,300	2,390
2045	TURN SUMMARY	1,561	1,881	3,442	1,981	1,422	3,403	1,906	1,949	3,855	1,172	1,368	2,540

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	20 Pine Island Road & Nova Drive		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**	**0.8%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
		2019		35,500		12,000		35,000		12,000
NO. YEARS	6	2025	1.048	37,000	1.048	12,500	1.048	36,500	1.048	12,500
NO. YEARS	16	2035	1.128	40,000	1.128	13,500	1.128	39,500	1.128	13,500
NO. YEARS	26	2045	1.208	43,000	1.208	14,500	1.208	42,500	1.208	14,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	2,993				689			2,803			595		
		59	1109	216	67	20	110	163	1280	27	114	113	262	3,540
	% TURNS:	4%	80%	16%	34%	10%	56%	11%	87%	2%	23%	23%	54%	
P.M.	2-Way Pk Hr Vol:	2,970				1,018			2,955			739		
		165	1286	232	163	125	225	196	1000	139	109	77	124	3,841
	% TURNS:	10%	76%	14%	32%	24%	44%	15%	75%	10%	35%	25%	40%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	4%	80%	16%	34%	10%	56%	11%	87%	2%	23%	23%	54%
2025	6%	78%	16%	35%	11%	54%	12%	84%	4%	25%	22%	53%
2035	6%	78%	16%	35%	11%	54%	12%	84%	4%	26%	22%	52%
2045	7%	77%	16%	36%	11%	54%	13%	83%	5%	27%	22%	52%
P.M.												
2019	10%	76%	14%	32%	24%	44%	15%	75%	10%	35%	25%	40%
2025	11%	75%	14%	33%	23%	44%	15%	73%	11%	36%	24%	40%
2035	11%	74%	15%	33%	23%	44%	15%	73%	12%	36%	24%	40%
2045	12%	74%	15%	34%	23%	44%	16%	72%	12%	36%	23%	41%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	8.4%	8.4%	5.7%	8.5%	8.0%	8.4%	5.0%	6.2%
2025	8.6%	8.5%	6.5%	8.6%	8.2%	8.6%	5.9%	6.8%
2035	8.8%	8.8%	7.7%	8.8%	8.6%	8.8%	7.4%	7.9%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	46.2%	56.7%	28.6%	50.4%	52.4%	45.2%	82.2%	41.9%
2025	46.2%	56.7%	29.6%	50.5%	52.4%	45.2%	78.7%	41.9%
2035	46.2%	56.7%	31.2%	50.6%	52.4%	45.2%	72.9%	41.9%
2045	46.2%	56.7%	32.9%	50.8%	52.4%	45.2%	67.1%	41.9%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 20 Pine Island Road & Nova Drive
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	35500	12000	35000	12000
24 HR EST. AADT	2025	37000	12500	36500	12500
24 HR EST. AADT	2035	40000	13500	39500	13500
24 HR EST. AADT	2045	43000	14500	42500	14500

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		35,500			12,000			35,000			12,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	12,000	35,000	12,000	35,500	12,000	35,000	12,000	35,500	12,000	35,000	12,000	35,500
	20%	59%	20%	43%	15%	42%	20%	60%	20%	42%	15%	43%
2025 2-WAY ADT		37,000			12,500			36,500			12,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	12,500	36,500	12,500	37,000	12,500	36,500	12,500	37,000	12,500	36,500	12,500	37,000
	20%	59%	20%	43%	15%	42%	20%	60%	20%	42%	15%	43%
2035 2-WAY ADT		40,000			13,500			39,500			13,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	13,500	39,500	13,500	40,000	13,500	39,500	13,500	40,000	13,500	39,500	13,500	40,000
	20%	59%	20%	43%	15%	42%	20%	60%	20%	42%	15%	43%
2045 2-WAY ADT		43,000			14,500			42,500			14,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	14,500	42,500	14,500	43,000	14,500	42,500	14,500	43,000	14,500	42,500	14,500	43,000
	20%	59%	20%	43%	15%	43%	20%	60%	20%	43%	15%	43%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	62	1,106	216	67	21	110	164	1,278	28	114	113	262
	EST. % TURNS												
2025	EST. TURNS	80	1,150	240	83	24	134	198	1,324	56	149	133	299
	EST. % TURNS												
2035	EST. TURNS	128	1,236	281	103	46	181	258	1,429	103	198	185	355
	EST. % TURNS												
2045	EST. TURNS	187	1,334	323	129	75	237	324	1,544	172	253	234	408
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	165	1,289	232	163	125	226	197	1,001	140	110	77	124
	EST. % TURNS												
2025	EST. TURNS	198	1,333	247	177	129	239	208	1,043	166	131	82	145
	EST. % TURNS												
2035	EST. TURNS	254	1,478	265	192	156	257	223	1,140	212	167	99	183
	EST. % TURNS												
2045	EST. TURNS	317	1,613	288	210	182	279	242	1,240	264	209	117	227

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,384	1,606	2,990	197	493	690	1,470	1,330	2,800	489	111	600
2019	TURN SUMMARY	1,384	1,607	2,991	198	493	691	1,470	1,330	2,800	489	111	600
CONTROL LINK VOLUMES		1,465	1,705	3,170	240	570	810	1,577	1,433	3,010	580	160	740
2025	TURN SUMMARY	1,470	1,706	3,176	241	571	812	1,578	1,433	3,011	581	160	741
CONTROL LINK VOLUMES		1,623	1,887	3,510	327	723	1,050	1,785	1,615	3,400	733	277	1,010
2035	TURN SUMMARY	1,645	1,887	3,532	330	724	1,054	1,790	1,615	3,405	738	277	1,015
CONTROL LINK VOLUMES		1,788	2,082	3,870	429	881	1,310	2,006	1,824	3,830	876	434	1,310
2045	TURN SUMMARY	1,844	2,081	3,925	441	881	1,322	2,040	1,824	3,864	895	434	1,329
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,683	1,287	2,970	513	507	1,020	1,335	1,625	2,960	310	430	740
2019	TURN SUMMARY	1,686	1,288	2,974	514	506	1,020	1,338	1,625	2,963	311	430	741
CONTROL LINK VOLUMES		1,785	1,365	3,150	543	537	1,080	1,414	1,716	3,130	357	493	850
2025	TURN SUMMARY	1,778	1,365	3,143	545	537	1,081	1,417	1,703	3,120	358	493	851
CONTROL LINK VOLUMES		1,985	1,515	3,500	602	588	1,190	1,568	1,902	3,470	447	623	1,070
2035	TURN SUMMARY	1,997	1,515	3,512	605	587	1,192	1,575	1,902	3,477	449	622	1,071
CONTROL LINK VOLUMES		2,193	1,677	3,870	663	647	1,310	1,729	2,101	3,830	547	763	1,310
2045	TURN SUMMARY	2,218	1,677	3,895	671	647	1,318	1,746	2,101	3,847	553	763	1,316

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:		T-INTERSECTION?	Yes
INTERSECTION:	21 Pine Island Road & Orange Grove Drive	MISSING Leg:	East Leg

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	- -	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Historic + Model Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Base Year Model to Future Year Model GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Recommended Growth Rate:	**0.80%**	**CGR**	**-**	**CGR**	**0.80%**	**CGR**	**0.80%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		42,000		-		35,500		5,100
NO. YEARS	6 2025	1.048	44,000	-	-	1.048	37,000	1.048	5,300
NO. YEARS	16 2035	1.128	47,500	-	-	1.128	40,000	1.128	5,800
NO. YEARS	26 2045	1.208	50,500	-	-	1.208	43,000	1.208	6,200

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:		3,245			-			3,001			368		
		90	1,342	-	-	-	-	-	1,596	19	42	-	215	3,310
	% TURNS:	6%	94%	-	-	-	-	-	99%	1%	16%	-	83%	
P.M.	2-Way Pk Hr Vol:		3,253			-			3,061			420		
		198	1,664	-	-	-	-	-	1,282	68	45	-	107	3,370
	% TURNS:	11%	89%	-	-	-	-	-	95%	5%	29%	-	70%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	6%	94%	-	-	-	-	-	99%	1%	16%	-	83%
2025	7%	93%	-	-	-	-	-	98%	2%	19%	-	80%
2035	7%	93%	-	-	-	-	-	98%	2%	20%	-	80%
2045	7%	93%	-	-	-	-	-	97%	3%	21%	-	78%
P.M.												
2019	11%	89%	-	-	-	-	-	95%	5%	29%	-	70%
2025	11%	89%	-	-	-	-	-	94%	6%	31%	-	68%
2035	11%	89%	-	-	-	-	-	94%	6%	31%	-	68%
2045	11%	89%	-	-	-	-	-	94%	6%	32%	-	67%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	7.7%	7.7%	-	-	8.5%	8.6%	7.2%	8.2%
2025	8.0%	8.0%	-	-	8.6%	8.7%	7.2%	8.2%
2035	8.5%	8.5%	-	-	8.8%	8.9%	7.2%	8.2%
2045	9.0%	9.0%	-	-	9.0%	9.0%	7.2%	8.2%
D FACTOR								
2019	44.2%	57.3%	-	-	53.8%	44.1%	70.1%	36.4%
2025	44.2%	57.3%	-	-	53.8%	44.1%	69.4%	36.4%
2035	44.2%	57.3%	-	-	53.8%	44.1%	68.3%	36.4%
2045	44.2%	57.3%	-	-	53.8%	44.1%	67.1%	36.4%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 21 Pine Island Road & Orange Grove Drive
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	42,000	-	35,500	5,100
24 HR EST. AADT	2025	44,000	-	37,000	5,300
24 HR EST. AADT	2035	47,500	-	40,000	5,800
24 HR EST. AADT	2045	50,500	-	43,000	6,200

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		42,000			-			35,500			5,100	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	5,100	35,500	-	-	-	-	-	42,000	5,100	35,500	-	42,000
	13%	87%	-	-	-	-	-	89%	11%	46%	-	54%
2025 2-WAY ADT		44,000			-			37,000			5,300	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	5,300	37,000	-	-	-	-	-	44,000	5,300	37,000	-	44,000
	13%	87%	-	-	-	-	-	89%	11%	46%	-	54%
2035 2-WAY ADT		47,500			-			40,000			5,800	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	5,800	40,000	-	-	-	-	-	47,500	5,800	40,000	-	47,500
	13%	87%	-	-	-	-	-	89%	11%	46%	-	54%
2045 2-WAY ADT		50,500			-			43,000			6,200	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	6,200	43,000	-	-	-	-	-	50,500	6,200	43,000	-	50,500
	13%	87%	-	-	-	-	-	89%	11%	46%	-	54%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	92	1,341	-	-	-	-	-	1,601	19	42	-	215
	EST. % TURNS												
2025	EST. TURNS	98	1,419	-	-	-	-	-	1,741	24	44	-	228
	EST. % TURNS												
2035	EST. TURNS	108	1,587	-	-	-	-	-	1,993	26	45	-	259
	EST. % TURNS												
2045	EST. TURNS	122	1,748	-	-	-	-	-	2,256	28	46	-	284
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	198	1,663	-	-	-	-	-	1,280	68	45	-	106
	EST. % TURNS												
2025	EST. TURNS	216	1,805	-	-	-	-	-	1,396	69	47	-	118
	EST. % TURNS												
2035	EST. TURNS	247	1,940	-	-	-	-	-	1,592	71	48	-	140
	EST. % TURNS												
2045	EST. TURNS	269	2,127	-	-	-	-	-	1,788	73	49	-	157

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,433	1,817	3,250	-	-	-	1,616	1,384	3,000	258	112	370
2019	TURN SUMMARY	1,435	1,817	3,252	-	-	-	1,622	1,384	3,006	259	112	371
CONTROL LINK VOLUMES		1,559	1,971	3,530	-	-	-	1,709	1,461	3,170	265	115	380
2025	TURN SUMMARY	1,520	1,970	3,490	-	-	-	1,767	1,464	3,231	274	123	397
CONTROL LINK VOLUMES		1,786	2,254	4,040	-	-	-	1,893	1,627	3,520	285	135	420
2035	TURN SUMMARY	1,698	2,253	3,951	-	-	-	2,021	1,633	3,654	306	135	441
CONTROL LINK VOLUMES		2,009	2,541	4,550	-	-	-	2,084	1,786	3,870	300	150	450
2045	TURN SUMMARY	1,873	2,542	4,415	-	-	-	2,286	1,795	4,081	332	151	483
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,863	1,387	3,250	-	-	-	1,351	1,709	3,060	153	267	420
2019	TURN SUMMARY	1,863	1,387	3,250	-	-	-	1,350	1,709	3,059	153	267	420
CONTROL LINK VOLUMES		2,025	1,515	3,540	-	-	-	1,422	1,798	3,220	159	281	440
2025	TURN SUMMARY	2,023	1,515	3,538	-	-	-	1,467	1,853	3,320	167	286	453
CONTROL LINK VOLUMES		2,317	1,733	4,050	-	-	-	1,562	1,978	3,540	173	307	480
2035	TURN SUMMARY	2,190	1,733	3,923	-	-	-	1,665	1,989	3,654	190	319	509
CONTROL LINK VOLUMES		2,603	1,947	4,550	-	-	-	1,707	2,163	3,870	185	325	510
2045	TURN SUMMARY	2,399	1,947	4,346	-	-	-	1,863	2,177	4,040	208	343	551

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	22 23 Pine Island Road & SR 84		

NOTES:

SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
		0	0	0	0
Model Volume:		0	0	0	0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**1.2%**	**CGR**	**0.8%**	**CGR**	**1.0%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG: 2		EAST LEG: 2		SOUTH LEG: 2		WEST LEG: 2	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		52,000		42,500		42,000		39,500
NO. YEARS 6	2025	1.060	55,000	1.072	45,500	1.048	44,000	1.060	42,000
NO. YEARS 16	2035	1.160	60,500	1.192	50,500	1.128	47,500	1.160	46,000
NO. YEARS 26	2045	1.260	65,500	1.312	56,500	1.208	50,500	1.260	50,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	4,456				2,815			3,346			3,059		
		642	798	713	669	309	228	487	884	491	458	409	750	6,838
% TURNS:		30%	37%	33%	55%	26%	19%	26%	47%	26%	28%	25%	46%	
P.M.	2-Way Pk Hr Vol:	3,942				3,018			3,319			3,195		
		627	739	404	715	582	601	278	805	380	516	438	652	6,737
% TURNS:		35%	42%	23%	38%	31%	32%	19%	55%	26%	32%	27%	41%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	30%	37%	33%	55%	26%	19%	26%	47%	26%	28%	25%	46%
2025	30%	37%	33%	54%	26%	20%	27%	47%	27%	29%	26%	46%
2035	30%	37%	33%	53%	26%	20%	27%	46%	27%	29%	26%	45%
2045	30%	36%	34%	53%	26%	21%	27%	46%	27%	28%	27%	45%
P.M.												
2019	35%	42%	23%	38%	31%	32%	19%	55%	26%	32%	27%	41%
2025	35%	41%	24%	38%	31%	32%	20%	53%	26%	32%	28%	40%
2035	35%	41%	24%	38%	31%	32%	21%	53%	26%	32%	28%	40%
2045	35%	40%	25%	38%	31%	31%	21%	52%	27%	32%	28%	40%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	8.6%	7.6%	6.6%	7.1%	8.0%	7.9%	7.7%	8.1%
2025	8.7%	7.9%	7.2%	7.5%	8.2%	8.2%	8.0%	8.3%
2035	8.8%	8.5%	8.1%	8.3%	8.6%	8.6%	8.5%	8.6%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	48.3%	44.9%	42.8%	62.9%	55.6%	44.1%	52.9%	50.3%
2025	48.3%	44.9%	42.8%	62.9%	55.6%	44.1%	52.9%	50.4%
2035	48.3%	44.9%	42.8%	62.9%	55.6%	44.1%	52.9%	50.6%
2045	48.3%	44.9%	42.8%	62.9%	55.6%	44.1%	52.9%	50.8%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 22 23 Pine Island Road & SR 84
PREPARED BY:
FILE:

DATE:
NOTES: SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	52000	42500	42000	39500
24 HR EST. AADT	2025	55000	45500	44000	42000
24 HR EST. AADT	2035	60500	50500	47500	46000
24 HR EST. AADT	2045	65500	56500	50500	50500

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2019 2-WAY ADT		52,000			42,500			42,000			39,500	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		39,500	42,000	42,500	52,000	39,500	42,000	42,500	52,000	39,500	42,000	42,500	52,000
		32%	34%	34%	39%	30%	31%	32%	39%	29%	31%	31%	38%
	2025 2-WAY ADT		55,000			45,500			44,000			42,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		42,000	44,000	45,500	55,000	42,000	44,000	45,500	55,000	42,000	44,000	45,500	55,000
		32%	33%	35%	39%	30%	31%	32%	39%	29%	30%	31%	38%
	2035 2-WAY ADT		60,500			50,500			47,500			46,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		46,000	47,500	50,500	60,500	46,000	47,500	50,500	60,500	46,000	47,500	50,500	60,500
		32%	33%	35%	39%	30%	31%	32%	39%	29%	30%	32%	38%
	2045 2-WAY ADT		65,500			56,500			50,500			50,500	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		50,500	50,500	56,500	65,500	50,500	50,500	56,500	65,500	50,500	50,500	56,500	65,500
		32%	32%	36%	39%	30%	30%	33%	38%	29%	29%	33%	38%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	642	800	715	670	309	229	489	886	491	459	410	751
	EST. % TURNS												
2025	EST. TURNS	684	821	805	752	369	281	567	916	532	499	490	799
	EST. % TURNS												
2035	EST. TURNS	753	878	976	913	487	364	716	970	609	575	641	875
	EST. % TURNS												
2045	EST. TURNS	820	905	1,175	1,103	645	467	893	998	683	648	846	952
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	629	739	404	714	584	601	279	804	381	517	439	652
	EST. % TURNS												
2025	EST. TURNS	680	799	472	829	648	669	318	851	406	548	483	717
	EST. % TURNS												
2035	EST. TURNS	770	895	599	1,037	763	788	380	957	434	590	576	819
	EST. % TURNS												
2045	EST. TURNS	861	980	746	1,285	914	928	452	1,041	466	637	693	927

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,153	2,307	4,460	1,206	1,614	2,820	1,862	1,488	3,350	1,617	1,443	3,060
2019	TURN SUMMARY	2,157	2,307	4,464	1,208	1,614	2,822	1,866	1,488	3,354	1,620	1,442	3,062
CONTROL LINK VOLUMES		2,303	2,467	4,770	1,398	1,862	3,260	2,009	1,601	3,610	1,784	1,586	3,370
2025	TURN SUMMARY	2,310	2,467	4,777	1,402	1,862	3,264	2,015	1,601	3,616	1,788	1,585	3,373
CONTROL LINK VOLUMES		2,582	2,758	5,340	1,748	2,332	4,080	2,274	1,816	4,090	2,071	1,849	3,920
2035	TURN SUMMARY	2,607	2,758	5,365	1,764	2,333	4,097	2,295	1,817	4,112	2,091	1,849	3,940
CONTROL LINK VOLUMES		2,847	3,053	5,900	2,176	2,914	5,090	2,529	2,021	4,550	2,403	2,147	4,550
2045	TURN SUMMARY	2,900	3,053	5,953	2,215	2,914	5,129	2,574	2,020	4,594	2,446	2,148	4,594
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,770	2,170	3,940	1,898	1,122	3,020	1,463	1,857	3,320	1,606	1,594	3,200
2019	TURN SUMMARY	1,772	2,170	3,942	1,900	1,122	3,022	1,464	1,857	3,321	1,608	1,594	3,202
CONTROL LINK VOLUMES		1,953	2,397	4,350	2,157	1,273	3,430	1,582	2,008	3,590	1,756	1,734	3,490
2025	TURN SUMMARY	1,951	2,397	4,349	2,147	1,273	3,420	1,574	2,016	3,591	1,748	1,734	3,482
CONTROL LINK VOLUMES		2,297	2,813	5,110	2,626	1,554	4,180	1,797	2,273	4,070	2,013	1,967	3,980
2035	TURN SUMMARY	2,264	2,813	5,077	2,588	1,555	4,143	1,771	2,273	4,044	1,985	1,967	3,952
CONTROL LINK VOLUMES		2,647	3,253	5,900	3,198	1,892	5,090	2,004	2,546	4,550	2,309	2,241	4,550
2045	TURN SUMMARY	2,587	3,253	5,840	3,127	1,891	5,018	1,959	2,545	4,504	2,257	2,241	4,498

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	24 Pine Island Road & New River Canal Road		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
				2		**2**		**2**		**2**
		2019		51,500		4,100		52,000		1,900
NO. YEARS	6	2025	1.060	54,500	1.060	4,300	1.060	55,000	1.060	2,000
NO. YEARS	16	2035	1.160	59,500	1.160	4,800	1.160	60,500	1.160	2,200
NO. YEARS	26	2045	1.260	65,000	1.260	5,200	1.260	65,500	1.260	2,400

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	4,294				227			4,457			188		
		23	2033	13	20	2	49	142	2138	24	71	1	67	4,583
	% TURNS:	1%	98%	1%	28%	3%	69%	6%	93%	1%	51%	1%	48%	
P.M.	2-Way Pk Hr Vol:	3,601				381			3,941			191		
		30	1448	9	23	24	272	52	2062	60	47	1	29	4,057
	% TURNS:	2%	97%	1%	7%	8%	85%	2%	95%	3%	61%	1%	38%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	1%	98%	1%	28%	3%	69%	6%	93%	1%	51%	1%	48%
2025	1%	97%	1%	30%	3%	67%	6%	92%	1%	51%	1%	48%
2035	1%	97%	1%	31%	3%	67%	6%	92%	1%	51%	1%	48%
2045	1%	97%	2%	32%	3%	66%	6%	92%	1%	51%	1%	48%
P.M.												
2019	2%	97%	1%	7%	8%	85%	2%	95%	3%	61%	1%	38%
2025	2%	97%	1%	11%	7%	82%	3%	94%	3%	60%	2%	39%
2035	2%	96%	1%	12%	7%	81%	3%	94%	3%	59%	2%	39%
2045	2%	96%	2%	14%	7%	79%	3%	94%	3%	59%	2%	39%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	8.3%	7.0%	5.5%	9.3%	8.6%	7.6%	9.9%	10.1%
2025	8.5%	7.5%	5.5%	9.3%	8.7%	7.9%	9.9%	10.1%
2035	8.7%	8.2%	5.5%	9.3%	8.8%	8.5%	9.9%	10.1%
2045	9.0%	9.0%	5.5%	9.3%	9.0%	9.0%	9.9%	10.1%
D FACTOR								
2019	48.2%	41.3%	31.3%	83.7%	51.7%	55.2%	73.9%	40.3%
2025	48.2%	41.3%	31.7%	79.9%	51.7%	55.2%	72.4%	40.3%
2035	48.2%	41.3%	32.3%	73.5%	51.7%	55.2%	69.7%	40.3%
2045	48.2%	41.3%	32.9%	67.1%	51.7%	55.2%	67.1%	40.3%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 24 Pine Island Road & New River Canal Road
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	51500	4100	52000	1900
24 HR EST. AADT	2025	54500	4300	55000	2000
24 HR EST. AADT	2035	59500	4800	60500	2200
24 HR EST. AADT	2045	65000	5200	65500	2400

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		51,500			4,100			52,000			1,900		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		1,900	52,000	4,100	51,500	1,900	52,000	4,100	51,500	1,900	52,000	4,100	51,500
		3%	90%	7%	49%	2%	49%	7%	90%	3%	48%	4%	48%
2025 2-WAY ADT		54,500			4,300			55,000			2,000		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		2,000	55,000	4,300	54,500	2,000	55,000	4,300	54,500	2,000	55,000	4,300	54,500
		3%	90%	7%	49%	2%	49%	7%	90%	3%	48%	4%	48%
2035 2-WAY ADT		59,500			4,800			60,500			2,200		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		2,200	60,500	4,800	59,500	2,200	60,500	4,800	59,500	2,200	60,500	4,800	59,500
		3%	90%	7%	49%	2%	50%	7%	89%	3%	48%	4%	48%
2045 2-WAY ADT		65,000			5,200			65,500			2,400		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		2,400	65,500	5,200	65,000	2,400	65,500	5,200	65,000	2,400	65,500	5,200	65,000
		3%	90%	7%	49%	2%	49%	7%	90%	3%	48%	4%	48%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	24	2,036	13	20	2	49	145	2,134	25	71	1	67
	EST. % TURNS												
2025	EST. TURNS	27	2,182	25	23	4	50	146	2,307	28	72	2	70
	EST. % TURNS												
2035	EST. TURNS	32	2,453	30	26	6	57	149	2,592	34	77	4	74
	EST. % TURNS												
2045	EST. TURNS	40	2,718	42	33	8	59	153	2,915	38	79	6	83
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	30	1,447	9	23	24	272	51	2,061	59	47	1	29
	EST. % TURNS												
2025	EST. TURNS	34	1,621	19	38	26	273	61	2,312	63	48	2	32
	EST. % TURNS												
2035	EST. TURNS	42	1,973	33	47	28	274	87	2,792	68	51	4	39
	EST. % TURNS												
2045	EST. TURNS	51	2,344	51	60	30	276	103	3,326	71	53	5	47

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,069	2,221	4,290	71	159	230	2,304	2,156	4,460	139	51	190
2019	TURN SUMMARY	2,073	2,221	4,294	71	159	230	2,304	2,156	4,460	139	51	190
CONTROL LINK VOLUMES		2,230	2,400	4,630	75	165	240	2,465	2,305	4,770	143	57	200
2025	TURN SUMMARY	2,234	2,400	4,634	77	173	250	2,481	2,304	4,785	144	59	203
CONTROL LINK VOLUMES		2,508	2,692	5,200	85	175	260	2,763	2,587	5,350	152	68	220
2035	TURN SUMMARY	2,515	2,692	5,207	89	183	272	2,775	2,587	5,362	155	72	227
CONTROL LINK VOLUMES		2,820	3,030	5,850	94	196	290	3,047	2,853	5,900	159	81	240
2045	TURN SUMMARY	2,800	3,031	5,831	100	201	301	3,106	2,856	5,962	168	86	254
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,487	2,113	3,600	319	61	380	2,174	1,766	3,940	77	113	190
2019	TURN SUMMARY	1,486	2,113	3,599	319	61	380	2,171	1,766	3,937	77	113	190
CONTROL LINK VOLUMES		1,678	2,382	4,060	319	81	400	2,399	1,951	4,350	81	119	200
2025	TURN SUMMARY	1,675	2,382	4,056	337	82	419	2,436	1,942	4,378	82	124	206
CONTROL LINK VOLUMES		2,022	2,878	4,900	328	122	450	2,821	2,289	5,110	89	131	220
2035	TURN SUMMARY	2,048	2,878	4,926	349	124	473	2,947	2,298	5,245	94	138	232
CONTROL LINK VOLUMES		2,416	3,434	5,850	324	156	480	3,252	2,648	5,900	98	142	240
2045	TURN SUMMARY	2,446	3,433	5,879	366	159	525	3,500	2,673	6,173	105	152	257

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:		T-INTERSECTION?	Yes
INTERSECTION:	25 Peter Road & Pine Island Road	MISSING Leg:	West Leg

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	- -

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.00%	CGR	0.00%	CGR	0.00%	CGR	-	CGR
Historic + Model Trend GR =	0.00%	CGR	0.00%	CGR	0.00%	CGR	-	CGR
Base Year Model to Future Year Model GR =	0.00%	CGR	0.00%	CGR	0.00%	CGR	-	CGR
Recommended Growth Rate:	**1.00%**	**CGR**	**1.00%**	**CGR**	**1.00%**	**CGR**	**-**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		NORTH LEG: 2		EAST LEG: 2		SOUTH LEG: 2		WEST LEG: -	
	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		53,000		18,000		51,500		-
NO. YEARS 6	2025	1.060	56,000	1.060	19,000	1.060	54,500	-	-
NO. YEARS 16	2035	1.160	61,500	1.160	21,000	1.160	59,500	-	-
NO. YEARS 26	2045	1.260	67,000	1.260	22,500	1.260	65,000	-	-

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:		4,174			1,736			4,296			-		
		-	1,690	521	285	-	379	549	1,676	-	-	-	-	5,106
	% TURNS:	-	76%	24%	43%	-	57%	25%	75%	-	-	-	-	
P.M.	2-Way Pk Hr Vol:		3,866			1,753			3,723			-		
		-	1,139	546	401	-	356	448	1,778	-	-	-	-	4,674
	% TURNS:	-	68%	32%	53%	-	47%	20%	80%	-	-	-	-	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	-	76%	24%	43%	-	57%	25%	75%	-	-	-	-
2025	-	76%	24%	44%	-	56%	25%	75%	-	-	-	-
2035	-	76%	24%	44%	-	56%	25%	75%	-	-	-	-
2045	-	76%	24%	44%	-	56%	25%	75%	-	-	-	-
P.M.												
2019	-	68%	32%	53%	-	47%	20%	80%	-	-	-	-
2025	-	68%	32%	53%	-	47%	21%	79%	-	-	-	-
2035	-	68%	32%	53%	-	47%	21%	79%	-	-	-	-
2045	-	69%	31%	53%	-	47%	21%	79%	-	-	-	-

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	7.9%	7.3%	9.6%	9.7%	8.3%	7.2%	-	-
2025	8.1%	7.7%	9.5%	9.6%	8.5%	7.6%	-	-
2035	8.6%	8.3%	9.2%	9.3%	8.7%	8.3%	-	-
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	-	-
D FACTOR								
2019	53.0%	43.6%	38.3%	43.2%	51.8%	59.8%	-	-
2025	53.0%	43.6%	38.3%	43.2%	51.8%	59.8%	-	-
2035	53.0%	43.6%	38.3%	43.2%	51.8%	59.8%	-	-
2045	53.0%	43.6%	38.3%	43.2%	51.8%	59.8%	-	-

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 25 Peter Road & Pine Island Road
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	53,000	18,000	51,500	-
24 HR EST. AADT	2025	56,000	19,000	54,500	-
24 HR EST. AADT	2035	61,500	21,000	59,500	-
24 HR EST. AADT	2045	67,000	22,500	65,000	-

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		53,000			18,000			51,500			-	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	-	51,500	18,000	53,000	-	51,500	18,000	53,000	-	-	-	-
	-	74%	26%	51%	-	49%	25%	75%	-	-	-	-
2025 2-WAY ADT		56,000			19,000			54,500			-	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	-	54,500	19,000	56,000	-	54,500	19,000	56,000	-	-	-	-
	-	74%	26%	51%	-	49%	25%	75%	-	-	-	-
2035 2-WAY ADT		61,500			21,000			59,500			-	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	-	59,500	21,000	61,500	-	59,500	21,000	61,500	-	-	-	-
	-	74%	26%	51%	-	49%	25%	75%	-	-	-	-
2045 2-WAY ADT		67,000			22,500			65,000			-	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	-	65,000	22,500	67,000	-	65,000	22,500	67,000	-	-	-	-
	-	74%	26%	51%	-	49%	25%	75%	-	-	-	-

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	-	1,693	521	283	-	380	553	1,674	-	-	-	-
	EST. % TURNS												
2025	EST. TURNS	-	1,850	552	307	-	382	556	1,838	-	-	-	-
	EST. % TURNS												
2035	EST. TURNS	-	2,118	628	351	-	384	567	2,126	-	-	-	-
	EST. % TURNS												
2045	EST. TURNS	-	2,435	681	381	-	385	572	2,452	-	-	-	-
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	-	1,138	546	402	-	354	445	1,781	-	-	-	-
	EST. % TURNS												
2025	EST. TURNS	-	1,280	562	418	-	364	471	2,014	-	-	-	-
	EST. % TURNS												
2035	EST. TURNS	-	1,603	606	449	-	385	501	2,442	-	-	-	-
	EST. % TURNS												
2045	EST. TURNS	-	1,951	628	463	-	399	526	2,937	-	-	-	-

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,212	1,958	4,170	665	1,075	1,740	2,226	2,074	4,300	-	-	-
2019	TURN SUMMARY	2,216	1,958	4,174	665	1,075	1,740	2,229	2,074	4,303	-	-	-
CONTROL LINK VOLUMES		2,414	2,146	4,560	691	1,109	1,800	2,399	2,231	4,630	-	-	-
2025	TURN SUMMARY	2,404	2,146	4,550	691	1,109	1,800	2,396	2,233	4,629	-	-	-
CONTROL LINK VOLUMES		2,792	2,478	5,270	744	1,196	1,940	2,697	2,503	5,200	-	-	-
2035	TURN SUMMARY	2,749	2,478	5,227	737	1,196	1,933	2,695	2,503	5,198	-	-	-
CONTROL LINK VOLUMES		3,196	2,834	6,030	776	1,254	2,030	3,031	2,819	5,850	-	-	-
2045	TURN SUMMARY	3,119	2,834	5,953	768	1,254	2,022	3,026	2,821	5,847	-	-	-

DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,686	2,184	3,870	758	992	1,750	2,227	1,493	3,720	-	-	-
2019	TURN SUMMARY	1,686	2,184	3,870	758	992	1,750	2,228	1,493	3,721	-	-	-
CONTROL LINK VOLUMES		1,877	2,433	4,310	786	1,034	1,820	2,490	1,670	4,160	-	-	-
2025	TURN SUMMARY	1,845	2,433	4,278	784	1,034	1,818	2,488	1,645	4,133	-	-	-
CONTROL LINK VOLUMES		2,238	2,892	5,130	843	1,107	1,950	2,961	1,989	4,950	-	-	-
2035	TURN SUMMARY	2,212	2,892	5,104	836	1,108	1,944	2,945	1,989	4,934	-	-	-
CONTROL LINK VOLUMES		2,629	3,401	6,030	875	1,155	2,030	3,499	2,351	5,850	-	-	-
2045	TURN SUMMARY	2,582	3,401	5,983	864	1,155	2,019	3,466	2,351	5,817	-	-	-

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	26 Pine Island Road & SW 6th Court		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**2**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
		2019		41,500		8,000		53,000		3,500
NO. YEARS	6	2025	1.060	44,000	1.060	8,500	1.060	56,000	1.060	3,700
NO. YEARS	16	2035	1.160	48,000	1.160	9,300	1.160	61,500	1.160	4,100
NO. YEARS	26	2045	1.260	52,500	1.260	10,000	1.260	67,000	1.260	4,400

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	3,921				576			4,155			324		
		24	2008	165	49	11	62	260	1620	82	123	29	55	4,488
	% TURNS:	1%	91%	8%	40%	9%	51%	13%	83%	4%	59%	14%	27%	
P.M.	2-Way Pk Hr Vol:	3,744				804			3,870			322		
		50	1286	119	238	37	237	150	2018	124	55	23	33	4,370
	% TURNS:	3%	88%	8%	46%	7%	46%	7%	88%	5%	50%	21%	30%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	1%	91%	8%	40%	9%	51%	13%	83%	4%	59%	14%	27%
2025	2%	90%	8%	40%	8%	51%	13%	82%	4%	59%	13%	28%
2035	2%	90%	8%	40%	8%	51%	13%	82%	4%	58%	13%	28%
2045	2%	90%	8%	41%	8%	51%	14%	82%	5%	58%	13%	29%
P.M.												
2019	3%	88%	8%	46%	7%	46%	7%	88%	5%	50%	21%	30%
2025	4%	88%	9%	46%	7%	47%	7%	87%	6%	50%	19%	31%
2035	4%	88%	9%	46%	7%	47%	8%	87%	6%	50%	19%	31%
2045	4%	87%	9%	46%	7%	48%	8%	86%	6%	50%	19%	32%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	9.4%	9.0%	7.2%	10.1%	7.8%	7.3%	9.3%	9.2%
2025	9.3%	9.0%	7.2%	10.1%	8.1%	7.7%	9.3%	9.2%
2035	9.2%	9.0%	7.2%	10.1%	8.6%	8.3%	9.3%	9.2%
2045	9.0%	9.0%	7.2%	10.1%	9.0%	9.0%	9.3%	9.2%
D FACTOR								
2019	56.0%	38.9%	21.2%	63.7%	47.2%	59.2%	63.9%	34.5%
2025	56.0%	38.9%	23.9%	63.7%	47.2%	59.2%	63.9%	34.5%
2035	56.0%	38.9%	28.4%	63.7%	47.2%	59.2%	63.9%	34.5%
2045	56.0%	38.9%	32.9%	63.7%	47.2%	59.2%	63.9%	34.5%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 26 Pine Island Road & SW 6th Court
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	41500	8000	53000	3500
24 HR EST. AADT	2025	44000	8500	56000	3700
24 HR EST. AADT	2035	48000	9300	61500	4100
24 HR EST. AADT	2045	52500	10000	67000	4400

Percent Turns Calculated From Base Year AADTs:

JKTURNS

	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		41,500			8,000			53,000			3,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	3,500	53,000	8,000	41,500	3,500	53,000	8,000	41,500	3,500	53,000	8,000	41,500
	5%	82%	12%	42%	4%	54%	15%	78%	7%	52%	8%	40%
2025 2-WAY ADT		44,000			8,500			56,000			3,700	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	3,700	56,000	8,500	44,000	3,700	56,000	8,500	44,000	3,700	56,000	8,500	44,000
	5%	82%	12%	42%	4%	54%	15%	78%	7%	52%	8%	41%
2035 2-WAY ADT		48,000			9,300			61,500			4,100	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	4,100	61,500	9,300	48,000	4,100	61,500	9,300	48,000	4,100	61,500	9,300	48,000
	5%	82%	12%	42%	4%	54%	15%	78%	7%	52%	8%	40%
2045 2-WAY ADT		52,500			10,000			67,000			4,400	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	4,400	67,000	10,000	52,500	4,400	67,000	10,000	52,500	4,400	67,000	10,000	52,500
	5%	82%	12%	42%	4%	54%	15%	78%	7%	52%	8%	41%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	23	2,012	166	49	11	63	263	1,619	79	123	29	55
	EST. % TURNS												
2025	EST. TURNS	26	2,168	167	51	13	85	289	1,704	85	143	30	56
	EST. % TURNS												
2035	EST. TURNS	28	2,459	169	53	15	133	342	1,843	105	185	31	58
	EST. % TURNS												
2045	EST. TURNS	30	2,772	171	54	17	190	376	2,003	121	223	33	60
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	49	1,286	117	237	37	237	148	2,015	123	55	23	33
	EST. % TURNS												
2025	EST. TURNS	50	1,354	118	239	39	287	185	2,173	142	65	24	34
	EST. % TURNS												
2035	EST. TURNS	51	1,622	119	240	40	382	236	2,434	179	86	26	36
	EST. % TURNS												
2045	EST. TURNS	53	1,872	121	241	42	480	281	2,722	204	107	28	37

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,197	1,723	3,920	122	458	580	1,962	2,198	4,160	207	113	320
2019	TURN SUMMARY	2,201	1,723	3,924	123	458	581	1,961	2,198	4,159	207	113	320
CONTROL LINK VOLUMES		2,304	1,806	4,110	146	464	610	2,144	2,396	4,540	219	121	340
2025	TURN SUMMARY	2,361	1,811	4,172	149	486	635	2,078	2,396	4,474	229	124	353
CONTROL LINK VOLUMES		2,467	1,933	4,400	190	480	670	2,483	2,777	5,260	243	137	380
2035	TURN SUMMARY	2,656	1,954	4,610	201	542	743	2,290	2,777	5,067	274	148	422
CONTROL LINK VOLUMES		2,647	2,083	4,730	237	483	720	2,846	3,184	6,030	261	149	410
2045	TURN SUMMARY	2,973	2,117	5,090	261	580	841	2,500	3,185	5,685	316	168	484
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,455	2,285	3,740	512	288	800	2,292	1,578	3,870	111	209	320
2019	TURN SUMMARY	1,452	2,285	3,737	511	288	799	2,286	1,578	3,864	111	209	320
CONTROL LINK VOLUMES		1,543	2,427	3,970	545	315	860	2,552	1,758	4,310	117	223	340
2025	TURN SUMMARY	1,523	2,446	3,969	566	328	894	2,500	1,707	4,206	123	231	354
CONTROL LINK VOLUMES		1,684	2,646	4,330	597	343	940	3,040	2,090	5,130	130	250	380
2035	TURN SUMMARY	1,792	2,710	4,502	662	381	1,043	2,849	2,090	4,939	148	270	418
CONTROL LINK VOLUMES		1,842	2,898	4,740	643	367	1,010	3,571	2,459	6,030	140	260	400
2045	TURN SUMMARY	2,046	3,000	5,046	763	430	1,193	3,207	2,459	5,666	172	299	471

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	27 SW 80th Terrace & Peters Road		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.2%**	**CGR**	**1.2%**	**CGR**	**1.2%**	**CGR**	**1.2%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**2**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
	2019		4,100		22,500		1,600		18,000
NO. YEARS 6	2025	1.072	4,400	1.072	24,000	1.072	1,700	1.072	19,500
NO. YEARS 16	2035	1.192	4,900	1.192	27,000	1.192	1,900	1.192	21,500
NO. YEARS 26	2045	1.312	5,400	1.312	29,500	1.312	2,100	1.312	23,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	522				1,909			135			1,684		
		33	6	127	276	627	20	11	1	0	97	848	79	2,125
	% TURNS:	20%	4%	77%	30%	68%	2%	92%	8%	0%	9%	83%	8%	
P.M.	2-Way Pk Hr Vol:	631				2,079			294			1,832		
		128	9	318	109	572	64	69	17	88	47	947	50	2,418
	% TURNS:	28%	2%	70%	15%	77%	9%	40%	10%	51%	5%	91%	5%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	20%	4%	77%	30%	68%	2%	92%	8%	0%	9%	83%	8%
2025	22%	4%	74%	29%	69%	3%	88%	8%	4%	9%	83%	8%
2035	23%	4%	74%	28%	69%	3%	87%	8%	5%	9%	82%	9%
2045	24%	4%	73%	28%	69%	3%	85%	8%	7%	9%	82%	9%
P.M.												
2019	28%	2%	70%	15%	77%	9%	40%	10%	51%	5%	91%	5%
2025	30%	2%	68%	15%	77%	8%	41%	10%	50%	5%	90%	6%
2035	30%	2%	68%	15%	77%	8%	41%	10%	49%	5%	89%	6%
2045	31%	2%	67%	15%	77%	8%	41%	10%	49%	5%	89%	6%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	12.7%	15.4%	8.5%	9.2%	8.4%	18.4%	9.4%	10.2%
2025	11.9%	13.9%	8.6%	9.2%	8.6%	16.2%	9.3%	9.9%
2035	10.4%	11.5%	8.8%	9.1%	8.8%	12.6%	9.1%	9.5%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	31.8%	72.1%	48.3%	35.8%	8.9%	59.2%	60.8%	57.0%
2025	32.1%	71.0%	48.3%	35.8%	14.4%	59.2%	60.8%	57.0%
2035	32.5%	69.0%	48.3%	35.8%	23.7%	59.2%	60.8%	57.0%
2045	32.9%	67.1%	48.3%	35.8%	32.9%	59.2%	60.8%	57.0%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 27 SW 80th Terrace & Peters Road
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	4100	22500	1600	18000
24 HR EST. AADT	2025	4400	24000	1700	19500
24 HR EST. AADT	2035	4900	27000	1900	21500
24 HR EST. AADT	2045	5400	29500	2100	23500

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		4,100			22,500			1,600			18,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	18,000	1,600	22,500	4,100	18,000	1,600	22,500	4,100	18,000	1,600	22,500	4,100
	43%	4%	53%	17%	76%	7%	50%	9%	40%	6%	80%	15%
2025 2-WAY ADT		4,400			24,000			1,700			19,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	19,500	1,700	24,000	4,400	19,500	1,700	24,000	4,400	19,500	1,700	24,000	4,400
	43%	4%	53%	17%	76%	7%	50%	9%	41%	6%	80%	15%
2035 2-WAY ADT		4,900			27,000			1,900			21,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	21,500	1,900	27,000	4,900	21,500	1,900	27,000	4,900	21,500	1,900	27,000	4,900
	43%	4%	54%	17%	76%	7%	51%	9%	40%	6%	80%	14%
2045 2-WAY ADT		5,400			29,500			2,100			23,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	23,500	2,100	29,500	5,400	23,500	2,100	29,500	5,400	23,500	2,100	29,500	5,400
	43%	4%	54%	17%	76%	7%	51%	9%	40%	6%	80%	15%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	32	6	128	276	624	21	11	1	0	101	848	77
	EST. % TURNS												
2025	EST. TURNS	34	8	131	279	676	27	19	2	1	103	917	80
	EST. % TURNS												
2035	EST. TURNS	35	9	136	283	739	38	36	4	2	104	1,059	81
	EST. % TURNS												
2045	EST. TURNS	37	10	138	284	812	46	59	5	4	105	1,183	83
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	127	9	318	109	572	62	69	17	87	45	947	49
	EST. % TURNS												
2025	EST. TURNS	128	10	319	112	626	64	72	19	89	47	1,027	54
	EST. % TURNS												
2035	EST. TURNS	130	12	321	118	718	66	77	20	91	48	1,177	55
	EST. % TURNS												
2045	EST. TURNS	131	14	323	121	804	68	78	21	93	50	1,337	57

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		166	354	520	923	987	1,910	12	128	140	1,024	656	1,680
2019	TURN SUMMARY	166	354	520	921	987	1,908	12	128	140	1,026	656	1,682
CONTROL LINK VOLUMES		167	353	520	998	1,062	2,060	21	129	150	1,100	710	1,810
2025	TURN SUMMARY	173	361	534	982	1,067	2,049	22	138	160	1,100	711	1,811
CONTROL LINK VOLUMES		166	344	510	1,148	1,232	2,380	39	131	170	1,195	765	1,960
2035	TURN SUMMARY	180	368	548	1,060	1,231	2,291	42	151	193	1,244	776	2,020
CONTROL LINK VOLUMES		160	330	490	1,282	1,378	2,660	62	128	190	1,286	834	2,120
2045	TURN SUMMARY	185	372	557	1,142	1,380	2,522	68	161	229	1,371	853	2,224
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		455	175	630	745	1,335	2,080	174	116	290	1,044	786	1,830
2019	TURN SUMMARY	454	175	629	743	1,334	2,077	173	116	289	1,041	786	1,827
CONTROL LINK VOLUMES		434	176	610	790	1,410	2,200	163	117	280	1,101	829	1,930
2025	TURN SUMMARY	457	185	643	802	1,418	2,220	180	121	301	1,128	843	1,971
CONTROL LINK VOLUMES		388	172	560	879	1,571	2,450	142	98	240	1,158	872	2,030
2035	TURN SUMMARY	463	193	656	902	1,575	2,477	188	126	314	1,280	939	2,219
CONTROL LINK VOLUMES		326	164	490	950	1,710	2,660	112	78	190	1,205	915	2,120
2045	TURN SUMMARY	468	199	667	993	1,738	2,731	192	132	324	1,444	1,028	2,472

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	29 SW 30th Street & University Drive		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
		2019		63,500		18,000		51,000		10,500
NO. YEARS	6	2025	1.060	67,500	1.060	19,000	1.060	54,000	1.060	11,000
NO. YEARS	16	2035	1.160	73,500	1.160	21,000	1.160	59,000	1.160	12,000
NO. YEARS	26	2045	1.260	80,000	1.260	22,500	1.260	64,500	1.260	13,000

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	4,280				1,504			3,809			683		
		89	1735	496	245	43	111	268	1600	33	62	341	115	5,138
% TURNS:		4%	75%	21%	61%	11%	28%	14%	84%	2%	12%	66%	22%	
P.M.	2-Way Pk Hr Vol:	4,753				1,311			4,119			763		
		145	1665	213	569	151	141	105	2017	128	63	132	144	5,473
% TURNS:		7%	82%	11%	66%	18%	16%	5%	90%	6%	19%	39%	42%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	4%	75%	21%	61%	11%	28%	14%	84%	2%	12%	66%	22%
2025	5%	74%	22%	60%	11%	29%	15%	83%	3%	15%	61%	25%
2035	5%	73%	22%	60%	10%	29%	15%	82%	3%	15%	59%	25%
2045	5%	73%	22%	60%	10%	30%	15%	82%	3%	16%	57%	26%
P.M.												
2019	7%	82%	11%	66%	18%	16%	5%	90%	6%	19%	39%	42%
2025	8%	81%	12%	65%	17%	19%	6%	88%	6%	21%	36%	43%
2035	8%	80%	12%	64%	16%	19%	7%	87%	6%	21%	36%	43%
2045	8%	79%	13%	64%	16%	20%	7%	86%	7%	22%	35%	43%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	6.7%	7.5%	8.4%	7.3%	7.5%	8.1%	6.5%	7.3%
2025	7.3%	7.8%	8.5%	7.7%	7.8%	8.3%	7.1%	7.7%
2035	8.1%	8.4%	8.8%	8.3%	8.4%	8.6%	8.0%	8.3%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	54.2%	42.6%	26.5%	65.7%	49.9%	54.6%	75.8%	44.4%
2025	54.2%	42.6%	28.0%	65.7%	49.7%	54.6%	73.8%	44.4%
2035	54.2%	42.6%	30.4%	65.7%	49.5%	54.6%	70.5%	44.4%
2045	54.2%	42.6%	32.9%	65.7%	49.2%	54.6%	67.1%	44.4%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 29 SW 30th Street & University Drive
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	63500	18000	51000	10500
24 HR EST. AADT	2025	67500	19000	54000	11000
24 HR EST. AADT	2035	73500	21000	59000	12000
24 HR EST. AADT	2045	80000	22500	64500	13000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		63,500			18,000			51,000			10,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	10,500	51,000	18,000	63,500	10,500	51,000	18,000	63,500	10,500	51,000	18,000	63,500
	13%	64%	23%	51%	8%	41%	20%	69%	11%	38%	14%	48%
2025 2-WAY ADT		67,500			19,000			54,000			11,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	11,000	54,000	19,000	67,500	11,000	54,000	19,000	67,500	11,000	54,000	19,000	67,500
	13%	64%	23%	51%	8%	41%	19%	69%	11%	38%	14%	48%
2035 2-WAY ADT		73,500			21,000			59,000			12,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	12,000	59,000	21,000	73,500	12,000	59,000	21,000	73,500	12,000	59,000	21,000	73,500
	13%	64%	23%	51%	8%	41%	20%	69%	11%	38%	14%	48%
2045 2-WAY ADT		80,000			22,500			64,500			13,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	13,000	64,500	22,500	80,000	13,000	64,500	22,500	80,000	13,000	64,500	22,500	80,000
	13%	65%	23%	51%	8%	41%	19%	69%	11%	39%	13%	48%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	87	1,736	494	245	42	111	267	1,600	32	62	340	115
	EST. % TURNS												
2025	EST. TURNS	118	1,922	568	292	45	118	268	1,791	46	79	345	160
	EST. % TURNS												
2035	EST. TURNS	171	2,284	661	377	50	129	270	2,142	58	93	354	221
	EST. % TURNS												
2045	EST. TURNS	248	2,704	744	461	60	139	272	2,538	77	111	360	298
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	144	1,665	212	568	150	141	105	2,015	127	63	132	144
	EST. % TURNS												
2025	EST. TURNS	179	1,812	251	654	159	163	127	2,206	138	73	135	179
	EST. % TURNS												
2035	EST. TURNS	226	2,048	313	804	173	184	146	2,529	157	82	141	222
	EST. % TURNS												
2045	EST. TURNS	283	2,337	380	952	191	207	167	2,905	178	94	153	275

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,320	1,960	4,280	399	1,101	1,500	1,901	1,909	3,810	518	162	680
2019	TURN SUMMARY	2,317	1,960	4,277	398	1,101	1,499	1,899	1,909	3,808	517	161	678
CONTROL LINK VOLUMES		2,657	2,243	4,900	452	1,168	1,620	2,101	2,119	4,220	575	205	780
2025	TURN SUMMARY	2,608	2,243	4,851	455	1,181	1,636	2,105	2,119	4,224	584	209	793
CONTROL LINK VOLUMES		3,239	2,741	5,980	560	1,280	1,840	2,455	2,505	4,960	680	280	960
2035	TURN SUMMARY	3,116	2,740	5,856	556	1,285	1,841	2,470	2,506	4,976	668	279	947
CONTROL LINK VOLUMES		3,903	3,297	7,200	666	1,364	2,030	2,856	2,954	5,810	785	385	1,170
2045	TURN SUMMARY	3,696	3,297	6,993	660	1,376	2,036	2,887	2,954	5,841	769	385	1,154
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,023	2,727	4,750	861	449	1,310	2,250	1,870	4,120	339	421	760
2019	TURN SUMMARY	2,021	2,727	4,748	860	449	1,309	2,247	1,869	4,116	339	421	760
CONTROL LINK VOLUMES		2,251	3,039	5,290	958	502	1,460	2,445	2,035	4,480	375	465	840
2025	TURN SUMMARY	2,242	3,039	5,281	975	513	1,488	2,471	2,048	4,519	387	476	863
CONTROL LINK VOLUMES		2,635	3,555	6,190	1,150	600	1,750	2,786	2,314	5,100	444	556	1,000
2035	TURN SUMMARY	2,587	3,555	6,142	1,161	600	1,761	2,832	2,314	5,146	445	556	1,001
CONTROL LINK VOLUMES		3,067	4,133	7,200	1,330	700	2,030	3,171	2,639	5,810	519	651	1,170
2045	TURN SUMMARY	3,000	4,132	7,132	1,350	700	2,050	3,250	2,638	5,888	522	652	1,174

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	30 Nova Drive & University Drive		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**2**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
		2019		67,500		25,500		63,500		13,500
NO. YEARS	6	2025	1.060	71,500	1.060	27,000	1.060	67,500	1.060	14,500
NO. YEARS	16	2035	1.160	78,500	1.160	29,500	1.160	73,500	1.160	15,500
NO. YEARS	26	2045	1.260	85,000	1.260	32,000	1.260	80,000	1.260	17,000

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound) RIGHT	THRU	LEFT	FROM EAST LEG (Westbound) RIGHT	THRU	LEFT	FROM SOUTH LEG (Northbound) RIGHT	THRU	LEFT	FROM WEST LEG (Eastbound) RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	4,717				1,006			4,342			695		
		83	2101	227	328	65	127	129	1773	58	154	130	205	5,380
% TURNS:		3%	87%	9%	63%	13%	24%	7%	90%	3%	31%	27%	42%	
P.M.	2-Way Pk Hr Vol:	5,367				1,607			4,774			1,026		
		261	1714	218	585	157	253	202	2389	107	109	192	200	6,387
% TURNS:		12%	78%	10%	59%	16%	25%	7%	89%	4%	22%	38%	40%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG RIGHT	THRU	LEFT	EAST LEG RIGHT	THRU	LEFT	SOUTH LEG RIGHT	THRU	LEFT	WEST LEG RIGHT	THRU	LEFT
A.M.												
2019	3%	87%	9%	63%	13%	24%	7%	90%	3%	31%	27%	42%
2025	4%	85%	11%	61%	12%	26%	8%	88%	4%	32%	26%	42%
2035	5%	84%	11%	61%	12%	27%	9%	87%	4%	33%	25%	42%
2045	5%	83%	12%	60%	12%	28%	9%	86%	5%	33%	25%	42%
P.M.												
2019	12%	78%	10%	59%	16%	25%	7%	89%	4%	22%	38%	40%
2025	12%	77%	11%	58%	15%	27%	9%	86%	5%	24%	36%	40%
2035	12%	76%	12%	57%	15%	28%	10%	85%	5%	24%	36%	40%
2045	12%	75%	12%	57%	15%	29%	10%	84%	5%	25%	35%	40%

K & D FACTORS:

	NORTH LEG AM	PM	EAST LEG AM	PM	SOUTH LEG AM	PM	WEST LEG AM	PM
K FACTOR								
2019	7.0%	8.0%	3.9%	6.3%	6.8%	7.5%	5.1%	7.6%
2025	7.5%	8.2%	5.1%	6.9%	7.3%	7.9%	6.0%	7.9%
2035	8.2%	8.6%	7.1%	8.0%	8.2%	8.4%	7.5%	8.5%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	51.1%	40.9%	51.7%	61.9%	45.1%	56.5%	70.4%	48.8%
2025	51.1%	40.9%	51.7%	61.9%	45.1%	56.5%	69.6%	48.8%
2035	51.1%	40.9%	51.7%	61.9%	45.1%	56.5%	68.4%	48.8%
2045	51.1%	40.9%	51.7%	61.9%	45.1%	56.5%	67.1%	48.8%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 30 Nova Drive & University Drive
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	67500	25500	63500	13500
24 HR EST. AADT	2025	71500	27000	67500	14500
24 HR EST. AADT	2035	78500	29500	73500	15500
24 HR EST. AADT	2045	85000	32000	80000	17000

Percent Turns Calculated From Base Year AADTs:

JKTURNS

	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		67,500			25,500			63,500			13,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	13,500	63,500	25,500	67,500	13,500	63,500	25,500	67,500	13,500	63,500	25,500	67,500
	13%	62%	25%	47%	9%	44%	24%	63%	13%	41%	16%	43%
2025 2-WAY ADT		71,500			27,000			67,500			14,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	14,500	67,500	27,000	71,500	14,500	67,500	27,000	71,500	14,500	67,500	27,000	71,500
	13%	62%	25%	47%	9%	44%	24%	63%	13%	41%	16%	43%
2035 2-WAY ADT		78,500			29,500			73,500			15,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	15,500	73,500	29,500	78,500	15,500	73,500	29,500	78,500	15,500	73,500	29,500	78,500
	13%	62%	25%	47%	9%	44%	24%	64%	13%	40%	16%	43%
2045 2-WAY ADT		85,000			32,000			80,000			17,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	17,000	80,000	32,000	85,000	17,000	80,000	32,000	85,000	17,000	80,000	32,000	85,000
	13%	62%	25%	47%	9%	44%	24%	63%	13%	41%	16%	43%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	85	2,100	229	328	66	126	130	1,775	59	154	131	205
	EST. % TURNS												
2025	EST. TURNS	107	2,315	305	429	81	199	201	1,933	83	202	162	243
	EST. % TURNS												
2035	EST. TURNS	135	2,719	447	624	127	314	314	2,245	110	258	243	290
	EST. % TURNS												
2045	EST. TURNS	171	3,147	596	822	180	468	462	2,572	152	338	333	347
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	263	1,712	220	586	158	252	203	2,391	108	109	193	200
	EST. % TURNS												
2025	EST. TURNS	277	1,832	257	661	170	322	261	2,578	142	137	194	227
	EST. % TURNS												
2035	EST. TURNS	299	2,116	321	809	204	423	347	2,937	167	158	229	245
	EST. % TURNS												
2045	EST. TURNS	327	2,381	380	947	245	555	453	3,302	212	196	264	272

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,411	2,309	4,720	520	490	1,010	1,960	2,380	4,340	489	211	700
2019	TURN SUMMARY	2,414	2,308	4,722	520	490	1,010	1,964	2,380	4,344	490	210	700
CONTROL LINK VOLUMES		2,724	2,606	5,330	713	667	1,380	2,235	2,715	4,950	609	271	880
2025	TURN SUMMARY	2,727	2,605	5,332	709	668	1,377	2,217	2,716	4,933	607	271	878
CONTROL LINK VOLUMES		3,301	3,159	6,460	1,076	1,004	2,080	2,709	3,291	6,000	797	373	1,170
2035	TURN SUMMARY	3,301	3,159	6,460	1,065	1,004	2,069	2,669	3,291	5,960	791	372	1,163
CONTROL LINK VOLUMES		3,910	3,740	7,650	1,489	1,391	2,880	3,247	3,953	7,200	1,027	503	1,530
2045	TURN SUMMARY	3,914	3,741	7,655	1,470	1,391	2,861	3,186	3,953	7,139	1,018	503	1,521
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,193	3,177	5,370	995	615	1,610	2,698	2,072	4,770	501	529	1,030
2019	TURN SUMMARY	2,195	3,177	5,372	996	616	1,612	2,702	2,073	4,775	502	529	1,031
CONTROL LINK VOLUMES		2,394	3,466	5,860	1,158	712	1,870	2,998	2,312	5,310	561	589	1,150
2025	TURN SUMMARY	2,366	3,466	5,832	1,153	712	1,864	2,982	2,291	5,273	558	589	1,147
CONTROL LINK VOLUMES		2,759	3,991	6,750	1,454	896	2,350	3,502	2,698	6,200	640	670	1,310
2035	TURN SUMMARY	2,736	3,991	6,727	1,436	897	2,333	3,451	2,697	6,148	632	670	1,302
CONTROL LINK VOLUMES		3,129	4,521	7,650	1,783	1,097	2,880	4,069	3,131	7,200	747	783	1,530
2045	TURN SUMMARY	3,088	4,521	7,609	1,747	1,097	2,844	3,967	3,132	7,099	732	784	1,516

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	31 SW 23rd Street & University Drive		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**2**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
	2019		71,500		15,000		67,500		3,200
NO. YEARS 6	2025	1.060	76,000	1.060	16,000	1.060	71,500	1.060	3,400
NO. YEARS 16	2035	1.160	83,000	1.160	17,500	1.160	78,500	1.160	3,700
NO. YEARS 26	2045	1.260	90,000	1.260	19,000	1.260	85,000	1.260	4,000

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	4,919				471			4,721			197		
		44	2330	141	149	3	57	112	2168	33	21	9	87	5,154
	% TURNS:	2%	93%	6%	71%	1%	27%	5%	94%	1%	18%	8%	74%	
P.M.	2-Way Pk Hr Vol:	5,541				1,420			5,465			196		
		37	1958	315	404	11	309	364	2765	48	21	17	62	6,311
	% TURNS:	2%	85%	14%	56%	2%	43%	11%	87%	2%	21%	17%	62%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	2%	93%	6%	71%	1%	27%	5%	94%	1%	18%	8%	74%
2025	2%	91%	7%	69%	2%	29%	6%	92%	2%	21%	8%	72%
2035	2%	91%	7%	69%	2%	30%	6%	92%	2%	21%	8%	71%
2045	2%	90%	8%	68%	2%	31%	7%	91%	2%	22%	8%	70%
P.M.												
2019	2%	85%	14%	56%	2%	43%	11%	87%	2%	21%	17%	62%
2025	2%	84%	14%	55%	2%	43%	12%	86%	2%	23%	16%	60%
2035	2%	84%	14%	55%	2%	43%	12%	86%	2%	24%	16%	60%
2045	2%	84%	14%	55%	2%	43%	12%	86%	2%	25%	16%	59%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	6.9%	7.7%	3.1%	9.5%	7.0%	8.1%	6.2%	6.1%
2025	7.4%	8.0%	3.1%	9.5%	7.5%	8.3%	6.2%	6.1%
2035	8.2%	8.5%	3.1%	9.5%	8.2%	8.7%	6.2%	6.1%
2045	9.0%	9.0%	3.1%	9.5%	9.0%	9.0%	6.2%	6.1%
D FACTOR								
2019	51.1%	41.7%	44.4%	51.0%	49.0%	58.1%	59.4%	51.0%
2025	51.1%	41.7%	44.4%	51.0%	49.0%	58.1%	59.4%	51.0%
2035	51.1%	41.7%	44.4%	51.0%	49.0%	58.1%	59.4%	51.0%
2045	51.1%	41.7%	44.4%	51.0%	49.0%	58.1%	59.4%	51.0%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 31 SW 23rd Street & University Drive
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	71500	15000	67500	3200
24 HR EST. AADT	2025	76000	16000	71500	3400
24 HR EST. AADT	2035	83000	17500	78500	3700
24 HR EST. AADT	2045	90000	19000	85000	4000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		71,500			15,000			67,500			3,200	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	3,200	67,500	15,000	71,500	3,200	67,500	15,000	71,500	3,200	67,500	15,000	71,500
	4%	79%	18%	50%	2%	47%	17%	80%	4%	44%	10%	46%
2025 2-WAY ADT		76,000			16,000			71,500			3,400	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	3,400	71,500	16,000	76,000	3,400	71,500	16,000	76,000	3,400	71,500	16,000	76,000
	4%	79%	18%	50%	2%	47%	17%	80%	4%	44%	10%	46%
2035 2-WAY ADT		83,000			17,500			78,500			3,700	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	3,700	78,500	17,500	83,000	3,700	78,500	17,500	83,000	3,700	78,500	17,500	83,000
	4%	79%	18%	50%	2%	48%	17%	80%	4%	44%	10%	46%
2045 2-WAY ADT		90,000			19,000			85,000			4,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	4,000	85,000	19,000	90,000	4,000	85,000	19,000	90,000	4,000	85,000	19,000	90,000
	4%	79%	18%	50%	2%	47%	17%	80%	4%	44%	10%	46%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	46	2,329	141	149	3	57	111	2,169	34	21	9	87
	EST. % TURNS												
2025	EST. TURNS	48	2,632	154	159	[5]	61	116	2,484	[36]	24	[10]	94
	EST. % TURNS												
2035	EST. TURNS	54	3,201	173	174	[6]	67	128	3,040	38	27	[11]	103
	EST. % TURNS												
2045	EST. TURNS	60	3,801	189	191	[8]	71	132	3,655	40	29	[13]	113
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	38	1,961	314	403	11	310	365	2,765	50	21	17	62
	EST. % TURNS												
2025	EST. TURNS	42	2,143	351	446	[13]	319	380	3,050	51	24	[19]	67
	EST. % TURNS												
2035	EST. TURNS	49	2,479	395	503	[14]	336	403	3,545	55	25	[20]	75
	EST. % TURNS												
2045	EST. TURNS	52	2,828	451	569	[15]	349	423	4,070	[57]	27	[22]	83

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,515	2,405	4,920	209	261	470	2,313	2,407	4,720	117	83	200
2019	TURN SUMMARY	2,516	2,405	4,921	209	261	470	2,314	2,407	4,721	117	83	200
CONTROL LINK VOLUMES		2,863	2,737	5,600	222	278	500	2,612	2,718	5,330	125	85	210
2025	TURN SUMMARY	2,834	2,737	5,571	225	280	505	2,636	2,717	5,353	128	89	217
CONTROL LINK VOLUMES		3,473	3,317	6,790	242	308	550	3,165	3,295	6,460	136	94	230
2035	TURN SUMMARY	3,428	3,317	6,745	247	312	559	3,206	3,295	6,501	141	98	239
CONTROL LINK VOLUMES		4,141	3,959	8,100	262	328	590	3,749	3,901	7,650	147	103	250
2045	TURN SUMMARY	4,050	3,959	8,009	270	334	604	3,827	3,901	7,728	155	108	263
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,310	3,230	5,540	724	696	1,420	3,177	2,293	5,470	100	100	200
2019	TURN SUMMARY	2,313	3,230	5,543	725	696	1,421	3,180	2,292	5,472	100	99	199
CONTROL LINK VOLUMES		2,547	3,563	6,110	773	747	1,520	3,452	2,488	5,940	106	104	210
2025	TURN SUMMARY	2,536	3,563	6,100	778	750	1,528	3,481	2,486	5,967	110	106	216
CONTROL LINK VOLUMES		2,948	4,122	7,070	846	814	1,660	3,949	2,841	6,790	115	115	230
2035	TURN SUMMARY	2,923	4,123	7,046	853	818	1,671	4,003	2,840	6,843	120	118	238
CONTROL LINK VOLUMES		3,378	4,722	8,100	920	890	1,810	4,447	3,203	7,650	124	116	240
2045	TURN SUMMARY	3,331	4,722	8,053	933	896	1,829	4,550	3,204	7,754	132	124	256

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	32 Kolsky Boulevard & University Drive		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**2**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
		2019		60,000		14,500		60,000		7,300
NO. YEARS	6	2025	1.060	63,500	1.060	15,500	1.060	63,500	1.060	7,700
NO. YEARS	16	2035	1.160	69,500	1.160	17,000	1.160	69,500	1.160	8,500
NO. YEARS	26	2045	1.260	75,500	1.260	18,500	1.260	75,500	1.260	9,200

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	4,273				252			4,178			89		
		15	2262	90	98	0	28	34	1795	51	8	2	13	4,396
	% TURNS:	1%	96%	4%	78%	0%	22%	2%	95%	3%	35%	9%	57%	
P.M.	2-Way Pk Hr Vol:	5,075				1,033			4,599			531		
		37	2005	336	416	29	157	76	2098	123	140	19	183	5,619
	% TURNS:	2%	84%	14%	69%	5%	26%	3%	91%	5%	41%	6%	54%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	1%	96%	4%	78%	0%	22%	2%	95%	3%	35%	9%	57%
2025	1%	93%	5%	75%	1%	25%	3%	93%	3%	36%	9%	55%
2035	2%	93%	6%	74%	1%	25%	4%	93%	3%	36%	9%	55%
2045	2%	92%	6%	73%	1%	26%	4%	92%	4%	36%	9%	55%
P.M.												
2019	2%	84%	14%	69%	5%	26%	3%	91%	5%	41%	6%	54%
2025	2%	83%	15%	67%	5%	28%	5%	90%	6%	41%	6%	53%
2035	2%	83%	15%	66%	5%	29%	5%	89%	6%	41%	6%	52%
2045	3%	82%	15%	65%	5%	30%	6%	88%	6%	42%	6%	52%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	7.1%	8.5%	1.7%	7.1%	7.0%	7.7%	1.2%	7.3%
2025	7.6%	8.6%	1.7%	7.1%	7.4%	8.0%	1.2%	7.3%
2035	8.3%	8.8%	1.7%	7.1%	8.2%	8.5%	1.2%	7.3%
2045	9.0%	9.0%	1.7%	7.1%	9.0%	9.0%	1.2%	7.3%
D FACTOR								
2019	55.4%	46.9%	50.0%	58.3%	45.0%	49.9%	25.8%	64.4%
2025	55.4%	46.9%	50.2%	58.3%	45.0%	49.8%	27.5%	64.4%
2035	55.4%	46.9%	50.5%	58.3%	45.0%	49.5%	30.2%	64.4%
2045	55.4%	46.9%	50.8%	58.3%	45.0%	49.2%	32.9%	64.4%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 32 Kolsky Boulevard & University Drive
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	60000	14500	60000	7300
24 HR EST. AADT	2025	63500	15500	63500	7700
24 HR EST. AADT	2035	69500	17000	69500	8500
24 HR EST. AADT	2045	75500	18500	75500	9200

Percent Turns Calculated From Base Year AADTs:

JKTURNS

	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		60,000			14,500			60,000			7,300	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	7,300	60,000	14,500	60,000	7,300	60,000	14,500	60,000	7,300	60,000	14,500	60,000
	9%	73%	18%	47%	6%	47%	18%	73%	9%	45%	11%	45%
2025 2-WAY ADT		63,500			15,500			63,500			7,700	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	7,700	63,500	15,500	63,500	7,700	63,500	15,500	63,500	7,700	63,500	15,500	63,500
	9%	73%	18%	47%	6%	47%	18%	73%	9%	45%	11%	45%
2035 2-WAY ADT		69,500			17,000			69,500			8,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	8,500	69,500	17,000	69,500	8,500	69,500	17,000	69,500	8,500	69,500	17,000	69,500
	9%	73%	18%	47%	6%	47%	18%	73%	9%	45%	11%	45%
2045 2-WAY ADT		75,500			18,500			75,500			9,200	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	9,200	75,500	18,500	75,500	9,200	75,500	18,500	75,500	9,200	75,500	18,500	75,500
	9%	73%	18%	47%	6%	47%	18%	73%	9%	45%	11%	45%

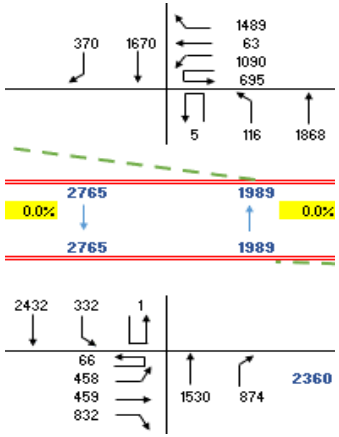
		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	15	2,264	88	98	0	28	34	1,792	52	8	2	13
	EST. % TURNS												
2025	EST. TURNS	22	2,552	[89]	100	[1]	34	47	2,027	[53]	10	[3]	15
	EST. % TURNS												
2035	EST. TURNS	25	3,088	[90]	106	[3]	39	52	2,440	[55]	12	[4]	17
	EST. % TURNS												
2045	EST. TURNS	28	3,681	[92]	112	[4]	46	58	2,904	[57]	15	[6]	20
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	37	2,007	334	417	29	157	75	2,101	122	140	19	184
	EST. % TURNS												
2025	EST. TURNS	48	2,125	[336]	426	[30]	191	110	2,283	124	155	20	187
	EST. % TURNS												
2035	EST. TURNS	51	2,550	340	439	[32]	240	144	2,615	143	191	22	191
	EST. % TURNS												
2045	EST. TURNS	53	2,934	[342]	449	[33]	297	183	2,971	157	226	23	193

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,367	1,903	4,270	126	124	250	1,880	2,300	4,180	23	67	90
2019	TURN SUMMARY	2,367	1,903	4,270	126	124	250	1,878	2,300	4,178	23	67	90
CONTROL LINK VOLUMES		2,658	2,142	4,800	135	135	270	2,124	2,596	4,720	26	64	90
2025	TURN SUMMARY	2,663	2,142	4,805	135	139	274	2,127	2,596	4,723	28	76	104
CONTROL LINK VOLUMES		3,187	2,563	5,750	147	143	290	2,570	3,140	5,710	31	69	100
2035	TURN SUMMARY	3,203	2,563	5,766	148	146	294	2,547	3,139	5,686	33	83	116
CONTROL LINK VOLUMES		3,764	3,036	6,800	160	150	310	3,058	3,742	6,800	36	74	110
2045	TURN SUMMARY	3,801	3,036	6,837	162	156	318	3,019	3,742	6,761	41	89	130

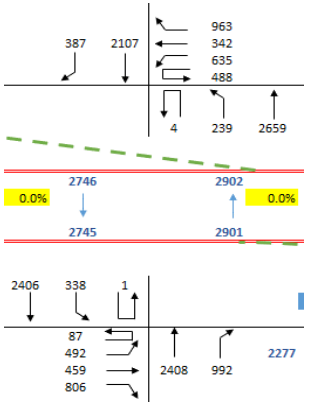
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,378	2,702	5,080	602	428	1,030	2,297	2,303	4,600	342	188	530
2019	TURN SUMMARY	2,378	2,702	5,080	602	428	1,030	2,298	2,304	4,602	343	188	531
CONTROL LINK VOLUMES		2,554	2,896	5,450	643	457	1,100	2,520	2,540	5,060	361	199	560
2025	TURN SUMMARY	2,510	2,896	5,406	647	466	1,113	2,517	2,471	4,988	362	202	564
CONTROL LINK VOLUMES		2,865	3,245	6,110	704	506	1,210	2,919	2,981	5,900	399	221	620
2035	TURN SUMMARY	2,941	3,245	6,186	711	506	1,217	2,902	2,981	5,883	404	226	630
CONTROL LINK VOLUMES		3,187	3,613	6,800	765	545	1,310	3,343	3,457	6,800	433	237	670
2045	TURN SUMMARY	3,329	3,613	6,942	779	548	1,327	3,311	3,457	6,768	442	243	685

Note: Boxed number indicates manual adjustment.

		2019 Existing																GR				2045 Volume													
Name	Type of Intersection	SBR	SBT	SBL	SBU	WBR	WBT	WBL	WBU	NBR	NBT	NBL	NBU	EBR	EBT	EBL	EBU	North LEG	EAST LEG	South LEG	WEST LEG	SBR	SBT	SBL	SBU	WBR	WBT	WBL	WBU	NBR	NBT	NBL	NBU	EBR	EBT	EBL	EBU
34 University Drive & SR 84 WB	West-Leg	282	1273			1135	48	831	530		1469	91	4					1.20%	1.20%	1.00%	1.20%	370	1670	0	0	1489	63	1090	695	0	1851	115	5	0	0	0	0
33 SR 84 EB & University Drive	East-Leg		1854	253	1					694	1214			634	350	349	50	1.20%	1.20%	1.00%	1.20%	0	2432	332	1	0	0	0	0	874	1530	0	0	832	459	458	66



		2019 Existing																GR				2045 Volume													
Name	Type of Intersection	SBR	SBT	SBL	SBU	WBR	WBT	WBL	WBU	NBR	NBT	NBL	NBU	EBR	EBT	EBL	EBU	North LEG	EAST LEG	South LEG	WEST LEG	SBR	SBT	SBL	SBU	WBR	WBT	WBL	WBU	NBR	NBT	NBL	NBU	EBR	EBT	EBL	EBU
34 University Drive & SR 84 WB	West-Leg	295	1606			734	261	484	372		2096	188	3					1.20%	1.20%	1.00%	1.20%	387	2107	0	0	963	342	635	488	0	2641	237	4	0	0	0	0
33 SR 84 EB & University Drive	East-Leg		1834	258	1					787	1911			614	350	375	66	1.20%	1.20%	1.00%	1.20%	0	2406	338	1	0	0	0	0	992	2408	0	0	806	459	492	87



TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	35 University Drive & Peters Road		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.2%**	**CGR**	**1.2%**	**CGR**	**1.2%**	**CGR**	**1.2%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**2**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		65,000		29,500		81,500		23,000
NO. YEARS 6	2025	1.072	69,500	1.072	31,500	1.072	87,500	1.072	24,500
NO. YEARS 16	2035	1.192	77,500	1.192	35,000	1.192	97,000	1.192	27,500
NO. YEARS 26	2045	1.312	85,500	1.312	38,500	1.312	107,000	1.312	30,000

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	4,036				2,796			5,074			1,906		
		77	1714	243	314	573	652	540	1537	269	362	474	151	6,906
% TURNS:		4%	84%	12%	20%	37%	42%	23%	66%	11%	37%	48%	15%	
P.M.	2-Way Pk Hr Vol:	4,601				2,478			6,072			2,103		
		48	1915	203	297	436	559	582	1968	280	768	401	170	7,627
% TURNS:		2%	88%	9%	23%	34%	43%	21%	70%	10%	57%	30%	13%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	4%	84%	12%	20%	37%	42%	23%	66%	11%	37%	48%	15%
2025	5%	82%	13%	22%	35%	43%	23%	65%	12%	38%	45%	17%
2035	5%	81%	13%	23%	34%	43%	23%	64%	12%	38%	44%	18%
2045	6%	80%	14%	23%	33%	43%	23%	64%	13%	38%	43%	19%
P.M.												
2019	2%	88%	9%	23%	34%	43%	21%	70%	10%	57%	30%	13%
2025	4%	86%	11%	25%	32%	44%	21%	68%	11%	56%	29%	15%
2035	4%	85%	11%	25%	31%	44%	21%	68%	11%	56%	28%	16%
2045	5%	84%	11%	26%	30%	44%	21%	67%	11%	56%	28%	17%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	6.2%	7.1%	9.5%	8.4%	6.2%	7.5%	8.3%	9.1%
2025	6.9%	7.5%	9.4%	8.5%	6.9%	7.8%	8.5%	9.1%
2035	7.9%	8.3%	9.2%	8.8%	7.9%	8.4%	8.7%	9.1%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	50.4%	47.1%	55.0%	52.1%	46.2%	46.6%	51.8%	63.7%
2025	50.5%	47.1%	55.0%	52.1%	46.2%	46.6%	51.8%	63.7%
2035	50.6%	47.1%	55.0%	52.1%	46.2%	46.6%	51.8%	63.7%
2045	50.8%	47.1%	55.0%	52.1%	46.2%	46.6%	51.8%	63.7%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: DATE:
FM NO.: NOTES:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 35 University Drive & Peters Road
PREPARED BY:
FILE:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	65000	29500	81500	23000
24 HR EST. AADT	2025	69500	31500	87500	24500
24 HR EST. AADT	2035	77500	35000	97000	27500
24 HR EST. AADT	2045	85500	38500	107000	30000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		65,000			29,500			81,500			23,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	23,000	81,500	29,500	65,000	23,000	81,500	29,500	65,000	23,000	81,500	29,500	65,000
	17%	61%	22%	38%	14%	48%	25%	55%	20%	46%	17%	37%
2025 2-WAY ADT		69,500			31,500			87,500			24,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	24,500	87,500	31,500	69,500	24,500	87,500	31,500	69,500	24,500	87,500	31,500	69,500
	17%	61%	22%	38%	13%	48%	25%	55%	20%	46%	17%	37%
2035 2-WAY ADT		77,500			35,000			97,000			27,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	27,500	97,000	35,000	77,500	27,500	97,000	35,000	77,500	27,500	97,000	35,000	77,500
	17%	61%	22%	38%	14%	48%	25%	55%	20%	46%	17%	37%
2045 2-WAY ADT		85,500			38,500			107,000			30,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	30,000	107,000	38,500	85,500	30,000	107,000	38,500	85,500	30,000	107,000	38,500	85,500
	17%	61%	22%	38%	13%	48%	25%	56%	19%	46%	17%	37%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	78	1,714	245	315	576	650	541	1,539	270	361	476	152
	EST. % TURNS												
2025	EST. TURNS	114	2,041	270	346	578	746	611	1,823	344	446	477	186
	EST. % TURNS												
2035	EST. TURNS	150	2,712	298	382	580	850	693	2,415	452	572	478	232
	EST. % TURNS												
2045	EST. TURNS	189	3,496	329	418	582	978	795	3,096	568	707	479	276
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	48	1,914	203	297	435	559	583	1,967	279	767	402	170
	EST. % TURNS												
2025	EST. TURNS	80	2,108	244	346	436	656	659	2,212	321	833	406	211
	EST. % TURNS												
2035	EST. TURNS	103	2,654	299	421	438	762	758	2,708	366	936	413	256
	EST. % TURNS												
2045	EST. TURNS	128	3,215	361	504	441	897	879	3,270	412	1,030	423	301

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,034	2,006	4,040	1,539	1,261	2,800	2,346	2,724	5,070	987	923	1,910
2019	TURN SUMMARY	2,037	2,006	4,043	1,541	1,262	2,803	2,350	2,725	5,075	989	924	1,913
CONTROL LINK VOLUMES		2,405	2,355	4,760	1,624	1,326	2,950	2,777	3,233	6,010	1,072	998	2,070
2025	TURN SUMMARY	2,425	2,355	4,780	1,670	1,358	3,028	2,778	3,233	6,011	1,109	1,036	2,145
CONTROL LINK VOLUMES		3,111	3,029	6,140	1,769	1,441	3,210	3,556	4,134	7,690	1,243	1,157	2,400
2035	TURN SUMMARY	3,160	3,029	6,189	1,812	1,469	3,281	3,560	4,134	7,694	1,282	1,182	2,464
CONTROL LINK VOLUMES		3,909	3,791	7,700	1,907	1,563	3,470	4,449	5,181	9,630	1,398	1,302	2,700
2045	TURN SUMMARY	4,014	3,790	7,804	1,978	1,603	3,581	4,459	5,181	9,640	1,462	1,339	2,801
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,166	2,434	4,600	1,292	1,188	2,480	2,830	3,240	6,070	1,339	761	2,100
2019	TURN SUMMARY	2,165	2,434	4,599	1,291	1,188	2,479	2,829	3,240	6,069	1,339	762	2,101
CONTROL LINK VOLUMES		2,461	2,769	5,230	1,402	1,288	2,690	3,184	3,646	6,830	1,421	809	2,230
2025	TURN SUMMARY	2,432	2,769	5,201	1,438	1,308	2,746	3,191	3,597	6,788	1,450	837	2,287
CONTROL LINK VOLUMES		3,015	3,385	6,400	1,600	1,470	3,070	3,799	4,351	8,150	1,586	904	2,490
2035	TURN SUMMARY	3,056	3,385	6,441	1,621	1,470	3,091	3,832	4,352	8,184	1,605	907	2,512
CONTROL LINK VOLUMES		3,624	4,076	7,700	1,807	1,663	3,470	4,488	5,142	9,630	1,719	981	2,700
2045	TURN SUMMARY	3,704	4,075	7,779	1,842	1,663	3,505	4,561	5,142	9,703	1,754	981	2,735

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:		T-INTERSECTION?	Yes
INTERSECTION:	36 The Fountains & University Drive	MISSING Leg:	East Leg

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	- -	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Historic + Model Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Base Year Model to Future Year Model GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Recommended Growth Rate:	**1.20%**	**CGR**	**-**	**CGR**	**1.20%**	**CGR**	**1.20%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**-**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
	2019		64,000		-		65,000		11,000
NO. YEARS 6	2025	1.072	68,500	-	-	1.072	69,500	1.072	12,000
NO. YEARS 16	2035	1.192	76,500	-	-	1.192	77,500	1.192	13,000
NO. YEARS 26	2045	1.312	84,000	-	-	1.312	85,500	1.312	14,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	4,025				-			4,048			111		
	37	2,098	-	-	-	-	-	1,882	41	25	-	6		4,095
% TURNS:	2%	98%	-	-	-	-	-	98%	2%	78%	-	19%		
P.M.	2-Way Pk Hr Vol:	4,296				-			4,449			789		
	141	1,879	-	-	-	-	-	2,098	237	233	-	176		4,770
% TURNS:	7%	93%	-	-	-	-	-	90%	10%	57%	-	43%		

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	2%	98%	-	-	-	-	-	98%	2%	78%	-	19%
2025	3%	97%	-	-	-	-	-	97%	3%	75%	-	22%
2035	3%	97%	-	-	-	-	-	96%	4%	75%	-	23%
2045	4%	96%	-	-	-	-	-	96%	4%	74%	-	24%
P.M.												
2019	7%	93%	-	-	-	-	-	90%	10%	57%	-	43%
2025	8%	92%	-	-	-	-	-	89%	11%	56%	-	44%
2035	8%	92%	-	-	-	-	-	89%	11%	56%	-	44%
2045	8%	92%	-	-	-	-	-	89%	11%	56%	-	44%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	6.3%	6.7%	-	-	6.2%	6.8%	1.0%	7.2%
2025	6.9%	7.2%	-	-	6.9%	7.3%	1.0%	7.2%
2035	8.0%	8.1%	-	-	7.9%	8.2%	1.0%	7.2%
2045	9.0%	9.0%	-	-	9.0%	9.0%	1.0%	7.2%
D FACTOR								
2019	53.1%	47.0%	-	-	47.5%	52.5%	28.8%	52.0%
2025	53.1%	47.0%	-	-	47.5%	52.5%	29.8%	52.0%
2035	53.1%	47.0%	-	-	47.5%	52.5%	31.3%	52.0%
2045	53.1%	47.0%	-	-	47.5%	52.5%	32.9%	52.0%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 36 The Fountains & University Drive
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	64,000	-	65,000	11,000
24 HR EST. AADT	2025	68,500	-	69,500	12,000
24 HR EST. AADT	2035	76,500	-	77,500	13,000
24 HR EST. AADT	2045	84,000	-	85,500	14,500

Percent Turns Calculated From Base Year AADTs:

JKTURNS

	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		64,000			-			65,000			11,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	11,000	65,000	-	-	-	-	-	64,000	11,000	65,000	-	64,000
	14%	86%	-	-	-	-	-	85%	15%	50%	-	50%
2025 2-WAY ADT		68,500			-			69,500			12,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	12,000	69,500	-	-	-	-	-	68,500	12,000	69,500	-	68,500
	15%	85%	-	-	-	-	-	85%	15%	50%	-	50%
2035 2-WAY ADT		76,500			-			77,500			13,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	13,000	77,500	-	-	-	-	-	76,500	13,000	77,500	-	76,500
	14%	86%	-	-	-	-	-	85%	15%	50%	-	50%
2045 2-WAY ADT		84,000			-			85,500			14,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	14,500	85,500	-	-	-	-	-	84,000	14,500	85,500	-	84,000
	14%	85%	-	-	-	-	-	85%	15%	50%	-	50%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	37	2,101	-	-	-	-	-	1,887	40	24	-	6
	EST. % TURNS												
2025	EST. TURNS	41	2,474	-	-	-	-	-	2,217	42	26	-	8
	EST. % TURNS												
2035	EST. TURNS	43	3,197	-	-	-	-	-	2,850	45	30	-	9
	EST. % TURNS												
2045	EST. TURNS	49	4,008	-	-	-	-	-	3,536	53	36	-	10
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	142	1,881	-	-	-	-	-	2,102	237	232	-	176
	EST. % TURNS												
2025	EST. TURNS	160	2,151	-	-	-	-	-	2,430	251	250	-	196
	EST. % TURNS												
2035	EST. TURNS	177	2,737	-	-	-	-	-	3,070	266	267	-	217
	EST. % TURNS												
2045	EST. TURNS	200	3,359	-	-	-	-	-	3,762	297	300	-	243

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,136	1,894	4,030	-	-	-	1,924	2,126	4,050	32	78	110
2019	TURN SUMMARY	2,140	1,894	4,034	-	-	-	1,929	2,126	4,055	32	78	110
CONTROL LINK VOLUMES		2,514	2,226	4,740	-	-	-	2,268	2,502	4,770	36	84	120
2025	TURN SUMMARY	2,517	2,226	4,743	-	-	-	2,261	2,501	4,762	36	84	120
CONTROL LINK VOLUMES		3,230	2,860	6,090	-	-	-	2,921	3,229	6,150	41	89	130
2035	TURN SUMMARY	3,242	2,860	6,102	-	-	-	2,898	3,228	6,126	41	88	129
CONTROL LINK VOLUMES		4,012	3,548	7,560	-	-	-	3,655	4,045	7,700	48	102	150
2045	TURN SUMMARY	4,059	3,547	7,606	-	-	-	3,592	4,045	7,637	48	102	150
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,021	2,279	4,300	-	-	-	2,336	2,114	4,450	410	380	790
2019	TURN SUMMARY	2,025	2,279	4,304	-	-	-	2,341	2,114	4,455	410	380	790
CONTROL LINK VOLUMES		2,333	2,627	4,960	-	-	-	2,679	2,421	5,100	448	412	860
2025	TURN SUMMARY	2,314	2,627	4,941	-	-	-	2,683	2,402	5,085	448	412	860
CONTROL LINK VOLUMES		2,921	3,289	6,210	-	-	-	3,325	3,005	6,330	486	444	930
2035	TURN SUMMARY	2,917	3,288	6,205	-	-	-	3,338	3,005	6,343	486	444	930
CONTROL LINK VOLUMES		3,553	4,007	7,560	-	-	-	4,040	3,660	7,700	543	497	1,040
2045	TURN SUMMARY	3,562	4,006	7,568	-	-	-	4,062	3,660	7,722	545	498	1,043

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	37 Federated Road & University Drive		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.2%**	**CGR**	**1.2%**	**CGR**	**1.2%**	**CGR**	**1.2%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**2**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		62,500		700		64,000		7,000
NO. YEARS 6	2025	1.072	67,000	1.072	750	1.072	68,500	1.072	7,500
NO. YEARS 16	2035	1.192	74,500	1.192	850	1.192	76,500	1.192	8,300
NO. YEARS 26	2045	1.312	82,000	1.312	900	1.312	84,000	1.312	9,200

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	4,106				16			4,058			218		
		86	2122	1	1	2	8	3	1846	39	40	1	50	4,199
	% TURNS:	4%	96%	0%	9%	18%	73%	0%	98%	2%	44%	1%	55%	
P.M.	2-Way Pk Hr Vol:	4,305				78			4,426			621		
		91	1920	15	5	9	37	12	2105	157	195	0	169	4,715
	% TURNS:	4%	95%	1%	10%	18%	73%	1%	93%	7%	54%	0%	46%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	4%	96%	0%	9%	18%	73%	0%	98%	2%	44%	1%	55%
2025	4%	95%	0%	13%	17%	70%	0%	97%	3%	45%	1%	54%
2035	5%	95%	0%	14%	17%	70%	0%	97%	3%	45%	1%	54%
2045	5%	95%	0%	15%	16%	69%	0%	96%	3%	45%	1%	54%
P.M.												
2019	4%	95%	1%	10%	18%	73%	1%	93%	7%	54%	0%	46%
2025	5%	94%	1%	14%	16%	70%	1%	92%	7%	53%	0%	47%
2035	5%	94%	1%	14%	16%	69%	1%	92%	7%	53%	0%	47%
2045	5%	94%	1%	16%	16%	68%	1%	92%	7%	53%	0%	47%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	6.6%	6.9%	2.3%	11.1%	6.3%	6.9%	3.1%	8.9%
2025	7.1%	7.4%	2.3%	11.1%	7.0%	7.4%	3.1%	8.9%
2035	8.1%	8.2%	2.3%	11.1%	8.0%	8.2%	3.1%	8.9%
2045	9.0%	9.0%	2.3%	11.1%	9.0%	9.0%	3.1%	8.9%
D FACTOR								
2019	53.8%	47.1%	68.8%	65.4%	46.5%	51.4%	41.7%	58.6%
2025	53.8%	47.1%	68.4%	65.4%	46.5%	51.4%	41.7%	58.6%
2035	53.8%	47.1%	67.7%	65.4%	46.5%	51.4%	41.7%	58.6%
2045	53.8%	47.1%	67.1%	65.4%	46.5%	51.4%	41.7%	58.6%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 37 Federated Road & University Drive
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	62500	700	64000	7000
24 HR EST. AADT	2025	67000	750	68500	7500
24 HR EST. AADT	2035	74500	850	76500	8300
24 HR EST. AADT	2045	82000	900	84000	9200

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		62,500			700			64,000			7,000		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		7,000	64,000	700	62,500	7,000	64,000	700	62,500	7,000	64,000	700	62,500
		10%	89%	1%	47%	5%	48%	1%	89%	10%	50%	1%	49%
2025 2-WAY ADT		67,000			750			68,500			7,500		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		7,500	68,500	750	67,000	7,500	68,500	750	67,000	7,500	68,500	750	67,000
		10%	89%	1%	47%	5%	48%	1%	89%	10%	50%	1%	49%
2035 2-WAY ADT		74,500			850			76,500			8,300		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		8,300	76,500	850	74,500	8,300	76,500	850	74,500	8,300	76,500	850	74,500
		10%	89%	1%	47%	5%	48%	1%	89%	10%	50%	1%	49%
2045 2-WAY ADT		82,000			900			84,000			9,200		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		9,200	84,000	900	82,000	9,200	84,000	900	82,000	9,200	84,000	900	82,000
		10%	89%	1%	47%	5%	48%	1%	89%	10%	50%	1%	49%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	87	2,124	2	1	2	8	5	1,850	39	40	2	50
	EST. % TURNS												
2025	EST. TURNS	[89]	2,491	3	2	[3]	9	[7]	2,156	47	44	[3]	52
	EST. % TURNS												
2035	EST. TURNS	91	3,199	[5]	[4]	[5]	10	[8]	2,721	60	53	[4]	54
	EST. % TURNS												
2045	EST. TURNS	98	3,973	[7]	[5]	[6]	11	[10]	3,350	72	61	[6]	58
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	91	1,924	16	5	9	37	13	2,110	156	195	0	169
	EST. % TURNS												
2025	EST. TURNS	103	2,191	[17]	8	[10]	40	[14]	2,425	168	210	[1]	181
	EST. % TURNS												
2035	EST. TURNS	113	2,767	[18]	9	[12]	45	[15]	3,020	187	235	[3]	198
	EST. % TURNS												
2045	EST. TURNS	128	3,367	[20]	11	[13]	48	16	3,671	205	261	[5]	222

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,209	1,901	4,110	11	9	20	1,888	2,172	4,060	91	129	220
2019	TURN SUMMARY	2,213	1,901	4,114	11	9	20	1,894	2,172	4,066	92	128	220
CONTROL LINK VOLUMES		2,570	2,210	4,780	12	8	20	2,216	2,544	4,760	97	133	230
2025	TURN SUMMARY	2,583	2,210	4,793	14	13	27	2,210	2,544	4,754	99	139	238
CONTROL LINK VOLUMES		3,233	2,777	6,010	13	7	20	2,838	3,262	6,100	108	152	260
2035	TURN SUMMARY	3,295	2,779	6,074	19	17	36	2,789	3,262	6,051	111	156	267
CONTROL LINK VOLUMES		3,970	3,410	7,380	14	6	20	3,515	4,045	7,560	119	171	290
2045	TURN SUMMARY	4,078	3,413	7,491	22	23	45	3,432	4,045	7,477	125	176	301

DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,026	2,284	4,310	51	29	80	2,274	2,156	4,430	364	256	620
2019	TURN SUMMARY	2,031	2,284	4,315	51	29	80	2,279	2,156	4,435	364	256	620
CONTROL LINK VOLUMES		2,326	2,614	4,940	55	25	80	2,603	2,467	5,070	390	280	670
2025	TURN SUMMARY	2,312	2,614	4,926	57	33	90	2,608	2,441	5,049	392	282	674
CONTROL LINK VOLUMES		2,872	3,228	6,100	62	28	90	3,222	3,048	6,270	432	308	740
2035	TURN SUMMARY	2,898	3,227	6,125	66	36	102	3,222	3,047	6,269	436	312	748
CONTROL LINK VOLUMES		3,476	3,904	7,380	65	35	100	3,884	3,676	7,560	480	340	820
2045	TURN SUMMARY	3,515	3,904	7,419	72	41	113	3,892	3,676	7,568	488	346	834

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	38 Davie Road & Nova Drive		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.2%**	**CGR**	**1.2%**	**CGR**	**1.2%**	**CGR**	**1.2%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**2**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		46,500		13,000		28,000		25,000
NO. YEARS 6	2025	1.072	50,000	1.072	14,000	1.072	30,000	1.072	27,000
NO. YEARS 16	2035	1.192	55,500	1.192	15,500	1.192	33,500	1.192	30,000
NO. YEARS 26	2045	1.312	61,000	1.312	17,000	1.312	36,500	1.312	33,000

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	2,733				529			2,360			1,040		
		456	954	105	163	79	79	66	924	188	149	37	131	3,331
	% TURNS:	30%	63%	7%	51%	25%	25%	6%	78%	16%	47%	12%	41%	
P.M.	2-Way Pk Hr Vol:	2,802				556			2,234			1,028		
		474	1045	165	94	76	73	78	827	28	183	70	197	3,310
	% TURNS:	28%	62%	10%	39%	31%	30%	8%	89%	3%	41%	16%	44%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	30%	63%	7%	51%	25%	25%	6%	78%	16%	47%	12%	41%
2025	31%	61%	8%	50%	25%	25%	7%	76%	17%	45%	12%	43%
2035	31%	60%	9%	50%	25%	25%	7%	76%	18%	45%	12%	43%
2045	31%	60%	9%	50%	25%	25%	7%	75%	18%	44%	12%	43%
P.M.												
2019	28%	62%	10%	39%	31%	30%	8%	89%	3%	41%	16%	44%
2025	29%	60%	11%	39%	31%	30%	9%	85%	6%	40%	15%	45%
2035	29%	60%	11%	40%	31%	30%	9%	84%	6%	40%	15%	45%
2045	30%	59%	11%	40%	30%	30%	10%	83%	7%	39%	15%	45%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	5.9%	6.0%	4.1%	4.3%	8.4%	8.0%	4.2%	4.1%
2025	6.6%	6.7%	5.2%	5.4%	8.6%	8.2%	5.3%	5.2%
2035	7.8%	7.9%	7.1%	7.2%	8.8%	8.6%	7.1%	7.1%
2045	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	55.4%	60.1%	60.7%	43.7%	49.9%	41.8%	30.5%	43.8%
2025	55.4%	60.1%	60.7%	43.7%	49.8%	41.8%	31.0%	43.8%
2035	55.4%	60.1%	60.7%	43.7%	49.5%	41.8%	32.0%	43.8%
2045	55.4%	60.1%	60.7%	43.7%	49.2%	41.8%	32.9%	43.8%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 38 Davie Road & Nova Drive
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	46500	13000	28000	25000
24 HR EST. AADT	2025	50000	14000	30000	27000
24 HR EST. AADT	2035	55500	15500	33500	30000
24 HR EST. AADT	2045	61000	17000	36500	33000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		46,500			13,000			28,000			25,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	25,000	28,000	13,000	46,500	25,000	28,000	13,000	46,500	25,000	28,000	13,000	46,500
	38%	42%	20%	47%	25%	28%	15%	55%	30%	32%	15%	53%
2025 2-WAY ADT		50,000			14,000			30,000			27,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	27,000	30,000	14,000	50,000	27,000	30,000	14,000	50,000	27,000	30,000	14,000	50,000
	38%	42%	20%	47%	25%	28%	15%	55%	30%	32%	15%	53%
2035 2-WAY ADT		55,500			15,500			33,500			30,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	30,000	33,500	15,500	55,500	30,000	33,500	15,500	55,500	30,000	33,500	15,500	55,500
	38%	42%	20%	47%	25%	28%	15%	55%	30%	32%	15%	53%
2045 2-WAY ADT		61,000			17,000			36,500			33,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	33,000	36,500	17,000	61,000	33,000	36,500	17,000	61,000	33,000	36,500	17,000	61,000
	38%	42%	20%	47%	25%	28%	15%	55%	30%	32%	15%	53%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	455	954	105	162	79	79	66	922	188	149	37	130
	EST. % TURNS												
2025	EST. TURNS	650	1,025	159	244	112	91	76	1,009	216	176	53	218
	EST. % TURNS												
2035	EST. TURNS	1,016	1,152	250	393	183	108	89	1,154	256	224	92	384
	EST. % TURNS												
2045	EST. TURNS	1,437	1,278	362	568	263	126	102	1,280	294	271	138	598
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	476	1,042	167	94	76	73	79	826	28	183	71	197
	EST. % TURNS												
2025	EST. TURNS	635	1,212	236	142	101	85	88	895	55	216	98	306
	EST. % TURNS												
2035	EST. TURNS	962	1,285	350	216	165	106	109	1,032	77	284	163	492
	EST. % TURNS												
2045	EST. TURNS	1,330	1,444	493	309	235	127	129	1,158	104	346	239	724

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,515	1,215	2,730	321	209	530	1,178	1,182	2,360	317	723	1,040
2019	TURN SUMMARY	1,514	1,214	2,728	320	208	528	1,176	1,182	2,358	316	722	1,038
CONTROL LINK VOLUMES		1,829	1,471	3,300	442	288	730	1,278	1,292	2,570	442	978	1,420
2025	TURN SUMMARY	1,834	1,471	3,305	447	288	735	1,301	1,292	2,593	447	978	1,425
CONTROL LINK VOLUMES		2,399	1,931	4,330	668	432	1,100	1,455	1,485	2,940	685	1,455	2,140
2035	TURN SUMMARY	2,418	1,931	4,349	684	431	1,115	1,499	1,484	2,983	700	1,455	2,155
CONTROL LINK VOLUMES		3,043	2,447	5,490	928	602	1,530	1,616	1,674	3,290	977	1,993	2,970
2045	TURN SUMMARY	3,077	2,446	5,523	957	602	1,559	1,676	1,675	3,351	1,007	1,994	3,001
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,684	1,116	2,800	243	317	560	933	1,297	2,230	450	580	1,030
2019	TURN SUMMARY	1,685	1,117	2,802	243	317	560	933	1,298	2,231	451	580	1,031
CONTROL LINK VOLUMES		2,017	1,343	3,360	328	422	750	1,029	1,431	2,460	619	791	1,410
2025	TURN SUMMARY	2,083	1,343	3,426	328	422	750	1,038	1,513	2,550	620	791	1,411
CONTROL LINK VOLUMES		2,620	1,740	4,360	487	623	1,110	1,205	1,675	2,880	935	1,205	2,140
2035	TURN SUMMARY	2,597	1,740	4,337	487	622	1,109	1,218	1,675	2,893	939	1,204	2,143
CONTROL LINK VOLUMES		3,299	2,191	5,490	669	861	1,530	1,373	1,917	3,290	1,301	1,669	2,970
2045	TURN SUMMARY	3,267	2,191	5,458	671	861	1,532	1,391	1,917	3,308	1,309	1,669	2,978

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	39 Davie Road & Reese Road		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.2%**	**CGR**	**1.2%**	**CGR**	**1.2%**	**CGR**	**1.2%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**2**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
		2019		46,500		12,000		46,500		200
NO. YEARS	6	2025	1.072	50,000	1.072	13,000	1.072	50,000	1.072	200
NO. YEARS	16	2035	1.192	55,500	1.192	14,500	1.192	55,500	1.192	250
NO. YEARS	26	2045	1.312	61,000	1.312	15,500	1.312	61,000	1.312	250

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	3,161				775			2,858			52		
		4	1397	227	334	0	155	59	1199	47	1	0	0	3,423
	% TURNS:	0%	86%	14%	68%	0%	32%	5%	92%	4%	100%	0%	0%	
P.M.	2-Way Pk Hr Vol:	3,085				886			2,792			51		
		3	1480	332	267	1	169	116	992	27	8	1	11	3,407
	% TURNS:	0%	82%	18%	61%	0%	39%	10%	87%	2%	40%	5%	55%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	0%	86%	14%	68%	0%	32%	5%	92%	4%	100%	0%	0%
2025	0%	85%	15%	66%	0%	34%	6%	91%	3%	94%	1%	4%
2035	0%	85%	15%	66%	0%	34%	7%	90%	3%	93%	1%	6%
2045	0%	85%	15%	65%	0%	35%	7%	90%	3%	91%	2%	7%
P.M.												
2019	0%	82%	18%	61%	0%	39%	10%	87%	2%	40%	5%	55%
2025	0%	81%	19%	60%	0%	40%	11%	87%	2%	40%	6%	54%
2035	0%	81%	19%	60%	0%	40%	12%	86%	2%	41%	6%	54%
2045	0%	81%	19%	59%	0%	41%	12%	86%	2%	41%	6%	53%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	6.8%	6.6%	6.5%	7.4%	6.1%	6.0%	26.0%	25.5%
2025	7.3%	7.2%	6.5%	7.4%	6.8%	6.7%	26.0%	25.5%
2035	8.2%	8.1%	6.5%	7.4%	7.9%	7.8%	26.0%	25.5%
2045	9.0%	9.0%	6.5%	7.4%	9.0%	9.0%	26.0%	25.5%
D FACTOR								
2019	51.5%	58.8%	63.1%	49.3%	45.7%	40.7%	1.9%	39.2%
2025	51.5%	58.8%	63.1%	49.3%	45.7%	40.7%	9.1%	39.2%
2035	51.5%	58.8%	63.1%	49.2%	45.7%	40.7%	21.0%	39.2%
2045	51.5%	58.8%	63.1%	49.2%	45.7%	40.7%	32.9%	39.2%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 39 Davie Road & Reese Road
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	46500	12000	46500	200
24 HR EST. AADT	2025	50000	13000	50000	200
24 HR EST. AADT	2035	55500	14500	55500	250
24 HR EST. AADT	2045	61000	15500	61000	250

Percent Turns Calculated From Base Year AADTs:

JKTURNS

	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		46,500			12,000			46,500			200	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	200	46,500	12,000	46,500	200	46,500	12,000	46,500	200	46,500	12,000	46,500
	0%	79%	20%	50%	0%	50%	20%	79%	0%	44%	11%	44%
2025 2-WAY ADT		50,000			13,000			50,000			200	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	200	50,000	13,000	50,000	200	50,000	13,000	50,000	200	50,000	13,000	50,000
	0%	79%	21%	50%	0%	50%	21%	79%	0%	44%	12%	44%
2035 2-WAY ADT		55,500			14,500			55,500			250	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	250	55,500	14,500	55,500	250	55,500	14,500	55,500	250	55,500	14,500	55,500
	0%	79%	21%	50%	0%	50%	21%	79%	0%	44%	12%	44%
2045 2-WAY ADT		61,000			15,500			61,000			250	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	250	61,000	15,500	61,000	250	61,000	15,500	61,000	250	61,000	15,500	61,000
	0%	79%	20%	50%	0%	50%	20%	79%	0%	44%	11%	44%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	4	1,398	230	333	0	156	61	1,199	45	1	0	0
	EST. % TURNS												
2025	EST. TURNS	6	1,656	234	345	2	185	82	1,424	48	5	2	1
	EST. % TURNS												
2035	EST. TURNS	7	2,140	240	362	3	232	106	1,827	52	14	3	3
	EST. % TURNS												
2045	EST. TURNS	8	2,688	244	367	4	272	130	2,294	53	20	5	5
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	3	1,479	336	269	1	168	116	995	26	8	1	11
	EST. % TURNS												
2025	EST. TURNS	4	1,717	344	276	3	198	142	1,192	28	9	2	12
	EST. % TURNS												
2035	EST. TURNS	6	2,334	364	287	5	243	177	1,549	31	12	4	14
	EST. % TURNS												
2045	EST. TURNS	7	2,965	375	289	7	279	210	1,959	33	13	6	16

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,628	1,532	3,160	489	291	780	1,305	1,555	2,860	1	49	50
2019	TURN SUMMARY	1,632	1,532	3,164	489	291	780	1,305	1,555	2,860	1	49	50
CONTROL LINK VOLUMES		1,881	1,769	3,650	531	309	840	1,554	1,846	3,400	5	45	50
2025	TURN SUMMARY	1,896	1,770	3,666	532	318	850	1,554	1,846	3,400	8	56	64
CONTROL LINK VOLUMES		2,330	2,190	4,520	593	347	940	2,004	2,386	4,390	14	56	70
2035	TURN SUMMARY	2,387	2,192	4,579	597	349	946	1,985	2,386	4,371	20	62	82
CONTROL LINK VOLUMES		2,827	2,663	5,490	636	374	1,010	2,509	2,981	5,490	21	49	70
2045	TURN SUMMARY	2,940	2,666	5,606	643	379	1,022	2,477	2,980	5,457	30	65	95
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,815	1,275	3,090	437	453	890	1,135	1,655	2,790	20	30	50
2019	TURN SUMMARY	1,818	1,275	3,093	438	453	891	1,137	1,655	2,792	20	30	50
CONTROL LINK VOLUMES		2,112	1,478	3,590	473	487	960	1,361	1,989	3,350	20	30	50
2025	TURN SUMMARY	2,065	1,479	3,545	476	488	964	1,362	1,924	3,286	23	35	58
CONTROL LINK VOLUMES		2,642	1,848	4,490	528	542	1,070	1,772	2,588	4,360	25	35	60
2035	TURN SUMMARY	2,704	1,850	4,554	535	545	1,080	1,757	2,589	4,346	30	42	72
CONTROL LINK VOLUMES		3,230	2,260	5,490	564	586	1,150	2,234	3,256	5,490	25	35	60
2045	TURN SUMMARY	3,347	2,264	5,611	575	591	1,166	2,202	3,257	5,459	35	47	82

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:		T-INTERSECTION?	Yes
INTERSECTION:	40 41 Davie Road & SR 84	MISSING Leg:	North Leg

NOTES:

SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		-	0	0	0
		-	0	0	0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	-	CGR	0.00%	CGR	0.00%	CGR	0.00%	CGR
Historic + Model Trend GR =	-	CGR	0.00%	CGR	0.00%	CGR	0.00%	CGR
Base Year Model to Future Year Model GR =	-	CGR	0.00%	CGR	0.00%	CGR	0.00%	CGR
Recommended Growth Rate:	**-**	**CGR**	**1.20%**	**CGR**	**1.20%**	**CGR**	**1.20%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years 2 = Linear Growth Throughout All Years 3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)	-	2	2	2

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
		2019		-		41,000		46,500		43,500
NO. YEARS	6	2025	-	-	1.072	44,000	1.072	50,000	1.072	46,500
NO. YEARS	16	2035	-	-	1.192	49,000	1.192	55,500	1.192	52,000
NO. YEARS	26	2045	-	-	1.312	53,500	1.312	61,000	1.312	57,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	-				3,791			3,198			3,017		
		-	-	-	-	1,519	1,052	933	-	604	607	285	-	5,006
% TURNS:		-	-	-	-	59%	41%	61%	-	39%	68%	32%	-	
P.M.	2-Way Pk Hr Vol:	-				4,203			3,128			3,509		
		-	-	-	-	1,871	1,200	710	-	562	654	420	-	5,423
% TURNS:		-	-	-	-	61%	39%	56%	-	44%	61%	39%	-	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG RIGHT	NORTH LEG THRU	NORTH LEG LEFT	EAST LEG RIGHT	EAST LEG THRU	EAST LEG LEFT	SOUTH LEG RIGHT	SOUTH LEG THRU	SOUTH LEG LEFT	WEST LEG RIGHT	WEST LEG THRU	WEST LEG LEFT
A.M.												
2019	-	-	-	-	59%	41%	61%	-	39%	68%	32%	-
2025	-	-	-	-	58%	42%	59%	-	40%	66%	33%	-
2035	-	-	-	-	58%	42%	59%	-	41%	66%	34%	-
2045	-	-	-	-	57%	43%	59%	-	41%	66%	34%	-
P.M.												
2019	-	-	-	-	61%	39%	56%	-	44%	61%	39%	-
2025	-	-	-	-	60%	40%	55%	-	45%	60%	40%	-
2035	-	-	-	-	59%	41%	55%	-	45%	60%	40%	-
2045	-	-	-	-	59%	41%	55%	-	45%	60%	40%	-

K & D FACTORS:

	NORTH LEG AM	NORTH LEG PM	EAST LEG AM	EAST LEG PM	SOUTH LEG AM	SOUTH LEG PM	WEST LEG AM	WEST LEG PM
K FACTOR								
2019	-	-	9.2%	10.3%	6.9%	6.7%	6.9%	8.1%
2025	-	-	9.2%	10.3%	7.4%	7.3%	7.4%	8.3%
2035	-	-	9.1%	10.3%	8.2%	8.1%	8.2%	8.6%
2045	-	-	9.0%	10.3%	9.0%	9.0%	9.0%	9.0%
D FACTOR								
2019	-	-	67.8%	73.1%	48.1%	40.7%	29.6%	30.6%
2025	-	-	67.7%	71.7%	48.1%	40.7%	30.4%	31.2%
2035	-	-	67.4%	69.4%	48.1%	40.7%	31.6%	32.0%
2045	-	-	67.1%	67.1%	48.1%	40.7%	32.9%	32.9%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 40 41 Davie Road & SR 84
PREPARED BY:
FILE:

DATE:
NOTES: SR 84 AADTs adjusted to exclude daily volume for EB and WB u-turns.
U-turns were estimated separately using directly applied growth rates.

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	-	41,000	46,500	43,500
24 HR EST. AADT	2025	-	44,000	50,000	46,500
24 HR EST. AADT	2035	-	49,000	55,500	52,000
24 HR EST. AADT	2045	-	53,500	61,000	57,500

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2019 2-WAY ADT	-			41,000			46,500			43,500		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		-	-	-	-	43,500	46,500	41,000	-	43,500	46,500	41,000	-
		-	-	-	-	48%	52%	49%	-	51%	53%	47%	-
	2025 2-WAY ADT	-			44,000			50,000			46,500		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		-	-	-	-	46,500	50,000	44,000	-	46,500	50,000	44,000	-
		-	-	-	-	48%	52%	49%	-	51%	53%	47%	-
	2035 2-WAY ADT	-			49,000			55,500			52,000		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		-	-	-	-	52,000	55,500	49,000	-	52,000	55,500	49,000	-
		-	-	-	-	48%	52%	49%	-	51%	53%	47%	-
	2045 2-WAY ADT	-			53,500			61,000			57,500		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		-	-	-	-	57,500	61,000	53,500	-	57,500	61,000	53,500	-
		-	-	-	-	49%	51%	48%	-	52%	53%	47%	-

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	-	-	-	-	1,521	1,053	933	-	605	608	284	-
	EST. % TURNS												
2025	EST. TURNS	-	-	-	-	1,605	1,165	989	-	798	742	314	-
	EST. % TURNS												
2035	EST. TURNS	-	-	-	-	1,782	1,315	1,104	-	1,137	1,038	352	-
	EST. % TURNS												
2045	EST. TURNS	-	-	-	-	1,926	1,456	1,196	-	1,550	1,392	392	-
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	-	-	-	-	1,871	1,201	708	-	563	655	419	-
	EST. % TURNS												
2025	EST. TURNS	-	-	-	-	1,950	1,383	817	-	699	769	464	-
	EST. % TURNS												
2035	EST. TURNS	-	-	-	-	2,103	1,655	1,019	-	947	1,019	524	-
	EST. % TURNS												
2045	EST. TURNS	-	-	-	-	2,214	1,931	1,229	-	1,262	1,323	583	-

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		-	-	-	2,572	1,218	3,790	1,538	1,662	3,200	893	2,127	3,020
2019	TURN SUMMARY	-	-	-	2,576	1,218	3,794	1,540	1,662	3,202	894	2,127	3,021
CONTROL LINK VOLUMES		-	-	-	2,736	1,304	4,040	1,772	1,908	3,680	1,046	2,404	3,450
2025	TURN SUMMARY	-	-	-	2,772	1,304	4,076	1,789	1,908	3,697	1,058	2,404	3,462
CONTROL LINK VOLUMES		-	-	-	3,003	1,457	4,460	2,185	2,355	4,540	1,350	2,920	4,270
2035	TURN SUMMARY	-	-	-	3,099	1,457	4,556	2,244	2,354	4,598	1,393	2,920	4,313
CONTROL LINK VOLUMES		-	-	-	3,231	1,589	4,820	2,641	2,849	5,490	1,703	3,477	5,180
2045	TURN SUMMARY	-	-	-	3,384	1,589	4,973	2,749	2,849	5,598	1,787	3,477	5,264
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		-	-	-	3,072	1,128	4,200	1,273	1,857	3,130	1,075	2,435	3,510
2019	TURN SUMMARY	-	-	-	3,074	1,128	4,202	1,273	1,857	3,130	1,076	2,435	3,511
CONTROL LINK VOLUMES		-	-	-	3,238	1,282	4,520	1,476	2,154	3,630	1,200	2,650	3,850
2025	TURN SUMMARY	-	-	-	3,336	1,282	4,618	1,519	2,153	3,672	1,235	2,650	3,885
CONTROL LINK VOLUMES		-	-	-	3,496	1,544	5,040	1,835	2,675	4,510	1,439	3,051	4,490
2035	TURN SUMMARY	-	-	-	3,760	1,544	5,304	1,969	2,675	4,644	1,545	3,051	4,596
CONTROL LINK VOLUMES		-	-	-	3,698	1,812	5,510	2,234	3,256	5,490	1,703	3,477	5,180
2045	TURN SUMMARY	-	-	-	4,147	1,813	5,960	2,494	3,255	5,749	1,908	3,477	5,385

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:		T-INTERSECTION?	Yes
INTERSECTION:	42 SR 7 & Oaks Road	MISSING Leg:	East Leg

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	- -	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Historic + Model Trend GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Base Year Model to Future Year Model GR =	0.00%	CGR	-	CGR	0.00%	CGR	0.00%	CGR
Recommended Growth Rate:	**1.20%**	**CGR**	**-**	**CGR**	**1.20%**	**CGR**	**1.20%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	NORTH LEG FACTOR	NORTH LEG AADT	EAST LEG FACTOR	EAST LEG AADT	SOUTH LEG FACTOR	SOUTH LEG AADT	WEST LEG FACTOR	WEST LEG AADT
				2		**-**		**2**		**2**
		2019		63,500		-		55,500		13,000
NO. YEARS	6	2025	1.072	68,000	-	-	1.072	59,500	1.072	14,000
NO. YEARS	16	2035	1.192	75,500	-	-	1.192	66,000	1.192	15,500
NO. YEARS	26	2045	1.312	83,500	-	-	1.312	73,000	1.312	17,000

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound) RIGHT	THRU	LEFT	FROM EAST LEG (Westbound) RIGHT	THRU	LEFT	FROM SOUTH LEG (Northbound) RIGHT	THRU	LEFT	FROM WEST LEG (Eastbound) RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:		4,745			-			4,066			1,013		
		522	1,908	-	-	-	-	-	1,990	77	89	-	323	4,915
	% TURNS:	21%	78%	-	-	-	-	-	96%	4%	22%	-	78%	
P.M.	2-Way Pk Hr Vol:		5,051			-			4,441			906		
		262	1,913	-	-	-	-	-	2,379	64	83	-	495	5,202
	% TURNS:	12%	88%	-	-	-	-	-	97%	3%	14%	-	85%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

		NORTH LEG RIGHT	THRU	LEFT	EAST LEG RIGHT	THRU	LEFT	SOUTH LEG RIGHT	THRU	LEFT	WEST LEG RIGHT	THRU	LEFT
A.M.													
	2019	21%	78%	-	-	-	-	-	96%	4%	22%	-	78%
	2025	21%	79%	-	-	-	-	-	95%	5%	24%	-	76%
	2035	21%	79%	-	-	-	-	-	95%	5%	25%	-	75%
	2045	21%	79%	-	-	-	-	-	94%	6%	26%	-	74%
P.M.													
	2019	12%	88%	-	-	-	-	-	97%	3%	14%	-	85%
	2025	13%	87%	-	-	-	-	-	96%	4%	18%	-	82%
	2035	13%	87%	-	-	-	-	-	96%	4%	18%	-	81%
	2045	13%	87%	-	-	-	-	-	95%	5%	20%	-	80%

K & D FACTORS:

	NORTH LEG AM	NORTH LEG PM	EAST LEG AM	EAST LEG PM	SOUTH LEG AM	SOUTH LEG PM	WEST LEG AM	WEST LEG PM
K FACTOR								
2019	7.5%	8.0%	-	-	7.3%	8.0%	7.8%	7.0%
2025	7.8%	8.2%	-	-	7.7%	8.2%	7.8%	7.0%
2035	8.4%	8.6%	-	-	8.4%	8.6%	7.8%	7.0%
2045	9.0%	9.0%	-	-	9.0%	9.0%	7.8%	7.0%
D FACTOR								
2019	51.2%	43.1%	-	-	50.9%	55.0%	40.8%	63.9%
2025	51.2%	43.1%	-	-	50.9%	55.0%	40.8%	63.9%
2035	51.2%	43.1%	-	-	50.9%	55.0%	40.8%	63.9%
2045	51.2%	43.1%	-	-	50.9%	55.0%	40.8%	63.9%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 42 SR 7 & Oaks Road
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	63,500	-	55,500	13,000
24 HR EST. AADT	2025	68,000	-	59,500	14,000
24 HR EST. AADT	2035	75,500	-	66,000	15,500
24 HR EST. AADT	2045	83,500	-	73,000	17,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		63,500			-			55,500			13,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	13,000	55,500	-	-	-	-	-	63,500	13,000	55,500	-	63,500
	19%	81%	-	-	-	-	-	83%	17%	47%	-	53%
2025 2-WAY ADT		68,000			-			59,500			14,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	14,000	59,500	-	-	-	-	-	68,000	14,000	59,500	-	68,000
	19%	81%	-	-	-	-	-	83%	17%	47%	-	53%
2035 2-WAY ADT		75,500			-			66,000			15,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	15,500	66,000	-	-	-	-	-	75,500	15,500	66,000	-	75,500
	19%	81%	-	-	-	-	-	83%	17%	47%	-	53%
2045 2-WAY ADT		83,500			-			73,000			17,000	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	17,000	73,000	-	-	-	-	-	83,500	17,000	73,000	-	83,500
	19%	81%	-	-	-	-	-	83%	17%	47%	-	53%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	520	1,912	-	-	-	-	-	1,995	76	89	-	323
	EST. % TURNS												
2025	EST. TURNS	541	2,154	-	-	-	-	-	2,249	103	101	-	344
	EST. % TURNS												
2035	EST. TURNS	598	2,602	-	-	-	-	-	2,714	118	112	-	381
	EST. % TURNS												
2045	EST. TURNS	651	3,103	-	-	-	-	-	3,250	137	124	-	418
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	265	1,912	-	-	-	-	-	2,379	65	83	-	494
	EST. % TURNS												
2025	EST. TURNS	268	2,094	-	-	-	-	-	2,641	87	101	-	527
	EST. % TURNS												
2035	EST. TURNS	292	2,449	-	-	-	-	-	3,101	96	111	-	591
	EST. % TURNS												
2045	EST. TURNS	321	2,830	-	-	-	-	-	3,626	109	123	-	654

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,431	2,319	4,750	-	-	-	2,068	2,002	4,070	413	597	1,010
2019	TURN SUMMARY	2,434	2,319	4,753	-	-	-	2,073	2,002	4,075	414	597	1,011
CONTROL LINK VOLUMES		2,726	2,594	5,320	-	-	-	2,334	2,256	4,590	445	645	1,090
2025	TURN SUMMARY	2,697	2,594	5,291	-	-	-	2,354	2,256	4,610	447	645	1,092
CONTROL LINK VOLUMES		3,254	3,096	6,350	-	-	-	2,805	2,715	5,520	493	717	1,210
2035	TURN SUMMARY	3,203	3,096	6,299	-	-	-	2,834	2,715	5,549	495	717	1,212
CONTROL LINK VOLUMES		3,850	3,670	7,520	-	-	-	3,342	3,228	6,570	541	789	1,330
2045	TURN SUMMARY	3,757	3,669	7,426	-	-	-	3,389	3,228	6,617	544	789	1,333
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		2,176	2,874	5,050	-	-	-	2,444	1,996	4,440	579	331	910
2019	TURN SUMMARY	2,179	2,874	5,053	-	-	-	2,446	1,996	4,442	579	331	910
CONTROL LINK VOLUMES		2,401	3,169	5,570	-	-	-	2,696	2,204	4,900	624	356	980
2025	TURN SUMMARY	2,364	3,169	5,534	-	-	-	2,731	2,196	4,927	630	356	986
CONTROL LINK VOLUMES		2,797	3,693	6,490	-	-	-	3,129	2,561	5,690	692	388	1,080
2035	TURN SUMMARY	2,744	3,693	6,437	-	-	-	3,199	2,561	5,760	704	389	1,093
CONTROL LINK VOLUMES		3,239	4,281	7,520	-	-	-	3,616	2,954	6,570	760	430	1,190
2045	TURN SUMMARY	3,154	4,281	7,435	-	-	-	3,737	2,954	6,691	779	431	1,210

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	
DESIGN YEAR:			
INTERSECTION:	43 SR 7 & Riverland Road		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
Model Volume:		0 0	0 0	0 0	0 0

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Historic + Model Trend GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Base Year Model to Future Year Model GR =	0.0%	CGR	0.0%	CGR	0.0%	CGR	0.0%	CGR
Recommended Growth Rate:	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**	**1.0%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
1 = Compound Growth Throughout All Years	**2**	**2**	**2**	**2**

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
	2019		53,000		13,500		61,000		8,400
NO. YEARS 6	2025	1.060	56,000	1.060	14,500	1.060	64,500	1.060	8,900
NO. YEARS 16	2035	1.160	61,500	1.160	15,500	1.160	71,000	1.160	9,700
NO. YEARS 26	2045	1.260	67,000	1.260	17,000	1.260	77,000	1.260	10,500

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	3,481				1,285			4,815			749		
		21	1587	30	59	53	643	438	1659	206	282	62	125	5,165
	% TURNS:	1%	97%	2%	8%	7%	85%	19%	72%	9%	60%	13%	27%	
P.M.	2-Way Pk Hr Vol:	4,022				1,301			5,067			728		
		78	1726	51	73	96	435	588	1958	250	110	58	136	5,559
	% TURNS:	4%	93%	3%	12%	16%	72%	21%	70%	9%	36%	19%	45%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2019	1%	97%	2%	8%	7%	85%	19%	72%	9%	60%	13%	27%
2025	2%	95%	3%	11%	7%	82%	19%	72%	9%	59%	13%	28%
2035	2%	94%	4%	12%	7%	81%	19%	72%	9%	59%	13%	29%
2045	3%	93%	4%	14%	7%	79%	19%	72%	9%	58%	13%	29%
P.M.												
2019	4%	93%	3%	12%	16%	72%	21%	70%	9%	36%	19%	45%
2025	5%	91%	4%	15%	15%	70%	21%	70%	9%	37%	18%	44%
2035	5%	91%	4%	16%	15%	69%	21%	70%	9%	38%	18%	44%
2045	5%	90%	5%	17%	14%	68%	21%	70%	9%	38%	18%	44%

K & D FACTORS:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
	AM	PM	AM	PM	AM	PM	AM	PM
K FACTOR								
2019	6.6%	7.6%	9.5%	9.6%	7.9%	8.3%	8.9%	8.7%
2025	7.1%	7.9%	9.5%	9.6%	8.1%	8.5%	8.9%	8.7%
2035	8.1%	8.5%	9.5%	9.6%	8.6%	8.7%	8.9%	8.7%
2045	9.0%	9.0%	9.5%	9.6%	9.0%	9.0%	8.9%	8.7%
D FACTOR								
2019	47.1%	46.1%	58.8%	46.4%	47.8%	55.2%	62.6%	41.8%
2025	47.1%	46.1%	58.8%	46.4%	47.8%	55.2%	62.6%	41.8%
2035	47.1%	46.1%	58.8%	46.4%	47.8%	55.2%	62.6%	41.8%
2045	47.1%	46.1%	58.8%	46.4%	47.8%	55.2%	62.6%	41.8%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
FM NO.:
PROJECT LIMITS:
DESIGN YEAR:
INTERSECTION: 43 SR 7 & Riverland Road
PREPARED BY:
FILE:

DATE:
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2019	53000	13500	61000	8400
24 HR EST. AADT	2025	56000	14500	64500	8900
24 HR EST. AADT	2035	61500	15500	71000	9700
24 HR EST. AADT	2045	67000	17000	77000	10500

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2019 2-WAY ADT		53,000			13,500			61,000			8,400	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	8,400	61,000	13,500	53,000	8,400	61,000	13,500	53,000	8,400	61,000	13,500	53,000
	10%	74%	16%	43%	7%	50%	18%	71%	11%	48%	11%	42%
2025 2-WAY ADT		56,000			14,500			64,500			8,900	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	8,900	64,500	14,500	56,000	8,900	64,500	14,500	56,000	8,900	64,500	14,500	56,000
	10%	73%	16%	43%	7%	50%	18%	71%	11%	48%	11%	41%
2035 2-WAY ADT		61,500			15,500			71,000			9,700	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	9,700	71,000	15,500	61,500	9,700	71,000	15,500	61,500	9,700	71,000	15,500	61,500
	10%	74%	16%	43%	7%	50%	18%	71%	11%	48%	10%	42%
2045 2-WAY ADT		67,000			17,000			77,000			10,500	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	10,500	77,000	17,000	67,000	10,500	77,000	17,000	67,000	10,500	77,000	17,000	67,000
	10%	74%	16%	43%	7%	50%	18%	71%	11%	48%	11%	42%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2019	EST. TURNS	21	1,590	30	59	53	644	442	1,658	207	283	63	125
	EST. % TURNS												
2025	EST. TURNS	37	1,788	59	96	[54]	666	449	1,870	[210]	293	[64]	145
	EST. % TURNS												
2035	EST. TURNS	51	2,197	81	131	[55]	683	460	2,310	214	299	[65]	184
	EST. % TURNS												
2045	EST. TURNS	72	2,619	123	190	58	703	481	2,768	215	[301]	67	232
P.M. DESIGN HR. TURNS													
2019	EST. TURNS	78	1,728	51	73	96	436	587	1,957	252	110	58	136
	EST. % TURNS												
2025	EST. TURNS	93	1,862	82	100	[97]	456	612	2,141	262	120	[59]	145
	EST. % TURNS												
2035	EST. TURNS	111	2,175	101	120	[98]	475	639	2,516	282	128	[60]	166
	EST. % TURNS												
2045	EST. TURNS	135	2,476	136	156	99	497	676	2,903	294	132	61	190

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,638	1,842	3,480	755	535	1,290	2,303	2,517	4,820	469	281	750
2019	TURN SUMMARY	1,641	1,842	3,483	756	535	1,291	2,307	2,517	4,824	471	281	752
CONTROL LINK VOLUMES		1,879	2,111	3,990	811	569	1,380	2,514	2,746	5,260	497	293	790
2025	TURN SUMMARY	1,884	2,111	3,995	816	572	1,388	2,529	2,747	5,276	502	301	803
CONTROL LINK VOLUMES		2,335	2,625	4,960	866	604	1,470	2,911	3,179	6,090	541	319	860
2035	TURN SUMMARY	2,329	2,625	4,954	869	606	1,475	2,984	3,179	6,163	548	320	868
CONTROL LINK VOLUMES		2,840	3,190	6,030	949	671	1,620	3,313	3,617	6,930	585	345	930
2045	TURN SUMMARY	2,814	3,190	6,004	951	671	1,622	3,464	3,623	7,087	600	345	945
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		1,855	2,165	4,020	604	696	1,300	2,796	2,274	5,070	304	426	730
2019	TURN SUMMARY	1,857	2,166	4,023	605	696	1,301	2,796	2,274	5,070	304	426	730
CONTROL LINK VOLUMES		2,044	2,386	4,430	648	752	1,400	3,013	2,447	5,460	322	448	770
2025	TURN SUMMARY	2,037	2,386	4,424	653	754	1,406	3,016	2,438	5,454	324	452	776
CONTROL LINK VOLUMES		2,398	2,802	5,200	692	798	1,490	3,422	2,778	6,200	352	488	840
2035	TURN SUMMARY	2,387	2,802	5,189	693	800	1,493	3,437	2,778	6,215	354	491	845
CONTROL LINK VOLUMES		2,780	3,250	6,030	757	873	1,630	3,824	3,106	6,930	382	528	910
2045	TURN SUMMARY	2,747	3,249	5,996	752	873	1,625	3,873	3,105	6,978	383	528	911

Note: Boxed number indicates manual adjustment.

APPENDIX A-7
U-Turn Forecasting Process

APPENDIX A-7

U-TURN FORECASTING PROCESS

An example of the process used to adjust the AADTs and forecast the u-turn volumes is shown below using the intersection of SW 136th Avenue and SR 84 as an example:

Existing u-turn peak hour volumes on SR 84 west leg (westbound):

AM peak hour u-turns = 187

PM peak hour u-turns = 356

Existing u-turn daily volume for SR-84 west Leg:

AM peak hour peak-to-daily ratio (K-factor) = 7.3%

PM peak hour peak-to-daily ratio (K-factor) = 6.4%

Estimated daily volumes corresponding to u-turns = 187/7.3% + 356/6.4% = 8,124

AADT for eastbound SR 84, west of SW 136th Avenue = 20,000

AADT for westbound SR 84, west of SW 136th Avenue = 11,000

Adjusted existing year AADT for use in TMTool:

20,000 + 11,000 – 8,124 = 22,876, rounded to 23,000

Future year u-turn peak hour volume forecast calculation on SR 84 west leg (westbound):

Growth rate = 0.8%

AM peak hour u-turns = 187 X (1+0.8% X (2045-2019)) = 226

PM peak hour u-turns = 356 X (1+0.8% X (2045-2019)) = 430

Future year AADTs for SR 84 west leg:

AM peak hour and PM peak hour K-factor = 9.0%

Estimated daily volumes corresponding to u-turns = 226/9.0% + 430/9.0% = 7,289

AADT for eastbound SR 84, west of SW 136th Avenue = 20,000 X (1+0.8% X (2045-2019)) = 24,000

AADT for westbound SR 84, west of SW 136th Avenue = 11,000 X (1+1.0% X (2045-2019)) = 14,000

Adjusted future year AADT for use in TMTool:

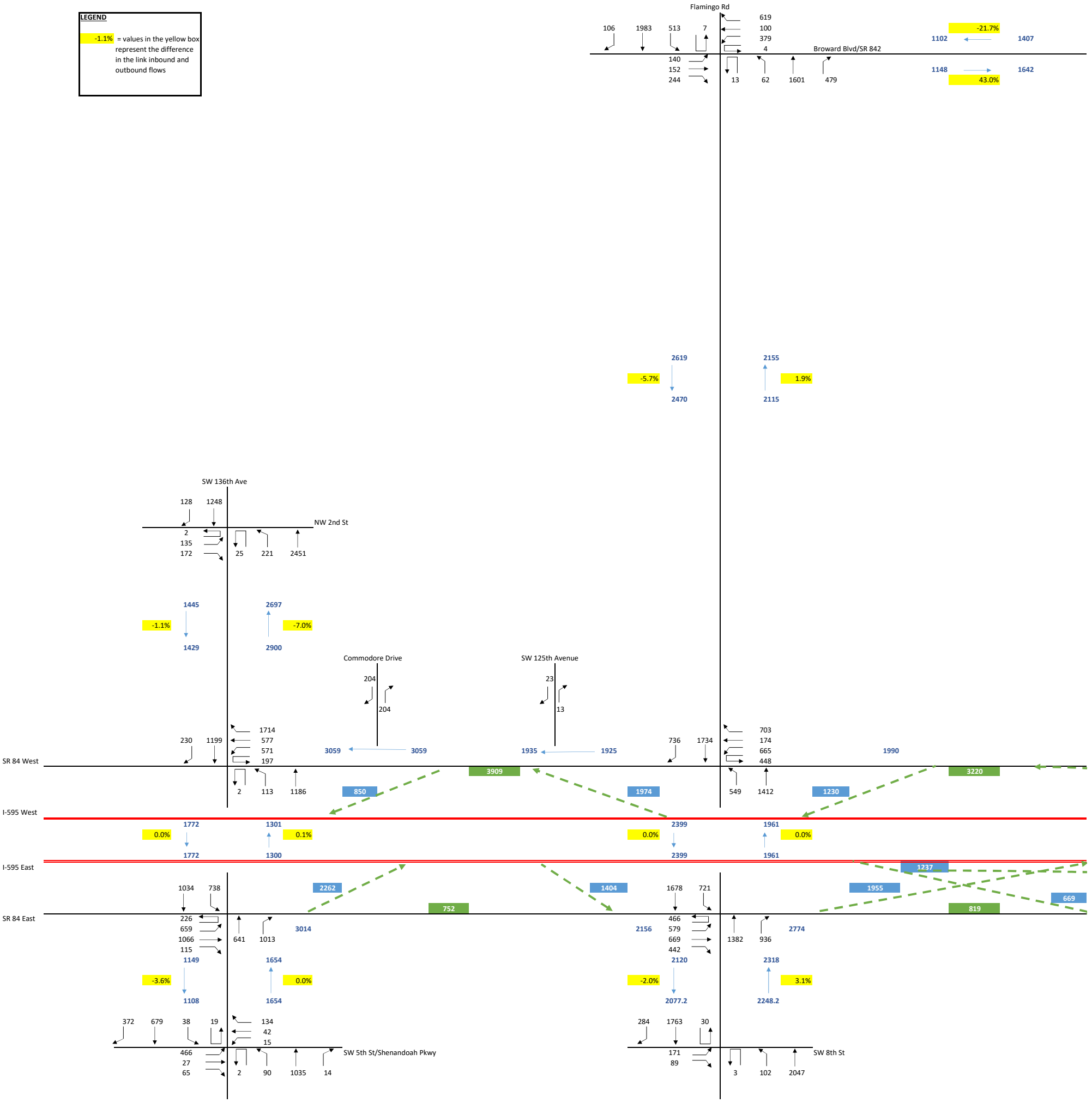
24,000 + 14,000 – 7,289 = 30,711, rounded to 30,500

APPENDIX A-8
Turning Movement Balancing Spreadsheets
(2045 No Build AM and PM Peak Hour)

2045 No Build AM Peak Hour
Volume Balancing Spreadsheet

LEGEND

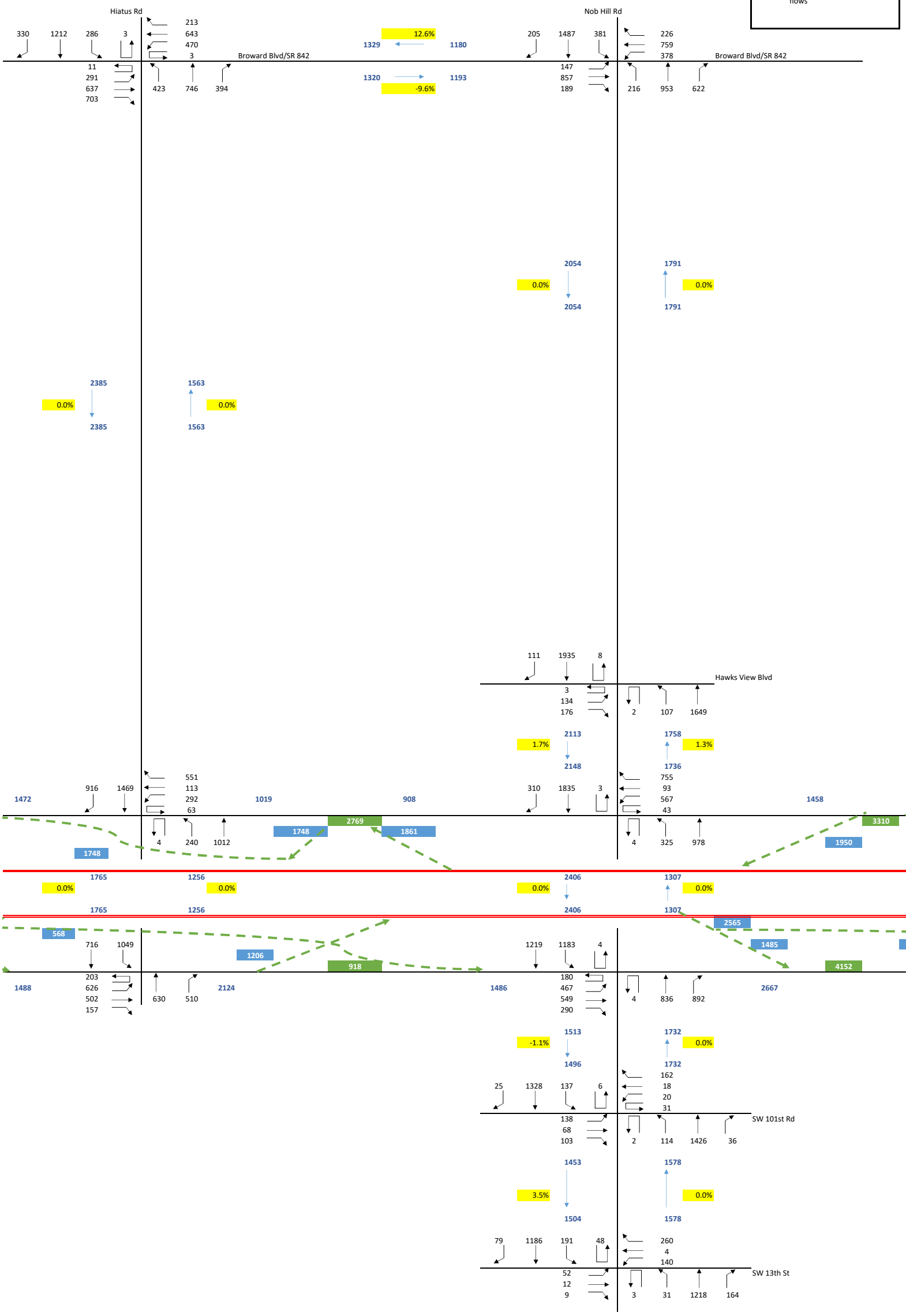
-1.1% = values in the yellow box represent the difference in the link inbound and outbound flows



2045 No Build AM Peak Hour
Volume Balancing Spreadsheet

LEGEND

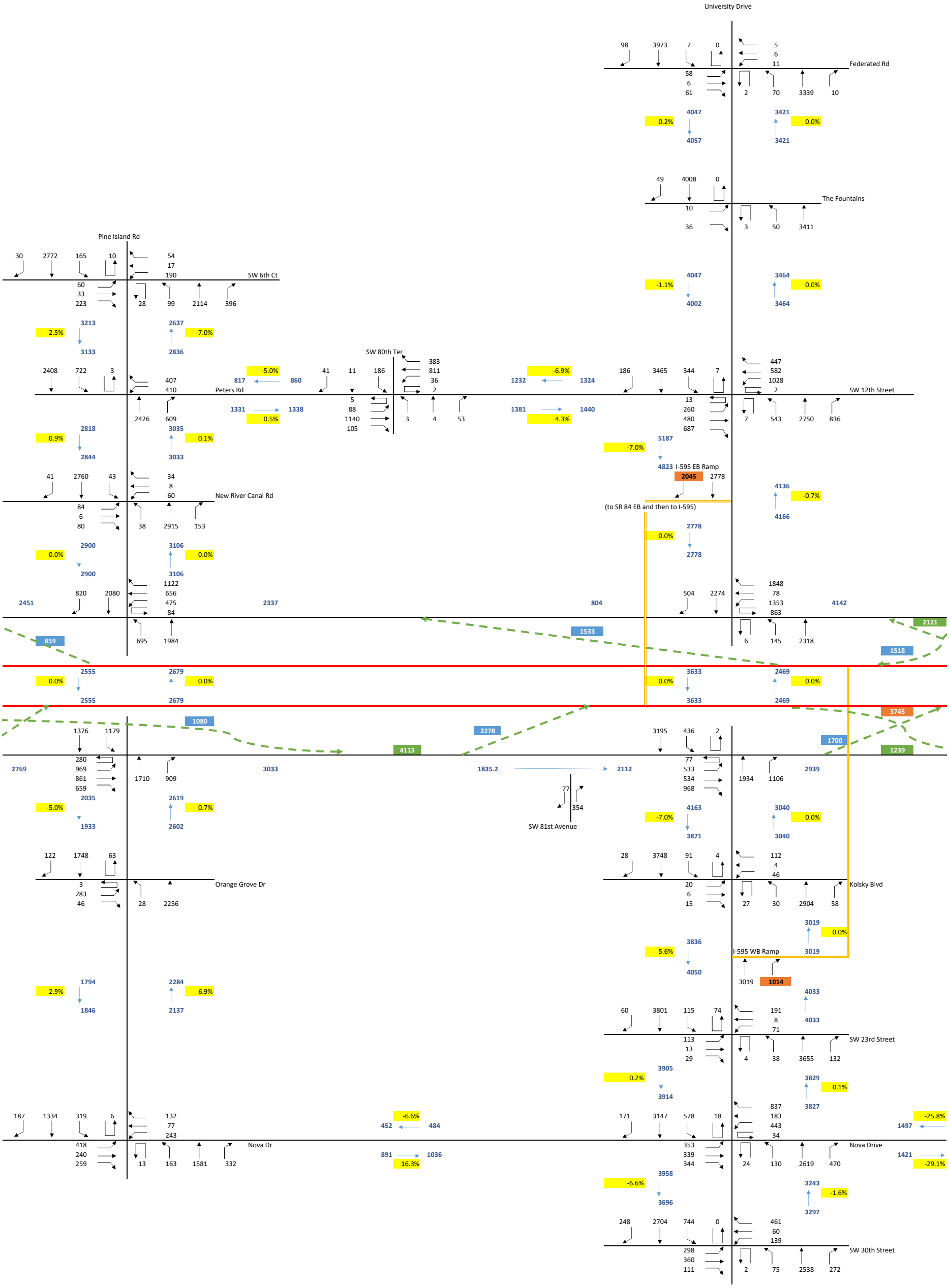
-1.1% = values in the yellow box represent the difference in the link inbound and outbound flows



2045 No Build AM Peak Hour
Volume Balancing Spreadsheet

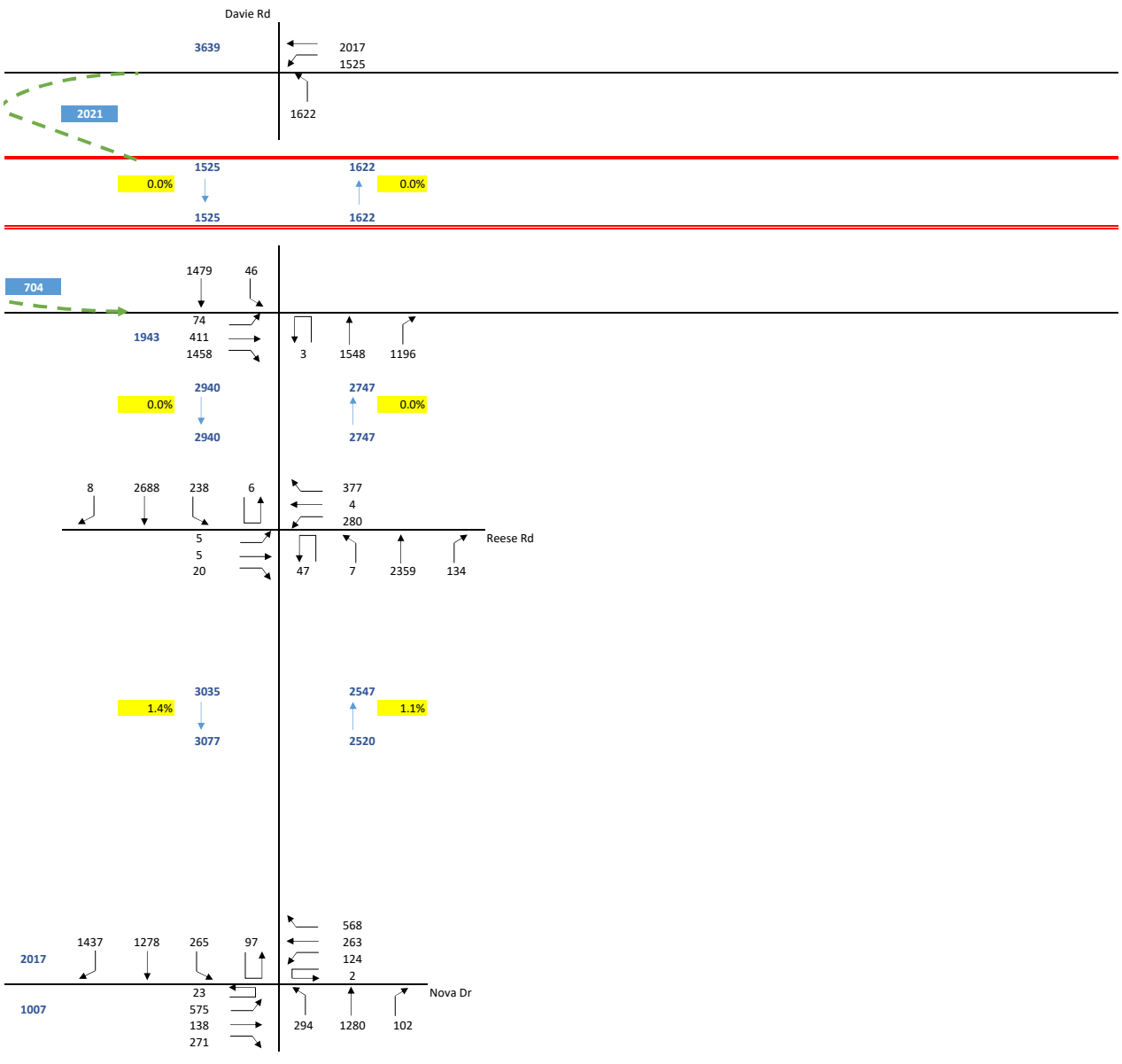
LEGEND

-1.1% = values in the yellow box represent the difference in the link inbound and outbound flows



LEGEND

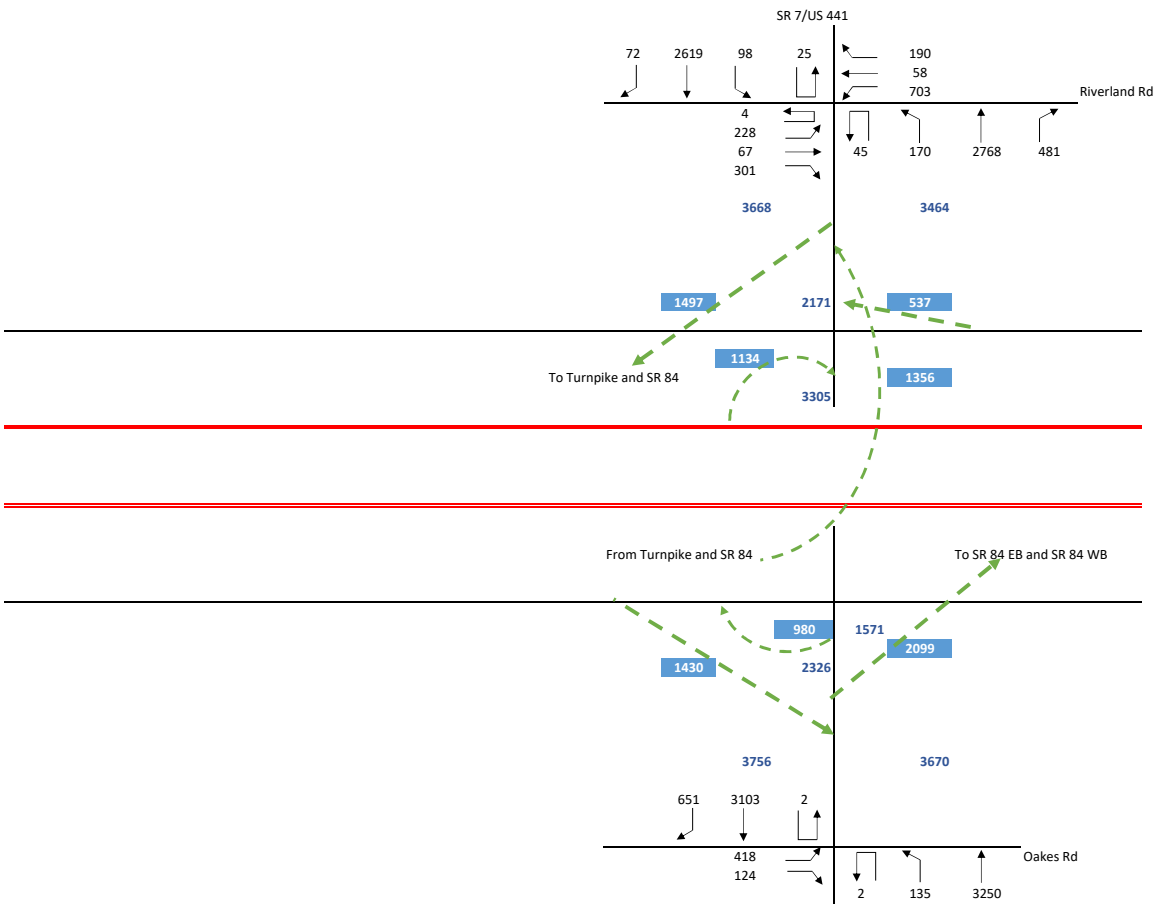
-1.1% = values in the yellow box represent the difference in the link inbound and outbound flows



2045 No Build AM Peak Hour
Volume Balancing Spreadsheet

LEGEND

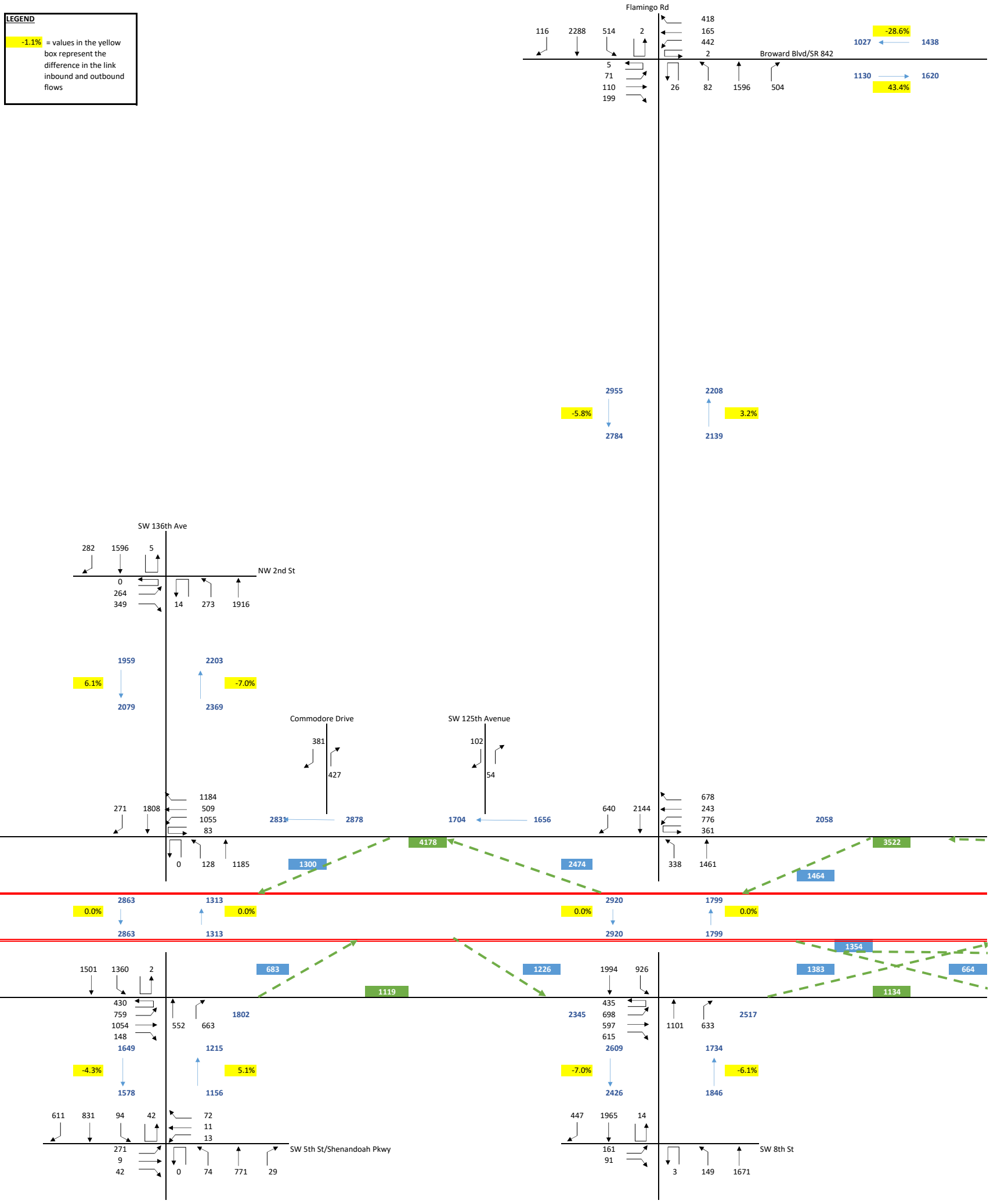
-1.1% = values in the yellow box represent the difference in the link inbound and outbound flows



2045 No Build PM Peak Hour
Volume Balancing Spreadsheet

LEGEND

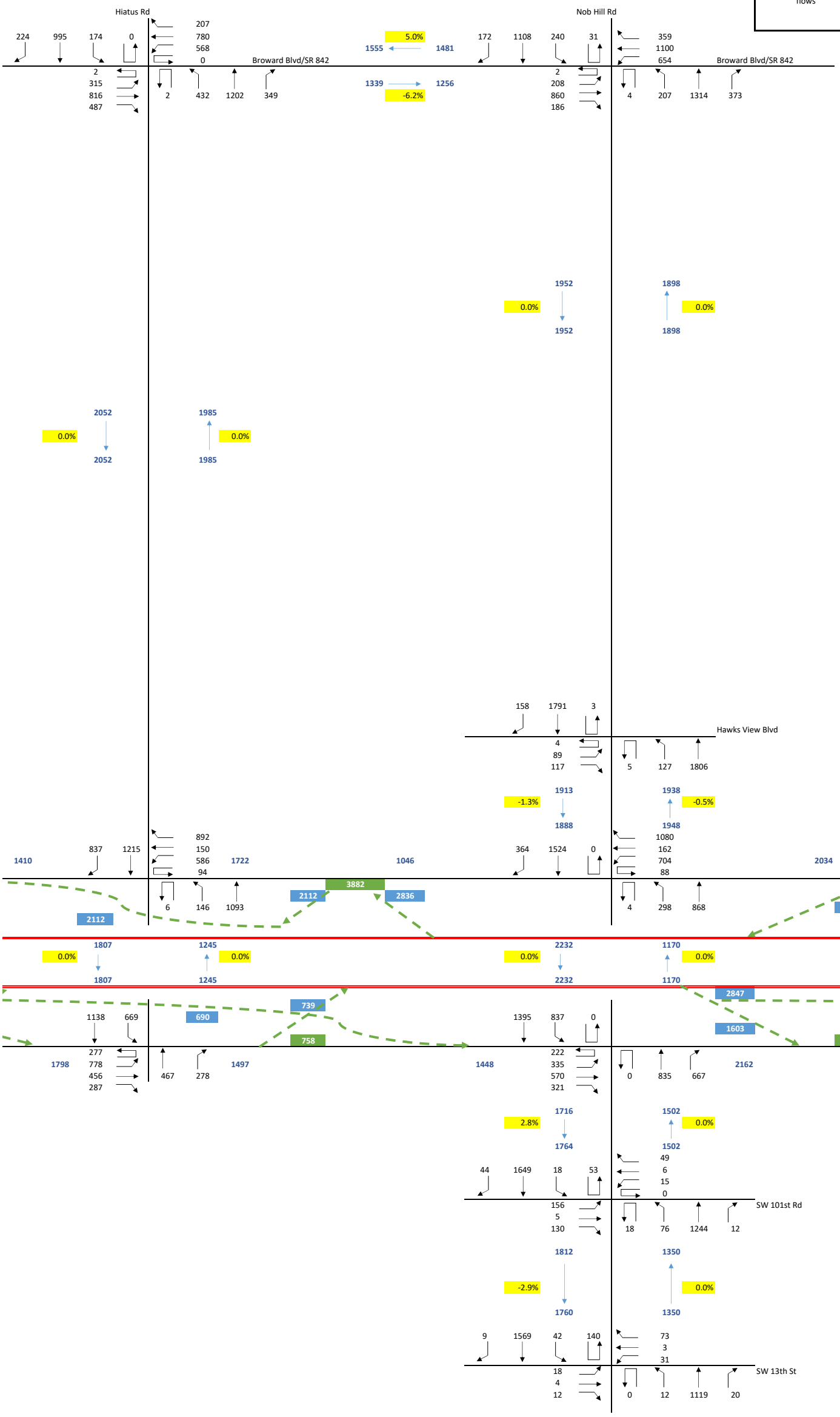
-1.1% = values in the yellow box represent the difference in the link inbound and outbound flows



2045 No Build PM Peak Hour
Volume Balancing Spreadsheet

LEGEND

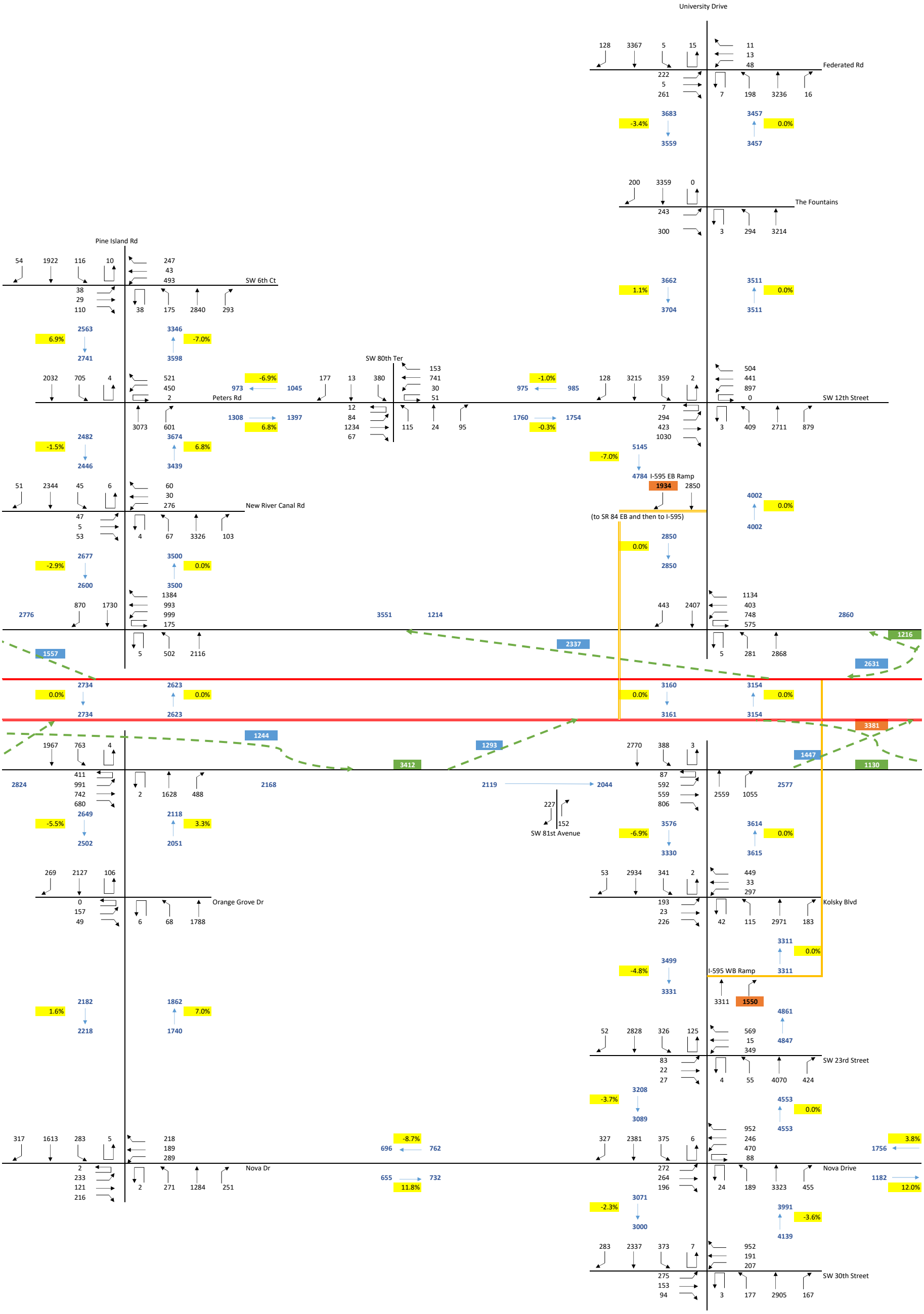
-1.1% = values in the yellow box represent the difference in the link inbound and outbound flows



2045 No Build PM Peak Hour
Volume Balancing Spreadsheet

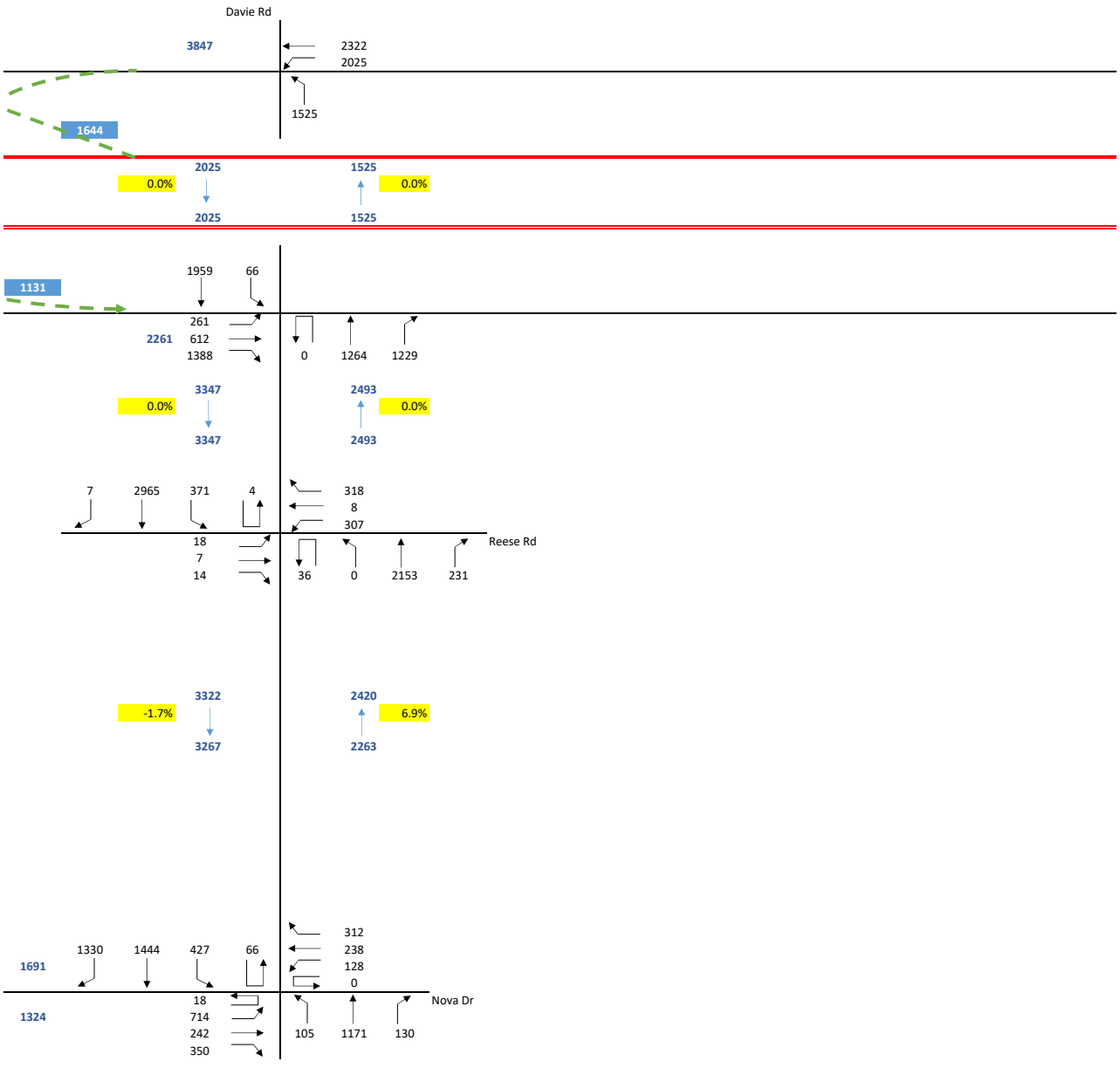
LEGEND

-1.1% = values in the yellow box represent the difference in the link inbound and outbound flows



LEGEND

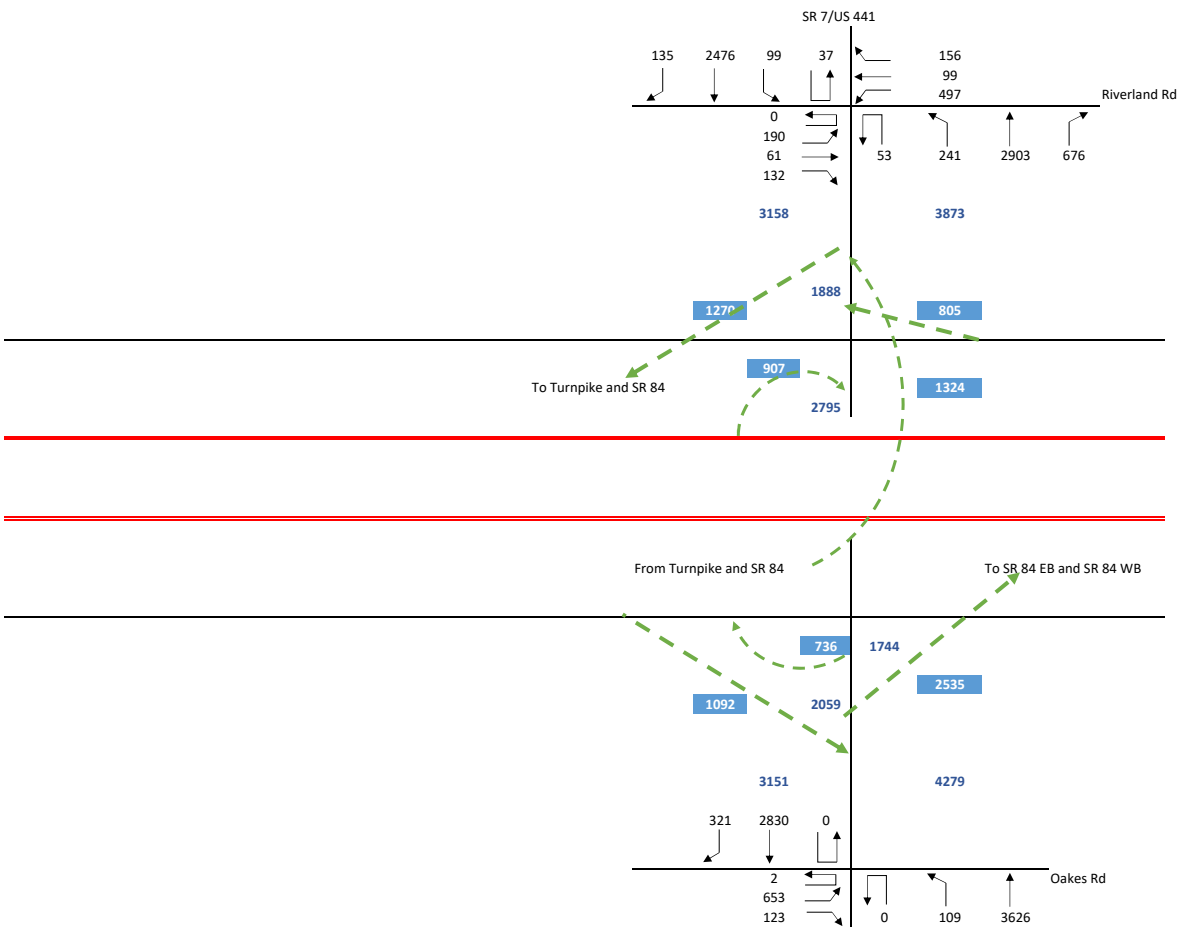
-1.1% = values in the yellow box represent the difference in the link inbound and outbound flows



2045 No Build PM Peak Hour
Volume Balancing Spreadsheet

LEGEND

-1.1% = values in the yellow box represent the difference in the link inbound and outbound flows



APPENDIX B - No Build 2045 HCM2000

Intersection Operational Analysis Reports &

Summary Tables

Table B-1

NW/SW 136th Avenue AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
1	NW/SW 136th Avenue at Shenandoah Pkwy/SW 5th St	EB	EBL	466 (271)	39.8 (41.4)	D (D)	36.4 (39.7)	D (D)
			EBT	27 (9)	19.2 (30.7)	B (C)		
			EBR	65 (42)	19.3 (30.8)	B (C)		
		WB	WBL	15 (13)	48.9 (54.9)	D (D)	61.2 (54.9)	E (D)
			WBT	42 (11)	62.2 (54.9)	E (D)		
			WBR	134 (72)	- (-)	- (-)		
		NB	NBU	2 (0)	- (-)	- (-)	25 (12.3)	C (B)
			NBL	90 (74)	22.9 (12.4)	C (B)		
			NBT	1035 (771)	25.2 (12.3)	C (B)		
			NBR	14 (29)	- (-)	- (-)		
		SB	SBU	19 (42)	- (-)	- (-)	20.7 (13)	C (B)
			SBL	38 (94)	31.7 (16.2)	C (B)		
			SBT	679 (831)	20.7 (12.4)	C (B)		
			SBR	372 (611)	18.8 (13.2)	B (B)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							27.8 (17.2)	C (B)
2	NW/SW 136th Avenue at EB SR-84	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
		EB	EBL	659 (759)	58.9 (61.7)	E (E)	67.5 (67.4)	E (E)
			EBT	1066 (1054)	74.9 (74.1)	E (E)		
			EBR	115 (148)	48.2 (49.3)	D (D)		
		WB	WBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			WBT	0 (0)	- (-)	- (-)		
			WBR	0 (0)	- (-)	- (-)		
		NB	NBL	0 (0)	- (-)	- (-)	>300 (>300)	F (F)
			NBT	641 (552)	175.3 (125.4)	F (F)		
			NBR	1013 (663)	>300 (>300)	F (F)		
		SB	SBU	0 (2)	- (-)	- (-)	7.9 (>300)	A (F)
			SBL	738 (1360)	16.1 (>300)	B (F)		
			SBT	1034 (1501)	2.1 (10.1)	A (B)		
			SBR	0 (0)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							287.6 (>300)	F (F)
3	NW/SW 136th Avenue at WB SR-84	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
		EB	EBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			EBT	0 (0)	- (-)	- (-)		
			EBR	0 (0)	- (-)	- (-)		
		WB	WBL	571 (1055)	>300 (>300)	F (F)	>300 (>300)	F (F)
			WBT	577 (509)	>300 (>300)	F (F)		
			WBR	1714 (1184)	>300 (>300)	F (F)		
		NB	NBU	2 (0)	- (-)	- (-)	31.1 (29.7)	C (C)
			NBL	113 (128)	118.5 (45.5)	F (D)		
			NBT	1186 (1185)	22.7 (28)	C (C)		
			NBR	0 (0)	- (-)	- (-)		
		SB	SBL	0 (0)	- (-)	- (-)	162.4 (>300)	F (F)
			SBT	1199 (1808)	178.5 (>300)	F (F)		
			SBR	230 (271)	78.4 (81.1)	E (F)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							>300 (>300)	F (F)
4	NW/SW 136th Avenue at NW 2nd St	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
		EB	EBU	2 (0)	- (-)	- (-)	52.8 (51.1)	D (D)
			EBL	135 (264)	54.2 (54.8)	D (D)		
			EBT	- (-)	- (-)	- (-)		
			EBR	172 (349)	51.6 (48.4)	D (D)		
		WB	WBL	- (-)	- (-)	- (-)	- (-)	- (-)
			WBT	- (-)	- (-)	- (-)		
			WBR	- (-)	- (-)	- (-)		
		NB	NBU	25 (14)	- (-)	- (-)	4.7 (9.5)	A (A)
			NBL	221 (273)	8.3 (40)	A (D)		
			NBT	2451 (1916)	4.4 (5)	A (A)		
			NBR	- (-)	- (-)	- (-)		
		SB	SBL	- (-)	- (-)	- (-)	7.8 (15.3)	A (B)
			SBT	1248 (1596)	8 (16)	A (B)		
			SBR	128 (282)	6.2 (11.9)	A (B)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							9.1 (17.3)	A (B)

Table B-2

WB SR-84 at Commodore Drive AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
5	WB SR-84 at Commodore Drive	EB	EBL	0 (0)	- (-)	- (-)	- (-)	- (-)
			EBT	0 (0)	- (-)	- (-)		
			EBR	- (-)	- (-)	- (-)		
		WB	WBL	- (-)	- (-)	- (-)	- (-)	- (-)
			WBT	2855 (2450)	- (-)	- (-)		
			WBR	204 (427)	- (-)	- (-)		
		NB	NBL	- (-)	- (-)	- (-)	- (-)	- (-)
			NBT	- (-)	- (-)	- (-)		
			NBR	- (-)	- (-)	- (-)		
		SB	SBL	0 (0)	- (-)	- (-)	>300 (>300)	F (F)
			SBT	- (-)	- (-)	- (-)		
			SBR	204 (381)	>300 (>300)	F (F)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							>300 (>300)	F (F)

WB SR-84 at SW 125th Avenue AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
6	WB SR-84 at SW 125th Ave	EB	EBL	0 (0)	- (-)	- (-)	- (-)	- (-)
			EBT	0 (0)	- (-)	- (-)		
			EBR	- (-)	- (-)	- (-)		
		WB	WBL	- (-)	- (-)	- (-)	- (-)	- (-)
			WBT	1925 (1656)	- (-)	- (-)		
			WBR	13 (54)	- (-)	- (-)		
		NB	NBL	- (-)	- (-)	- (-)	- (-)	- (-)
			NBT	- (-)	- (-)	- (-)		
			NBR	- (-)	- (-)	- (-)		
		SB	SBL	0 (0)	- (-)	- (-)	21.7 (25.4)	C (D)
			SBT	- (-)	- (-)	- (-)		
			SBR	18 (102)	21.7 (25.4)	C (D)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							21.7 (25.4)	C (D)

Table B-3

Flamingo Road AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
7	Flamingo Road at SW 8th St	EB	EBL	171 (161)	82.8 (74.2)	F (E)	75.4 (69.2)	E (E)
			EBT	- (-)	- (-)	- (-)		
			EBR	89 (91)	61.2 (60.4)	E (E)		
		WB	WBL	- (-)	- (-)	- (-)	- (-)	- (-)
			WBT	- (-)	- (-)	- (-)		
			WBR	- (-)	- (-)	- (-)		
		NB	NBU	3 (3)	- (-)	- (-)	12 (9.9)	B (A)
			NBL	102 (149)	11.3 (34.9)	B (C)		
			NBT	2047 (1671)	12 (7.6)	B (A)		
		SB	SBU	30 (14)	10 (2.7)	B (A)	6.5 (4.3)	A (A)
			SBT	1763 (1965)	6.9 (4.9)	A (A)		
			SBR	284 (447)	3.8 (1.8)	A (A)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							13.1 (10.2)	B (B)
8	Flamingo Road at EB SR-84	EB	EBL	579 (698)	220.6 (134.4)	F (F)	184.5 (143.4)	F (F)
			EBT	669 (597)	210.4 (116.1)	F (F)		
			EBR	442 (615)	101.9 (188.3)	F (F)		
		WB	WBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			WBT	0 (0)	- (-)	- (-)		
			WBR	0 (0)	- (-)	- (-)		
		NB	NBL	0 (0)	- (-)	- (-)	>300 (119.3)	F (F)
			NBT	1382 (1101)	75.9 (59.2)	E (E)		
			NBR	936 (633)	>300 (223.7)	F (F)		
		SB	SBL	721 (926)	33.5 (13.4)	C (B)	28 (16)	C (B)
			SBT	1678 (1994)	25.7 (17.3)	C (B)		
			SBR	0 (0)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							180 (80.4)	F (F)
9	Flamingo Road at WB SR-84	EB	EBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			EBT	0 (0)	- (-)	- (-)		
			EBR	0 (0)	- (-)	- (-)		
		WB	WBL	665 (776)	95.7 (142.4)	F (F)	201.5 (187.9)	F (F)
			WBT	174 (243)	60.1 (72)	E (E)		
			WBR	703 (678)	>300 (>300)	F (F)		
		NB	NBL	549 (338)	13.4 (19.4)	B (B)	16 (15.2)	B (B)
			NBT	1412 (1461)	17.1 (14.3)	B (B)		
			NBR	0 (0)	- (-)	- (-)		
		SB	SBL	0 (0)	- (-)	- (-)	221.8 (91.2)	F (F)
			SBT	1734 (2144)	133.1 (95.7)	F (F)		
			SBR	736 (640)	>300 (75.9)	F (E)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							149 (95.5)	F (F)
10	Flamingo Road at Broward Blvd	EB	EBU	0 (5)	- (-)	- (-)	79.7 (73.4)	E (E)
			EBL	140 (71)	156.4 (91.9)	F (F)		
			EBT	152 (110)	52.2 (70)	D (E)		
			EBR	244 (199)	52.9 (68.2)	D (E)		
		WB	WBU	4 (2)	- (-)	- (-)	109.4 (70.9)	F (E)
			WBL	379 (442)	79.8 (77.8)	E (E)		
			WBT	100 (165)	44.1 (56.7)	D (E)		
			WBR	619 (418)	138.2 (69.3)	F (E)		
		NB	NBU	13 (26)	- (-)	- (-)	72 (19.5)	E (B)
			NBL	62 (82)	149.7 (97.9)	F (F)		
			NBT	1601 (1596)	77.8 (18.2)	E (B)		
			NBR	479 (504)	40.1 (6.8)	D (A)		
		SB	SBU	7 (2)	- (-)	- (-)	67.2 (37.6)	E (D)
			SBL	513 (514)	111.7 (69.1)	F (E)		
			SBT	1983 (2288)	57.7 (31.6)	E (C)		
			SBR	106 (116)	27.5 (15.9)	C (B)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							77.1 (38.8)	E (D)

Table B-4

Hiatus Road AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
11	Hiatus Road at EB SR-84	EB	EBL	626 (778)	169.1 (212.1)	F (F)	145.5 (177.5)	F (F)
			EBT	502 (456)	152.2 (198.4)	F (F)		
			EBR	157 (287)	57.6 (68.6)	E (E)		
		WB	WBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			WBT	0 (0)	- (-)	- (-)		
			WBR	0 (0)	- (-)	- (-)		
		NB	NBL	0 (0)	- (-)	- (-)	63.2 (56.1)	E (E)
			NBT	630 (467)	70.2 (65.8)	E (E)		
			NBR	510 (278)	54.6 (39.6)	D (D)		
		SB	SBL	1049 (669)	>300 (86.9)	F (F)	191 (35.9)	F (D)
			SBT	716 (1138)	1.1 (5.9)	A (A)		
			SBR	0 (0)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							142.3 (92.5)	F (F)
12	Hiatus Road at WB SR-84	EB	EBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			EBT	0 (0)	- (-)	- (-)		
			EBR	0 (0)	- (-)	- (-)		
		WB	WBL	292 (586)	57.5 (74.1)	E (E)	118.6 (>300)	F (F)
			WBT	113 (150)	55.1 (60.6)	E (E)		
			WBR	551 (892)	164.6 (>300)	F (F)		
		NB	NBU	4 (6)	- (-)	- (-)	6.2 (20.8)	A (C)
			NBL	240 (146)	16.2 (149.2)	B (F)		
			NBT	1012 (1093)	3.8 (3)	A (A)		
			NBR	0 (0)	- (-)	- (-)		
		SB	SBL	0 (0)	- (-)	- (-)	216 (237.1)	F (F)
			SBT	1469 (1215)	82.5 (66.8)	F (E)		
			SBR	916 (837)	>300 (>300)	F (F)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							138.4 (214.6)	F (F)
13	Hiatus Road at Broward Blvd	EB	EBU	11 (2)	- (-)	- (-)	111.4 (110.1)	F (F)
			EBL	291 (315)	45.7 (61.4)	D (E)		
			EBT	637 (816)	51.1 (123.9)	D (F)		
			EBR	703 (487)	194.2 (118.7)	F (F)		
		WB	WBU	3 (0)	- (-)	- (-)	87.9 (78)	F (E)
			WBL	470 (568)	158.8 (125.6)	F (F)		
			WBT	643 (780)	50 (52.1)	D (D)		
			WBR	213 (207)	45 (44.9)	D (D)		
		NB	NBU	0 (2)	- (-)	- (-)	82.6 (72.9)	F (E)
			NBL	423 (432)	170.6 (141.3)	F (F)		
			NBT	746 (1202)	51.1 (56.8)	D (E)		
			NBR	394 (349)	47.7 (43.5)	D (D)		
		SB	SBU	3 (0)	- (-)	- (-)	94.3 (98.5)	F (F)
			SBL	286 (174)	56.5 (80.4)	E (F)		
			SBT	1212 (995)	114.3 (111.4)	F (F)		
			SBR	330 (224)	53.8 (54.9)	D (D)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							94.5 (88.7)	F (F)

Table B-5

Nob Hill Road AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
14	Nob Hill Road at SW 13th St	EB	EBL	52 (18)	212.5 (66.7)	F (E)	167.4 (66)	F (E)
			EBT	12 (4)	54.5 (65.2)	D (E)		
			EBR	9 (12)	- (-)	- (-)		
		WB	WBL	140 (31)	75.1 (67.8)	E (E)	65 (66.1)	E (E)
			WBT	4 (3)	59.7 (65.4)	E (E)		
			WBR	260 (73)	- (-)	- (-)		
		NB	NBU	3 (0)	- (-)	- (-)	17.4 (6.7)	B (A)
			NBL	31 (12)	9.9 (4.8)	A (A)		
			NBT	1218 (1119)	18.3 (6.8)	B (A)		
			NBR	164 (20)	12.1 (4.2)	B (A)		
		SB	SBU	48 (140)	- (-)	- (-)	12.1 (6.4)	B (A)
			SBL	191 (42)	19.1 (4)	B (A)		
			SBT	1186 (1569)	11 (6.7)	B (A)		
			SBR	79 (9)	7 (3.1)	A (A)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							23.9 (9.3)	C (A)
15	Nob Hill Road at SW 101 Rd	EB	EBL	138 (156)	89.7 (73.4)	F (E)	60.1 (57.3)	E (E)
			EBT	68 (5)	36.3 (38.7)	D (D)		
			EBR	103 (130)	- (-)	- (-)		
		WB	WBU	31 (0)	- (-)	- (-)	36.9 (35.9)	D (D)
			WBL	20 (15)	35.6 (36.1)	D (D)		
			WBT	18 (6)	37.3 (35.9)	D (D)		
			WBR	162 (49)	- (-)	- (-)		
		NB	NBU	0 (18)	- (-)	- (-)	9.5 (8.9)	A (A)
			NBL	114 (76)	20.2 (41.8)	C (D)		
			NBT	1426 (1244)	8.8 (6.5)	A (A)		
			NBR	36 (12)	4.5 (3.7)	A (A)		
		SB	SBU	0 (53)	- (-)	- (-)	11.7 (8.4)	B (A)
			SBL	137 (18)	46.7 (7.9)	D (A)		
			SBT	1328 (1649)	8.2 (8.6)	A (A)		
			SBR	25 (44)	4.5 (3.8)	A (A)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							16.5 (13.3)	B (B)
16	Nob Hill Road at EB SR-84	EB	EBL	467 (335)	139.1 (110)	F (F)	118.1 (100.7)	F (F)
			EBT	549 (570)	121.5 (100.8)	F (F)		
			EBR	290 (321)	86.4 (91.9)	F (F)		
		WB	WBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			WBT	0 (0)	- (-)	- (-)		
			WBR	0 (0)	- (-)	- (-)		
		NB	NBL	0 (0)	- (-)	- (-)	>300 (197.6)	F (F)
			NBT	836 (835)	81.7 (81.7)	F (F)		
			NBR	892 (667)	>300 (>300)	F (F)		
		SB	SBL	1183 (837)	20.5 (14.5)	C (B)	15.9 (13.1)	B (B)
			SBT	1219 (1395)	11.4 (12.2)	B (B)		
			SBR	0 (0)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							147.3 (90.6)	F (F)
17	Nob Hill Road at WB SR-84	EB	EBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			EBT	0 (0)	- (-)	- (-)		
			EBR	0 (0)	- (-)	- (-)		
		WB	WBL	567 (704)	138.4 (270.8)	F (F)	113 (236.7)	F (F)
			WBT	93 (162)	107.1 (229.2)	F (F)		
			WBR	755 (1080)	99.7 (218.8)	F (F)		
		NB	NBU	4 (4)	- (-)	- (-)	6.1 (5.6)	A (A)
			NBL	325 (298)	8.5 (5.6)	A (A)		
			NBT	978 (868)	5.2 (5.6)	A (A)		
			NBR	0 (0)	- (-)	- (-)		
		SB	SBL	0 (0)	- (-)	- (-)	222.6 (139.2)	F (F)
			SBT	1835 (1524)	245.2 (149.5)	F (F)		
			SBR	310 (364)	88.7 (96.2)	F (F)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							132.6 (145.9)	F (F)

Table B-6

Nob Hill Road AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
18	Nob Hill Road at Hawks View Blvd	EB	EBU	3 (4)	- (-)	- (-)	46.6 (46.6)	D (D)
			EBL	134 (89)	51.6 (49.7)	D (D)		
			EBT	- (-)	- (-)	- (-)		
			EBR	176 (117)	42.8 (44.2)	D (D)		
		WB	WBL	- (-)	- (-)	- (-)	- (-)	- (-)
			WBT	- (-)	- (-)	- (-)		
			WBR	- (-)	- (-)	- (-)		
		NB	NBU	2 (5)	- (-)	- (-)	6.1 (5.1)	A (A)
			NBL	107 (127)	20.7 (15)	C (B)		
			NBT	1649 (1806)	5.1 (4.4)	A (A)		
			NBR	- (-)	- (-)	- (-)		
		SB	SBU	8 (3)	8.3 (7.2)	A (A)	12.9 (11.2)	B (B)
			SBT	1935 (1791)	13.2 (11.5)	B (B)		
			SBR	111 (158)	7.8 (7.5)	A (A)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							12.6 (10.1)	B (B)
19	Nob Hill Road at Broward Blvd	EB	EBU	0 (2)	- (-)	- (-)	59.8 (65.7)	E (E)
			EBL	147 (208)	45.9 (68.9)	D (E)		
			EBT	857 (860)	64 (67.7)	E (E)		
			EBR	189 (186)	51.6 (53)	D (D)		
		WB	WBL	378 (654)	86.2 (80)	F (E)	59.7 (58.5)	E (E)
			WBT	759 (1100)	51.1 (49.7)	D (D)		
			WBR	226 (359)	44.2 (46.5)	D (D)		
		NB	NBU	0 (4)	- (-)	- (-)	42.5 (54.5)	D (D)
			NBL	216 (207)	78.3 (73.9)	E (E)		
			NBT	953 (1314)	45.8 (61.8)	D (E)		
			NBR	622 (373)	25.2 (17.9)	C (B)		
		SB	SBU	0 (31)	- (-)	- (-)	56 (61.2)	E (E)
			SBL	381 (240)	77.5 (87.4)	E (F)		
			SBT	1487 (1108)	53.2 (57.6)	D (E)		
			SBR	205 (172)	36.2 (43)	D (D)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							53.7 (59.3)	D (E)

Table C-7

Pine Island Road AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
20	Pine Island Road at Nova Drive	EB	EBU	0 (2)	- (-)	- (-)	105.2 (100.1)	F (F)
			EBL	418 (233)	67.7 (107.5)	E (F)		
			EBT	240 (121)	136.5 (95)	F (F)		
			EBR	259 (216)	- (-)	- (-)		
		WB	WBL	243 (289)	139.9 (106)	F (F)	109.2 (108.7)	F (F)
			WBT	77 (189)	73.6 (110.5)	E (F)		
			WBR	132 (218)	- (-)	- (-)		
		NB	NBU	13 (2)	- (-)	- (-)	71 (59.4)	E (E)
			NBL	163 (271)	62.8 (115.1)	E (F)		
			NBT	1581 (1284)	77.9 (51.7)	E (D)		
			NBR	332 (251)	42.4 (38.2)	D (D)		
		SB	SBU	6 (5)	- (-)	- (-)	62.3 (58.6)	E (E)
			SBL	319 (283)	149.6 (84.2)	F (F)		
			SBT	1334 (1613)	45 (57.9)	D (E)		
			SBR	187 (317)	33.6 (39)	C (D)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							77.1 (69.9)	E (E)
21	Pine Island Road at Orange Grove Dr	EB	EBU	3 (0)	- (-)	- (-)	47.9 (41.7)	D (D)
			EBL	283 (157)	50.9 (44.2)	D (D)		
			EBT	- (-)	- (-)	- (-)		
			EBR	46 (49)	28.9 (33.9)	C (C)		
		WB	WBL	- (-)	- (-)	- (-)	- (-)	- (-)
			WBT	- (-)	- (-)	- (-)		
			WBR	- (-)	- (-)	- (-)		
		NB	NBU	0 (6)	- (-)	- (-)	19.1 (11.8)	B (B)
			NBL	28 (68)	9.7 (10.4)	A (B)		
			NBT	2256 (1788)	19.2 (11.8)	B (B)		
			NBR	- (-)	- (-)	- (-)		
		SB	SBU	63 (106)	14.7 (12.3)	B (B)	13.7 (12.5)	B (B)
			SBT	1748 (2127)	14 (13.2)	B (B)		
			SBR	122 (269)	8.8 (7.8)	A (A)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							18.9 (13.5)	B (B)
22	Pine Island Road at EB SR-84	EB	EBL	969 (991)	>300 (>300)	F (F)	>300 (>300)	F (F)
			EBT	861 (742)	>300 (>300)	F (F)		
			EBR	659 (680)	>300 (>300)	F (F)		
		WB	WBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			WBT	0 (0)	- (-)	- (-)		
			WBR	0 (0)	- (-)	- (-)		
		NB	NBL	0 (0)	- (-)	- (-)	>300 (157.2)	F (F)
			NBT	1710 (1628)	176.8 (153.2)	F (F)		
			NBR	909 (488)	>300 (170.5)	F (F)		
		SB	-	0 (4)	- (-)	- (-)	12.9 (17.4)	B (B)
			SBL	1179 (763)	12.9 (5.5)	B (A)		
			SBT	1376 (1967)	13 (22)	B (C)		
			SBR	0 (0)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							248.4 (172.3)	F (F)
23	Pine Island Road at WB SR-84	EB	EBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			EBT	0 (0)	- (-)	- (-)		
			EBR	0 (0)	- (-)	- (-)		
		WB	WBL	475 (999)	284.4 (>300)	F (F)	>300 (>300)	F (F)
			WBT	656 (993)	>300 (>300)	F (F)		
			WBR	1122 (1384)	>300 (>300)	F (F)		
		NB	NBU	0 (5)	- (-)	- (-)	18.8 (22.3)	B (C)
			NBL	695 (502)	11.5 (11.6)	B (B)		
			NBT	1984 (2116)	21.4 (24.8)	C (C)		
			NBR	0 (0)	- (-)	- (-)		
		SB	SBL	0 (0)	- (-)	- (-)	>300 (272.3)	F (F)
			SBT	2080 (1730)	289.1 (182.6)	F (F)		
			SBR	820 (870)	>300 (>300)	F (F)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							248 (>300)	F (F)

Table B-8

Pine Island Road AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
24	Pine Island Road at New River Canal Rd	EB	EBL	84 (47)	53.3 (30.1)	D (C)	45.3 (29.5)	D (C)
			EBT	6 (5)	37.5 (29.1)	D (C)		
			EBR	80 (53)	- (-)	- (-)		
		WB	WBL	60 (276)	40.9 (117.2)	D (F)	39.9 (95.9)	D (F)
			WBT	8 (30)	38.3 (30.7)	D (C)		
			WBR	34 (60)	- (-)	- (-)		
		NB	NBU	0 (4)	- (-)	- (-)	6.6 (32.8)	A (C)
			NBL	38 (67)	13.4 (16.4)	B (B)		
			NBT	2915 (3326)	6.7 (34)	A (C)		
			NBR	153 (103)	2.4 (5)	A (A)		
		SB	SBU	0 (6)	- (-)	- (-)	11.7 (19)	B (B)
			SBL	43 (45)	14 (29)	B (C)		
			SBT	2760 (2344)	11.7 (18.8)	B (B)		
			SBR	41 (51)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							10.5 (31.1)	B (C)
25	Pine Island Road at Peters Rd	EB	EBL	- (-)	- (-)	- (-)	- (-)	- (-)
			EBT	- (-)	- (-)	- (-)		
			EBR	- (-)	- (-)	- (-)		
		WB	WBU	0 (2)	- (-)	- (-)	71.2 (114.8)	E (F)
			WBL	410 (450)	99.9 (148.8)	F (F)		
			WBT	- (-)	- (-)	- (-)		
			WBR	407 (521)	42.2 (85.3)	D (F)		
		NB	NBL	- (-)	- (-)	- (-)	50 (105.3)	D (F)
			NBT	2426 (3073)	54.8 (120.4)	D (F)		
			NBR	609 (601)	30.9 (27.6)	C (C)		
		SB	SBL	722 (705)	71.2 (123.5)	E (F)	23 (33.8)	C (C)
			SBT	2408 (2032)	8.5 (2.7)	A (A)		
			SBR	- (-)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							40.4 (80)	D (F)
26	Pine Island Road at SW 6th Ct	EB	EBL	60 (38)	26.2 (35.7)	C (D)	31.5 (35.5)	C (D)
			EBT	33 (29)	32.7 (35.4)	C (D)		
			EBR	223 (110)	- (-)	- (-)		
		WB	WBL	190 (493)	172.9 (193.7)	F (F)	132.6 (136.8)	F (F)
			WBT	17 (43)	25.3 (39.9)	C (D)		
			WBR	54 (247)	- (-)	- (-)		
		NB	NBU	28 (38)	- (-)	- (-)	44 (148.5)	D (F)
			NBL	99 (175)	>300 (73)	F (E)		
			NBT	2114 (2840)	31.4 (164.2)	C (F)		
			NBR	396 (293)	27.3 (51.2)	C (D)		
		SB	SBU	10 (10)	- (-)	- (-)	86.8 (78.5)	F (E)
			SBL	165 (116)	116.1 (283)	F (F)		
			SBT	2772 (1922)	85 (65.5)	F (E)		
			SBR	30 (54)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							67.7 (121)	E (F)

Table B-9

Peters Road AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
27	Peters Road at SW 80th Terrance	EB	EBU	5 (12)	- (-)	- (-)	11 (36.5)	B (D)
			EBL	88 (84)	6.5 (22)	A (C)		
			EBT	1140 (1234)	11.7 (38.4)	B (D)		
			EBR	105 (67)	8.1 (23.2)	A (C)		
		WB	WBU	2 (51)	- (-)	- (-)	11 (29.1)	B (C)
			WBL	36 (30)	8.1 (32.4)	A (C)		
			WBT	811 (741)	11.4 (29.8)	B (C)		
			WBR	383 (153)	10.6 (23.9)	B (C)		
		NB	NBL	3 (115)	- (-)	- (-)	52.3 (41.4)	D (D)
			NBT	4 (24)	52.2 (47.9)	D (D)		
			NBR	53 (95)	52.3 (31.9)	D (C)		
		SB	SBL	186 (380)	- (-)	- (-)	71 (70.8)	E (E)
			SBT	11 (13)	74.9 (87.9)	E (F)		
			SBR	41 (177)	52.2 (32.8)	D (C)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							16.9 (40.7)	B (D)

EB SR-84 AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
28	EB SR-84 at SW 81st Avenue	EB	EBL	- (-)	- (-)	- (-)	- (-)	- (-)
			EBT	1758 (1892)	- (-)	- (-)		
			EBR	77 (227)	- (-)	- (-)		
		WB	WBL	0 (0)	- (-)	- (-)	- (-)	- (-)
			WBT	0 (0)	- (-)	- (-)		
			WBR	- (-)	- (-)	- (-)		
		NB	NBL	0 (0)	- (-)	- (-)	266.6 (68.3)	F (F)
			NBT	- (-)	- (-)	- (-)		
			NBR	354 (152)	266.6 (68.3)	F (F)		
		SB	SBL	- (-)	- (-)	- (-)	- (-)	- (-)
			SBT	- (-)	- (-)	- (-)		
			SBR	- (-)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							266.6 (68.3)	F (F)

Table B-10

University Drive AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
29	University Drive at SW 30 th St	EB	EBL	298 (275)	52.1 (102.4)	D (F)	69.1 (79.3)	E (E)
			EBT	360 (153)	88.9 (55.3)	F (E)		
			EBR	111 (94)	50.8 (51.2)	D (D)		
		WB	WBL	139 (207)	63.4 (41.8)	E (D)	72 (>300)	E (F)
			WBT	60 (191)	54.2 (47)	D (D)		
			WBR	461 (952)	77 (>300)	E (F)		
		NB	NBL	75 (177)	82 (97)	F (F)	179 (218.8)	F (F)
			NBT	2538 (2905)	197.2 (237.1)	F (F)		
			NBR	272 (167)	35.8 (29.7)	D (C)		
		SB	SBL	744 (373)	252 (81.6)	F (F)	114.6 (77.2)	F (E)
			SBT	2704 (2337)	86.9 (84)	F (F)		
			SBR	248 (283)	3.8 (15.3)	A (B)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							129.9 (174.1)	F (F)
30	University Drive at Nova Dr	EB	EBL	353 (272)	129.2 (77.9)	F (E)	84.9 (72.1)	F (E)
			EBT	339 (264)	73.1 (79.3)	E (E)		
			EBR	344 (196)	51.1 (54.3)	D (D)		
		WB	WBU	34 (88)	- (-)	- (-)	>300 (105.3)	F (F)
			WBL	443 (470)	>300 (212.6)	F (F)		
			WBT	183 (246)	78.7 (54.7)	E (D)		
			WBR	837 (952)	65 (55.4)	E (E)		
		NB	NBU	24 (24)	- (-)	- (-)	41 (118)	D (F)
			NBL	130 (189)	54.3 (169.9)	D (F)		
			NBT	2619 (3323)	39.1 (123.7)	D (F)		
			NBR	470 (455)	47.1 (52.3)	D (D)		
		SB	SBU	18 (6)	- (-)	- (-)	191.6 (153.1)	F (0)
			SBL	578 (375)	157.7 (153)	F (F)		
			SBT	3147 (2381)	208.1 (171.6)	F (F)		
			SBR	171 (327)	6.5 (17.9)	A (B)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							148.2 (123.5)	F (F)
31	University Drive at SW 23rd St	EB	EBL	113 (83)	- (-)	- (-)	74.7 (74.5)	E (E)
			EBT	13 (22)	74.7 (74.5)	E (E)		
			EBR	29 (27)	- (-)	- (-)		
		WB	WBL	71 (349)	77.9 (71.2)	E (E)	72.3 (61.9)	E (E)
			WBT	8 (15)	71 (58.9)	E (E)		
			WBR	191 (569)	70 (55.4)	E (E)		
		NB	NBU	4 (4)	- (-)	- (-)	14 (143.2)	B (F)
			NBL	38 (55)	78.2 (88.4)	E (F)		
			NBT	3655 (4070)	13.5 (158.1)	B (F)		
			NBR	132 (424)	6.7 (7.7)	A (A)		
		SB	SBU	74 (125)	- (-)	- (-)	124.7 (120.4)	F (F)
			SBL	115 (326)	88 (209.2)	F (F)		
			SBT	3801 (2828)	128.3 (108)	F (F)		
			SBR	60 (52)	10.7 (22.1)	B (C)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							71 (125.2)	E (F)
32	University Drive at Kolsky Blvd	EB	EBL	20 (193)	78.2 (77.7)	E (E)	77.3 (74.3)	E (E)
			EBT	6 (23)	78.1 (76.4)	E (E)		
			EBR	15 (226)	76 (71.7)	E (E)		
		WB	WBL	46 (297)	74.8 (59.2)	E (E)	64.7 (46.7)	E (D)
			WBT	4 (33)	74.8 (59.2)	E (E)		
			WBR	112 (449)	60.2 (37.6)	E (D)		
		NB	NBU	27 (42)	- (-)	- (-)	15.3 (215)	B (F)
			NBL	30 (115)	73.4 (68.2)	E (E)		
			NBT	2904 (2971)	14.2 (222.3)	B (F)		
			NBR	58 (183)	- (-)	- (-)		
		SB	SBL	91 (341)	65.8 (68.7)	E (E)	52.8 (187.2)	D (F)
			SBT	3748 (2934)	52.8 (204)	D (F)		
			SBR	28 (53)	6.6 (25.6)	A (C)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							37.2 (178.6)	D (F)

Table B-11

University Drive AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
33	University Drive at EB SR-84	EB	EBL	533 (592)	112 (101.7)	F (F)	141.6 (98)	F (F)
			EBT	534 (559)	176.3 (112.2)	F (F)		
			EBR	968 (806)	95.9 (62.5)	F (E)		
		WB	WBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			WBT	0 (0)	- (-)	- (-)		
			WBR	0 (0)	- (-)	- (-)		
		NB	NBL	0 (0)	- (-)	- (-)	33 (81.4)	C (F)
			NBT	1934 (2559)	51 (114.9)	D (F)		
			NBR	1106 (1055)	1.7 (0.2)	A (A)		
		SB	SBU	2 (3)	- (-)	- (-)	72.1 (38)	E (D)
			SBL	436 (388)	226.3 (182)	F (F)		
			SBT	3195 (2770)	50.9 (17.7)	D (B)		
			SBR	0 (0)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							74.7 (69.4)	E (E)
34	University Drive at WB SR-84	EB	EBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			EBT	0 (0)	- (-)	- (-)		
			EBR	0 (0)	- (-)	- (-)		
		WB	WBL	1353 (748)	>300 (159.9)	F (F)	>300 (158.7)	F (F)
			WBT	78 (403)	>300 (174.2)	F (F)		
			WBR	1848 (1134)	>300 (126.6)	F (F)		
		NB	NBU	6 (5)	- (-)	- (-)	12.2 (21.7)	B (C)
			NBL	145 (281)	46.1 (54.4)	D (D)		
			NBT	2318 (2868)	10 (18.4)	A (B)		
			NBR	0 (0)	- (-)	- (-)		
		SB	SBL	0 (0)	- (-)	- (-)	45.5 (45.5)	D (D)
			SBT	2274 (2407)	45.5 (45.5)	D (D)		
			SBR	504 (443)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							199.4 (67.6)	F (E)
35	University Drive at Peters Rd	EB	EBU	13 (7)	- (-)	- (-)	114.3 (165.3)	F (F)
			EBL	260 (294)	>300 (127.6)	F (F)		
			EBT	480 (423)	60.4 (56.3)	E (E)		
			EBR	687 (1030)	66.8 (220.9)	E (F)		
		WB	WBU	2 (0)	- (-)	- (-)	277 (221.7)	F (F)
			WBL	1028 (897)	>300 (>300)	F (F)		
			WBT	582 (441)	51.4 (40.9)	D (D)		
			WBR	447 (504)	61.8 (103.8)	E (F)		
		NB	NBL	543 (409)	>300 (299.4)	F (F)	234.2 (170.5)	F (F)
			NBT	2750 (2711)	237.1 (182.3)	F (F)		
			NBR	836 (879)	102.8 (74.3)	F (E)		
		SB	SBU	7 (2)	- (-)	- (-)	>300 (270.4)	F (F)
			SBL	344 (359)	193.2 (241.1)	F (F)		
			SBT	3465 (3215)	>300 (283.5)	F (F)		
			SBR	186 (128)	25.3 (25.7)	C (C)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							273.9 (210.8)	F (F)

Table B-12

University Drive AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
36	University Drive at The Fountains	EB	EBL	10 (243)	75.2 (74.4)	E (E)	75 (71)	E (E)
			EBT	- (-)	- (-)	- (-)		
			EBR	36 (300)	74.9 (68.2)	E (E)		
		WB	WBL	- (-)	- (-)	- (-)	- (-)	- (-)
			WBT	- (-)	- (-)	- (-)		
			WBR	- (-)	- (-)	- (-)		
		NB	NBL	50 (294)	>300 (36.6)	F (D)	28.7 (25)	C (C)
			NBT	3411 (3214)	22.7 (23.9)	C (C)		
			NBR	- (-)	- (-)	- (-)		
		SB	SBL	- (-)	- (-)	- (-)	16.5 (11)	B (B)
			SBT	4008 (3359)	16.7 (11.6)	B (B)		
			SBR	49 (200)	1.8 (1.6)	A (A)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							22.4 (21.7)	C (C)
37	University Drive at Federated Rd	EB	EBL	58 (222)	- (-)	- (-)	75.7 (93.6)	E (F)
			EBT	6 (5)	82.7 (126.7)	F (F)		
			EBR	61 (261)	68.3 (64.8)	E (E)		
		WB	WBL	11 (48)	79 (98.7)	E (F)	78.2 (90.7)	E (F)
			WBT	6 (13)	77.4 (74.9)	E (E)		
			WBR	5 (11)	- (-)	- (-)		
		NB	NBU	2 (7)	- (-)	- (-)	39.4 (73.6)	D (E)
			NBL	70 (198)	83.5 (121.8)	F (F)		
			NBT	3339 (3236)	38.5 (70.5)	D (E)		
			NBR	10 (16)	- (-)	- (-)		
		SB	SBU	0 (15)	- (-)	- (-)	106.2 (111.8)	F (F)
			SBL	7 (5)	73.5 (75.7)	E (E)		
			SBT	3973 (3367)	108.2 (115.4)	F (F)		
			SBR	98 (128)	26.6 (22.1)	C (C)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							75.7 (92.9)	E (F)

Table B-13

Davie Road AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
38	Davie Road at Nova Dr	EB	EBU	23 (18)	- (-)	- (-)	271.5 (216)	F (F)
			EBL	575 (714)	>300 (287.3)	F (F)		
			EBT	138 (242)	73.6 (127.8)	E (F)		
			EBR	271 (350)	- (-)	- (-)		
		WB	WBU	2 (0)	- (-)	- (-)	>300 (141.6)	F (F)
			WBL	124 (128)	81.6 (98.9)	F (F)		
			WBT	263 (238)	133.7 (198.1)	F (F)		
			WBR	568 (312)	>300 (115.9)	F (F)		
		NB	NBL	294 (105)	>300 (94.5)	F (F)	125.8 (127)	F (F)
			NBT	1280 (1171)	84.1 (139.6)	F (F)		
			NBR	102 (130)	32.9 (40.6)	C (D)		
		SB	SBU	97 (66)	- (-)	- (-)	244.1 (206.8)	F (F)
			SBL	265 (427)	129.1 (244.4)	F (F)		
			SBT	1278 (1444)	56.4 (72.4)	E (E)		
			SBR	1437 (1330)	>300 (>300)	F (F)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							233.6 (185.2)	F (F)
39	Davie Road at Reese Rd	EB	EBL	5 (18)	- (-)	- (-)	47.9 (48)	D (D)
			EBT	5 (7)	47.9 (48)	D (D)		
			EBR	20 (14)	- (-)	- (-)		
		WB	WBL	280 (307)	92.8 (111.1)	F (F)	86.7 (82)	F (F)
			WBT	4 (8)	82.2 (54.6)	F (D)		
			WBR	377 (318)	- (-)	- (-)		
		NB	NBU	47 (36)	- (-)	- (-)	22.2 (23.3)	C (C)
			NBL	7 (0)	30.6 (36.5)	C (D)		
			NBT	2359 (2153)	22.3 (24.1)	C (C)		
			NBR	134 (231)	16.6 (13.9)	B (B)		
		SB	SBU	6 (4)	- (-)	- (-)	33.6 (46.9)	C (D)
			SBL	238 (371)	88.3 (86)	F (F)		
			SBT	2688 (2965)	28.6 (42)	C (D)		
			SBR	8 (7)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							34.6 (41.5)	C (D)
40	Davie Road at EB SR-84	EB	EBL	74 (261)	- (-)	- (-)	>300 (>300)	F (F)
			EBT	411 (612)	>300 (>300)	F (F)		
			EBR	1458 (1388)	>300 (>300)	F (F)		
		WB	WBL	0 (0)	- (-)	- (-)	0 (0)	A (A)
			WBT	0 (0)	- (-)	- (-)		
			WBR	0 (0)	- (-)	- (-)		
		NB	NBL	0 (0)	- (-)	- (-)	>300 (>300)	F (F)
			NBT	1548 (1264)	>300 (>300)	F (F)		
			NBR	1196 (1229)	99.7 (48.5)	F (D)		
		SB	SBL	46 (66)	21.4 (21.6)	C (C)	3.7 (14.5)	A (B)
			SBT	1479 (1959)	3.2 (14.3)	A (B)		
			SBR	0 (0)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							>300 (>300)	F (F)
41	Davie Road at WB SR-84	EB	EBL	- (-)	- (-)	- (-)	0 (0)	A (A)
			EBT	0 (0)	- (-)	- (-)		
			EBR	0 (0)	- (-)	- (-)		
		WB	WBL	1525 (2025)	155.5 (>300)	F (F)	123.6 (260.7)	F (F)
			WBT	666 (766)	106.6 (222.7)	F (F)		
			WBR	- (-)	- (-)	- (-)		
		NB	NBL	1622 (1525)	31.2 (24.4)	C (C)	31.2 (24.4)	C (C)
			NBT	- (-)	- (-)	- (-)		
			NBR	0 (0)	- (-)	- (-)		
		SB	SBL	- (-)	- (-)	- (-)	- (-)	- (-)
			SBT	- (-)	- (-)	- (-)		
			SBR	- (-)	- (-)	- (-)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							84.3 (177.2)	F (F)

Table B-14

SR 7/US 441 AM (PM)

Study Intersection Number	Study Intersection Location	Approach	Movement	Volume (vph)	Delay (s/veh)	LOS	Approach Delay (s/Veh)	Approach LOS
42	SR 7/US 441 at Oakes Rd	EB	EBU	0 (2)	- (-)	- (-)	118.4 (200.4)	F (F)
			EBL	418 (653)	138.8 (229.8)	F (F)		
			EBT	- (-)	- (-)	- (-)		
			EBR	124 (123)	50 (43.3)	D (D)		
		WB	WBL	- (-)	- (-)	- (-)	- (-)	- (-)
			WBT	- (-)	- (-)	- (-)		
			WBR	- (-)	- (-)	- (-)		
		NB	NBL	135 (109)	174.1 (228.4)	F (F)	75.2 (189.2)	E (F)
			NBT	3250 (3626)	71.1 (188)	E (F)		
			NBR	- (-)	- (-)	- (-)		
		SB	SBL	- (-)	- (-)	- (-)	47.4 (59.3)	D (E)
			SBT	3103 (2830)	53.6 (63.9)	D (E)		
			SBR	651 (321)	18.2 (18.7)	B (B)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							64.7 (136.9)	E (F)
43	SR 7/US 441 at Riverland Rd/SW 20th St	EB	EBU	4 (0)	- (-)	- (-)	164 (136.5)	F (F)
			EBL	228 (190)	139 (178.9)	F (F)		
			EBT	67 (61)	83.7 (104.2)	F (F)		
			EBR	301 (132)	201.1 (90.3)	F (F)		
		WB	WBL	703 (497)	137.6 (91.6)	F (F)	126.8 (125.4)	F (F)
			WBT	58 (99)	96.4 (191.4)	F (F)		
			WBR	190 (156)	- (-)	- (-)		
		NB	NBU	45 (53)	- (-)	- (-)	61.7 (60.4)	E (E)
			NBL	170 (241)	186.6 (154.1)	F (F)		
			NBT	2768 (2903)	61.1 (62.3)	E (E)		
			NBR	481 (676)	9.4 (11.5)	A (B)		
		SB	SBU	25 (37)	- (-)	- (-)	77.5 (77.8)	E (E)
			SBL	98 (99)	182.6 (187.3)	F (F)		
			SBT	2619 (2476)	74.1 (74.6)	E (E)		
			SBR	72 (135)	23.3 (26.4)	C (C)		
		Intersection					Int. Delay (s/Veh)	Int. LOS
							83.1 (76.6)	F (E)

AM Peak Hour

NW/SW 136th Avenue

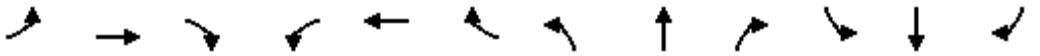
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	466	27	65	15	42	134	2	90	1035	14	19	38
Future Volume (vph)	466	27	65	15	42	134	2	90	1035	14	19	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			5.0	5.0			5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	0.95			1.00
Frt	1.00	1.00	0.85	1.00	0.89			1.00	1.00			1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1770	1863	1583	1770	1650			1770	3532			1770
Flt Permitted	0.24	1.00	1.00	0.74	1.00			0.30	1.00			0.15
Satd. Flow (perm)	454	1863	1583	1377	1650			566	3532			273
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	491	28	68	16	44	141	2	95	1089	15	20	40
RTOR Reduction (vph)	0	0	39	0	83	0	0	0	1	0	0	0
Lane Group Flow (vph)	491	28	29	16	102	0	0	97	1103	0	0	60
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	Perm	NA		Perm	Perm
Protected Phases	7	4			8				2			
Permitted Phases	4		4	8			2	2			6	6
Actuated Green, G (s)	49.8	49.8	49.8	10.4	10.4			55.3	55.3			55.3
Effective Green, g (s)	49.8	49.8	49.8	10.4	10.4			55.3	55.3			55.3
Actuated g/C Ratio	0.43	0.43	0.43	0.09	0.09			0.48	0.48			0.48
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			5.0	5.0			5.0
Vehicle Extension (s)	2.2	2.0	2.0	2.0	2.0			3.0	3.0			3.0
Lane Grp Cap (vph)	573	799	679	123	147			269	1682			130
v/s Ratio Prot	c0.25	0.02			0.06				c0.31			
v/s Ratio Perm	c0.12		0.02	0.01				0.17				0.22
v/c Ratio	0.86	0.04	0.04	0.13	0.69			0.36	0.66			0.46
Uniform Delay, d1	28.0	19.2	19.3	48.7	51.3			19.2	23.2			20.4
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	11.7	0.0	0.0	0.2	10.9			3.7	2.0			11.3
Delay (s)	39.8	19.2	19.3	48.9	62.2			22.9	25.2			31.7
Level of Service	D	B	B	D	E			C	C			C
Approach Delay (s)		36.4			61.2				25.0			
Approach LOS		D			E				C			

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	116.1	Sum of lost time (s)	17.0
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	679	372
Future Volume (vph)	679	372
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.0	5.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	715	392
RTOR Reduction (vph)	0	205
Lane Group Flow (vph)	715	187
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	55.3	55.3
Effective Green, g (s)	55.3	55.3
Actuated g/C Ratio	0.48	0.48
Clearance Time (s)	5.0	5.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1685	754
v/s Ratio Prot	0.20	
v/s Ratio Perm		0.12
v/c Ratio	0.42	0.25
Uniform Delay, d1	20.0	18.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.8	0.8
Delay (s)	20.7	18.8
Level of Service	C	B
Approach Delay (s)	20.7	
Approach LOS	C	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	659	1066	115	0	0	0	0	641	1013	738	1034	0
Future Volume (vph)	659	1066	115	0	0	0	0	641	1013	738	1034	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0					7.0	7.0	7.0	7.0	
Lane Util. Factor	0.97	0.95	1.00					0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583					3539	1583	3433	3539	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583					3539	1583	3433	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	694	1122	121	0	0	0	0	675	1066	777	1088	0
RTOR Reduction (vph)	0	0	74	0	0	0	0	0	125	0	0	0
Lane Group Flow (vph)	694	1122	47	0	0	0	0	675	941	777	1088	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	1 6 7	1 6 7						4 5		2 3	2 3 4 5	
Permitted Phases			1 6 7						4 5			
Actuated Green, G (s)	84.3	84.3	84.3					39.0	39.0	87.0	133.0	
Effective Green, g (s)	84.3	84.3	84.3					39.0	39.0	87.0	133.0	
Actuated g/C Ratio	0.36	0.36	0.36					0.17	0.17	0.38	0.58	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)	1251	1289	576					596	266	1291	2034	
v/s Ratio Prot	0.20	c0.32						0.19		c0.23	0.31	
v/s Ratio Perm			0.03						c0.59			
v/c Ratio	0.55	0.87	0.08					1.13	3.54	0.60	0.53	
Uniform Delay, d1	58.6	68.4	48.1					96.2	96.2	58.2	30.2	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.28	0.07	
Incremental Delay, d2	0.3	6.5	0.0					79.1	1151.8	0.1	0.0	
Delay (s)	58.9	74.9	48.2					175.3	1247.9	16.1	2.1	
Level of Service	E	E	D					F	F	B	A	
Approach Delay (s)		67.5			0.0			832.0			7.9	
Approach LOS		E			A			F			A	

Intersection Summary			
HCM 2000 Control Delay	287.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	231.3	Sum of lost time (s)	49.0
Intersection Capacity Utilization	176.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	571	577	1714	2	113	1186	0	0	1199
Future Volume (vph)	0	0	0	571	577	1714	2	113	1186	0	0	1199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0	7.0		7.0	7.0			7.0
Lane Util. Factor				0.91	0.81	0.86		1.00	0.95			0.91
Frt				1.00	0.93	0.85		1.00	1.00			1.00
Flt Protected				0.95	1.00	1.00		0.95	1.00			1.00
Satd. Flow (prot)				1610	2798	2723		1770	3539			5085
Flt Permitted				0.95	1.00	1.00		0.21	1.00			1.00
Satd. Flow (perm)				1610	2798	2723		388	3539			5085
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	601	607	1804	2	119	1248	0	0	1262
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	541	1262	1209	0	121	1248	0	0	1262
Turn Type				Split	NA	Perm	custom	Prot	NA			NA
Protected Phases				3 4	3 4			5 6	1 2 5 6			1 2
Permitted Phases						3 4	5 6					
Actuated Green, G (s)				49.0	49.0	49.0		69.0	118.0			49.0
Effective Green, g (s)				49.0	49.0	49.0		69.0	118.0			49.0
Actuated g/C Ratio				0.21	0.21	0.21		0.30	0.51			0.21
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)				341	592	576		115	1805			1077
v/s Ratio Prot				0.34	c0.45				0.35			c0.25
v/s Ratio Perm						0.44		c0.31				
v/c Ratio				1.59	2.13	2.10		1.05	0.69			1.17
Uniform Delay, d1				91.2	91.2	91.2		81.2	42.9			91.2
Progression Factor				1.00	1.00	1.00		0.54	0.52			1.00
Incremental Delay, d2				277.5	515.0	500.4		74.7	0.6			87.4
Delay (s)				368.7	606.1	591.6		118.5	22.7			178.5
Level of Service				F	F	F		F	C			F
Approach Delay (s)		0.0			557.6				31.1			162.4
Approach LOS		A			F				C			F

Intersection Summary			
HCM 2000 Control Delay	334.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	231.3	Sum of lost time (s)	49.0
Intersection Capacity Utilization	176.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

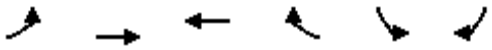
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	230
Future Volume (vph)	230
Ideal Flow (vphpl)	1900
Total Lost time (s)	7.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	242
RTOR Reduction (vph)	118
Lane Group Flow (vph)	124
Turn Type	Perm
Protected Phases	
Permitted Phases	1 2
Actuated Green, G (s)	49.0
Effective Green, g (s)	49.0
Actuated g/C Ratio	0.21
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	335
v/s Ratio Prot	
v/s Ratio Perm	0.08
v/c Ratio	0.37
Uniform Delay, d1	77.9
Progression Factor	1.00
Incremental Delay, d2	0.5
Delay (s)	78.4
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	2	135	172	25	221	2451	1248	128
Future Volume (vph)	2	135	172	25	221	2451	1248	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	5.5	5.5
Lane Util. Factor		0.97	1.00		1.00	0.91	0.91	1.00
Frt		1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)		3433	1583		1770	5085	5085	1583
Flt Permitted		0.95	1.00		0.17	1.00	1.00	1.00
Satd. Flow (perm)		3433	1583		312	5085	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	142	181	26	233	2580	1314	135
RTOR Reduction (vph)	0	0	167	0	0	0	0	42
Lane Group Flow (vph)	0	144	14	0	259	2580	1314	93
Turn Type	Prot	Prot	Prot	custom	pm+pt	NA	NA	Perm
Protected Phases	4	4	4		5	2	6	
Permitted Phases				5	2			6
Actuated Green, G (s)		9.4	9.4		99.1	99.1	83.1	83.1
Effective Green, g (s)		9.4	9.4		99.1	99.1	83.1	83.1
Actuated g/C Ratio		0.08	0.08		0.83	0.83	0.69	0.69
Clearance Time (s)		6.0	6.0		5.5	5.5	5.5	5.5
Vehicle Extension (s)		2.0	2.0		1.5	3.0	3.0	3.0
Lane Grp Cap (vph)		268	124		385	4199	3521	1096
v/s Ratio Prot		c0.04	0.01		0.06	c0.51	0.26	
v/s Ratio Perm					c0.50			0.06
v/c Ratio		0.54	0.11		0.67	0.61	0.37	0.09
Uniform Delay, d1		53.2	51.4		4.7	3.7	7.7	6.0
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		1.0	0.1		3.6	0.7	0.3	0.2
Delay (s)		54.2	51.6		8.3	4.4	8.0	6.2
Level of Service		D	D		A	A	A	A
Approach Delay (s)		52.8				4.7	7.8	
Approach LOS		D				A	A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

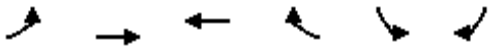


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	2855	204	0	204
Future Volume (Veh/h)	0	0	2855	204	0	204
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	3005	215	0	215
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3220				3112	1610
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3220				3112	1610
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	0
cM capacity (veh/h)	92				9	93

Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	2003	1217	215
Volume Left	0	0	0
Volume Right	0	215	215
cSH	1700	1700	93
Volume to Capacity	1.18	0.72	2.30
Queue Length 95th (ft)	0	0	484
Control Delay (s)	0.0	0.0	690.8
Lane LOS			F
Approach Delay (s)	0.0		690.8
Approach LOS			F

Intersection Summary			
Average Delay	43.2		
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		

Flamingo Road



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	1925	13	0	18
Future Volume (Veh/h)	0	0	1925	13	0	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	2026	14	0	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2040				2033	1020
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2040				2033	1020
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	273				49	234

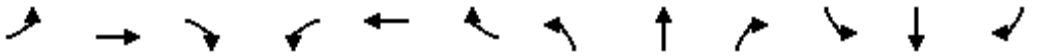
Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	1351	689	19
Volume Left	0	0	0
Volume Right	0	14	19
cSH	1700	1700	234
Volume to Capacity	0.79	0.41	0.08
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	21.7
Lane LOS			C
Approach Delay (s)	0.0		21.7
Approach LOS			C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	171	89	3	102	2047	30	1763	284
Future Volume (vph)	171	89	3	102	2047	30	1763	284
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		7.5	7.5	7.5	7.5	7.5
Lane Util. Factor	1.00	1.00		1.00	0.91	1.00	0.91	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1583		1770	5085	1770	5085	1583
Flt Permitted	0.95	1.00		0.09	1.00	0.06	1.00	1.00
Satd. Flow (perm)	1770	1583		159	5085	116	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	180	94	3	107	2155	32	1856	299
RTOR Reduction (vph)	0	82	0	0	0	0	0	71
Lane Group Flow (vph)	180	12	0	110	2155	32	1856	228
Turn Type	Prot	Prot	custom	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	4		5	2	1	6	
Permitted Phases			5	2		6		6
Actuated Green, G (s)	20.7	20.7		122.0	114.4	114.6	110.7	110.7
Effective Green, g (s)	20.7	20.7		122.0	114.4	114.6	110.7	110.7
Actuated g/C Ratio	0.13	0.13		0.76	0.72	0.72	0.69	0.69
Clearance Time (s)	6.0	6.0		7.5	7.5	7.5	7.5	7.5
Vehicle Extension (s)	2.0	2.0		1.5	3.0	1.5	3.0	3.0
Lane Grp Cap (vph)	228	204		197	3635	123	3518	1095
v/s Ratio Prot	c0.10	0.01		c0.03	c0.42	0.01	0.36	
v/s Ratio Perm				0.40		0.18		0.14
v/c Ratio	0.79	0.06		0.56	0.59	0.26	0.53	0.21
Uniform Delay, d1	67.5	61.1		9.4	11.3	8.9	12.0	8.9
Progression Factor	1.00	1.00		1.00	1.00	1.09	0.54	0.40
Incremental Delay, d2	15.3	0.0		1.9	0.7	0.3	0.4	0.3
Delay (s)	82.8	61.2		11.3	12.0	10.0	6.9	3.8
Level of Service	F	E		B	B	B	A	A
Approach Delay (s)	75.4				12.0		6.5	
Approach LOS	E				B		A	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

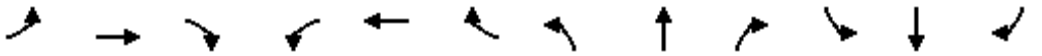
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	579	669	442	0	0	0	0	1382	936	721	1678	0
Future Volume (vph)	579	669	442	0	0	0	0	1382	936	721	1678	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5					7.5	7.5	8.5	8.5	
Lane Util. Factor	0.91	0.91	1.00					0.81	1.00	0.97	0.91	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3356	1583					7544	1583	3433	5085	
Flt Permitted	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1610	3356	1583					7544	1583	3433	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	609	704	465	0	0	0	0	1455	985	759	1766	0
RTOR Reduction (vph)	0	0	160	0	0	0	0	0	154	0	0	0
Lane Group Flow (vph)	426	887	305	0	0	0	0	1455	831	759	1766	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	1 6	1 6						4 5		2 3	2 3 4 5	
Permitted Phases			1 6						4 5			
Actuated Green, G (s)	32.5	32.5	32.5					35.5	35.5	44.0	96.0	
Effective Green, g (s)	32.5	32.5	32.5					35.5	35.5	44.0	88.0	
Actuated g/C Ratio	0.20	0.20	0.20					0.22	0.22	0.28	0.55	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)	327	681	321					1673	351	944	2796	
v/s Ratio Prot	c0.26	0.26						0.19		c0.22	0.35	
v/s Ratio Perm			0.19						c0.52			
v/c Ratio	1.30	1.30	0.95					0.87	2.37	0.80	0.63	
Uniform Delay, d1	63.8	63.8	62.9					60.0	62.2	54.0	24.8	
Progression Factor	1.00	1.00	1.00					1.19	1.48	0.58	1.03	
Incremental Delay, d2	156.8	146.7	38.9					4.2	622.7	2.0	0.2	
Delay (s)	220.6	210.4	101.9					75.9	715.0	33.5	25.7	
Level of Service	F	F	F					E	F	C	C	
Approach Delay (s)		184.5			0.0			333.9			28.0	
Approach LOS		F			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	180.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	48.0
Intersection Capacity Utilization	121.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	665	174	703	549	1412	0	0	1734	736
Future Volume (vph)	0	0	0	665	174	703	549	1412	0	0	1734	736
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				8.0	8.0	8.0	8.5	7.5			7.5	7.5
Lane Util. Factor				0.91	0.91	1.00	0.97	0.91			0.81	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1610	3282	1583	3433	5085			7544	1583
Flt Permitted				0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1610	3282	1583	3433	5085			7544	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	700	183	740	578	1486	0	0	1825	775
RTOR Reduction (vph)	0	0	0	0	0	155	0	0	0	0	0	179
Lane Group Flow (vph)	0	0	0	350	533	585	578	1486	0	0	1825	596
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				3 4	3 4		5 6	1 2 5 6			1 2	
Permitted Phases						3 4						1 2
Actuated Green, G (s)				36.5	36.5	36.5	59.0	108.5			41.0	41.0
Effective Green, g (s)				36.5	36.5	36.5	51.0	83.5			32.5	32.5
Actuated g/C Ratio				0.23	0.23	0.23	0.32	0.52			0.20	0.20
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)				367	748	361	1094	2653			1532	321
v/s Ratio Prot				0.22	0.16		0.17	c0.29			0.24	
v/s Ratio Perm						c0.37						c0.38
v/c Ratio				0.95	0.93dl	1.62	0.53	0.56			1.19	1.86
Uniform Delay, d1				60.9	56.9	61.8	44.6	25.8			63.8	63.8
Progression Factor				1.00	1.00	1.00	0.29	0.65			0.65	0.55
Incremental Delay, d2				34.8	3.2	291.5	0.5	0.2			91.9	395.2
Delay (s)				95.7	60.1	353.3	13.4	17.1			133.1	430.5
Level of Service				F	E	F	B	B			F	F
Approach Delay (s)		0.0			201.5			16.0			221.8	
Approach LOS		A			F			B			F	

Intersection Summary			
HCM 2000 Control Delay	149.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	48.0
Intersection Capacity Utilization	121.7%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	140	152	244	4	379	100	619	13	62	1601	479	7
Future Volume (vph)	140	152	244	4	379	100	619	13	62	1601	479	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	
Lane Util. Factor	1.00	0.95	1.00		0.97	0.95	1.00		1.00	0.91	1.00	
Frt	1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1770	3539	1583		3433	3539	1583		1770	5085	1583	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	1770	3539	1583		3433	3539	1583		1770	5085	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	147	160	257	4	399	105	652	14	65	1685	504	7
RTOR Reduction (vph)	0	0	172	0	0	0	177	0	0	0	261	0
Lane Group Flow (vph)	147	160	85	0	403	105	475	0	79	1685	243	0
Turn Type	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot
Protected Phases	7	4		3	3	8		5	5	2		1
Permitted Phases			4				8				2	
Actuated Green, G (s)	13.0	33.8	33.8		22.2	43.0	43.0		8.0	51.0	51.0	
Effective Green, g (s)	13.0	33.8	33.8		22.2	43.0	43.0		8.0	51.0	51.0	
Actuated g/C Ratio	0.08	0.21	0.21		0.14	0.27	0.27		0.05	0.32	0.32	
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	
Vehicle Extension (s)	1.5	2.5	2.5		1.5	2.5	2.5		1.5	3.0	3.0	
Lane Grp Cap (vph)	143	747	334		476	951	425		88	1620	504	
v/s Ratio Prot	0.08	0.05			c0.12	0.03			0.04	c0.33		
v/s Ratio Perm			0.05				c0.30				0.15	
v/c Ratio	1.03	0.21	0.25		0.85	0.11	1.12		0.90	1.04	0.48	
Uniform Delay, d1	73.5	52.1	52.6		67.2	44.1	58.5		75.6	54.5	43.9	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		1.22	0.83	0.85	
Incremental Delay, d2	82.9	0.1	0.3		12.6	0.0	79.7		57.9	32.5	3.0	
Delay (s)	156.4	52.2	52.9		79.8	44.1	138.2		149.7	77.8	40.1	
Level of Service	F	D	D		E	D	F		F	E	D	
Approach Delay (s)		79.7				109.4				72.0		
Approach LOS		E				F				E		

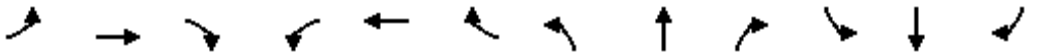
Intersection Summary			
HCM 2000 Control Delay	77.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	115.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	513	1983	106
Future Volume (vph)	513	1983	106
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	540	2087	112
RTOR Reduction (vph)	0	0	64
Lane Group Flow (vph)	547	2087	48
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	25.0	68.0	68.0
Effective Green, g (s)	25.0	68.0	68.0
Actuated g/C Ratio	0.16	0.42	0.42
Clearance Time (s)	7.0	7.0	7.0
Vehicle Extension (s)	1.5	3.0	3.0
Lane Grp Cap (vph)	536	2161	672
v/s Ratio Prot	c0.16	c0.41	
v/s Ratio Perm			0.03
v/c Ratio	1.02	0.97	0.07
Uniform Delay, d1	67.5	44.9	27.3
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	44.2	12.8	0.2
Delay (s)	111.7	57.7	27.5
Level of Service	F	E	C
Approach Delay (s)		67.2	
Approach LOS		E	

Intersection Summary

Hiatus Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	626	502	157	0	0	0	0	630	510	1049	716	0
Future Volume (vph)	626	502	157	0	0	0	0	630	510	1049	716	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0					7.0	7.5	7.0	7.0	
Lane Util. Factor	0.91	0.91	1.00					0.91	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.98	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3334	1583					5085	1583	3433	3539	
Flt Permitted	0.95	0.98	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1610	3334	1583					5085	1583	3433	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	659	528	165	0	0	0	0	663	537	1104	754	0
RTOR Reduction (vph)	0	0	124	0	0	0	0	0	69	0	0	0
Lane Group Flow (vph)	389	798	41	0	0	0	0	663	468	1104	754	0
Turn Type	Perm	NA	Perm					NA	custom	Prot	NA	
Protected Phases		1 6						4 5		2	2 3 4 5	
Permitted Phases	1 6		1 6						3 4 5			
Actuated Green, G (s)	44.5	44.5	44.5					34.0	76.5	35.0	118.5	
Effective Green, g (s)	37.0	37.0	37.0					34.0	69.5	35.0	111.0	
Actuated g/C Ratio	0.21	0.21	0.21					0.19	0.39	0.20	0.63	
Clearance Time (s)										7.0		
Lane Grp Cap (vph)	336	696	330					976	621	678	2219	
v/s Ratio Prot								c0.13		c0.32	0.21	
v/s Ratio Perm	c0.24	0.24	0.03						c0.30			
v/c Ratio	1.16	1.15	0.12					0.68	0.75	1.63	0.34	
Uniform Delay, d1	70.0	70.0	56.8					66.4	46.4	71.0	15.6	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.49	0.06	
Incremental Delay, d2	99.1	82.2	0.8					3.8	8.2	285.9	0.2	
Delay (s)	169.1	152.2	57.6					70.2	54.6	320.7	1.1	
Level of Service	F	F	E					E	D	F	A	
Approach Delay (s)		145.5			0.0			63.2			191.0	
Approach LOS		F			A			E			F	

Intersection Summary			
HCM 2000 Control Delay	142.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	177.0	Sum of lost time (s)	43.0
Intersection Capacity Utilization	159.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	292	113	551	4	240	1012	0	0	1469
Future Volume (vph)	0	0	0	292	113	551	4	240	1012	0	0	1469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.5	7.5	7.5		7.0	7.0			7.0
Lane Util. Factor				0.91	0.91	1.00		1.00	0.95			0.86
Frt				1.00	1.00	0.85		1.00	1.00			1.00
Flt Protected				0.95	0.97	1.00		0.95	1.00			1.00
Satd. Flow (prot)				1610	3297	1583		1770	3539			6408
Flt Permitted				0.95	0.97	1.00		0.95	1.00			1.00
Satd. Flow (perm)				1610	3297	1583		1770	3539			6408
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	307	119	580	4	253	1065	0	0	1546
RTOR Reduction (vph)	0	0	0	0	0	118	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	153	273	462	0	257	1065	0	0	1546
Turn Type				Perm	NA	Perm	Prot	Prot	NA			NA
Protected Phases					3 4		5 6	5 6	1 2 5 6			1 2
Permitted Phases				3 4		3 4						
Actuated Green, G (s)				44.5	44.5	44.5		67.0	118.5			44.0
Effective Green, g (s)				44.5	44.5	44.5		67.0	111.0			44.0
Actuated g/C Ratio				0.25	0.25	0.25		0.38	0.63			0.25
Clearance Time (s)												
Lane Grp Cap (vph)				404	828	397		670	2219			1592
v/s Ratio Prot								0.15	c0.30			0.24
v/s Ratio Perm				0.10	0.08	c0.29						
v/c Ratio				0.38	0.33	1.16		0.38	0.48			0.97
Uniform Delay, d1				54.8	54.1	66.2		40.0	17.6			65.9
Progression Factor				1.00	1.00	1.00		0.38	0.19			1.00
Incremental Delay, d2				2.7	1.1	98.4		0.9	0.4			16.7
Delay (s)				57.5	55.1	164.6		16.2	3.8			82.5
Level of Service				E	E	F		B	A			F
Approach Delay (s)		0.0			118.6				6.2			216.0
Approach LOS		A			F				A			F

Intersection Summary			
HCM 2000 Control Delay	138.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	177.0	Sum of lost time (s)	43.0
Intersection Capacity Utilization	159.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	916
Future Volume (vph)	916
Ideal Flow (vphpl)	1900
Total Lost time (s)	7.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	964
RTOR Reduction (vph)	262
Lane Group Flow (vph)	702
Turn Type	Prot
Protected Phases	1 2
Permitted Phases	
Actuated Green, G (s)	44.0
Effective Green, g (s)	44.0
Actuated g/C Ratio	0.25
Clearance Time (s)	
Lane Grp Cap (vph)	393
v/s Ratio Prot	c0.44
v/s Ratio Perm	
v/c Ratio	1.79
Uniform Delay, d1	66.5
Progression Factor	1.00
Incremental Delay, d2	363.7
Delay (s)	430.2
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	11	291	637	703	3	470	643	213	423	746	394	3
Future Volume (vph)	11	291	637	703	3	470	643	213	423	746	394	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	
Lane Util. Factor		1.00	0.91	1.00		1.00	0.91	1.00	1.00	0.91	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		1770	5085	1583		1770	5085	1583	1770	5085	1583	
Flt Permitted		0.29	1.00	1.00		0.27	1.00	1.00	0.09	1.00	1.00	
Satd. Flow (perm)		533	5085	1583		494	5085	1583	169	5085	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	12	306	671	740	3	495	677	224	445	785	415	3
RTOR Reduction (vph)	0	0	0	231	0	0	0	165	0	0	276	0
Lane Group Flow (vph)	0	318	671	509	0	498	677	59	445	785	139	0
Turn Type	custom	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	pm+pt	NA	Perm	custom
Protected Phases		7	4			3	8		5	2		
Permitted Phases	7	4		4	3	8		8	2		2	1
Actuated Green, G (s)		64.6	41.0	41.0		67.4	42.4	42.4	73.0	44.3	44.3	
Effective Green, g (s)		64.6	41.0	41.0		67.4	42.4	42.4	73.0	44.3	44.3	
Actuated g/C Ratio		0.40	0.26	0.26		0.42	0.26	0.26	0.46	0.28	0.28	
Clearance Time (s)		7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)		1.5	2.0	2.0		1.5	2.0	2.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		397	1303	405		407	1347	419	367	1407	438	
v/s Ratio Prot		0.12	0.13			c0.19	0.13		c0.22	0.15		
v/s Ratio Perm		0.21		0.32		c0.32		0.04	c0.33		0.09	
v/c Ratio		0.80	0.51	1.26		1.22	0.50	0.14	1.21	0.56	0.32	
Uniform Delay, d1		35.3	51.0	59.5		38.0	49.9	44.9	52.4	49.5	45.9	
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		10.5	0.1	134.7		120.8	0.1	0.1	118.3	1.6	1.9	
Delay (s)		45.7	51.1	194.2		158.8	50.0	45.0	170.6	51.1	47.7	
Level of Service		D	D	F		F	D	D	F	D	D	
Approach Delay (s)			111.4				87.9			82.6		
Approach LOS			F				F			F		

Intersection Summary			
HCM 2000 Control Delay	94.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	139.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	286	1212	330
Future Volume (vph)	286	1212	330
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583
Flt Permitted	0.27	1.00	1.00
Satd. Flow (perm)	506	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	301	1276	347
RTOR Reduction (vph)	0	0	224
Lane Group Flow (vph)	304	1276	123
Turn Type	pm+pt	NA	Perm
Protected Phases	1	6	
Permitted Phases	6		6
Actuated Green, G (s)	58.7	37.0	37.0
Effective Green, g (s)	58.7	37.0	37.0
Actuated g/C Ratio	0.37	0.23	0.23
Clearance Time (s)	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0
Lane Grp Cap (vph)	357	1175	366
v/s Ratio Prot	0.12	0.25	
v/s Ratio Perm	0.20		0.08
v/c Ratio	0.85	1.09	0.34
Uniform Delay, d1	39.1	61.5	51.3
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	17.4	52.8	2.5
Delay (s)	56.5	114.3	53.8
Level of Service	E	F	D
Approach Delay (s)		94.3	
Approach LOS		F	

Intersection Summary

Nob Hill Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	52	12	9	140	4	260	3	31	1218	164	48	191
Future Volume (vph)	52	12	9	140	4	260	3	31	1218	164	48	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			7.0	7.0	7.0		7.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt	1.00	0.94		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1770	1748		1770	1587			1770	3539	1583		1770
Flt Permitted	0.20	1.00		0.74	1.00			0.21	1.00	1.00		0.14
Satd. Flow (perm)	365	1748		1384	1587			389	3539	1583		262
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	55	13	9	147	4	274	3	33	1282	173	51	201
RTOR Reduction (vph)	0	8	0	0	159	0	0	0	0	49	0	0
Lane Group Flow (vph)	55	14	0	147	119	0	0	36	1282	124	0	252
Turn Type	Perm	NA		Perm	NA		custom	pm+pt	NA	Perm	custom	pm+pt
Protected Phases		4			8			5	2			1
Permitted Phases	4			8			5	2		2	1	6
Actuated Green, G (s)	20.4	20.4		20.4	20.4			93.3	89.6	89.6		112.6
Effective Green, g (s)	20.4	20.4		20.4	20.4			93.3	89.6	89.6		112.6
Actuated g/C Ratio	0.14	0.14		0.14	0.14			0.64	0.61	0.61		0.77
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0	7.0	7.0		7.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			1.5	3.0	3.0		1.5
Lane Grp Cap (vph)	51	244		193	221			283	2171	971		367
v/s Ratio Prot		0.01			0.07			0.00	0.36			c0.08
v/s Ratio Perm	c0.15			0.11				0.08		0.08		c0.45
v/c Ratio	1.08	0.06		0.76	0.54			0.13	0.59	0.13		0.69
Uniform Delay, d1	62.8	54.5		60.5	58.4			9.8	17.1	11.8		14.9
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	149.7	0.0		14.7	1.3			0.1	1.2	0.3		4.2
Delay (s)	212.5	54.5		75.1	59.7			9.9	18.3	12.1		19.1
Level of Service	F	D		E	E			A	B	B		B
Approach Delay (s)		167.4			65.0				17.4			
Approach LOS		F			E				B			

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	146.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1186	79
Future Volume (vph)	1186	79
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	7.0	7.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1248	83
RTOR Reduction (vph)	0	23
Lane Group Flow (vph)	1248	60
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	101.9	101.9
Effective Green, g (s)	101.9	101.9
Actuated g/C Ratio	0.70	0.70
Clearance Time (s)	7.0	7.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2470	1104
v/s Ratio Prot	0.35	
v/s Ratio Perm		0.04
v/c Ratio	0.51	0.05
Uniform Delay, d1	10.3	6.9
Progression Factor	1.00	1.00
Incremental Delay, d2	0.7	0.1
Delay (s)	11.0	7.0
Level of Service	B	A
Approach Delay (s)	12.1	
Approach LOS	B	

Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	138	68	103	31	20	18	162	114	1426	36	137	1328
Future Volume (vph)	138	68	103	31	20	18	162	114	1426	36	137	1328
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.91			1.00	0.86		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1695			1770	1611		1770	3539	1583	1770	3539
Flt Permitted	0.50	1.00			0.53	1.00		0.15	1.00	1.00	0.13	1.00
Satd. Flow (perm)	935	1695			985	1611		288	3539	1583	247	3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	145	72	108	33	21	19	171	120	1501	38	144	1398
RTOR Reduction (vph)	0	57	0	0	0	49	0	0	0	12	0	0
Lane Group Flow (vph)	145	123	0	0	54	141	0	120	1501	26	144	1398
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA	Perm	Perm	NA
Protected Phases		4				8			2			6
Permitted Phases	4			8	8			2		2	6	
Actuated Green, G (s)	16.1	16.1			16.1	16.1		66.9	66.9	66.9	66.9	66.9
Effective Green, g (s)	16.1	16.1			16.1	16.1		66.9	66.9	66.9	66.9	66.9
Actuated g/C Ratio	0.17	0.17			0.17	0.17		0.70	0.70	0.70	0.70	0.70
Clearance Time (s)	6.0	6.0			6.0	6.0		7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	2.0	2.0			2.0	2.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	156	284			165	270		200	2466	1103	172	2466
v/s Ratio Prot		0.07				0.09			0.42			0.40
v/s Ratio Perm	c0.16				0.05			0.42		0.02	c0.58	
v/c Ratio	0.93	0.43			0.33	0.52		0.60	0.61	0.02	0.84	0.57
Uniform Delay, d1	39.4	35.9			35.2	36.4		7.6	7.7	4.5	10.6	7.3
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	50.3	0.4			0.4	0.8		12.6	1.1	0.0	36.1	1.0
Delay (s)	89.7	36.3			35.6	37.3		20.2	8.8	4.5	46.7	8.2
Level of Service	F	D			D	D		C	A	A	D	A
Approach Delay (s)		60.1				36.9			9.5			11.7
Approach LOS		E				D			A			B

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	25
Future Volume (vph)	25
Ideal Flow (vphpl)	1900
Total Lost time (s)	7.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	26
RTOR Reduction (vph)	8
Lane Group Flow (vph)	18
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	66.9
Effective Green, g (s)	66.9
Actuated g/C Ratio	0.70
Clearance Time (s)	7.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1103
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.02
Uniform Delay, d1	4.5
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	4.5
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	467	549	290	0	0	0	0	836	892	4	1183	1219
Future Volume (vph)	467	549	290	0	0	0	0	836	892	4	1183	1219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0					7.0	7.0		7.0	7.0
Lane Util. Factor	0.91	0.91	1.00					0.91	1.00		0.97	0.95
Frt	1.00	1.00	0.85					1.00	0.85		1.00	1.00
Flt Protected	0.95	0.99	1.00					1.00	1.00		0.95	1.00
Satd. Flow (prot)	1610	3357	1583					5085	1583		3433	3539
Flt Permitted	0.95	0.99	1.00					1.00	1.00		0.95	1.00
Satd. Flow (perm)	1610	3357	1583					5085	1583		3433	3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	492	578	305	0	0	0	0	880	939	4	1245	1283
RTOR Reduction (vph)	0	0	91	0	0	0	0	0	89	0	0	0
Lane Group Flow (vph)	349	721	214	0	0	0	0	880	850	0	1249	1283
Turn Type	Split	NA	Prot					NA	Prot	Prot	Prot	NA
Protected Phases	1 6	1 6	1 6					4 5	4 5	2 3	2 3	2 3 4 5
Permitted Phases												
Actuated Green, G (s)	59.5	59.5	59.5					60.0	60.0		97.0	164.5
Effective Green, g (s)	52.0	52.0	52.0					60.0	60.0		97.0	157.0
Actuated g/C Ratio	0.22	0.22	0.22					0.25	0.25		0.41	0.66
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)	351	733	345					1281	399		1399	2334
v/s Ratio Prot	c0.22	0.21	0.13					0.17	c0.54		c0.36	0.36
v/s Ratio Perm												
v/c Ratio	0.99	0.98	0.62					0.69	2.13		0.89	0.55
Uniform Delay, d1	92.9	92.6	84.0					80.5	89.0		65.7	21.6
Progression Factor	1.00	1.00	1.00					1.00	1.00		0.30	0.53
Incremental Delay, d2	46.2	28.9	2.3					1.2	517.0		0.8	0.0
Delay (s)	139.1	121.5	86.4					81.7	606.0		20.5	11.4
Level of Service	F	F	F					F	F		C	B
Approach Delay (s)		118.1			0.0			352.4				15.9
Approach LOS		F			A			F				B

Intersection Summary			
HCM 2000 Control Delay	147.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	238.0	Sum of lost time (s)	43.0
Intersection Capacity Utilization	148.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	567	93	755	4	325	978	0	0	1835
Future Volume (vph)	0	0	0	567	93	755	4	325	978	0	0	1835
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.5	7.5	7.5		7.0	7.0			7.0
Lane Util. Factor				0.91	0.86	0.91		1.00	0.95			0.86
Frt				1.00	0.92	0.85		1.00	1.00			1.00
Flt Protected				0.95	0.98	1.00		0.95	1.00			1.00
Satd. Flow (prot)				1610	2893	1441		1770	3539			6408
Flt Permitted				0.95	0.98	1.00		0.95	1.00			1.00
Satd. Flow (perm)				1610	2893	1441		1770	3539			6408
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	597	98	795	4	342	1029	0	0	1932
RTOR Reduction (vph)	0	0	0	0	95	123	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	376	622	274	0	346	1029	0	0	1932
Turn Type				Split	NA	Perm	Prot	Prot	NA			NA
Protected Phases				3 4	3 4		5 6	5 6	1 2 5 6			1 2
Permitted Phases						3 4						
Actuated Green, G (s)				55.5	55.5	55.5		107.0	168.5			54.0
Effective Green, g (s)				55.5	55.5	55.5		107.0	161.0			54.0
Actuated g/C Ratio				0.23	0.23	0.23		0.45	0.68			0.23
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)				375	674	336		795	2394			1453
v/s Ratio Prot				c0.23	0.22			c0.20	0.29			c0.30
v/s Ratio Perm						0.19						
v/c Ratio				1.00	0.92	0.81		0.44	0.43			1.33
Uniform Delay, d1				91.2	89.2	86.4		44.8	17.6			92.0
Progression Factor				1.00	1.00	1.00		0.19	0.30			1.00
Incremental Delay, d2				47.1	18.0	13.3		0.2	0.0			153.2
Delay (s)				138.4	107.1	99.7		8.5	5.2			245.2
Level of Service				F	F	F		A	A			F
Approach Delay (s)		0.0			113.0				6.1			222.6
Approach LOS		A			F				A			F

Intersection Summary			
HCM 2000 Control Delay	132.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	238.0	Sum of lost time (s)	43.0
Intersection Capacity Utilization	148.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

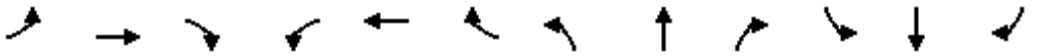
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	310
Future Volume (vph)	310
Ideal Flow (vphpl)	1900
Total Lost time (s)	7.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	326
RTOR Reduction (vph)	118
Lane Group Flow (vph)	208
Turn Type	custom
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	50.0
Effective Green, g (s)	50.0
Actuated g/C Ratio	0.21
Clearance Time (s)	7.5
Vehicle Extension (s)	2.5
Lane Grp Cap (vph)	332
v/s Ratio Prot	
v/s Ratio Perm	c0.13
v/c Ratio	0.63
Uniform Delay, d1	85.5
Progression Factor	1.00
Incremental Delay, d2	3.2
Delay (s)	88.7
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	3	134	176	2	107	1649	8	1935	111
Future Volume (vph)	3	134	176	2	107	1649	8	1935	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		7.0	7.0	7.0	7.0	7.0
Lane Util. Factor		1.00	1.00		1.00	0.91	1.00	0.91	1.00
Frt		1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770	1583		1770	5085	1770	5085	1583
Flt Permitted		0.95	1.00		0.06	1.00	0.13	1.00	1.00
Satd. Flow (perm)		1770	1583		106	5085	235	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	3	141	185	2	113	1736	8	2037	117
RTOR Reduction (vph)	0	0	142	0	0	0	0	0	43
Lane Group Flow (vph)	0	144	43	0	115	1736	8	2037	74
Turn Type	Prot	Prot	Perm	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases	4	4			5	2		6	
Permitted Phases			4	2	2		6		6
Actuated Green, G (s)		12.9	12.9		81.1	81.1	67.4	67.4	67.4
Effective Green, g (s)		12.9	12.9		81.1	81.1	67.4	67.4	67.4
Actuated g/C Ratio		0.12	0.12		0.76	0.76	0.63	0.63	0.63
Clearance Time (s)		6.0	6.0		7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		2.0	2.0		1.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		213	190		184	3854	148	3203	997
v/s Ratio Prot		c0.08			0.04	c0.34		0.40	
v/s Ratio Perm			0.03		c0.43		0.03		0.05
v/c Ratio		0.68	0.23		0.62	0.45	0.05	0.64	0.07
Uniform Delay, d1		45.0	42.5		16.0	4.8	7.6	12.2	7.7
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		6.5	0.2		4.7	0.4	0.7	1.0	0.1
Delay (s)		51.6	42.8		20.7	5.1	8.3	13.2	7.8
Level of Service		D	D		C	A	A	B	A
Approach Delay (s)		46.6				6.1		12.9	
Approach LOS		D				A		B	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	107.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	857	189	378	759	226	216	953	622	381	1487	205
Future Volume (vph)	147	857	189	378	759	226	216	953	622	381	1487	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.91	0.88	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	1770	5085	2787	3433	5085	1583
Flt Permitted	0.27	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	508	5085	1583	3433	5085	1583	140	5085	2787	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	155	902	199	398	799	238	227	1003	655	401	1565	216
RTOR Reduction (vph)	0	0	127	0	0	172	0	0	36	0	0	107
Lane Group Flow (vph)	155	902	72	398	799	66	227	1003	619	401	1565	109
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	custom	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6			2	4		4 5			8
Actuated Green, G (s)	48.5	36.0	36.0	21.0	44.5	44.5	72.1	53.4	80.9	22.6	57.3	57.3
Effective Green, g (s)	48.5	36.0	36.0	21.0	44.5	44.5	72.1	53.4	80.9	22.6	57.3	57.3
Actuated g/C Ratio	0.30	0.22	0.22	0.13	0.28	0.28	0.45	0.33	0.51	0.14	0.36	0.36
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	6.5	6.5		6.5	6.5	6.5
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.5		2.0	2.5	2.5
Lane Grp Cap (vph)	252	1144	356	450	1414	440	253	1697	1409	484	1821	566
v/s Ratio Prot	0.05	c0.18		c0.12	0.16		0.10	0.20		c0.12	c0.31	
v/s Ratio Perm	0.14		0.05			0.04	0.30		0.22			0.07
v/c Ratio	0.62	0.79	0.20	0.88	0.57	0.15	0.90	0.59	0.44	0.83	0.86	0.19
Uniform Delay, d1	42.8	58.4	50.3	68.3	49.5	43.5	48.1	44.2	25.1	66.8	47.6	35.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	5.5	1.3	17.9	1.6	0.7	30.2	1.5	0.1	10.7	5.6	0.8
Delay (s)	45.9	64.0	51.6	86.2	51.1	44.2	78.3	45.8	25.2	77.5	53.2	36.2
Level of Service	D	E	D	F	D	D	E	D	C	E	D	D
Approach Delay (s)		59.8			59.7			42.5			56.0	
Approach LOS		E			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	53.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Pine Island Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	418	240	259	243	77	132	13	163	1581	332	6	319
Future Volume (vph)	418	240	259	243	77	132	13	163	1581	332	6	319
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			7.0	7.0	7.0		7.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.91	1.00		1.00
Frt	1.00	0.92		1.00	0.91			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1770	1718		1770	1686			1770	5085	1583		1770
Flt Permitted	0.23	1.00		0.17	1.00			0.10	1.00	1.00		0.07
Satd. Flow (perm)	420	1718		313	1686			180	5085	1583		126
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	440	253	273	256	81	139	14	172	1664	349	6	336
RTOR Reduction (vph)	0	24	0	0	38	0	0	0	0	183	0	0
Lane Group Flow (vph)	440	502	0	256	182	0	0	186	1664	166	0	342
Turn Type	pm+pt	NA		pm+pt	NA		custom	pm+pt	NA	Perm	custom	pm+pt
Protected Phases	7	4		3	8			5	2			1
Permitted Phases	4			8			5	2		2	1	6
Actuated Green, G (s)	65.0	42.0		40.8	23.8			66.3	52.0	52.0		82.0
Effective Green, g (s)	65.0	42.0		40.8	23.8			66.3	52.0	52.0		82.0
Actuated g/C Ratio	0.41	0.26		0.25	0.15			0.41	0.32	0.32		0.51
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0	7.0	7.0		7.0
Vehicle Extension (s)	1.5	2.0		1.5	2.0			1.5	3.0	3.0		1.5
Lane Grp Cap (vph)	467	450		234	250			216	1652	514		300
v/s Ratio Prot	c0.21	c0.29		0.12	0.11			0.08	0.33			c0.16
v/s Ratio Perm	0.18			0.16				0.28		0.10		c0.42
v/c Ratio	0.94	1.11		1.09	0.73			0.86	1.01	0.32		1.14
Uniform Delay, d1	40.4	59.0		53.6	65.0			35.8	54.0	40.7		54.3
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	27.3	77.5		86.2	8.6			27.0	23.9	1.7		95.3
Delay (s)	67.7	136.5		139.9	73.6			62.8	77.9	42.4		149.6
Level of Service	E	F		F	E			E	E	D		F
Approach Delay (s)		105.2			109.2				71.0			
Approach LOS		F			F				E			

Intersection Summary			
HCM 2000 Control Delay	77.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

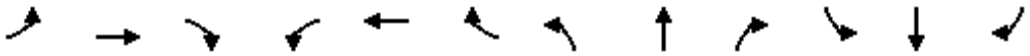
Movement	SBT	SBR
Lane Configurations	↑↑↑	↱
Traffic Volume (vph)	1334	187
Future Volume (vph)	1334	187
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	7.0	7.0
Lane Util. Factor	0.91	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5085	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5085	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1404	197
RTOR Reduction (vph)	0	93
Lane Group Flow (vph)	1404	104
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	60.7	60.7
Effective Green, g (s)	60.7	60.7
Actuated g/C Ratio	0.38	0.38
Clearance Time (s)	7.0	7.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1929	600
v/s Ratio Prot	0.28	
v/s Ratio Perm		0.07
v/c Ratio	0.73	0.17
Uniform Delay, d1	42.6	33.0
Progression Factor	1.00	1.00
Incremental Delay, d2	2.4	0.6
Delay (s)	45.0	33.6
Level of Service	D	C
Approach Delay (s)	62.3	
Approach LOS	E	

Intersection Summary

Movement	EBU	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	3	283	46	28	2256	63	1748	122
Future Volume (vph)	3	283	46	28	2256	63	1748	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		1.00	1.00	1.00	0.91	1.00	0.91	1.00
Frt		1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected		0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770	1583	1770	5085	1770	5085	1583
Flt Permitted		0.95	1.00	0.08	1.00	0.08	1.00	1.00
Satd. Flow (perm)		1770	1583	147	5085	145	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	3	298	48	29	2375	66	1840	128
RTOR Reduction (vph)	0	0	38	0	0	0	0	55
Lane Group Flow (vph)	0	301	10	29	2375	66	1840	73
Turn Type	Prot	Prot	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	4		5	2	1	6	
Permitted Phases			4	2		6		6
Actuated Green, G (s)		18.1	18.1	53.0	50.6	54.8	51.5	51.5
Effective Green, g (s)		18.1	18.1	53.0	50.6	54.8	51.5	51.5
Actuated g/C Ratio		0.20	0.20	0.59	0.56	0.61	0.57	0.57
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		2.0	2.0	1.5	3.0	1.5	3.0	3.0
Lane Grp Cap (vph)		355	318	129	2858	147	2909	905
v/s Ratio Prot		c0.17		0.01	c0.47	c0.02	0.36	
v/s Ratio Perm			0.01	0.13		0.26		0.05
v/c Ratio		0.85	0.03	0.22	0.83	0.45	0.63	0.08
Uniform Delay, d1		34.6	28.9	9.4	16.2	13.9	12.9	8.6
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		16.3	0.0	0.3	3.0	0.8	1.1	0.2
Delay (s)		50.9	28.9	9.7	19.2	14.7	14.0	8.8
Level of Service		D	C	A	B	B	B	A
Approach Delay (s)		47.9			19.1		13.7	
Approach LOS		D			B		B	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

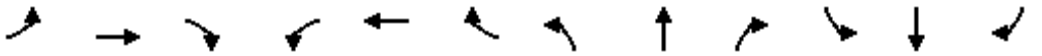
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	969	861	659	0	0	0	0	1710	909	1179	1376	0
Future Volume (vph)	969	861	659	0	0	0	0	1710	909	1179	1376	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0					7.0	7.0	7.0	7.0	
Lane Util. Factor	0.91	0.91	1.00					0.86	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3340	1583					6408	1583	3433	3539	
Flt Permitted	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1610	3340	1583					6408	1583	3433	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1020	906	694	0	0	0	0	1800	957	1241	1448	0
RTOR Reduction (vph)	0	0	93	0	0	0	0	0	93	0	0	0
Lane Group Flow (vph)	632	1294	601	0	0	0	0	1800	864	1241	1448	0
Turn Type	Split	NA	Prot					NA	Prot	Prot	NA	
Protected Phases	1 6	1 6	1 6					4 5	4 5	2 3	2 3 4 5	
Permitted Phases												
Actuated Green, G (s)	53.0	53.0	53.0					53.0	53.0	97.0	157.0	
Effective Green, g (s)	53.0	53.0	53.0					53.0	53.0	97.0	157.0	
Actuated g/C Ratio	0.24	0.24	0.24					0.24	0.24	0.43	0.70	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)	380	790	374					1516	374	1486	2480	
v/s Ratio Prot	c0.39	0.39	0.38					0.28	c0.55	c0.36	0.41	
v/s Ratio Perm												
v/c Ratio	1.66	1.64	1.61					1.19	2.31	0.84	0.58	
Uniform Delay, d1	85.5	85.5	85.5					85.5	85.5	56.4	17.0	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.22	0.76	
Incremental Delay, d2	309.9	292.8	285.2					91.3	597.8	0.4	0.0	
Delay (s)	395.4	378.3	370.7					176.8	683.3	12.9	13.0	
Level of Service	F	F	F					F	F	B	B	
Approach Delay (s)		380.4			0.0			352.6			12.9	
Approach LOS		F			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	248.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	224.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	209.5%	ICU Level of Service	H
Analysis Period (min)	15		

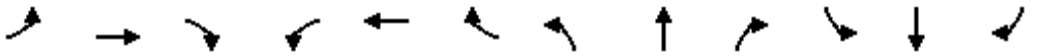
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	475	656	1122	695	1984	0	0	2080	820
Future Volume (vph)	0	0	0	475	656	1122	695	1984	0	0	2080	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0	7.0	7.0	7.0			7.0	7.0
Lane Util. Factor				0.91	0.86	0.91	0.97	0.95			0.86	1.00
Frt				1.00	0.93	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1610	2987	1441	3433	3539			6408	1583
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1610	2987	1441	3433	3539			6408	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	500	691	1181	732	2088	0	0	2189	863
RTOR Reduction (vph)	0	0	0	0	15	93	0	0	0	0	0	284
Lane Group Flow (vph)	0	0	0	450	1305	509	732	2088	0	0	2189	579
Turn Type				Prot	NA	Perm	Prot	NA			NA	custom
Protected Phases				3	3 4		5 6	1 2 5 6			1 2	
Permitted Phases						3 4						6
Actuated Green, G (s)				45.0	46.0	53.0	97.0	157.0			53.0	45.0
Effective Green, g (s)				45.0	46.0	53.0	97.0	157.0			53.0	45.0
Actuated g/C Ratio				0.20	0.21	0.24	0.43	0.70			0.24	0.20
Clearance Time (s)				7.0								7.0
Vehicle Extension (s)				2.0								2.0
Lane Grp Cap (vph)				323	706	340	1486	2480			1516	318
v/s Ratio Prot				0.28	c0.37		0.21	c0.59			c0.34	
v/s Ratio Perm					0.07	0.35						c0.37
v/c Ratio				1.39	1.85	1.50	0.49	0.84			1.44	1.82
Uniform Delay, d1				89.5	89.0	85.5	45.8	24.4			85.5	89.5
Progression Factor				1.00	1.00	1.00	0.25	0.86			1.00	1.00
Incremental Delay, d2				194.9	387.2	238.5	0.0	0.2			203.6	381.9
Delay (s)				284.4	476.2	324.0	11.5	21.4			289.1	471.4
Level of Service				F	F	F	B	C			F	F
Approach Delay (s)		0.0			401.2			18.8			340.6	
Approach LOS		A			F			B			F	

Intersection Summary			
HCM 2000 Control Delay	248.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	224.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	209.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	6	80	60	8	34	38	2915	153	43	2760	41
Future Volume (vph)	84	6	80	60	8	34	38	2915	153	43	2760	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	0.86		1.00	0.88		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1602		1770	1634		1770	5085	1583	1770	5074	
Flt Permitted	0.73	1.00		0.70	1.00		0.06	1.00	1.00	0.06	1.00	
Satd. Flow (perm)	1357	1602		1301	1634		110	5085	1583	119	5074	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	88	6	84	63	8	36	40	3068	161	45	2905	43
RTOR Reduction (vph)	0	76	0	0	5	0	0	0	35	0	2	0
Lane Group Flow (vph)	88	14	0	63	39	0	40	3068	126	45	2946	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	8.3	8.3		8.3	8.3		70.7	70.7	70.7	62.7	62.7	
Effective Green, g (s)	8.3	8.3		8.3	8.3		70.7	70.7	70.7	62.7	62.7	
Actuated g/C Ratio	0.09	0.09		0.09	0.09		0.79	0.79	0.79	0.70	0.70	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		1.5	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	125	147		119	150		141	3994	1243	82	3534	
v/s Ratio Prot		0.01			0.02		0.01	c0.60			c0.58	
v/s Ratio Perm	c0.06			0.05			0.21		0.08	0.38		
v/c Ratio	0.70	0.09		0.53	0.26		0.28	0.77	0.10	0.55	0.83	
Uniform Delay, d1	39.7	37.4		39.0	38.0		13.0	5.2	2.2	6.7	9.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	13.7	0.1		2.0	0.3		0.4	1.5	0.2	7.3	1.8	
Delay (s)	53.3	37.5		40.9	38.3		13.4	6.7	2.4	14.0	11.7	
Level of Service	D	D		D	D		B	A	A	B	B	
Approach Delay (s)		45.3			39.9			6.6			11.7	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

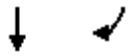
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	410	407	2426	609	722	2408
Future Volume (vph)	410	407	2426	609	722	2408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	15%		0%			0%
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lane Util. Factor	0.97	1.00	0.91	1.00	0.97	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3176	1465	5085	1583	3433	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3176	1465	5085	1583	3433	5085
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	432	428	2554	641	760	2535
RTOR Reduction (vph)	0	1	0	170	0	0
Lane Group Flow (vph)	432	427	2554	471	760	2535
Turn Type	Prot	pt+ov	NA	Prot	Prot	NA
Protected Phases	4	4 1	2	2	1	1 2
Permitted Phases						
Actuated Green, G (s)	22.7	65.9	81.1	81.1	36.7	124.3
Effective Green, g (s)	22.7	65.9	81.1	81.1	36.7	124.3
Actuated g/C Ratio	0.14	0.41	0.51	0.51	0.23	0.78
Clearance Time (s)	6.5		6.5	6.5	6.5	
Vehicle Extension (s)	2.0		3.0	3.0	1.5	
Lane Grp Cap (vph)	450	603	2577	802	787	3950
v/s Ratio Prot	c0.14	0.29	c0.50	0.30	c0.22	0.50
v/s Ratio Perm						
v/c Ratio	0.96	0.71	0.99	0.59	0.97	0.64
Uniform Delay, d1	68.2	39.1	39.1	27.7	61.0	7.9
Progression Factor	1.00	1.00	1.00	1.00	1.09	1.06
Incremental Delay, d2	31.7	3.1	15.8	3.1	4.5	0.1
Delay (s)	99.9	42.2	54.8	30.9	71.2	8.5
Level of Service	F	D	D	C	E	A
Approach Delay (s)	71.2		50.0			23.0
Approach LOS	E		D			C

Intersection Summary			
HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	60	33	223	190	17	54	28	99	2114	396	10	165
Future Volume (vph)	60	33	223	190	17	54	28	99	2114	396	10	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0		6.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.91	1.00		1.00
Frt	1.00	0.87		1.00	0.89			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1770	1620		1770	1650			1770	5085	1583		1770
Flt Permitted	0.71	1.00		0.41	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	1319	1620		772	1650			1770	5085	1583		1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	63	35	235	200	18	57	29	104	2225	417	11	174
RTOR Reduction (vph)	0	40	0	0	45	0	0	0	0	189	0	0
Lane Group Flow (vph)	63	230	0	200	30	0	0	133	2225	228	0	185
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4			8		5	5	2		1	1
Permitted Phases	4			8						2		
Actuated Green, G (s)	17.0	17.0		17.0	17.0			4.0	37.0	37.0		8.0
Effective Green, g (s)	17.0	17.0		17.0	17.0			4.0	37.0	37.0		8.0
Actuated g/C Ratio	0.21	0.21		0.21	0.21			0.05	0.46	0.46		0.10
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0		6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			1.5	3.0	3.0		1.5
Lane Grp Cap (vph)	280	344		164	350			88	2351	732		177
v/s Ratio Prot		0.14			0.02			0.08	0.44			c0.10
v/s Ratio Perm	0.05			c0.26						0.14		
v/c Ratio	0.23	0.67		1.22	0.09			1.51	0.95	0.31		1.05
Uniform Delay, d1	26.1	28.9		31.5	25.3			38.0	20.6	13.5		36.0
Progression Factor	1.00	1.00		1.00	1.00			1.54	1.34	2.00		1.00
Incremental Delay, d2	0.1	3.8		141.4	0.0			248.2	3.8	0.4		80.1
Delay (s)	26.2	32.7		172.9	25.3			306.8	31.4	27.3		116.1
Level of Service	C	C		F	C			F	C	C		F
Approach Delay (s)		31.5			132.6				44.0			
Approach LOS		C			F				D			

Intersection Summary			
HCM 2000 Control Delay	67.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	2772	30
Future Volume (vph)	2772	30
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.91	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	5077	
Flt Permitted	1.00	
Satd. Flow (perm)	5077	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	2918	32
RTOR Reduction (vph)	1	0
Lane Group Flow (vph)	2949	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	41.0	
Effective Green, g (s)	41.0	
Actuated g/C Ratio	0.51	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2601	
v/s Ratio Prot	c0.58	
v/s Ratio Perm		
v/c Ratio	1.13	
Uniform Delay, d1	19.5	
Progression Factor	1.00	
Incremental Delay, d2	65.5	
Delay (s)	85.0	
Level of Service	F	
Approach Delay (s)	86.8	
Approach LOS	F	

Intersection Summary

University Drive

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	13	260	480	687	2	1028	582	447	543	2750	836	7
Future Volume (vph)	13	260	480	687	2	1028	582	447	543	2750	836	7
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)		6.5	6.5	7.0		6.5	6.5	6.5	7.0	7.0	7.0	
Lane Util. Factor		0.97	0.95	0.88		0.97	0.95	1.00	0.97	0.91	1.00	
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		3494	3668	2863		3524	3597	1594	3523	5219	1573	
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)		3494	3668	2863		3524	3597	1594	3523	5219	1573	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	274	505	723	2	1082	613	471	572	2895	880	7
RTOR Reduction (vph)	0	0	0	83	0	0	0	107	0	0	205	0
Lane Group Flow (vph)	0	288	505	640	0	1084	613	364	572	2895	675	0
Confl. Peds. (#/hr)				1							1	
Heavy Vehicles (%)	0%	3%	1%	1%	0%	2%	3%	4%	2%	2%	4%	2%
Turn Type	Prot	Prot	NA	pm+ov	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	7	7	4	5	3	3	8		5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		8.5	30.7	45.5		25.5	47.7	47.7	14.8	63.0	63.0	
Effective Green, g (s)		8.5	30.7	45.5		25.5	47.7	47.7	14.8	63.0	63.0	
Actuated g/C Ratio		0.05	0.19	0.28		0.16	0.30	0.30	0.09	0.39	0.39	
Clearance Time (s)		6.5	6.5	7.0		6.5	6.5	6.5	7.0	7.0	7.0	
Vehicle Extension (s)		1.5	2.0	1.5		1.5	2.0	2.0	1.5	3.0	3.0	
Lane Grp Cap (vph)		185	703	814		561	1072	475	325	2054	619	
v/s Ratio Prot		0.08	0.14	0.07		c0.31	0.17		c0.16	0.55		
v/s Ratio Perm				0.15				c0.23			0.43	
v/c Ratio		1.56	0.72	0.79		1.93	0.57	0.77	1.76	1.41	1.09	
Uniform Delay, d1		75.8	60.6	52.8		67.2	47.5	51.1	72.6	48.5	48.5	
Progression Factor		0.78	0.96	1.20		1.08	1.07	1.10	1.08	1.08	1.22	
Incremental Delay, d2		268.7	2.1	3.4		425.3	0.4	5.8	343.2	184.5	43.7	
Delay (s)		327.9	60.4	66.8		498.0	51.4	61.8	421.5	237.1	102.8	
Level of Service		F	E	E		F	D	E	F	F	F	
Approach Delay (s)			114.3				277.0			234.2		
Approach LOS			F				F			F		

Intersection Summary			
HCM 2000 Control Delay	273.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	145.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	344	3465	186
Future Volume (vph)	344	3465	186
Ideal Flow (vphpl)	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3523	5219	1584
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3523	5219	1584
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	362	3647	196
RTOR Reduction (vph)	0	0	98
Lane Group Flow (vph)	369	3647	98
Confl. Peds. (#/hr)			3
Heavy Vehicles (%)	2%	2%	3%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	13.8	62.0	62.0
Effective Green, g (s)	13.8	62.0	62.0
Actuated g/C Ratio	0.09	0.39	0.39
Clearance Time (s)	7.0	7.0	7.0
Vehicle Extension (s)	1.5	3.0	3.0
Lane Grp Cap (vph)	303	2022	613
v/s Ratio Prot	0.10	c0.70	
v/s Ratio Perm			0.06
v/c Ratio	1.22	1.80	0.16
Uniform Delay, d1	73.1	49.0	32.0
Progression Factor	1.17	0.92	0.79
Incremental Delay, d2	107.7	362.3	0.2
Delay (s)	193.2	407.3	25.3
Level of Service	F	F	C
Approach Delay (s)		370.8	
Approach LOS		F	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	1353	78	1848	6	145	2318	0	0	2274
Future Volume (vph)	0	0	0	1353	78	1848	6	145	2318	0	0	2274
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)				7.0	7.0	7.0		7.0	7.0			7.0
Lane Util. Factor				0.91	0.86	0.91		0.97	0.91			0.86
Frt				1.00	0.91	0.85		1.00	1.00			0.97
Flt Protected				0.95	0.98	1.00		0.95	1.00			1.00
Satd. Flow (prot)				1653	2916	1464		3493	5219			6324
Flt Permitted				0.95	0.98	1.00		0.95	1.00			1.00
Satd. Flow (perm)				1653	2916	1464		3493	5219			6324
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1424	82	1945	6	153	2440	0	0	2394
RTOR Reduction (vph)	0	0	0	0	4	87	0	0	0	0	0	25
Lane Group Flow (vph)	0	0	0	869	1606	885	0	159	2440	0	0	2900
Heavy Vehicles (%)	0%	0%	0%	2%	6%	3%	0%	3%	2%	0%	0%	3%
Turn Type				Perm	NA	Perm	Prot	Prot	NA			NA
Protected Phases					12		10	10	2 4 10			2 4
Permitted Phases				12		12						
Actuated Green, G (s)				47.0	47.0	47.0		17.0	99.0			75.0
Effective Green, g (s)				47.0	47.0	47.0		17.0	99.0			75.0
Actuated g/C Ratio				0.29	0.29	0.29		0.11	0.62			0.47
Clearance Time (s)				7.0	7.0	7.0		7.0				
Vehicle Extension (s)				3.0	3.0	3.0		3.0				
Lane Grp Cap (vph)				485	856	430		371	3229			2964
v/s Ratio Prot								0.05	c0.47			c0.46
v/s Ratio Perm				0.53	0.55	c0.60						
v/c Ratio				1.79	2.25dr	2.06		0.43	0.76			0.98
Uniform Delay, d1				56.5	56.5	56.5		67.0	21.8			41.7
Progression Factor				1.00	1.00	1.00		0.68	0.44			1.04
Incremental Delay, d2				364.5	399.0	484.3		0.3	0.5			2.0
Delay (s)				421.0	455.5	540.8		46.1	10.0			45.5
Level of Service				F	F	F		D	A			D
Approach Delay (s)		0.0			470.8				12.2			45.5
Approach LOS		A			F				B			D

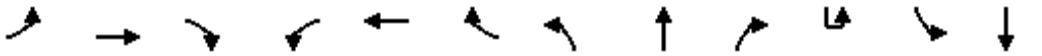
Intersection Summary			
HCM 2000 Control Delay	199.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	200.8%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	504
Future Volume (vph)	504
Ideal Flow (vphpl)	1950
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	531
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	4%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	533	534	968	0	0	0	0	1934	1106	2	436	3195
Future Volume (vph)	533	534	968	0	0	0	0	1934	1106	2	436	3195
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0					7.0	4.0		7.0	7.0
Lane Util. Factor	0.91	0.86	0.91					0.91	1.00		0.97	0.91
Frt	1.00	0.93	0.85					1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00					1.00	1.00		0.95	1.00
Satd. Flow (prot)	1637	3057	1493					5168	1625		3268	5219
Flt Permitted	0.95	1.00	1.00					1.00	1.00		0.95	1.00
Satd. Flow (perm)	1637	3057	1493					5168	1625		3268	5219
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	561	562	1019	0	0	0	0	2036	1164	2	459	3363
RTOR Reduction (vph)	0	0	87	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	505	1117	433	0	0	0	0	2036	1164	0	461	3363
Heavy Vehicles (%)	3%	3%	1%	0%	0%	0%	0%	3%	2%	0%	10%	2%
Turn Type	Perm	NA	Perm					NA	Free	Prot	Prot	NA
Protected Phases		12						4 10		2	2	2 4 10
Permitted Phases	12		12						Free			
Actuated Green, G (s)	47.0	47.0	47.0					75.0	160.0		17.0	99.0
Effective Green, g (s)	47.0	47.0	47.0					75.0	160.0		17.0	99.0
Actuated g/C Ratio	0.29	0.29	0.29					0.47	1.00		0.11	0.62
Clearance Time (s)	7.0	7.0	7.0								7.0	
Vehicle Extension (s)	3.0	3.0	3.0								3.0	
Lane Grp Cap (vph)	480	897	438					2422	1625		347	3229
v/s Ratio Prot								0.39			c0.14	c0.64
v/s Ratio Perm	0.31	0.37	0.29						0.72			
v/c Ratio	1.05	1.25	0.99					0.84	0.72		1.33	1.04
Uniform Delay, d1	56.5	56.5	56.2					37.3	0.0		71.5	30.5
Progression Factor	1.00	1.00	1.00					1.32	1.00		1.07	1.02
Incremental Delay, d2	55.5	119.8	39.6					1.7	1.7		149.7	19.9
Delay (s)	112.0	176.3	95.9					51.0	1.7		226.3	50.9
Level of Service	F	F	F					D	A		F	D
Approach Delay (s)		141.6			0.0			33.0				72.1
Approach LOS		F			A			C				E

Intersection Summary			
HCM 2000 Control Delay	74.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	200.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1950
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	20	6	15	46	4	112	27	30	2904	58	91	3748
Future Volume (vph)	20	6	15	46	4	112	27	30	2904	58	91	3748
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0		7.0	7.0		7.0	7.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	0.88		1.00	*0.70		0.97	0.91
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00		1.00	1.00
Flt Protected	0.95	0.97	1.00	0.95	0.96	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1630	1722	1658	1760	1777	2860		1852	5339		3489	5219
Flt Permitted	0.95	0.97	1.00	0.95	0.96	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1630	1722	1658	1760	1777	2860		1852	5339		3489	5219
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	6	16	48	4	118	28	32	3057	61	96	3945
RTOR Reduction (vph)	0	0	16	0	0	102	0	0	1	0	0	0
Lane Group Flow (vph)	13	14	0	26	26	16	0	60	3117	0	96	3945
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	0%	2%	0%	3%	2%
Turn Type	Split	NA	Prot	Split	NA	pt+ov	Prot	Prot	NA		Prot	NA
Protected Phases	8	8	8	4	4	4 1	5	5	2		1	6
Permitted Phases												
Actuated Green, G (s)	4.1	4.1	4.1	7.3	7.3	21.6		8.1	114.3		8.3	114.5
Effective Green, g (s)	4.1	4.1	4.1	7.3	7.3	21.6		8.1	114.3		8.3	114.5
Actuated g/C Ratio	0.03	0.03	0.03	0.05	0.05	0.14		0.05	0.71		0.05	0.72
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			7.0	7.0		7.0	7.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			1.5	3.0		1.5	3.0
Lane Grp Cap (vph)	41	44	42	80	81	386		93	3814		180	3734
v/s Ratio Prot	0.01	c0.01	0.00	c0.01	0.01	0.01		c0.03	0.58		0.03	c0.76
v/s Ratio Perm												
v/c Ratio	0.32	0.32	0.01	0.33	0.32	0.04		0.65	0.82		0.53	1.06
Uniform Delay, d1	76.6	76.6	76.0	74.0	73.9	60.2		74.5	15.7		74.0	22.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.90	0.82		0.89	1.17
Incremental Delay, d2	1.6	1.5	0.0	0.9	0.8	0.0		6.6	1.2		0.1	26.2
Delay (s)	78.2	78.1	76.0	74.8	74.8	60.2		73.4	14.2		65.8	52.8
Level of Service	E	E	E	E	E	E		E	B		E	D
Approach Delay (s)		77.3			64.7				15.3			52.8
Approach LOS		E			E				B			D

Intersection Summary			
HCM 2000 Control Delay	37.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	28
Future Volume (vph)	28
Ideal Flow (vphpl)	1950
Total Lost time (s)	7.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1658
Flt Permitted	1.00
Satd. Flow (perm)	1658
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	29
RTOR Reduction (vph)	8
Lane Group Flow (vph)	21
Heavy Vehicles (%)	0%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	114.5
Effective Green, g (s)	114.5
Actuated g/C Ratio	0.72
Clearance Time (s)	7.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1186
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.02
Uniform Delay, d1	6.6
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	6.6
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	113	13	29	71	8	191	4	38	3655	132	74	115
Future Volume (vph)	113	13	29	71	8	191	4	38	3655	132	74	115
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)		7.0		7.0	7.0	7.0		7.0	7.0	7.0		7.0
Lane Util. Factor		0.95		0.95	0.91	0.95		1.00	0.81	1.00		0.97
Frt		0.97		1.00	0.87	0.85		1.00	1.00	0.85		1.00
Flt Protected		0.96		0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		3355		1676	1498	1529		1852	7667	1625		3572
Flt Permitted		0.96		0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		3355		1676	1498	1529		1852	7667	1625		3572
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	119	14	31	75	8	201	4	40	3847	139	78	121
RTOR Reduction (vph)	0	16	0	0	88	100	0	0	0	49	0	0
Lane Group Flow (vph)	0	148	0	67	22	7	0	44	3847	90	0	199
Heavy Vehicles (%)	1%	33%	0%	5%	0%	3%	0%	0%	3%	2%	0%	1%
Turn Type	Split	NA		Split	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases						4				2		
Actuated Green, G (s)		12.0		10.8	10.8	10.8		6.9	96.4	96.4		12.8
Effective Green, g (s)		12.0		10.8	10.8	10.8		6.9	96.4	96.4		12.8
Actuated g/C Ratio		0.08		0.07	0.07	0.07		0.04	0.60	0.60		0.08
Clearance Time (s)		7.0		7.0	7.0	7.0		7.0	7.0	7.0		7.0
Vehicle Extension (s)		2.5		2.0	2.0	2.0		1.5	3.0	3.0		1.5
Lane Grp Cap (vph)		251		113	101	103		79	4619	979		285
v/s Ratio Prot		c0.04		c0.04	0.01			0.02	0.50			c0.06
v/s Ratio Perm						0.00				0.06		
v/c Ratio		0.59		0.59	0.22	0.07		0.56	0.83	0.09		0.70
Uniform Delay, d1		71.6		72.5	70.6	69.9		75.1	25.4	13.4		71.7
Progression Factor		1.00		1.00	1.00	1.00		1.01	0.49	0.49		1.20
Incremental Delay, d2		3.1		5.5	0.4	0.1		2.4	1.0	0.1		2.0
Delay (s)		74.7		77.9	71.0	70.0		78.2	13.5	6.7		88.0
Level of Service		E		E	E	E		E	B	A		F
Approach Delay (s)		74.7			72.3				14.0			
Approach LOS		E			E				B			

Intersection Summary			
HCM 2000 Control Delay	71.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	3801	60
Future Volume (vph)	3801	60
Ideal Flow (vphpl)	1950	1950
Total Lost time (s)	10.0	7.0
Lane Util. Factor	0.91	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5219	1658
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5219	1658
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	4001	63
RTOR Reduction (vph)	0	23
Lane Group Flow (vph)	4001	40
Heavy Vehicles (%)	2%	0%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	102.3	102.3
Effective Green, g (s)	99.3	102.3
Actuated g/C Ratio	0.62	0.64
Clearance Time (s)	7.0	7.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	3239	1060
v/s Ratio Prot	c0.77	
v/s Ratio Perm		0.02
v/c Ratio	1.24	0.04
Uniform Delay, d1	30.4	10.7
Progression Factor	0.71	1.00
Incremental Delay, d2	106.8	0.0
Delay (s)	128.3	10.7
Level of Service	F	B
Approach Delay (s)	124.7	
Approach LOS	F	

Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	353	339	344	34	443	183	837	24	130	2619	470	18
Future Volume (vph)	353	339	344	34	443	183	837	24	130	2619	470	18
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	
Lane Util. Factor	0.97	0.95	1.00		1.00	1.00	0.88		1.00	0.81	1.00	
Frt	1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	3594	3668	1641		1786	1857	2805		1735	7743	1625	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	3594	3668	1641		1786	1857	2805		1735	7743	1625	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	372	357	362	36	466	193	881	25	137	2757	495	19
RTOR Reduction (vph)	0	0	54	0	0	0	53	0	0	0	141	0
Lane Group Flow (vph)	372	357	308	0	502	193	828	0	162	2757	354	0
Heavy Vehicles (%)	0%	1%	1%	0%	4%	5%	4%	0%	8%	2%	2%	0%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot	NA	Perm	Prot
Protected Phases	7	4	5!	3	3	8	1!	5!	5	2		1!
Permitted Phases			4				8				2	
Actuated Green, G (s)	16.0	20.7	44.2		17.0	21.7	46.0		23.5	70.0	70.0	
Effective Green, g (s)	16.0	20.7	44.2		17.0	21.7	46.0		23.5	70.0	70.0	
Actuated g/C Ratio	0.10	0.13	0.28		0.11	0.14	0.29		0.15	0.44	0.44	
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	
Vehicle Extension (s)	1.5	2.0	1.5		1.5	2.0	1.5		1.5	3.0	3.0	
Lane Grp Cap (vph)	359	474	525		189	251	929		254	3387	710	
v/s Ratio Prot	0.10	0.10	0.09		c0.28	0.10	c0.14		0.09	0.36		
v/s Ratio Perm			0.10				0.16				0.22	
v/c Ratio	1.04	0.75	0.59		2.66	0.77	0.89		0.64	0.81	0.50	
Uniform Delay, d1	72.0	67.2	50.0		71.5	66.7	54.6		64.2	39.3	32.4	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		0.84	0.99	1.45	
Incremental Delay, d2	57.2	5.9	1.1		760.2	12.0	10.5		0.4	0.2	0.2	
Delay (s)	129.2	73.1	51.1		831.7	78.7	65.0		54.3	39.1	47.1	
Level of Service	F	E	D		F	E	E		D	D	D	
Approach Delay (s)		84.9				310.9				41.0		
Approach LOS		F				F				D		

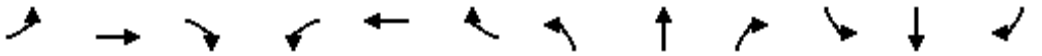
Intersection Summary			
HCM 2000 Control Delay	148.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	137.4%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	578	3147	171
Future Volume (vph)	578	3147	171
Ideal Flow (vphpl)	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3559	5271	1564
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3559	5271	1564
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	608	3313	180
RTOR Reduction (vph)	0	0	69
Lane Group Flow (vph)	627	3313	111
Heavy Vehicles (%)	1%	1%	6%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	24.3	70.8	70.8
Effective Green, g (s)	24.3	70.8	70.8
Actuated g/C Ratio	0.15	0.44	0.44
Clearance Time (s)	7.0	7.0	7.0
Vehicle Extension (s)	1.5	3.0	3.0
Lane Grp Cap (vph)	540	2332	692
v/s Ratio Prot	c0.18	c0.63	
v/s Ratio Perm			0.07
v/c Ratio	1.16	1.42	0.16
Uniform Delay, d1	67.8	44.6	26.8
Progression Factor	1.22	0.42	0.24
Incremental Delay, d2	74.6	189.5	0.0
Delay (s)	157.7	208.1	6.5
Level of Service	F	F	A
Approach Delay (s)		191.6	
Approach LOS		F	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	298	360	111	139	60	461	75	2538	272	744	2704	248
Future Volume (vph)	298	360	111	139	60	461	75	2538	272	744	2704	248
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1799	1950	1625	1781	1950	1658	1700	5219	1641	3558	5219	1609
Flt Permitted	0.65	1.00	1.00	0.13	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1234	1950	1625	246	1950	1658	1700	5219	1641	3558	5219	1609
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	314	379	117	146	63	485	79	2672	286	783	2846	261
RTOR Reduction (vph)	0	0	92	0	0	226	0	0	78	0	0	57
Lane Group Flow (vph)	314	379	25	146	63	259	79	2672	208	783	2846	204
Heavy Vehicles (%)	3%	0%	2%	4%	0%	0%	9%	2%	1%	1%	2%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Actuated Green, G (s)	49.5	33.5	33.5	43.5	30.5	30.5	11.3	62.0	62.0	25.5	76.2	76.2
Effective Green, g (s)	49.5	33.5	33.5	43.5	30.5	30.5	11.3	62.0	62.0	25.5	76.2	76.2
Actuated g/C Ratio	0.31	0.21	0.21	0.27	0.19	0.19	0.07	0.39	0.39	0.16	0.48	0.48
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	1.5	2.0	2.0	1.5	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lane Grp Cap (vph)	438	408	340	191	371	316	120	2022	635	567	2485	766
v/s Ratio Prot	c0.07	c0.19		0.06	0.03		0.05	c0.51		c0.22	c0.55	
v/s Ratio Perm	0.15		0.02	0.15		0.16			0.13			0.13
v/c Ratio	0.72	0.93	0.07	0.76	0.17	0.82	0.66	1.32	0.33	1.38	1.15	0.27
Uniform Delay, d1	47.5	62.1	50.8	48.4	54.2	62.1	72.5	49.0	34.4	67.2	41.9	25.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.18	0.50	0.15
Incremental Delay, d2	4.6	26.8	0.0	15.0	0.1	14.8	9.5	148.2	1.4	172.5	65.9	0.1
Delay (s)	52.1	88.9	50.8	63.4	54.2	77.0	82.0	197.2	35.8	252.0	86.9	3.8
Level of Service	D	F	D	E	D	E	F	F	D	F	F	A
Approach Delay (s)		69.1			72.0			179.0			114.6	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	129.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	116.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Davie Road

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	23	575	138	271	2	124	263	568	294	1280	102	97
Future Volume (vph)	23	575	138	271	2	124	263	568	294	1280	102	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00	1.00			1.00	1.00	1.00	1.00	0.95	1.00	
Frt		1.00	0.90			1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		1770	1678			1770	1863	1583	1770	3539	1583	
Flt Permitted		0.14	1.00			0.24	1.00	1.00	0.07	1.00	1.00	
Satd. Flow (perm)		257	1678			455	1863	1583	134	3539	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	605	145	285	2	131	277	598	309	1347	107	102
RTOR Reduction (vph)	0	0	44	0	0	0	0	158	0	0	68	0
Lane Group Flow (vph)	0	629	386	0	0	133	277	440	309	1347	39	0
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA	Perm	pm+pt	NA	Perm	custom
Protected Phases		7	4			3	8		5	2		
Permitted Phases	7	4			3	8		8	2		2	1
Actuated Green, G (s)		57.0	42.0			32.0	23.0	23.0	72.0	59.0	59.0	
Effective Green, g (s)		57.0	42.0			32.0	23.0	23.0	72.0	59.0	59.0	
Actuated g/C Ratio		0.36	0.26			0.20	0.14	0.14	0.45	0.37	0.37	
Clearance Time (s)		6.0	6.0			6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		1.5	2.0			1.5	2.0	2.0	1.5	3.0	3.0	
Lane Grp Cap (vph)		356	440			164	267	227	193	1305	583	
v/s Ratio Prot		c0.31	0.23			0.05	0.15		c0.13	0.38		
v/s Ratio Perm		c0.32				0.12		0.28	0.59		0.02	
v/c Ratio		1.77	0.88			0.81	1.04	1.94	1.60	1.03	0.07	
Uniform Delay, d1		50.4	56.5			57.5	68.5	68.5	46.6	50.5	32.7	
Progression Factor		1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		356.4	17.0			24.1	65.2	438.9	293.4	33.6	0.2	
Delay (s)		406.8	73.6			81.6	133.7	507.4	339.9	84.1	32.9	
Level of Service		F	E			F	F	F	F	F	C	
Approach Delay (s)			271.5				348.5			125.8		
Approach LOS			F				F			F		

Intersection Summary			
HCM 2000 Control Delay	233.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.82		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	172.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

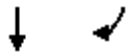
Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	265	1278	1437
Future Volume (vph)	265	1278	1437
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583
Flt Permitted	0.06	1.00	1.00
Satd. Flow (perm)	115	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	279	1345	1513
RTOR Reduction (vph)	0	0	216
Lane Group Flow (vph)	381	1345	1297
Turn Type	pm+pt	NA	Perm
Protected Phases	1	6	
Permitted Phases	6		6
Actuated Green, G (s)	91.0	72.0	72.0
Effective Green, g (s)	91.0	72.0	72.0
Actuated g/C Ratio	0.57	0.45	0.45
Clearance Time (s)	6.0	6.0	6.0
Vehicle Extension (s)	1.5	3.0	3.0
Lane Grp Cap (vph)	334	1592	712
v/s Ratio Prot	0.19	0.38	
v/s Ratio Perm	0.46		c0.82
v/c Ratio	1.14	0.84	1.82
Uniform Delay, d1	55.3	39.0	44.0
Progression Factor	0.88	1.37	1.54
Incremental Delay, d2	80.4	2.9	372.4
Delay (s)	129.1	56.4	440.0
Level of Service	F	E	F
Approach Delay (s)		244.1	
Approach LOS		F	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	5	5	20	280	4	377	47	7	2359	134	6	238
Future Volume (vph)	5	5	20	280	4	377	47	7	2359	134	6	238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0	6.0		6.0
Lane Util. Factor		1.00		1.00	1.00			1.00	0.91	1.00		0.97
Frt		0.91		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected		0.99		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)		1679		1770	1586			1770	5085	1583		3433
Flt Permitted		0.73		0.74	1.00			0.04	1.00	1.00		0.95
Satd. Flow (perm)		1239		1373	1586			82	5085	1583		3433
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	5	21	295	4	397	49	7	2483	141	6	251
RTOR Reduction (vph)	0	15	0	0	74	0	0	0	0	44	0	0
Lane Group Flow (vph)	0	16	0	295	327	0	0	56	2483	97	0	257
Turn Type	Perm	NA		Perm	NA		custom	pm+pt	NA	Perm	Prot	Prot
Protected Phases		4			8			5	2		1	1
Permitted Phases	4			8			5	2		2		
Actuated Green, G (s)		37.0		37.0	37.0			94.6	90.6	90.6		14.4
Effective Green, g (s)		37.0		37.0	37.0			94.6	90.6	90.6		14.4
Actuated g/C Ratio		0.23		0.23	0.23			0.59	0.57	0.57		0.09
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0	6.0		6.0
Vehicle Extension (s)		2.0		2.0	2.0			1.5	3.0	3.0		2.0
Lane Grp Cap (vph)		286		317	366			90	2879	896		308
v/s Ratio Prot					0.21			0.02	0.49			c0.07
v/s Ratio Perm		0.01		c0.21				0.35		0.06		
v/c Ratio		0.05		0.93	0.89			0.62	0.86	0.11		0.83
Uniform Delay, d1		47.9		60.2	59.6			29.9	29.4	16.0		71.6
Progression Factor		1.00		1.00	1.00			1.00	0.75	1.04		1.00
Incremental Delay, d2		0.0		32.6	22.6			0.9	0.4	0.0		16.7
Delay (s)		47.9		92.8	82.2			30.6	22.3	16.6		88.3
Level of Service		D		F	F			C	C	B		F
Approach Delay (s)		47.9			86.7				22.2			
Approach LOS		D			F				C			

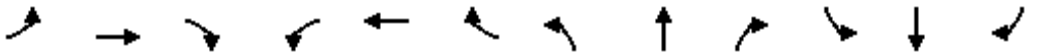
Intersection Summary			
HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	2688	8
Future Volume (vph)	2688	8
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.91	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	5083	
Flt Permitted	1.00	
Satd. Flow (perm)	5083	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	2829	8
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	2837	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	101.0	
Effective Green, g (s)	101.0	
Actuated g/C Ratio	0.63	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	3208	
v/s Ratio Prot	c0.56	
v/s Ratio Perm		
v/c Ratio	0.88	
Uniform Delay, d1	24.6	
Progression Factor	1.00	
Incremental Delay, d2	4.0	
Delay (s)	28.6	
Level of Service	C	
Approach Delay (s)	33.6	
Approach LOS	C	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	411	1458	0	0	0	0	1548	1196	46	1479	0
Future Volume (vph)	74	411	1458	0	0	0	0	1548	1196	46	1479	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0					7.0	7.0	7.0	7.0	
Lane Util. Factor		0.91	0.91					0.91	0.91	1.00	0.95	
Frt		0.91	0.85					0.97	0.85	1.00	1.00	
Flt Protected		1.00	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3075	1441					3294	1441	1770	3539	
Flt Permitted		1.00	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3075	1441					3294	1441	1770	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	78	433	1535	0	0	0	0	1629	1259	48	1557	0
RTOR Reduction (vph)	0	71	143	0	0	0	0	11	288	0	0	0
Lane Group Flow (vph)	0	1208	624	0	0	0	0	1996	593	48	1557	0
Turn Type	Perm	NA	Prot					NA	custom	Prot	NA	
Protected Phases		1	1					3 4	3 4 5	2	2 3 4 5	
Permitted Phases	1											
Actuated Green, G (s)		20.0	20.0					34.0	66.0	60.0	133.0	
Effective Green, g (s)		20.0	20.0					34.0	66.0	60.0	133.0	
Actuated g/C Ratio		0.12	0.12					0.20	0.40	0.36	0.80	
Clearance Time (s)		7.0	7.0							7.0		
Vehicle Extension (s)		2.0	2.0							3.0		
Lane Grp Cap (vph)		368	172					670	569	635	2818	
v/s Ratio Prot			c0.43					c0.61	c0.41	0.03	c0.44	
v/s Ratio Perm		0.39										
v/c Ratio		3.06dr	3.63					2.98	1.04	0.08	0.55	
Uniform Delay, d1		73.5	73.5					66.5	50.5	35.2	6.2	
Progression Factor		1.00	1.00					1.00	1.00	0.61	0.52	
Incremental Delay, d2		1033.8	1195.6					894.5	49.2	0.0	0.0	
Delay (s)		1107.3	1269.1					961.0	99.7	21.4	3.2	
Level of Service		F	F					F	F	C	A	
Approach Delay (s)		1167.9			0.0			698.3			3.7	
Approach LOS		F			A			F			A	

Intersection Summary			
HCM 2000 Control Delay	674.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.80		
Actuated Cycle Length (s)	167.0	Sum of lost time (s)	35.0
Intersection Capacity Utilization	165.2%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

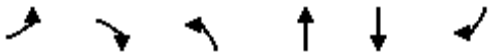
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	1525	666	1622	0
Future Volume (vph)	0	0	1525	666	1622	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0	7.0	
Lane Util. Factor			0.91	0.91	0.97	
Frt			1.00	1.00	1.00	
Flt Protected			0.95	0.97	0.95	
Satd. Flow (prot)			1610	3302	3433	
Flt Permitted			0.95	0.97	0.95	
Satd. Flow (perm)			1610	3302	3433	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1605	701	1707	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	802	1504	1707	0
Turn Type			Split	NA	Prot	
Protected Phases			2 3	2 3	1 4 5	
Permitted Phases						
Actuated Green, G (s)			69.0	69.0	84.0	
Effective Green, g (s)			69.0	69.0	84.0	
Actuated g/C Ratio			0.41	0.41	0.50	
Clearance Time (s)						
Vehicle Extension (s)						
Lane Grp Cap (vph)			665	1364	1726	
v/s Ratio Prot			c0.50	0.46	c0.50	
v/s Ratio Perm						
v/c Ratio			1.21	1.16dl	0.99	
Uniform Delay, d1			49.0	49.0	41.0	
Progression Factor			1.00	1.00	0.65	
Incremental Delay, d2			106.5	57.6	4.3	
Delay (s)			155.5	106.6	31.2	
Level of Service			F	F	C	
Approach Delay (s)	0.0			123.6	31.2	
Approach LOS	A			F	C	

Intersection Summary			
HCM 2000 Control Delay	84.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	167.0	Sum of lost time (s)	35.0
Intersection Capacity Utilization	175.0%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

SR 7



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	418	124	135	3250	3103	651
Future Volume (vph)	418	124	135	3250	3103	651
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	5085	5085	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	1770	5085	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	440	131	142	3421	3266	685
RTOR Reduction (vph)	0	72	0	0	0	188
Lane Group Flow (vph)	440	59	142	3421	3266	497
Turn Type	Prot	Perm	custom	NA	NA	Perm
Protected Phases	4		1	2	2	
Permitted Phases		4	1			2
Actuated Green, G (s)	34.0	34.0	9.0	97.0	97.0	97.0
Effective Green, g (s)	36.0	36.0	12.0	100.0	100.0	100.0
Actuated g/C Ratio	0.22	0.22	0.08	0.62	0.62	0.62
Clearance Time (s)	6.0	6.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	2.0	2.0	1.5	3.0	3.0	3.0
Lane Grp Cap (vph)	398	356	132	3178	3178	989
v/s Ratio Prot	c0.25		c0.08	c0.67	0.64	
v/s Ratio Perm		0.04				0.31
v/c Ratio	1.11	0.17	1.08	1.08	1.03	0.50
Uniform Delay, d1	62.0	49.9	74.0	30.0	30.0	16.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	76.8	0.1	100.1	41.1	23.6	1.8
Delay (s)	138.8	50.0	174.1	71.1	53.6	18.2
Level of Service	F	D	F	E	D	B
Approach Delay (s)	118.4			75.2	47.4	
Approach LOS	F			E	D	

Intersection Summary			
HCM 2000 Control Delay	64.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	4	228	67	301	703	58	190	45	170	2768	481	25
Future Volume (vph)	4	228	67	301	703	58	190	45	170	2768	481	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	6.0	4.0	4.0			4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00	0.97	1.00			1.00	0.91	1.00	
Frt		1.00	1.00	0.85	1.00	0.89			1.00	1.00	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1770	1863	1583	3433	1649			1770	5085	1583	
Flt Permitted		0.95	1.00	1.00	0.95	1.00			0.04	1.00	1.00	
Satd. Flow (perm)		1770	1863	1583	3433	1649			68	5085	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	240	71	317	740	61	200	47	179	2914	506	26
RTOR Reduction (vph)	0	0	0	148	0	40	0	0	0	0	109	0
Lane Group Flow (vph)	0	244	71	169	740	221	0	0	226	2914	397	0
Turn Type	Prot	Prot	NA	Perm	Prot	NA		custom	pm+pt	NA	custom	custom
Protected Phases	3	3	8		7	4			5	2		
Permitted Phases				8				5	2		2 3	1
Actuated Green, G (s)		26.0	19.0	19.0	38.0	31.0			124.0	111.0	144.0	
Effective Green, g (s)		28.0	21.0	19.0	40.0	33.0			127.0	114.0	147.0	
Actuated g/C Ratio		0.14	0.10	0.10	0.20	0.16			0.64	0.57	0.74	
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			7.0	7.0		
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0			1.5	3.0		
Lane Grp Cap (vph)		247	195	150	686	272			196	2898	1163	
v/s Ratio Prot		c0.14	0.04		c0.22	0.13			c0.10	0.57		
v/s Ratio Perm				0.11					c0.62		0.25	
v/c Ratio		0.99	0.36	1.12	1.08	0.81			1.15	1.01	0.34	
Uniform Delay, d1		85.8	83.3	90.5	80.0	80.5			75.0	43.0	9.4	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		53.2	0.4	110.6	57.6	15.9			111.6	18.1	0.1	
Delay (s)		139.0	83.7	201.1	137.6	96.4			186.6	61.1	9.4	
Level of Service		F	F	F	F	F			F	E	A	
Approach Delay (s)			164.0			126.8				61.7		
Approach LOS			F			F				E		

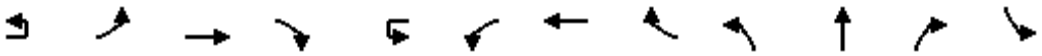
Intersection Summary			
HCM 2000 Control Delay	83.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	116.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	98	2619	72
Future Volume (vph)	98	2619	72
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583
Flt Permitted	0.04	1.00	1.00
Satd. Flow (perm)	71	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	103	2757	76
RTOR Reduction (vph)	0	0	36
Lane Group Flow (vph)	129	2757	40
Turn Type	pm+pt	NA	Perm
Protected Phases	1	6	
Permitted Phases	6		6
Actuated Green, G (s)	108.0	102.0	102.0
Effective Green, g (s)	114.0	105.0	105.0
Actuated g/C Ratio	0.57	0.52	0.52
Clearance Time (s)	7.0	7.0	7.0
Vehicle Extension (s)	1.5	3.0	3.0
Lane Grp Cap (vph)	116	2669	831
v/s Ratio Prot	0.05	0.54	
v/s Ratio Perm	0.58		0.03
v/c Ratio	1.11	1.03	0.05
Uniform Delay, d1	65.8	47.5	23.1
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	116.9	26.6	0.1
Delay (s)	182.6	74.1	23.3
Level of Service	F	E	C
Approach Delay (s)		77.5	
Approach LOS		E	

Intersection Summary

Peters Road



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	5	88	1140	105	2	36	811	383	3	4	53	186
Future Volume (vph)	5	88	1140	105	2	36	811	383	3	4	53	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.98	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1824	1583	
Flt Permitted		0.29	1.00	1.00		0.19	1.00	1.00		0.91	1.00	
Satd. Flow (perm)		531	3539	1583		355	3539	1583		1691	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	93	1200	111	2	38	854	403	3	4	56	196
RTOR Reduction (vph)	0	0	0	31	0	0	0	130	0	0	45	0
Lane Group Flow (vph)	0	98	1200	80	0	40	854	273	0	7	11	0
Turn Type	custom	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	pm+pt	NA	custom	pm+pt
Protected Phases		1	6			5	2		7	4	4	3
Permitted Phases	1	6		6	5	2		2	4		4	8
Actuated Green, G (s)		115.1	108.6	108.6		110.7	106.4	106.4		29.1	29.1	
Effective Green, g (s)		119.1	110.6	110.6		114.7	108.4	108.4		31.1	31.1	
Actuated g/C Ratio		0.74	0.69	0.69		0.72	0.68	0.68		0.19	0.19	
Clearance Time (s)		6.0	6.0	6.0		6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		1.5	3.0	3.0		1.5	3.0	3.0		2.5	2.5	
Lane Grp Cap (vph)		461	2446	1094		310	2397	1072		328	307	
v/s Ratio Prot		c0.01	c0.34			0.01	0.24				0.01	
v/s Ratio Perm		0.15		0.05		0.09		0.17		0.00		
v/c Ratio		0.21	0.49	0.07		0.13	0.36	0.25		0.02	0.04	
Uniform Delay, d1		6.4	11.5	8.0		8.0	11.0	10.1		52.1	52.3	
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1	0.2	0.0		0.1	0.4	0.6		0.0	0.0	
Delay (s)		6.5	11.7	8.1		8.1	11.4	10.6		52.2	52.3	
Level of Service		A	B	A		A	B	B		D	D	
Approach Delay (s)			11.0				11.0			52.3		
Approach LOS			B				B			D		

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	11	41
Future Volume (vph)	11	41
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	1.00	1.00
Frt	1.00	0.85
Flt Protected	0.96	1.00
Satd. Flow (prot)	1779	1583
Flt Permitted	0.73	1.00
Satd. Flow (perm)	1366	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	12	43
RTOR Reduction (vph)	0	35
Lane Group Flow (vph)	208	8
Turn Type	NA	Perm
Protected Phases	8	
Permitted Phases		8
Actuated Green, G (s)	29.1	29.1
Effective Green, g (s)	31.1	31.1
Actuated g/C Ratio	0.19	0.19
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	265	307
v/s Ratio Prot		
v/s Ratio Perm	c0.15	0.01
v/c Ratio	0.78	0.03
Uniform Delay, d1	61.3	52.2
Progression Factor	1.00	1.00
Incremental Delay, d2	13.6	0.0
Delay (s)	74.9	52.2
Level of Service	E	D
Approach Delay (s)	71.0	
Approach LOS	E	

Intersection Summary

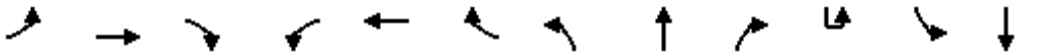
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1758	77	0	0	0	354
Future Volume (Veh/h)	1758	77	0	0	0	354
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1851	81	0	0	0	373
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1932		1892	966
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1932		1892	966
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	0
cM capacity (veh/h)			301		62	254

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	1234	698	373
Volume Left	0	0	0
Volume Right	0	81	373
cSH	1700	1700	254
Volume to Capacity	0.73	0.41	1.47
Queue Length 95th (ft)	0	0	534
Control Delay (s)	0.0	0.0	266.6
Lane LOS			F
Approach Delay (s)	0.0		266.6
Approach LOS			F

Intersection Summary			
Average Delay	43.1		
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

PM Peak Hour

NW/SW 136th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	271	9	42	13	11	72	74	771	29	42	94	831
Future Volume (vph)	271	9	42	13	11	72	74	771	29	42	94	831
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95			1.00	0.95
Frt	1.00	1.00	0.85	1.00	0.87		1.00	0.99			1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1621		1770	3520			1770	3539
Flt Permitted	0.38	1.00	1.00	0.75	1.00		0.28	1.00			0.29	1.00
Satd. Flow (perm)	711	1863	1583	1400	1621		516	3520			539	3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	285	9	44	14	12	76	78	812	31	44	99	875
RTOR Reduction (vph)	0	0	31	0	72	0	0	2	0	0	0	0
Lane Group Flow (vph)	285	9	13	14	16	0	78	841	0	0	143	875
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	Perm	NA
Protected Phases	7	4			8			2				6
Permitted Phases	4		4	8			2			6	6	
Actuated Green, G (s)	35.7	35.7	35.7	7.2	7.2		75.3	75.3			75.3	75.3
Effective Green, g (s)	35.7	35.7	35.7	7.2	7.2		75.3	75.3			75.3	75.3
Actuated g/C Ratio	0.29	0.29	0.29	0.06	0.06		0.62	0.62			0.62	0.62
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.2	2.0	2.0	2.0	2.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	403	545	463	82	95		318	2172			332	2184
v/s Ratio Prot	c0.13	0.00			0.01			0.24				0.25
v/s Ratio Perm	c0.08		0.01	0.01			0.15				c0.27	
v/c Ratio	0.71	0.02	0.03	0.17	0.17		0.25	0.39			0.43	0.40
Uniform Delay, d1	36.6	30.7	30.8	54.6	54.6		10.5	11.7			12.2	11.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	4.8	0.0	0.0	0.4	0.3		1.8	0.5			4.0	0.5
Delay (s)	41.4	30.7	30.8	54.9	54.9		12.4	12.3			16.2	12.4
Level of Service	D	C	C	D	D		B	B			B	B
Approach Delay (s)		39.7			54.9			12.3				13.0
Approach LOS		D			D			B				B

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	611
Future Volume (vph)	611
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	643
RTOR Reduction (vph)	246
Lane Group Flow (vph)	397
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	75.3
Effective Green, g (s)	75.3
Actuated g/C Ratio	0.62
Clearance Time (s)	5.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	977
v/s Ratio Prot	
v/s Ratio Perm	0.25
v/c Ratio	0.41
Uniform Delay, d1	11.9
Progression Factor	1.00
Incremental Delay, d2	1.3
Delay (s)	13.2
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

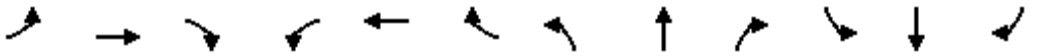
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	759	1054	148	0	0	0	0	552	663	2	1360	1501
Future Volume (vph)	759	1054	148	0	0	0	0	552	663	2	1360	1501
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0					7.0	7.0		7.0	7.0
Lane Util. Factor	0.97	0.95	1.00					0.95	1.00		0.97	0.95
Frt	1.00	1.00	0.85					1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00					1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	1583					3539	1583		3433	3539
Flt Permitted	0.95	1.00	1.00					1.00	1.00		0.05	1.00
Satd. Flow (perm)	3433	3539	1583					3539	1583		166	3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	799	1109	156	0	0	0	0	581	698	2	1432	1580
RTOR Reduction (vph)	0	0	74	0	0	0	0	0	125	0	0	0
Lane Group Flow (vph)	799	1109	82	0	0	0	0	581	573	0	1434	1580
Turn Type	Split	NA	Perm					NA	Perm	custom	Prot	NA
Protected Phases	1 6 7	1 6 7						4 5			2 3	2 3 4 5
Permitted Phases			1 6 7						4 5	2 3		
Actuated Green, G (s)	84.1	84.1	84.1					39.0	39.0		87.0	133.0
Effective Green, g (s)	84.1	84.1	84.1					39.0	39.0		87.0	133.0
Actuated g/C Ratio	0.36	0.36	0.36					0.17	0.17		0.38	0.58
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)	1249	1287	576					597	267		62	2036
v/s Ratio Prot	0.23	c0.31						0.16				0.45
v/s Ratio Perm			0.05						c0.36		c8.63	
v/c Ratio	0.64	0.86	0.14					0.97	2.15		23.13	0.78
Uniform Delay, d1	60.9	68.1	49.3					95.5	96.0		72.0	37.6
Progression Factor	1.00	1.00	1.00					1.00	1.00		0.38	0.27
Incremental Delay, d2	0.8	5.9	0.0					29.8	528.6		9960.8	0.2
Delay (s)	61.7	74.1	49.3					125.4	624.6		9988.2	10.1
Level of Service	E	E	D					F	F		F	B
Approach Delay (s)		67.4			0.0			397.8				4757.5
Approach LOS		E			A			F				F

Intersection Summary			
HCM 2000 Control Delay	2357.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	11.82		
Actuated Cycle Length (s)	231.1	Sum of lost time (s)	49.0
Intersection Capacity Utilization	152.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1055	509	1184	128	1185	0	0	1808	271
Future Volume (vph)	0	0	0	1055	509	1184	128	1185	0	0	1808	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0	7.0	7.0	7.0			7.0	7.0
Lane Util. Factor				0.91	0.81	0.86	1.00	0.95			0.91	1.00
Frt				1.00	0.98	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1610	2896	2723	1770	3539			5085	1583
Flt Permitted				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1610	2896	2723	1770	3539			5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1111	536	1246	135	1247	0	0	1903	285
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	118
Lane Group Flow (vph)	0	0	0	600	1209	1084	135	1247	0	0	1903	167
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				3 4	3 4		5 6	1 2 5 6			1 2	
Permitted Phases						3 4						1 2
Actuated Green, G (s)				49.0	49.0	49.0	69.0	118.0			49.0	49.0
Effective Green, g (s)				49.0	49.0	49.0	69.0	118.0			49.0	49.0
Actuated g/C Ratio				0.21	0.21	0.21	0.30	0.51			0.21	0.21
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)				341	614	577	528	1807			1078	335
v/s Ratio Prot				0.37	c0.42		0.08	c0.35			c0.37	
v/s Ratio Perm						0.40						0.11
v/c Ratio				1.76	1.97	1.88	0.26	0.69			1.77	0.50
Uniform Delay, d1				91.0	91.0	91.0	61.5	42.7			91.0	80.2
Progression Factor				1.00	1.00	1.00	0.74	0.64			1.00	1.00
Incremental Delay, d2				353.6	442.0	402.0	0.1	0.6			348.2	0.8
Delay (s)				444.7	533.0	493.0	45.5	28.0			439.2	81.1
Level of Service				F	F	F	D	C			F	F
Approach Delay (s)		0.0			499.7			29.7			392.6	
Approach LOS		A			F			C			F	

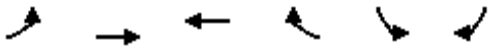
Intersection Summary			
HCM 2000 Control Delay	362.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	231.1	Sum of lost time (s)	49.0
Intersection Capacity Utilization	152.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	264	349	14	273	1916	1596	282
Future Volume (vph)	264	349	14	273	1916	1596	282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		5.5	5.5	5.5	5.5
Lane Util. Factor	0.97	1.00		1.00	0.91	0.91	1.00
Frt	1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583		1770	5085	5085	1583
Flt Permitted	0.95	1.00		0.09	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583		165	5085	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	278	367	15	287	2017	1680	297
RTOR Reduction (vph)	0	321	0	0	0	0	122
Lane Group Flow (vph)	278	46	0	302	2017	1680	175
Turn Type	Prot	Prot	custom	pm+pt	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			5	2			6
Actuated Green, G (s)	14.1	14.1		94.4	94.4	70.6	70.6
Effective Green, g (s)	14.1	14.1		94.4	94.4	70.6	70.6
Actuated g/C Ratio	0.12	0.12		0.79	0.79	0.59	0.59
Clearance Time (s)	6.0	6.0		5.5	5.5	5.5	5.5
Vehicle Extension (s)	2.0	2.0		1.5	3.0	3.0	3.0
Lane Grp Cap (vph)	403	186		374	4000	2991	931
v/s Ratio Prot	c0.08	0.03		c0.12	0.40	0.33	
v/s Ratio Perm				c0.51			0.11
v/c Ratio	0.69	0.25		0.81	0.50	0.56	0.19
Uniform Delay, d1	50.9	48.1		28.6	4.5	15.2	11.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	0.3		11.4	0.5	0.8	0.4
Delay (s)	54.8	48.4		40.0	5.0	16.0	11.9
Level of Service	D	D		D	A	B	B
Approach Delay (s)	51.1				9.5	15.3	
Approach LOS	D				A	B	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

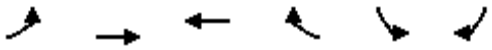


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	2450	427	0	381
Future Volume (Veh/h)	0	0	2450	427	0	381
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	2579	449	0	401
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3028				2804	1514
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3028				2804	1514
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	0
cM capacity (veh/h)	110				15	109

Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	1719	1309	401
Volume Left	0	0	0
Volume Right	0	449	401
cSH	1700	1700	109
Volume to Capacity	1.01	0.77	3.69
Queue Length 95th (ft)	0	0	Err
Control Delay (s)	0.0	0.0	Err
Lane LOS			F
Approach Delay (s)	0.0		Err
Approach LOS			F

Intersection Summary			
Average Delay	1169.3		
Intersection Capacity Utilization	111.6%	ICU Level of Service	H
Analysis Period (min)	15		

Flamingo Road



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	1656	54	0	102
Future Volume (Veh/h)	0	0	1656	54	0	102
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	1743	57	0	107
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1800				1772	900
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1800				1772	900
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	62
cM capacity (veh/h)	339				74	282

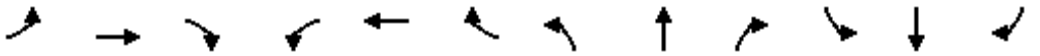
Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	1162	638	107
Volume Left	0	0	0
Volume Right	0	57	107
cSH	1700	1700	282
Volume to Capacity	0.68	0.38	0.38
Queue Length 95th (ft)	0	0	43
Control Delay (s)	0.0	0.0	25.4
Lane LOS			D
Approach Delay (s)	0.0		25.4
Approach LOS			D

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	161	91	3	149	1671	14	1965	447
Future Volume (vph)	161	91	3	149	1671	14	1965	447
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	0.91	1.00	0.91	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1583		1770	5085	1770	5085	1583
Flt Permitted	0.95	1.00		0.06	1.00	0.12	1.00	1.00
Satd. Flow (perm)	1770	1583		112	5085	214	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	169	96	3	157	1759	15	2068	471
RTOR Reduction (vph)	0	83	0	0	0	0	0	109
Lane Group Flow (vph)	169	13	0	160	1759	15	2068	362
Turn Type	Prot	Prot	custom	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4	4		5	2	1	6	
Permitted Phases			5	2		6		6
Actuated Green, G (s)	19.6	19.6		126.9	117.6	108.7	106.9	106.9
Effective Green, g (s)	21.6	21.6		130.4	121.1	115.7	110.4	110.4
Actuated g/C Ratio	0.14	0.14		0.82	0.76	0.72	0.69	0.69
Clearance Time (s)	6.0	6.0		7.5	7.5	7.5	7.5	7.5
Vehicle Extension (s)	2.0	2.0		1.5	3.0	1.5	3.0	3.0
Lane Grp Cap (vph)	238	213		257	3848	206	3508	1092
v/s Ratio Prot	c0.10	0.01		c0.06	0.35	0.00	0.41	
v/s Ratio Perm				c0.44		0.05		0.23
v/c Ratio	0.71	0.06		0.62	0.46	0.07	0.59	0.33
Uniform Delay, d1	66.2	60.4		31.6	7.2	6.3	13.0	10.0
Progression Factor	1.00	1.00		1.00	1.00	0.43	0.35	0.13
Incremental Delay, d2	8.0	0.0		3.4	0.4	0.0	0.5	0.5
Delay (s)	74.2	60.4		34.9	7.6	2.7	4.9	1.8
Level of Service	E	E		C	A	A	A	A
Approach Delay (s)	69.2				9.9		4.3	
Approach LOS	E				A		A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

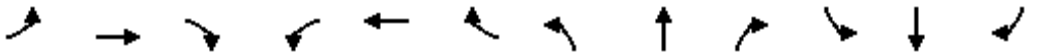
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	698	597	615	0	0	0	0	1101	633	926	1994	0
Future Volume (vph)	698	597	615	0	0	0	0	1101	633	926	1994	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.91	0.91	1.00					0.81	1.00	0.97	0.91	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.98	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3338	1583					7544	1583	3433	5085	
Flt Permitted	0.95	0.98	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1610	3338	1583					7544	1583	3433	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	735	628	647	0	0	0	0	1159	666	975	2099	0
RTOR Reduction (vph)	0	0	150	0	0	0	0	0	148	0	0	0
Lane Group Flow (vph)	448	915	497	0	0	0	0	1159	518	975	2099	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	1 6	1 6						4 5		2 3	2 3 4 5	
Permitted Phases			1 6						4 5			
Actuated Green, G (s)	33.5	33.5	33.5					33.5	33.5	45.0	94.5	
Effective Green, g (s)	40.5	40.5	40.5					40.5	40.5	54.0	100.5	
Actuated g/C Ratio	0.25	0.25	0.25					0.25	0.25	0.34	0.63	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)	407	844	400					1909	400	1158	3194	
v/s Ratio Prot	0.28	0.27						0.15		c0.28	0.41	
v/s Ratio Perm			c0.31						c0.33			
v/c Ratio	1.10	1.08	1.24					0.61	1.30	0.84	0.66	
Uniform Delay, d1	59.8	59.8	59.8					52.7	59.8	49.1	18.8	
Progression Factor	1.00	1.00	1.00					1.12	1.25	0.26	0.91	
Incremental Delay, d2	74.7	56.3	128.6					0.3	148.9	0.6	0.0	
Delay (s)	134.4	116.1	188.3					59.2	223.7	13.4	17.3	
Level of Service	F	F	F					E	F	B	B	
Approach Delay (s)		143.4			0.0			119.3			16.0	
Approach LOS		F			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	80.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

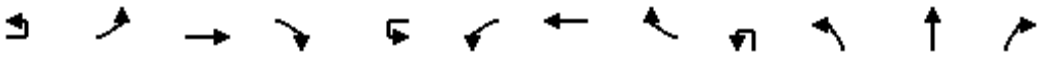


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	776	243	678	338	1461	0	0	2144	640
Future Volume (vph)	0	0	0	776	243	678	338	1461	0	0	2144	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.91	0.91	1.00	0.97	0.91			0.81	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1610	3289	1583	3433	5085			7544	1583
Flt Permitted				0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1610	3289	1583	3433	5085			7544	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	817	256	714	356	1538	0	0	2257	674
RTOR Reduction (vph)	0	0	0	0	0	155	0	0	0	0	0	234
Lane Group Flow (vph)	0	0	0	408	665	559	356	1538	0	0	2257	440
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				3 4	3 4		5 6	1 2 5 6			1 2	
Permitted Phases						3 4						1 2
Actuated Green, G (s)				36.0	36.0	36.0	59.0	107.5			40.0	40.0
Effective Green, g (s)				36.5	36.5	36.5	60.0	101.5			43.5	43.5
Actuated g/C Ratio				0.23	0.23	0.23	0.38	0.63			0.27	0.27
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)				367	750	361	1287	3225			2051	430
v/s Ratio Prot				0.25	0.20		0.10	c0.30			c0.30	
v/s Ratio Perm						c0.35						0.28
v/c Ratio				1.11	0.97dl	1.55	0.28	0.48			1.10	1.02
Uniform Delay, d1				61.8	59.7	61.8	34.9	15.3			58.2	58.2
Progression Factor				1.00	1.00	1.00	0.55	0.91			0.75	0.54
Incremental Delay, d2				80.7	12.2	260.0	0.3	0.3			51.9	44.5
Delay (s)				142.4	72.0	321.7	19.4	14.3			95.7	75.9
Level of Service				F	E	F	B	B			F	E
Approach Delay (s)		0.0			187.9			15.2			91.2	
Approach LOS		A			F			B			F	

Intersection Summary			
HCM 2000 Control Delay	95.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	5	71	110	199	2	442	165	418	26	82	1596	504
Future Volume (vph)	5	71	110	199	2	442	165	418	26	82	1596	504
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	0.95	1.00		0.97	0.95	1.00		1.00	0.91	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1770	3539	1583		3433	3539	1583		1770	5085	1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1770	3539	1583		3433	3539	1583		1770	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	75	116	209	2	465	174	440	27	86	1680	531
RTOR Reduction (vph)	0	0	0	191	0	0	0	237	0	0	0	214
Lane Group Flow (vph)	0	80	116	18	0	467	174	203	0	113	1680	317
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm
Protected Phases	7	7	4		3	3	8		5	5	2	
Permitted Phases				4				8				2
Actuated Green, G (s)		7.0	10.5	10.5		22.4	25.9	25.9		11.4	71.1	71.1
Effective Green, g (s)		10.0	13.5	13.5		25.4	28.9	28.9		14.4	74.1	74.1
Actuated g/C Ratio		0.06	0.08	0.08		0.16	0.18	0.18		0.09	0.46	0.46
Clearance Time (s)		7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0
Vehicle Extension (s)		1.5	2.5	2.5		1.5	2.5	2.5		1.5	3.0	3.0
Lane Grp Cap (vph)		110	298	133		544	639	285		159	2354	733
v/s Ratio Prot		0.05	0.03			c0.14	0.05			0.06	0.33	
v/s Ratio Perm				0.01				c0.13				0.20
v/c Ratio		0.73	0.39	0.13		0.86	0.27	0.71		0.71	0.71	0.43
Uniform Delay, d1		73.7	69.3	67.8		65.5	56.5	61.6		70.8	34.4	28.8
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.23	0.48	0.18
Incremental Delay, d2		18.2	0.6	0.3		12.3	0.2	7.6		10.7	1.7	1.7
Delay (s)		91.9	70.0	68.2		77.8	56.7	69.3		97.9	18.2	6.8
Level of Service		F	E	E		E	E	E		F	B	A
Approach Delay (s)			73.4				70.9				19.5	
Approach LOS			E				E				B	

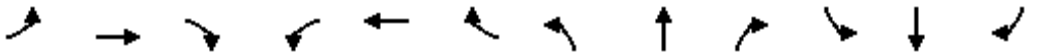
Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	2	514	2288	116
Future Volume (vph)	2	514	2288	116
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0
Lane Util. Factor		0.97	0.91	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		3433	5085	1583
Flt Permitted		0.95	1.00	1.00
Satd. Flow (perm)		3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	541	2408	122
RTOR Reduction (vph)	0	0	0	53
Lane Group Flow (vph)	0	543	2408	69
Turn Type	Prot	Prot	NA	Perm
Protected Phases	1	1	6	
Permitted Phases				6
Actuated Green, G (s)		28.0	87.7	87.7
Effective Green, g (s)		31.0	90.7	90.7
Actuated g/C Ratio		0.19	0.57	0.57
Clearance Time (s)		7.0	7.0	7.0
Vehicle Extension (s)		1.5	3.0	3.0
Lane Grp Cap (vph)		665	2882	897
v/s Ratio Prot		c0.16	c0.47	
v/s Ratio Perm				0.04
v/c Ratio		0.82	0.84	0.08
Uniform Delay, d1		61.8	28.5	15.7
Progression Factor		1.00	1.00	1.00
Incremental Delay, d2		7.3	3.0	0.2
Delay (s)		69.1	31.6	15.9
Level of Service		E	C	B
Approach Delay (s)			37.6	
Approach LOS			D	

Intersection Summary

Hiatus Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	778	456	287	0	0	0	0	467	278	669	1138	0
Future Volume (vph)	778	456	287	0	0	0	0	467	278	669	1138	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0					7.0	7.5	7.0	7.0	
Lane Util. Factor	0.91	0.91	1.00					0.91	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.98	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3316	1583					5085	1583	3433	3539	
Flt Permitted	0.95	0.98	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1610	3316	1583					5085	1583	3433	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	819	480	302	0	0	0	0	492	293	704	1198	0
RTOR Reduction (vph)	0	0	124	0	0	0	0	0	69	0	0	0
Lane Group Flow (vph)	426	873	178	0	0	0	0	492	224	704	1198	0
Turn Type	Perm	NA	Perm					NA	custom	Prot	NA	
Protected Phases		1 6						4 5		2	2 3 4 5	
Permitted Phases	1 6		1 6						3 4 5			
Actuated Green, G (s)	44.5	44.5	44.5					34.0	76.5	35.0	118.5	
Effective Green, g (s)	37.0	37.0	37.0					34.0	69.5	35.0	111.0	
Actuated g/C Ratio	0.21	0.21	0.21					0.19	0.39	0.20	0.63	
Clearance Time (s)										7.0		
Lane Grp Cap (vph)	336	693	330					976	621	678	2219	
v/s Ratio Prot								0.10		c0.21	c0.34	
v/s Ratio Perm	c0.26	0.26	0.11						0.14			
v/c Ratio	1.27	1.26	0.54					0.50	0.36	1.04	0.54	
Uniform Delay, d1	70.0	70.0	62.4					64.0	38.0	71.0	18.6	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.69	0.28	
Incremental Delay, d2	142.1	128.4	6.2					1.9	1.6	37.9	0.6	
Delay (s)	212.1	198.4	68.6					65.8	39.6	86.9	5.9	
Level of Service	F	F	E					E	D	F	A	
Approach Delay (s)		177.5			0.0			56.1			35.9	
Approach LOS		F			A			E			D	

Intersection Summary			
HCM 2000 Control Delay	92.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	177.0	Sum of lost time (s)	43.0
Intersection Capacity Utilization	163.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	586	150	892	6	146	1093	0	0	1215
Future Volume (vph)	0	0	0	586	150	892	6	146	1093	0	0	1215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.5	7.5	7.5		7.0	7.0			7.0
Lane Util. Factor				0.91	0.91	1.00		1.00	0.95			0.86
Frt				1.00	1.00	0.85		1.00	1.00			1.00
Flt Protected				0.95	0.97	1.00		0.95	1.00			1.00
Satd. Flow (prot)				1610	3282	1583		1770	3539			6408
Flt Permitted				0.95	0.97	1.00		0.19	1.00			1.00
Satd. Flow (perm)				1610	3282	1583		353	3539			6408
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	617	158	939	6	154	1151	0	0	1279
RTOR Reduction (vph)	0	0	0	0	0	118	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	308	467	821	0	160	1151	0	0	1279
Turn Type				Perm	NA	Perm	custom	Prot	NA			NA
Protected Phases					3 4			5 6	1 2 5 6			1 2
Permitted Phases				3 4		3 4	5 6					
Actuated Green, G (s)				44.5	44.5	44.5		67.0	118.5			44.0
Effective Green, g (s)				44.5	44.5	44.5		67.0	111.0			44.0
Actuated g/C Ratio				0.25	0.25	0.25		0.38	0.63			0.25
Clearance Time (s)												
Lane Grp Cap (vph)				404	825	397		133	2219			1592
v/s Ratio Prot									0.33			c0.20
v/s Ratio Perm				0.19	0.14	c0.52		c0.45				
v/c Ratio				0.76	0.57	2.07		1.20	0.52			0.80
Uniform Delay, d1				61.4	57.8	66.2		55.0	18.2			62.4
Progression Factor				1.00	1.00	1.00		0.50	0.14			1.00
Incremental Delay, d2				12.8	2.8	489.8		121.8	0.4			4.4
Delay (s)				74.1	60.6	556.0		149.2	3.0			66.8
Level of Service				E	E	F		F	A			E
Approach Delay (s)		0.0			334.4				20.8			237.1
Approach LOS		A			F				C			F

Intersection Summary			
HCM 2000 Control Delay	214.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.71		
Actuated Cycle Length (s)	177.0	Sum of lost time (s)	43.0
Intersection Capacity Utilization	163.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	837
Future Volume (vph)	837
Ideal Flow (vphpl)	1900
Total Lost time (s)	7.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	881
RTOR Reduction (vph)	289
Lane Group Flow (vph)	592
Turn Type	custom
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	35.0
Effective Green, g (s)	35.0
Actuated g/C Ratio	0.20
Clearance Time (s)	7.5
Lane Grp Cap (vph)	313
v/s Ratio Prot	
v/s Ratio Perm	c0.37
v/c Ratio	1.89
Uniform Delay, d1	71.0
Progression Factor	1.00
Incremental Delay, d2	413.2
Delay (s)	484.2
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	315	816	487	568	780	207	2	432	1202	349	174
Future Volume (vph)	2	315	816	487	568	780	207	2	432	1202	349	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0
Lane Util. Factor		1.00	0.91	1.00	1.00	0.91	1.00		1.00	0.91	1.00	1.00
Frt		1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00	0.95
Satd. Flow (prot)		1770	5085	1583	1770	5085	1583		1770	5085	1583	1770
Flt Permitted		0.33	1.00	1.00	0.12	1.00	1.00		0.11	1.00	1.00	0.13
Satd. Flow (perm)		615	5085	1583	233	5085	1583		196	5085	1583	240
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	332	859	513	598	821	218	2	455	1265	367	183
RTOR Reduction (vph)	0	0	0	271	0	0	160	0	0	0	242	0
Lane Group Flow (vph)	0	334	859	242	598	821	58	0	457	1265	125	183
Turn Type	custom	pm+pt	NA	Perm	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	pm+pt
Protected Phases		7	4		3	8			5	2		1
Permitted Phases	7	4		4	8		8	5	2		2	6
Actuated Green, G (s)		51.6	25.0	25.0	76.0	42.4	42.4		70.0	48.5	48.5	45.5
Effective Green, g (s)		51.6	25.0	25.0	76.0	42.4	42.4		70.0	48.5	48.5	45.5
Actuated g/C Ratio		0.32	0.16	0.16	0.48	0.26	0.26		0.44	0.30	0.30	0.28
Clearance Time (s)		7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0
Vehicle Extension (s)		1.5	2.0	2.0	1.5	2.0	2.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		390	794	247	533	1347	419		400	1541	479	206
v/s Ratio Prot		0.14	0.17		c0.31	0.16			c0.23	0.25		0.08
v/s Ratio Perm		0.13		0.15	c0.22		0.04		c0.27		0.08	0.17
v/c Ratio		0.86	1.08	0.98	1.12	0.61	0.14		1.14	0.82	0.26	0.89
Uniform Delay, d1		45.3	67.5	67.3	48.6	51.5	44.9		51.4	51.7	42.2	46.8
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		16.1	56.4	51.4	77.0	0.5	0.1		89.9	5.0	1.3	33.6
Delay (s)		61.4	123.9	118.7	125.6	52.1	44.9		141.3	56.8	43.5	80.4
Level of Service		E	F	F	F	D	D		F	E	D	F
Approach Delay (s)			110.1			78.0				72.9		
Approach LOS			F			E				E		

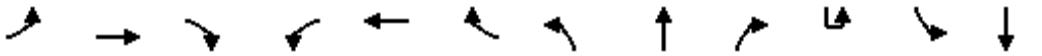
Intersection Summary			
HCM 2000 Control Delay	88.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	128.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	995	224
Future Volume (vph)	995	224
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	7.0	7.0
Lane Util. Factor	0.91	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5085	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5085	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1047	236
RTOR Reduction (vph)	0	185
Lane Group Flow (vph)	1047	51
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	31.0	31.0
Effective Green, g (s)	31.0	31.0
Actuated g/C Ratio	0.19	0.19
Clearance Time (s)	7.0	7.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	985	306
v/s Ratio Prot	0.21	
v/s Ratio Perm		0.03
v/c Ratio	1.06	0.17
Uniform Delay, d1	64.5	53.7
Progression Factor	1.00	1.00
Incremental Delay, d2	46.9	1.2
Delay (s)	111.4	54.9
Level of Service	F	D
Approach Delay (s)	98.5	
Approach LOS	F	

Intersection Summary

Nob Hill Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	18	4	12	31	3	73	12	1119	20	140	42	1569
Future Volume (vph)	18	4	12	31	3	73	12	1119	20	140	42	1569
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		7.0	7.0	7.0		7.0	7.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00		1.00	0.95
Frt	1.00	0.89		1.00	0.86		1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1649		1770	1594		1770	3539	1583		1770	3539
Flt Permitted	0.67	1.00		0.75	1.00		0.13	1.00	1.00		0.21	1.00
Satd. Flow (perm)	1249	1649		1390	1594		236	3539	1583		384	3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	19	4	13	33	3	77	13	1178	21	147	44	1652
RTOR Reduction (vph)	0	12	0	0	73	0	0	0	5	0	0	0
Lane Group Flow (vph)	19	5	0	33	7	0	13	1178	16	0	191	1652
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	custom	pm+pt	NA
Protected Phases		4			8		5	2			1	6
Permitted Phases	4			8			2		2	1	6	
Actuated Green, G (s)	8.3	8.3		8.3	8.3		112.8	111.1	111.1		122.6	116.0
Effective Green, g (s)	8.3	8.3		8.3	8.3		112.8	111.1	111.1		122.6	116.0
Actuated g/C Ratio	0.06	0.06		0.06	0.06		0.77	0.76	0.76		0.84	0.79
Clearance Time (s)	6.0	6.0		6.0	6.0		7.0	7.0	7.0		7.0	7.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		1.5	3.0	3.0		1.5	3.0
Lane Grp Cap (vph)	71	93		79	90		200	2693	1204		385	2811
v/s Ratio Prot		0.00			0.00		0.00	0.33			c0.02	c0.47
v/s Ratio Perm	0.02			c0.02			0.05		0.01		0.39	
v/c Ratio	0.27	0.05		0.42	0.08		0.07	0.44	0.01		0.50	0.59
Uniform Delay, d1	65.9	65.1		66.5	65.2		4.7	6.3	4.2		3.7	5.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.1		1.3	0.1		0.1	0.5	0.0		0.4	0.9
Delay (s)	66.7	65.2		67.8	65.4		4.8	6.8	4.2		4.0	6.7
Level of Service	E	E		E	E		A	A	A		A	A
Approach Delay (s)		66.0			66.1			6.7				6.4
Approach LOS		E			E			A				A

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	146.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	9
Future Volume (vph)	9
Ideal Flow (vphpl)	1900
Total Lost time (s)	7.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	9
RTOR Reduction (vph)	2
Lane Group Flow (vph)	7
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	116.0
Effective Green, g (s)	116.0
Actuated g/C Ratio	0.79
Clearance Time (s)	7.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1257
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.01
Uniform Delay, d1	3.1
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	3.1
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

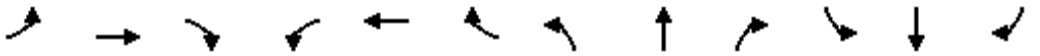
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	156	5	130	15	6	49	18	76	1244	12	53	18
Future Volume (vph)	156	5	130	15	6	49	18	76	1244	12	53	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			7.0	7.0	7.0		7.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt	1.00	0.86		1.00	0.87			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1770	1593		1770	1612			1770	3539	1583		1770
Flt Permitted	0.72	1.00		0.61	1.00			0.10	1.00	1.00		0.18
Satd. Flow (perm)	1340	1593		1142	1612			180	3539	1583		339
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	164	5	137	16	6	52	19	80	1309	13	56	19
RTOR Reduction (vph)	0	35	0	0	45	0	0	0	0	4	0	0
Lane Group Flow (vph)	164	107	0	16	13	0	0	99	1309	9	0	75
Turn Type	Perm	NA		Perm	NA		Perm	Perm	NA	Perm	Perm	Perm
Protected Phases		4			8				2			
Permitted Phases	4			8			2	2		2	6	6
Actuated Green, G (s)	13.4	13.4		13.4	13.4			69.6	69.6	69.6		69.6
Effective Green, g (s)	13.4	13.4		13.4	13.4			69.6	69.6	69.6		69.6
Actuated g/C Ratio	0.14	0.14		0.14	0.14			0.72	0.72	0.72		0.72
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0	7.0	7.0		7.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	187	222		159	225			130	2565	1147		245
v/s Ratio Prot		0.07			0.01				0.37			
v/s Ratio Perm	c0.12			0.01				c0.55		0.01		0.22
v/c Ratio	0.88	0.48		0.10	0.06			0.76	0.51	0.01		0.31
Uniform Delay, d1	40.5	38.1		36.0	35.8			8.1	5.8	3.7		4.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	33.0	0.6		0.1	0.0			33.7	0.7	0.0		3.2
Delay (s)	73.4	38.7		36.1	35.9			41.8	6.5	3.7		7.9
Level of Service	E	D		D	D			D	A	A		A
Approach Delay (s)		57.3			35.9				8.9			
Approach LOS		E			D				A			

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1649	44
Future Volume (vph)	1649	44
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	7.0	7.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1736	46
RTOR Reduction (vph)	0	10
Lane Group Flow (vph)	1736	36
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	69.6	69.6
Effective Green, g (s)	69.6	69.6
Actuated g/C Ratio	0.72	0.72
Clearance Time (s)	7.0	7.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2565	1147
v/s Ratio Prot	0.49	
v/s Ratio Perm		0.02
v/c Ratio	0.68	0.03
Uniform Delay, d1	7.1	3.7
Progression Factor	1.00	1.00
Incremental Delay, d2	1.5	0.1
Delay (s)	8.6	3.8
Level of Service	A	A
Approach Delay (s)	8.4	
Approach LOS	A	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	335	570	321	0	0	0	0	835	667	837	1395	0
Future Volume (vph)	335	570	321	0	0	0	0	835	667	837	1395	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0					7.0	7.0	7.0	7.0	
Lane Util. Factor	0.91	0.91	1.00					0.91	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3378	1583					5085	1583	3433	3539	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1610	3378	1583					5085	1583	3433	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	353	600	338	0	0	0	0	879	702	881	1468	0
RTOR Reduction (vph)	0	0	91	0	0	0	0	0	89	0	0	0
Lane Group Flow (vph)	307	646	247	0	0	0	0	879	613	881	1468	0
Turn Type	Split	NA	Prot					NA	Prot	Prot	NA	
Protected Phases	1 6	1 6	1 6					4 5	4 5	2 3	2 3 4 5	
Permitted Phases												
Actuated Green, G (s)	59.5	59.5	59.5					60.0	60.0	97.0	164.5	
Effective Green, g (s)	52.0	52.0	52.0					60.0	60.0	97.0	157.0	
Actuated g/C Ratio	0.22	0.22	0.22					0.25	0.25	0.41	0.66	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)	351	738	345					1281	399	1399	2334	
v/s Ratio Prot	0.19	c0.19	0.16					0.17	c0.39	c0.26	0.41	
v/s Ratio Perm												
v/c Ratio	0.87	0.88	0.71					0.69	1.54	0.63	0.63	
Uniform Delay, d1	89.9	89.9	86.1					80.5	89.0	56.2	23.6	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.26	0.52	
Incremental Delay, d2	20.2	11.0	5.8					1.2	253.6	0.1	0.0	
Delay (s)	110.0	100.8	91.9					81.7	342.6	14.5	12.2	
Level of Service	F	F	F					F	F	B	B	
Approach Delay (s)		100.7			0.0			197.6			13.1	
Approach LOS		F			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	90.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	238.0	Sum of lost time (s)	43.0
Intersection Capacity Utilization	145.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	704	162	1080	4	298	868	0	0	1524
Future Volume (vph)	0	0	0	704	162	1080	4	298	868	0	0	1524
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.5	7.5	7.5		7.0	7.0			7.0
Lane Util. Factor				0.91	0.86	0.91		1.00	0.95			0.86
Frt				1.00	0.91	0.85		1.00	1.00			1.00
Flt Protected				0.95	0.99	1.00		0.95	1.00			1.00
Satd. Flow (prot)				1610	2888	1441		1770	3539			6408
Flt Permitted				0.95	0.99	1.00		0.95	1.00			1.00
Satd. Flow (perm)				1610	2888	1441		1770	3539			6408
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	741	171	1137	4	314	914	0	0	1604
RTOR Reduction (vph)	0	0	0	0	107	154	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	511	863	414	0	318	914	0	0	1604
Turn Type				Split	NA	Perm	Prot	Prot	NA			NA
Protected Phases				3 4	3 4		5 6	5 6	1 2 5 6			1 2
Permitted Phases						3 4						
Actuated Green, G (s)				55.5	55.5	55.5		107.0	168.5			54.0
Effective Green, g (s)				55.5	55.5	55.5		107.0	161.0			54.0
Actuated g/C Ratio				0.23	0.23	0.23		0.45	0.68			0.23
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)				375	673	336		795	2394			1453
v/s Ratio Prot				c0.32	0.30			c0.18	0.26			c0.25
v/s Ratio Perm						0.29						
v/c Ratio				1.36	1.29dr	1.23		0.40	0.38			1.10
Uniform Delay, d1				91.2	91.2	91.2		44.0	16.8			92.0
Progression Factor				1.00	1.00	1.00		0.12	0.33			1.00
Incremental Delay, d2				179.6	138.0	127.6		0.2	0.0			57.5
Delay (s)				270.8	229.2	218.8		5.6	5.6			149.5
Level of Service				F	F	F		A	A			F
Approach Delay (s)		0.0			236.7				5.6			139.2
Approach LOS		A			F				A			F

Intersection Summary			
HCM 2000 Control Delay	145.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	238.0	Sum of lost time (s)	43.0
Intersection Capacity Utilization	145.1%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	364
Future Volume (vph)	364
Ideal Flow (vphpl)	1900
Total Lost time (s)	7.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	383
RTOR Reduction (vph)	137
Lane Group Flow (vph)	246
Turn Type	custom
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	50.0
Effective Green, g (s)	50.0
Actuated g/C Ratio	0.21
Clearance Time (s)	7.5
Vehicle Extension (s)	2.5
Lane Grp Cap (vph)	332
v/s Ratio Prot	
v/s Ratio Perm	c0.16
v/c Ratio	0.74
Uniform Delay, d1	88.0
Progression Factor	1.00
Incremental Delay, d2	8.2
Delay (s)	96.2
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	4	89	117	5	127	1806	3	1791	158
Future Volume (vph)	4	89	117	5	127	1806	3	1791	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		7.0	7.0	7.0	7.0	7.0
Lane Util. Factor		1.00	1.00		1.00	0.91	1.00	0.91	1.00
Frt		1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770	1583		1770	5085	1770	5085	1583
Flt Permitted		0.95	1.00		0.07	1.00	0.11	1.00	1.00
Satd. Flow (perm)		1770	1583		137	5085	196	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	94	123	5	134	1901	3	1885	166
RTOR Reduction (vph)	0	0	111	0	0	0	0	0	59
Lane Group Flow (vph)	0	98	12	0	139	1901	3	1885	107
Turn Type	Prot	Prot	Perm	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases	4	4			5	2		6	
Permitted Phases			4	2	2		6		6
Actuated Green, G (s)		10.2	10.2		83.8	83.8	68.9	68.9	68.9
Effective Green, g (s)		10.2	10.2		83.8	83.8	68.9	68.9	68.9
Actuated g/C Ratio		0.10	0.10		0.78	0.78	0.64	0.64	0.64
Clearance Time (s)		6.0	6.0		7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		2.0	2.0		1.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		168	150		227	3982	126	3274	1019
v/s Ratio Prot		c0.06			0.05	c0.37		0.37	
v/s Ratio Perm			0.01		c0.43		0.02		0.07
v/c Ratio		0.58	0.08		0.61	0.48	0.02	0.58	0.10
Uniform Delay, d1		46.4	44.1		11.5	4.0	6.9	10.8	7.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		3.3	0.1		3.4	0.4	0.3	0.7	0.2
Delay (s)		49.7	44.2		15.0	4.4	7.2	11.5	7.5
Level of Service		D	D		B	A	A	B	A
Approach Delay (s)		46.6				5.1		11.2	
Approach LOS		D				A		B	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	107.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	2	208	860	186	654	1100	359	4	207	1314	373	31
Future Volume (vph)	2	208	860	186	654	1100	359	4	207	1314	373	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0	7.0	7.0	7.0	7.0		6.5	6.5	6.5	
Lane Util. Factor		1.00	0.91	1.00	0.97	0.91	1.00		1.00	0.91	0.88	
Frt		1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (prot)		1770	5085	1583	3433	5085	1583		1770	5085	2787	
Flt Permitted		0.17	1.00	1.00	0.95	1.00	1.00		0.08	1.00	1.00	
Satd. Flow (perm)		326	5085	1583	3433	5085	1583		153	5085	2787	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	219	905	196	688	1158	378	4	218	1383	393	33
RTOR Reduction (vph)	0	0	0	129	0	0	130	0	0	0	32	0
Lane Group Flow (vph)	0	221	905	67	688	1158	248	0	222	1383	361	0
Turn Type	custom	pm+pt	NA	Perm	Prot	NA	Perm	custom	pm+pt	NA	custom	Prot
Protected Phases		1	6		5	2			7	4		3
Permitted Phases	1	6		6			2	7	4		4 5	
Actuated Green, G (s)		50.8	34.2	34.2	34.4	52.0	52.0		67.2	48.6	89.5	
Effective Green, g (s)		50.8	34.2	34.2	34.4	52.0	52.0		67.2	48.6	89.5	
Actuated g/C Ratio		0.32	0.21	0.21	0.21	0.32	0.32		0.42	0.30	0.56	
Clearance Time (s)		7.0	7.0	7.0	7.0	7.0	7.0		6.5	6.5		
Vehicle Extension (s)		2.0	3.0	3.0	2.0	3.0	3.0		2.0	2.5		
Lane Grp Cap (vph)		253	1086	338	738	1652	514		252	1544	1558	
v/s Ratio Prot		0.09	0.18		c0.20	0.23			c0.10	c0.27		
v/s Ratio Perm		c0.19		0.04			0.16		0.27		0.13	
v/c Ratio		0.87	0.83	0.20	0.93	0.70	0.48		0.88	0.90	0.23	
Uniform Delay, d1		43.0	60.2	51.6	61.7	47.2	43.2		46.5	53.3	17.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2		25.9	7.5	1.3	18.3	2.5	3.2		27.4	8.5	0.0	
Delay (s)		68.9	67.7	53.0	80.0	49.7	46.5		73.9	61.8	17.9	
Level of Service		E	E	D	E	D	D		E	E	B	
Approach Delay (s)			65.7			58.5				54.5		
Approach LOS			E			E				D		

Intersection Summary			
HCM 2000 Control Delay	59.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	240	1108	172
Future Volume (vph)	240	1108	172
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5
Lane Util. Factor	0.97	0.91	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	253	1166	181
RTOR Reduction (vph)	0	0	119
Lane Group Flow (vph)	286	1166	62
Turn Type	Prot	NA	Perm
Protected Phases	3	8	
Permitted Phases			8
Actuated Green, G (s)	15.8	45.8	45.8
Effective Green, g (s)	15.8	45.8	45.8
Actuated g/C Ratio	0.10	0.29	0.29
Clearance Time (s)	6.5	6.5	6.5
Vehicle Extension (s)	2.0	2.5	2.5
Lane Grp Cap (vph)	339	1455	453
v/s Ratio Prot	0.08	0.23	
v/s Ratio Perm			0.04
v/c Ratio	0.84	0.80	0.14
Uniform Delay, d1	70.9	52.9	42.4
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	16.5	4.7	0.6
Delay (s)	87.4	57.6	43.0
Level of Service	F	E	D
Approach Delay (s)		61.2	
Approach LOS		E	

Intersection Summary

Pine Island Road

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	2	233	121	216	289	189	218	2	271	1284	251	5
Future Volume (vph)	2	233	121	216	289	189	218	2	271	1284	251	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0			7.0	7.0	7.0	
Lane Util. Factor		1.00	1.00		1.00	1.00			1.00	0.91	1.00	
Frt		1.00	0.90		1.00	0.92			1.00	1.00	0.85	
Flt Protected		0.95	1.00		0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1770	1684		1770	1713			1770	5085	1583	
Flt Permitted		0.12	1.00		0.11	1.00			0.07	1.00	1.00	
Satd. Flow (perm)		233	1684		201	1713			138	5085	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	245	127	227	304	199	229	2	285	1352	264	5
RTOR Reduction (vph)	0	0	40	0	0	26	0	0	0	0	167	0
Lane Group Flow (vph)	0	247	314	0	304	402	0	0	287	1352	97	0
Turn Type	custom	pm+pt	NA		pm+pt	NA		custom	pm+pt	NA	Perm	custom
Protected Phases		7	4		3	8			5	2		
Permitted Phases	7	4			8			5	2		2	1
Actuated Green, G (s)		50.0	32.0		60.0	37.0			74.9	53.9	53.9	
Effective Green, g (s)		50.0	32.0		60.0	37.0			74.9	53.9	53.9	
Actuated g/C Ratio		0.31	0.20		0.38	0.23			0.47	0.34	0.34	
Clearance Time (s)		6.0	6.0		6.0	6.0			7.0	7.0	7.0	
Vehicle Extension (s)		1.5	2.0		1.5	2.0			1.5	3.0	3.0	
Lane Grp Cap (vph)		245	336		300	396			278	1713	533	
v/s Ratio Prot		0.11	0.19		c0.15	c0.23			0.14	0.27		
v/s Ratio Perm		0.20			0.23				c0.35		0.06	
v/c Ratio		1.01	0.93		1.01	1.01			1.03	0.79	0.18	
Uniform Delay, d1		47.9	63.0		50.6	61.5			52.5	47.9	37.5	
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		59.6	32.0		55.4	49.0			62.6	3.8	0.7	
Delay (s)		107.5	95.0		106.0	110.5			115.1	51.7	38.2	
Level of Service		F	F		F	F			F	D	D	
Approach Delay (s)			100.1			108.7				59.4		
Approach LOS			F			F				E		

Intersection Summary			
HCM 2000 Control Delay	69.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

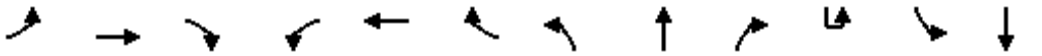
Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	283	1613	317
Future Volume (vph)	283	1613	317
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583
Flt Permitted	0.07	1.00	1.00
Satd. Flow (perm)	128	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	298	1698	334
RTOR Reduction (vph)	0	0	133
Lane Group Flow (vph)	303	1698	201
Turn Type	pm+pt	NA	Perm
Protected Phases	1	6	
Permitted Phases	6		6
Actuated Green, G (s)	83.1	58.0	58.0
Effective Green, g (s)	83.1	58.0	58.0
Actuated g/C Ratio	0.52	0.36	0.36
Clearance Time (s)	7.0	7.0	7.0
Vehicle Extension (s)	1.5	3.0	3.0
Lane Grp Cap (vph)	324	1843	573
v/s Ratio Prot	c0.15	0.33	
v/s Ratio Perm	c0.34		0.13
v/c Ratio	0.94	0.92	0.35
Uniform Delay, d1	51.3	48.8	37.3
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	32.9	9.1	1.7
Delay (s)	84.2	57.9	39.0
Level of Service	F	E	D
Approach Delay (s)		58.6	
Approach LOS		E	

Intersection Summary

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	157	49	6	68	1788	106	2127	269
Future Volume (vph)	157	49	6	68	1788	106	2127	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.91	1.00	0.91	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1583		1770	5085	1770	5085	1583
Flt Permitted	0.95	1.00		0.07	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1770	1583		136	5085	140	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	165	52	6	72	1882	112	2239	283
RTOR Reduction (vph)	0	45	0	0	0	0	0	108
Lane Group Flow (vph)	165	7	0	78	1882	112	2239	175
Turn Type	Prot	Perm	custom	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	4			5	2	1	6	
Permitted Phases		4	5	2		6		6
Actuated Green, G (s)	12.1	12.1		59.1	54.8	60.7	55.6	55.6
Effective Green, g (s)	12.1	12.1		59.1	54.8	60.7	55.6	55.6
Actuated g/C Ratio	0.13	0.13		0.66	0.61	0.67	0.62	0.62
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		1.5	3.0	1.5	3.0	3.0
Lane Grp Cap (vph)	237	212		167	3096	186	3141	977
v/s Ratio Prot	c0.09			0.02	0.37	c0.03	c0.44	
v/s Ratio Perm		0.00		0.28		0.37		0.11
v/c Ratio	0.70	0.03		0.47	0.61	0.60	0.71	0.18
Uniform Delay, d1	37.2	33.9		9.6	10.9	8.6	11.7	7.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.0	0.0		0.8	0.9	3.7	1.4	0.4
Delay (s)	44.2	33.9		10.4	11.8	12.3	13.2	7.8
Level of Service	D	C		B	B	B	B	A
Approach Delay (s)	41.7				11.8		12.5	
Approach LOS	D				B		B	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	991	742	680	0	0	0	0	1628	488	4	763	1967
Future Volume (vph)	991	742	680	0	0	0	0	1628	488	4	763	1967
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0					7.0	7.0		7.0	7.0
Lane Util. Factor	0.91	0.91	1.00					0.86	1.00		0.97	0.95
Frt	1.00	1.00	0.85					1.00	0.85		1.00	1.00
Flt Protected	0.95	0.98	1.00					1.00	1.00		0.95	1.00
Satd. Flow (prot)	1610	3330	1583					6408	1583		3433	3539
Flt Permitted	0.95	0.98	1.00					1.00	1.00		0.95	1.00
Satd. Flow (perm)	1610	3330	1583					6408	1583		3433	3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1043	781	716	0	0	0	0	1714	514	4	803	2071
RTOR Reduction (vph)	0	0	93	0	0	0	0	0	93	0	0	0
Lane Group Flow (vph)	595	1229	623	0	0	0	0	1714	421	0	807	2071
Turn Type	Split	NA	Prot					NA	Prot	Prot	Prot	NA
Protected Phases	1 6	1 6	1 6					4 5	4 5	2 3	2 3	2 3 4 5
Permitted Phases												
Actuated Green, G (s)	53.0	53.0	53.0					53.0	53.0		97.0	157.0
Effective Green, g (s)	53.0	53.0	53.0					53.0	53.0		97.0	157.0
Actuated g/C Ratio	0.24	0.24	0.24					0.24	0.24		0.43	0.70
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)	380	787	374					1516	374		1486	2480
v/s Ratio Prot	0.37	0.37	c0.39					c0.27	0.27		0.24	c0.59
v/s Ratio Perm												
v/c Ratio	1.57	1.56	1.67					1.13	1.13		0.54	0.84
Uniform Delay, d1	85.5	85.5	85.5					85.5	85.5		47.1	24.2
Progression Factor	1.00	1.00	1.00					1.00	1.00		0.12	0.90
Incremental Delay, d2	267.1	258.9	311.0					67.7	85.0		0.0	0.2
Delay (s)	352.6	344.4	396.5					153.2	170.5		5.5	22.0
Level of Service	F	F	F					F	F		A	C
Approach Delay (s)		361.0			0.0			157.2				17.4
Approach LOS		F			A			F				B

Intersection Summary			
HCM 2000 Control Delay	172.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	224.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	198.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	999	993	1384	5	502	2116	0	0	1730
Future Volume (vph)	0	0	0	999	993	1384	5	502	2116	0	0	1730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0	7.0		7.0	7.0			7.0
Lane Util. Factor				0.91	0.86	0.91		0.97	0.95			0.86
Frt				1.00	0.95	0.85		1.00	1.00			1.00
Flt Protected				0.95	1.00	1.00		0.95	1.00			1.00
Satd. Flow (prot)				1610	3024	1441		3433	3539			6408
Flt Permitted				0.95	1.00	1.00		0.95	1.00			1.00
Satd. Flow (perm)				1610	3024	1441		3433	3539			6408
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1052	1045	1457	5	528	2227	0	0	1821
RTOR Reduction (vph)	0	0	0	0	11	93	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	915	1812	723	0	533	2227	0	0	1821
Turn Type				Prot	NA	Perm	Prot	Prot	NA			NA
Protected Phases				3	3 4		5 6	5 6	1 2 5 6			1 2
Permitted Phases						3 4						
Actuated Green, G (s)				45.0	46.0	53.0		97.0	157.0			53.0
Effective Green, g (s)				45.0	46.0	53.0		97.0	157.0			53.0
Actuated g/C Ratio				0.20	0.21	0.24		0.43	0.70			0.24
Clearance Time (s)				7.0								
Vehicle Extension (s)				2.0								
Lane Grp Cap (vph)				323	715	340		1486	2480			1516
v/s Ratio Prot				c0.57	c0.51			0.16	c0.63			c0.28
v/s Ratio Perm					0.09	0.50						
v/c Ratio				2.83	2.53	2.13		0.36	0.90			1.20
Uniform Delay, d1				89.5	89.0	85.5		42.6	27.0			85.5
Progression Factor				1.00	1.00	1.00		0.27	0.90			1.00
Incremental Delay, d2				833.3	694.5	516.5		0.0	0.5			97.1
Delay (s)				922.8	783.5	602.0		11.6	24.8			182.6
Level of Service				F	F	F		B	C			F
Approach Delay (s)		0.0			777.7				22.3			272.3
Approach LOS		A			F				C			F

Intersection Summary			
HCM 2000 Control Delay	394.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.78		
Actuated Cycle Length (s)	224.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	198.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

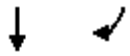
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	870
Future Volume (vph)	870
Ideal Flow (vphpl)	1900
Total Lost time (s)	7.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	916
RTOR Reduction (vph)	352
Lane Group Flow (vph)	564
Turn Type	custom
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	45.0
Effective Green, g (s)	45.0
Actuated g/C Ratio	0.20
Clearance Time (s)	7.0
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	318
v/s Ratio Prot	
v/s Ratio Perm	c0.36
v/c Ratio	1.77
Uniform Delay, d1	89.5
Progression Factor	1.00
Incremental Delay, d2	361.2
Delay (s)	450.7
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	47	5	53	276	30	60	4	67	3326	103	6	45
Future Volume (vph)	47	5	53	276	30	60	4	67	3326	103	6	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0	5.0	5.0		5.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.91	1.00		1.00
Frt	1.00	0.86		1.00	0.90			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1770	1606		1770	1677			1770	5085	1583		1770
Flt Permitted	0.70	1.00		0.72	1.00			0.07	1.00	1.00		0.08
Satd. Flow (perm)	1295	1606		1336	1677			131	5085	1583		143
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	49	5	56	291	32	63	4	71	3501	108	6	47
RTOR Reduction (vph)	0	45	0	0	1	0	0	0	0	30	0	0
Lane Group Flow (vph)	49	16	0	291	94	0	0	75	3501	78	0	53
Turn Type	Perm	NA		Perm	NA		custom	pm+pt	NA	Perm	Perm	Perm
Protected Phases		4			8			5	2			
Permitted Phases	4			8			5	2		2	6	6
Actuated Green, G (s)	18.0	18.0		18.0	18.0			61.0	61.0	61.0		52.0
Effective Green, g (s)	18.0	18.0		18.0	18.0			61.0	61.0	61.0		52.0
Actuated g/C Ratio	0.20	0.20		0.20	0.20			0.68	0.68	0.68		0.58
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0	5.0	5.0		5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			1.5	3.0	3.0		3.0
Lane Grp Cap (vph)	259	321		267	335			161	3446	1072		82
v/s Ratio Prot		0.01			0.06			0.02	c0.69			
v/s Ratio Perm	0.04			c0.22				0.29		0.05		0.37
v/c Ratio	0.19	0.05		1.09	0.28			0.47	1.02	0.07		0.65
Uniform Delay, d1	29.9	29.1		36.0	30.5			15.6	14.5	4.9		12.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	0.1	0.0		81.2	0.2			0.8	19.5	0.1		16.2
Delay (s)	30.1	29.1		117.2	30.7			16.4	34.0	5.0		29.0
Level of Service	C	C		F	C			B	C	A		C
Approach Delay (s)		29.5			95.9				32.8			
Approach LOS		C			F				C			

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	2344	51
Future Volume (vph)	2344	51
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.0	
Lane Util. Factor	0.91	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	5069	
Flt Permitted	1.00	
Satd. Flow (perm)	5069	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	2467	54
RTOR Reduction (vph)	3	0
Lane Group Flow (vph)	2518	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	52.0	
Effective Green, g (s)	52.0	
Actuated g/C Ratio	0.58	
Clearance Time (s)	5.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2928	
v/s Ratio Prot	0.50	
v/s Ratio Perm		
v/c Ratio	0.86	
Uniform Delay, d1	15.9	
Progression Factor	1.00	
Incremental Delay, d2	2.8	
Delay (s)	18.8	
Level of Service	B	
Approach Delay (s)	19.0	
Approach LOS	B	

Intersection Summary

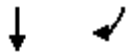
Movement	WBU	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	2	450	521	3073	601	705	2032
Future Volume (vph)	2	450	521	3073	601	705	2032
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)		15%		0%			0%
Total Lost time (s)		6.5	6.5	6.5	6.5	6.5	6.5
Lane Util. Factor		0.97	1.00	0.91	1.00	0.97	0.91
Frt		1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected		0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)		3176	1465	5085	1583	3433	5085
Flt Permitted		0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)		3176	1465	5085	1583	3433	5085
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	474	548	3235	633	742	2139
RTOR Reduction (vph)	0	0	0	0	132	0	0
Lane Group Flow (vph)	0	476	548	3235	501	742	2139
Turn Type	Prot	Prot	pt+ov	NA	Prot	Prot	NA
Protected Phases	4	4	4 1	2	2	1	1 2
Permitted Phases							
Actuated Green, G (s)		21.5	60.5	86.5	86.5	32.5	125.5
Effective Green, g (s)		21.5	60.5	86.5	86.5	32.5	125.5
Actuated g/C Ratio		0.13	0.38	0.54	0.54	0.20	0.78
Clearance Time (s)		6.5		6.5	6.5	6.5	
Vehicle Extension (s)		2.0		3.0	3.0	1.5	
Lane Grp Cap (vph)		426	553	2749	855	697	3988
v/s Ratio Prot		0.15	c0.37	c0.64	0.32	0.22	0.42
v/s Ratio Perm							
v/c Ratio		1.12	0.99	1.18	0.59	1.06	0.54
Uniform Delay, d1		69.2	49.5	36.8	24.7	63.8	6.4
Progression Factor		1.00	1.00	1.00	1.00	1.32	0.39
Incremental Delay, d2		79.5	35.8	83.7	2.9	39.2	0.2
Delay (s)		148.8	85.3	120.4	27.6	123.5	2.7
Level of Service		F	F	F	C	F	A
Approach Delay (s)		114.8		105.3			33.8
Approach LOS		F		F			C

Intersection Summary			
HCM 2000 Control Delay	80.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	108.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	38	29	110	493	43	247	38	175	2840	293	10	116
Future Volume (vph)	38	29	110	493	43	247	38	175	2840	293	10	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0		6.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.91	1.00		1.00
Frt	1.00	0.88		1.00	0.87			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1770	1642		1770	1625			1770	5085	1583		1770
Flt Permitted	0.42	1.00		0.62	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	779	1642		1164	1625			1770	5085	1583		1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	31	116	519	45	260	40	184	2989	308	11	122
RTOR Reduction (vph)	0	75	0	0	62	0	0	0	0	52	0	0
Lane Group Flow (vph)	40	72	0	519	243	0	0	224	2989	256	0	133
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4			8		5	5	2		1	1
Permitted Phases	4			8						2		
Actuated Green, G (s)	56.0	56.0		56.0	56.0			20.0	77.0	77.0		9.0
Effective Green, g (s)	56.0	56.0		56.0	56.0			20.0	77.0	77.0		9.0
Actuated g/C Ratio	0.35	0.35		0.35	0.35			0.12	0.48	0.48		0.06
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0		6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			1.5	3.0	3.0		1.5
Lane Grp Cap (vph)	272	574		407	568			221	2447	761		99
v/s Ratio Prot		0.04			0.15			c0.13	c0.59			0.08
v/s Ratio Perm	0.05			c0.45						0.16		
v/c Ratio	0.15	0.12		1.28	0.43			1.01	1.22	0.34		1.34
Uniform Delay, d1	35.6	35.3		52.0	39.7			70.0	41.5	25.7		75.5
Progression Factor	1.00	1.00		1.00	1.00			0.73	1.55	1.99		1.00
Incremental Delay, d2	0.1	0.0		141.7	0.2			21.6	100.0	0.1		207.5
Delay (s)	35.7	35.4		193.7	39.9			73.0	164.2	51.2		283.0
Level of Service	D	D		F	D			E	F	D		F
Approach Delay (s)		35.5			136.8				148.5			
Approach LOS		D			F				F			

Intersection Summary			
HCM 2000 Control Delay	121.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1922	54
Future Volume (vph)	1922	54
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.91	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	5064	
Flt Permitted	1.00	
Satd. Flow (perm)	5064	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	2023	57
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	2078	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	66.0	
Effective Green, g (s)	66.0	
Actuated g/C Ratio	0.41	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2088	
v/s Ratio Prot	0.41	
v/s Ratio Perm		
v/c Ratio	1.00	
Uniform Delay, d1	46.8	
Progression Factor	1.00	
Incremental Delay, d2	18.6	
Delay (s)	65.5	
Level of Service	E	
Approach Delay (s)	78.5	
Approach LOS	E	

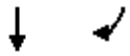
Intersection Summary

University Drive

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	7	294	423	1030	897	441	504	409	2711	879	2	359
Future Volume (vph)	7	294	423	1030	897	441	504	409	2711	879	2	359
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)		6.5	6.5	7.0	6.5	6.5	6.5	7.0	7.0	7.0		7.0
Lane Util. Factor		0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	1.00		0.97
Frpb, ped/bikes		1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95
Satd. Flow (prot)		3594	3668	2862	3558	3668	1641	3558	5219	1603		3558
Flt Permitted		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95
Satd. Flow (perm)		3594	3668	2862	3558	3668	1641	3558	5219	1603		3558
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	7	309	445	1084	944	464	531	431	2854	925	2	378
RTOR Reduction (vph)	0	0	0	87	0	0	112	0	0	212	0	0
Lane Group Flow (vph)	0	316	445	997	944	464	419	431	2854	713	0	380
Confl. Peds. (#/hr)				1						1		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%	1%	1%	2%	2%	0%	1%
Turn Type	Prot	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot
Protected Phases	7	7	4	5	3	8		5	2		1	1
Permitted Phases				4			8			2		
Actuated Green, G (s)		14.5	27.5	40.5	25.5	38.5	38.5	13.0	67.0	67.0		13.0
Effective Green, g (s)		14.5	27.5	40.5	25.5	38.5	38.5	13.0	67.0	67.0		13.0
Actuated g/C Ratio		0.09	0.17	0.25	0.16	0.24	0.24	0.08	0.42	0.42		0.08
Clearance Time (s)		6.5	6.5	7.0	6.5	6.5	6.5	7.0	7.0	7.0		7.0
Vehicle Extension (s)		1.5	2.0	1.5	1.5	2.0	2.0	1.5	3.0	3.0		1.5
Lane Grp Cap (vph)		325	630	724	567	882	394	289	2185	671		289
v/s Ratio Prot		0.09	0.12	c0.11	c0.27	0.13		c0.12	0.55			0.11
v/s Ratio Perm				0.24			0.26			0.44		
v/c Ratio		0.97	0.71	1.38	1.66	0.53	1.06	1.49	1.31	1.06		1.31
Uniform Delay, d1		72.5	62.4	59.8	67.2	52.8	60.8	73.5	46.5	46.5		73.5
Progression Factor		1.24	0.86	0.73	1.05	0.77	0.71	1.04	0.95	0.91		1.23
Incremental Delay, d2		37.9	2.5	177.2	306.0	0.2	60.7	222.8	138.1	32.1		150.5
Delay (s)		127.6	56.3	220.9	376.8	40.9	103.8	299.4	182.3	74.3		241.1
Level of Service		F	E	F	F	D	F	F	F	E		F
Approach Delay (s)			165.3			221.7			170.5			
Approach LOS			F			F			F			

Intersection Summary			
HCM 2000 Control Delay	210.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	137.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	3215	128
Future Volume (vph)	3215	128
Ideal Flow (vphpl)	1950	1950
Total Lost time (s)	7.0	7.0
Lane Util. Factor	0.91	1.00
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5219	1599
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5219	1599
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	3384	135
RTOR Reduction (vph)	0	78
Lane Group Flow (vph)	3384	57
Confl. Peds. (#/hr)		3
Heavy Vehicles (%)	2%	2%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	67.0	67.0
Effective Green, g (s)	67.0	67.0
Actuated g/C Ratio	0.42	0.42
Clearance Time (s)	7.0	7.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2185	669
v/s Ratio Prot	c0.65	
v/s Ratio Perm		0.04
v/c Ratio	1.55	0.08
Uniform Delay, d1	46.5	28.0
Progression Factor	0.77	0.92
Incremental Delay, d2	247.8	0.1
Delay (s)	283.5	25.7
Level of Service	F	C
Approach Delay (s)	270.4	
Approach LOS	F	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	748	403	1134	5	281	2868	0	0	2407
Future Volume (vph)	0	0	0	748	403	1134	5	281	2868	0	0	2407
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)				7.0	7.0	7.0		7.0	7.0			7.0
Lane Util. Factor				0.91	0.86	0.91		0.97	0.91			0.86
Frt				1.00	0.92	0.85		1.00	1.00			0.98
Flt Protected				0.95	0.99	1.00		0.95	1.00			1.00
Satd. Flow (prot)				1669	3049	1493		3594	5219			6433
Flt Permitted				0.95	0.99	1.00		0.95	1.00			1.00
Satd. Flow (perm)				1669	3049	1493		3594	5219			6433
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	787	424	1194	5	296	3019	0	0	2534
RTOR Reduction (vph)	0	0	0	0	1	85	0	0	0	0	0	21
Lane Group Flow (vph)	0	0	0	622	1185	512	0	301	3019	0	0	2979
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	2%	0%	0%	2%
Turn Type				Perm	NA	Perm	Prot	Prot	NA			NA
Protected Phases					12		10	10	2 4 10			2 4
Permitted Phases				12		12						
Actuated Green, G (s)				50.0	50.0	50.0		15.0	96.0			74.0
Effective Green, g (s)				50.0	50.0	50.0		15.0	96.0			74.0
Actuated g/C Ratio				0.31	0.31	0.31		0.09	0.60			0.46
Clearance Time (s)				7.0	7.0	7.0		7.0				
Vehicle Extension (s)				3.0	3.0	3.0		3.0				
Lane Grp Cap (vph)				521	952	466		336	3131			2975
v/s Ratio Prot								0.08	c0.58			c0.46
v/s Ratio Perm				0.37	0.39	0.34						
v/c Ratio				1.19	1.28dr	1.10		0.90	0.96			1.00
Uniform Delay, d1				55.0	55.0	55.0		71.7	30.4			43.0
Progression Factor				1.00	1.00	1.00		0.71	0.57			0.94
Incremental Delay, d2				104.9	119.2	71.6		3.2	1.2			5.3
Delay (s)				159.9	174.2	126.6		54.4	18.4			45.5
Level of Service				F	F	F		D	B			D
Approach Delay (s)		0.0			158.7				21.7			45.5
Approach LOS		A			F				C			D

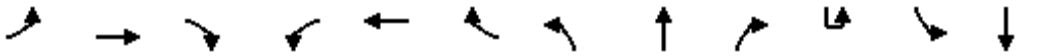
Intersection Summary			
HCM 2000 Control Delay	67.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	111.3%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	443
Future Volume (vph)	443
Ideal Flow (vphpl)	1950
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	466
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	1%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	592	559	806	0	0	0	0	2559	1055	3	388	2770
Future Volume (vph)	592	559	806	0	0	0	0	2559	1055	3	388	2770
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0					7.0	4.0		7.0	7.0
Lane Util. Factor	0.91	0.86	0.91					0.91	1.00		0.97	0.91
Frt	1.00	0.95	0.85					1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00					1.00	1.00		0.95	1.00
Satd. Flow (prot)	1653	3088	1508					5219	1625		3211	5271
Flt Permitted	0.95	1.00	1.00					1.00	1.00		0.95	1.00
Satd. Flow (perm)	1653	3088	1508					5219	1625		3211	5271
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	623	588	848	0	0	0	0	2694	1111	3	408	2916
RTOR Reduction (vph)	0	1	85	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	530	1053	390	0	0	0	0	2694	1111	0	411	2916
Heavy Vehicles (%)	2%	4%	0%	0%	0%	0%	0%	2%	2%	0%	12%	1%
Turn Type	Perm	NA	Perm					NA	Free	Prot	Prot	NA
Protected Phases		12						4 10		2	2	2 4 10
Permitted Phases	12		12						Free			
Actuated Green, G (s)	50.0	50.0	50.0					72.0	160.0		17.0	96.0
Effective Green, g (s)	50.0	50.0	50.0					72.0	160.0		17.0	96.0
Actuated g/C Ratio	0.31	0.31	0.31					0.45	1.00		0.11	0.60
Clearance Time (s)	7.0	7.0	7.0								7.0	
Vehicle Extension (s)	3.0	3.0	3.0								3.0	
Lane Grp Cap (vph)	516	965	471					2348	1625		341	3162
v/s Ratio Prot								c0.52			c0.13	0.55
v/s Ratio Perm	0.32	0.34	0.26						0.68			
v/c Ratio	1.03	1.09	0.83					1.15	0.68		1.21	0.92
Uniform Delay, d1	55.0	55.0	51.0					44.0	0.0		71.5	28.7
Progression Factor	1.00	1.00	1.00					1.09	1.00		1.22	0.60
Incremental Delay, d2	46.7	57.2	11.5					66.8	0.2		95.1	0.5
Delay (s)	101.7	112.2	62.5					114.9	0.2		182.0	17.7
Level of Service	F	F	E					F	A		F	B
Approach Delay (s)		98.0			0.0			81.4				38.0
Approach LOS		F			A			F				D

Intersection Summary			
HCM 2000 Control Delay	69.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	111.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1950
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	193	23	226	297	33	449	42	115	2971	183	341	2934
Future Volume (vph)	193	23	226	297	33	449	42	115	2971	183	341	2934
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0		7.0	7.0		7.0	7.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	0.88		1.00	*0.75		0.97	0.91
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.99		1.00	1.00
Flt Protected	0.95	0.96	1.00	0.95	0.96	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1760	1782	1658	1709	1739	2888		1852	5640		3594	5271
Flt Permitted	0.95	0.96	1.00	0.95	0.96	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1760	1782	1658	1709	1739	2888		1852	5640		3594	5271
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	203	24	238	313	35	473	44	121	3127	193	359	3088
RTOR Reduction (vph)	0	0	148	0	0	172	0	0	4	0	0	0
Lane Group Flow (vph)	114	113	90	172	176	301	0	165	3316	0	359	3088
Heavy Vehicles (%)	0%	0%	0%	3%	0%	1%	0%	0%	3%	0%	0%	1%
Turn Type	Split	NA	Prot	Split	NA	pt+ov	Prot	Prot	NA		Prot	NA
Protected Phases	8	8	8	4	4	4 1	5	5	2		1	6
Permitted Phases												
Actuated Green, G (s)	15.5	15.5	15.5	30.4	30.4	56.3		17.8	68.2		19.9	70.3
Effective Green, g (s)	15.5	15.5	15.5	30.4	30.4	56.3		17.8	68.2		19.9	70.3
Actuated g/C Ratio	0.10	0.10	0.10	0.19	0.19	0.35		0.11	0.43		0.12	0.44
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			7.0	7.0		7.0	7.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			1.5	3.0		1.5	3.0
Lane Grp Cap (vph)	170	172	160	324	330	1016		206	2404		447	2315
v/s Ratio Prot	c0.06	0.06	0.05	0.10	c0.10	0.10		0.09	c0.59		c0.10	0.59
v/s Ratio Perm												
v/c Ratio	0.67	0.66	0.56	0.53	0.53	0.30		0.80	1.38		0.80	1.33
Uniform Delay, d1	69.8	69.7	69.0	58.4	58.4	37.5		69.4	45.9		68.1	44.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.95	1.12		0.95	1.17
Incremental Delay, d2	7.9	6.7	2.7	0.8	0.8	0.1		2.0	171.0		3.6	151.4
Delay (s)	77.7	76.4	71.7	59.2	59.2	37.6		68.2	222.3		68.7	204.0
Level of Service	E	E	E	E	E	D		E	F		E	F
Approach Delay (s)		74.3			46.7				215.0			187.2
Approach LOS		E			D				F			F

Intersection Summary			
HCM 2000 Control Delay	178.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	53
Future Volume (vph)	53
Ideal Flow (vphpl)	1950
Total Lost time (s)	7.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1658
Flt Permitted	1.00
Satd. Flow (perm)	1658
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	56
RTOR Reduction (vph)	31
Lane Group Flow (vph)	25
Heavy Vehicles (%)	0%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	70.3
Effective Green, g (s)	70.3
Actuated g/C Ratio	0.44
Clearance Time (s)	7.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	728
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.03
Uniform Delay, d1	25.5
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	25.6
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	83	22	27	349	15	569	4	55	4070	424	125	326
Future Volume (vph)	83	22	27	349	15	569	4	55	4070	424	125	326
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)		7.0		7.0	7.0	7.0		7.0	7.0	7.0		7.0
Lane Util. Factor		0.95		0.95	0.91	0.95		1.00	0.81	1.00		0.97
Frt		0.97		1.00	0.87	0.85		1.00	1.00	0.85		1.00
Flt Protected		0.97		0.95	0.99	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		3381		1760	1543	1575		1818	7743	1658		3594
Flt Permitted		0.97		0.95	0.99	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		3381		1760	1543	1575		1818	7743	1658		3594
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	87	23	28	367	16	599	4	58	4284	446	132	343
RTOR Reduction (vph)	0	16	0	0	104	129	0	0	0	104	0	0
Lane Group Flow (vph)	0	122	0	330	225	194	0	62	4284	342	0	475
Heavy Vehicles (%)	0%	18%	0%	0%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Split	NA		Split	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases						4				2		
Actuated Green, G (s)		10.6		36.4	36.4	36.4		8.3	68.0	68.0		17.0
Effective Green, g (s)		10.6		36.4	36.4	36.4		8.3	68.0	68.0		17.0
Actuated g/C Ratio		0.07		0.23	0.23	0.23		0.05	0.42	0.42		0.11
Clearance Time (s)		7.0		7.0	7.0	7.0		7.0	7.0	7.0		7.0
Vehicle Extension (s)		2.5		2.0	2.0	2.0		1.5	3.0	3.0		1.5
Lane Grp Cap (vph)		223		400	351	358		94	3290	704		381
v/s Ratio Prot		c0.04		c0.19	0.15			0.03	c0.55			c0.13
v/s Ratio Perm						0.12				0.21		
v/c Ratio		0.55		0.82	0.64	0.54		0.66	1.30	0.49		1.25
Uniform Delay, d1		72.4		58.8	55.9	54.5		74.5	46.0	33.3		71.5
Progression Factor		1.00		1.00	1.00	1.00		1.17	0.48	0.23		1.21
Incremental Delay, d2		2.2		12.4	3.0	0.9		1.2	136.2	0.2		122.5
Delay (s)		74.5		71.2	58.9	55.4		88.4	158.1	7.7		209.2
Level of Service		E		E	E	E		F	F	A		F
Approach Delay (s)		74.5			61.9				143.2			
Approach LOS		E			E				F			

Intersection Summary			
HCM 2000 Control Delay	125.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	2828	52
Future Volume (vph)	2828	52
Ideal Flow (vphpl)	1950	1950
Total Lost time (s)	7.0	7.0
Lane Util. Factor	0.91	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5271	1579
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5271	1579
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	2977	55
RTOR Reduction (vph)	0	29
Lane Group Flow (vph)	2977	26
Heavy Vehicles (%)	1%	5%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	76.7	76.7
Effective Green, g (s)	76.7	76.7
Actuated g/C Ratio	0.48	0.48
Clearance Time (s)	7.0	7.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2526	756
v/s Ratio Prot	c0.56	
v/s Ratio Perm		0.02
v/c Ratio	1.18	0.03
Uniform Delay, d1	41.6	22.1
Progression Factor	0.61	1.00
Incremental Delay, d2	82.8	0.0
Delay (s)	108.0	22.1
Level of Service	F	C
Approach Delay (s)	120.4	
Approach LOS	F	

Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	272	264	196	88	470	246	952	24	189	3323	455	6
Future Volume (vph)	272	264	196	88	470	246	952	24	189	3323	455	6
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	
Lane Util. Factor	0.97	0.95	1.00		1.00	1.00	0.88		1.00	0.81	1.00	
Frt	1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	3558	3632	1625		1852	1912	2888		1820	7819	1641	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	3558	3632	1625		1852	1912	2888		1820	7819	1641	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	286	278	206	93	495	259	1002	25	199	3498	479	6
RTOR Reduction (vph)	0	0	98	0	0	0	61	0	0	0	212	0
Lane Group Flow (vph)	286	278	108	0	588	259	941	0	224	3498	267	0
Heavy Vehicles (%)	1%	2%	2%	0%	0%	2%	1%	0%	2%	1%	1%	0%
Turn Type	Prot	NA	pm+ov	Prot	Prot	NA	pm+ov	Prot	Prot	NA	Perm	Prot
Protected Phases	7	4	5!	3	3	8	1!	5!	5	2		1!
Permitted Phases			4				8				2	
Actuated Green, G (s)	16.8	15.9	32.0		39.0	38.1	54.2		16.1	61.0	61.0	
Effective Green, g (s)	16.8	15.9	32.0		39.0	38.1	54.2		16.1	61.0	61.0	
Actuated g/C Ratio	0.11	0.10	0.20		0.24	0.24	0.34		0.10	0.38	0.38	
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	
Vehicle Extension (s)	1.5	2.0	1.5		1.5	2.0	1.5		1.5	3.0	3.0	
Lane Grp Cap (vph)	373	360	396		451	455	1104		183	2980	625	
v/s Ratio Prot	0.08	0.08	0.03		c0.32	0.14	c0.09		c0.12	0.45		
v/s Ratio Perm			0.04				0.24				0.16	
v/c Ratio	0.77	0.77	0.27		1.30	0.57	0.85		1.22	1.17	0.43	
Uniform Delay, d1	69.7	70.3	54.1		60.5	53.7	49.2		72.0	49.5	36.6	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		0.90	0.91	1.43	
Incremental Delay, d2	8.2	9.0	0.1		152.1	1.0	6.3		105.4	78.6	0.2	
Delay (s)	77.9	79.3	54.3		212.6	54.7	55.4		169.9	123.7	52.3	
Level of Service	E	E	D		F	D	E		F	F	D	
Approach Delay (s)		72.1				105.3				118.0		
Approach LOS		E				F				F		

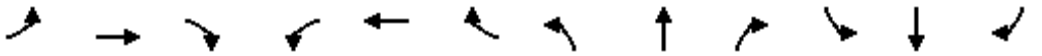
Intersection Summary			
HCM 2000 Control Delay	123.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	375	2381	327
Future Volume (vph)	375	2381	327
Ideal Flow (vphpl)	1950	1950	1950
Total Lost time (s)	7.0	10.0	7.0
Lane Util. Factor	0.97	0.91	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3559	5324	1658
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3559	5324	1658
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	395	2506	344
RTOR Reduction (vph)	0	0	105
Lane Group Flow (vph)	401	2506	239
Heavy Vehicles (%)	1%	0%	0%
Turn Type	Prot	NA	Perm
Protected Phases	1	6	
Permitted Phases			6
Actuated Green, G (s)	16.1	61.0	61.0
Effective Green, g (s)	16.1	58.0	61.0
Actuated g/C Ratio	0.10	0.36	0.38
Clearance Time (s)	7.0	7.0	7.0
Vehicle Extension (s)	1.5	3.0	3.0
Lane Grp Cap (vph)	358	1929	632
v/s Ratio Prot	0.11	c0.47	
v/s Ratio Perm			0.14
v/c Ratio	1.12	1.30	0.38
Uniform Delay, d1	72.0	51.0	35.8
Progression Factor	1.32	0.72	0.50
Incremental Delay, d2	58.0	135.0	0.2
Delay (s)	153.0	171.6	17.9
Level of Service	F	F	B
Approach Delay (s)		153.1	
Approach LOS		F	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	153	94	207	191	952	177	2905	167	373	2337	283
Future Volume (vph)	275	153	94	207	191	952	177	2905	167	373	2337	283
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1852	1931	1620	1816	1950	1636	1834	5219	1522	3594	5271	1606
Flt Permitted	0.63	1.00	1.00	0.44	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1232	1931	1620	850	1950	1636	1834	5219	1522	3594	5271	1606
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	289	161	99	218	201	1002	186	3058	176	393	2460	298
RTOR Reduction (vph)	0	0	79	0	0	188	0	0	88	0	0	87
Lane Group Flow (vph)	289	161	20	218	201	814	186	3058	88	393	2460	211
Confl. Peds. (#/hr)			9			1			9			4
Heavy Vehicles (%)	0%	1%	0%	2%	0%	0%	1%	2%	6%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Actuated Green, G (s)	36.9	32.9	32.9	54.0	44.0	44.0	18.8	66.2	66.2	19.8	67.2	67.2
Effective Green, g (s)	36.9	32.9	32.9	54.0	44.0	44.0	18.8	66.2	66.2	19.8	67.2	67.2
Actuated g/C Ratio	0.23	0.21	0.21	0.34	0.28	0.28	0.12	0.41	0.41	0.12	0.42	0.42
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	1.5	2.0	2.0	1.5	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lane Grp Cap (vph)	299	397	333	378	536	449	215	2159	629	444	2213	674
v/s Ratio Prot	0.02	0.08		c0.05	0.10		0.10	c0.59		c0.11	0.47	
v/s Ratio Perm	0.20		0.01	0.14		c0.50			0.06			0.13
v/c Ratio	0.97	0.41	0.06	0.58	0.38	1.81	0.87	1.42	0.14	0.89	1.11	0.31
Uniform Delay, d1	60.0	55.1	51.1	40.5	46.9	58.0	69.4	46.9	29.2	69.0	46.4	31.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.15	0.71	0.49
Incremental Delay, d2	42.3	0.2	0.0	1.3	0.2	374.8	27.6	190.2	0.5	2.1	50.9	0.1
Delay (s)	102.4	55.3	51.2	41.8	47.0	432.8	97.0	237.1	29.7	81.6	84.0	15.3
Level of Service	F	E	D	D	D	F	F	F	C	F	F	B
Approach Delay (s)		79.3			318.2			218.8			77.2	
Approach LOS		E			F			F			E	

Intersection Summary			
HCM 2000 Control Delay	174.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	142.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Davie Road

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	18	714	242	350	128	238	312	105	1171	130	66	427
Future Volume (vph)	18	714	242	350	128	238	312	105	1171	130	66	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0		6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00		1.00
Frt		1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		0.95
Satd. Flow (prot)		1770	1698		1770	1863	1583	1770	3539	1583		1770
Flt Permitted		0.17	1.00		0.22	1.00	1.00	0.08	1.00	1.00		0.07
Satd. Flow (perm)		310	1698		414	1863	1583	155	3539	1583		138
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	19	752	255	368	135	251	328	111	1233	137	69	449
RTOR Reduction (vph)	0	0	32	0	0	0	163	0	0	96	0	0
Lane Group Flow (vph)	0	771	591	0	135	251	165	111	1233	41	0	518
Turn Type	custom	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	custom	pm+pt
Protected Phases		7	4		3	8		5	2			1
Permitted Phases	7	4			8		8	2		2	1	6
Actuated Green, G (s)		66.0	50.2		27.8	18.0	18.0	55.0	48.0	48.0		82.0
Effective Green, g (s)		66.0	50.2		27.8	18.0	18.0	55.0	48.0	48.0		82.0
Actuated g/C Ratio		0.41	0.31		0.17	0.11	0.11	0.34	0.30	0.30		0.51
Clearance Time (s)		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0		6.0
Vehicle Extension (s)		1.5	2.0		1.5	2.0	2.0	1.5	3.0	3.0		1.5
Lane Grp Cap (vph)		511	532		154	209	178	123	1061	474		356
v/s Ratio Prot		c0.40	0.35		0.05	0.13		0.04	0.35			c0.25
v/s Ratio Perm		c0.23			0.10		0.10	0.27		0.03		0.49
v/c Ratio		1.51	1.11		0.88	1.20	0.93	0.90	1.16	0.09		1.46
Uniform Delay, d1		48.3	54.9		61.1	71.0	70.3	43.3	56.0	40.2		53.7
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		0.65
Incremental Delay, d2		239.0	72.9		37.8	127.1	45.5	51.2	83.6	0.4		209.4
Delay (s)		287.3	127.8		98.9	198.1	115.9	94.5	139.6	40.6		244.4
Level of Service		F	F		F	F	F	F	F	D		F
Approach Delay (s)			216.0			141.6			127.0			
Approach LOS			F			F			F			

Intersection Summary			
HCM 2000 Control Delay	185.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.59		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	161.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

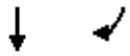
Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1444	1330
Future Volume (vph)	1444	1330
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	6.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1520	1400
RTOR Reduction (vph)	0	354
Lane Group Flow (vph)	1520	1046
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	69.0	69.0
Effective Green, g (s)	69.0	69.0
Actuated g/C Ratio	0.43	0.43
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1526	682
v/s Ratio Prot	0.43	
v/s Ratio Perm		c0.66
v/c Ratio	1.00	1.53
Uniform Delay, d1	45.4	45.5
Progression Factor	1.34	2.12
Incremental Delay, d2	11.6	242.2
Delay (s)	72.4	338.7
Level of Service	E	F
Approach Delay (s)	206.8	
Approach LOS	F	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	18	7	14	307	8	318	36	0	2153	231	4	371
Future Volume (vph)	18	7	14	307	8	318	36	0	2153	231	4	371
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0	6.0		6.0
Lane Util. Factor		1.00		1.00	1.00			1.00	0.91	1.00		0.97
Frt		0.95		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected		0.98		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)		1731		1770	1590			1770	5085	1583		3433
Flt Permitted		0.58		0.73	1.00			0.05	1.00	1.00		0.95
Satd. Flow (perm)		1030		1360	1590			90	5085	1583		3433
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	19	7	15	323	8	335	38	0	2266	243	4	391
RTOR Reduction (vph)	0	11	0	0	133	0	0	0	0	49	0	0
Lane Group Flow (vph)	0	30	0	323	210	0	0	38	2266	194	0	395
Turn Type	Perm	NA		Perm	NA		custom	pm+pt	NA	Perm	Prot	Prot
Protected Phases		4			8			5	2		1	1
Permitted Phases	4			8			5	2		2		
Actuated Green, G (s)		38.0		38.0	38.0			87.1	83.1	83.1		20.9
Effective Green, g (s)		38.0		38.0	38.0			87.1	83.1	83.1		20.9
Actuated g/C Ratio		0.24		0.24	0.24			0.54	0.52	0.52		0.13
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0	6.0		6.0
Vehicle Extension (s)		2.0		2.0	2.0			1.5	3.0	3.0		2.0
Lane Grp Cap (vph)		244		323	377			90	2641	822		448
v/s Ratio Prot					0.13			0.01	0.45			c0.12
v/s Ratio Perm		0.03		c0.24				0.22		0.12		
v/c Ratio		0.12		1.00	0.56			0.42	0.86	0.24		0.88
Uniform Delay, d1		47.9		61.0	53.6			36.9	33.3	21.1		68.3
Progression Factor		1.00		1.00	1.00			0.99	0.71	0.66		1.00
Incremental Delay, d2		0.1		50.1	1.0			0.1	0.4	0.1		17.6
Delay (s)		48.0		111.1	54.6			36.5	24.1	13.9		86.0
Level of Service		D		F	D			D	C	B		F
Approach Delay (s)		48.0			82.0				23.3			
Approach LOS		D			F				C			

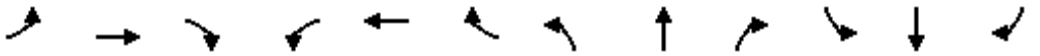
Intersection Summary			
HCM 2000 Control Delay	41.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	2965	7
Future Volume (vph)	2965	7
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.91	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	5084	
Flt Permitted	1.00	
Satd. Flow (perm)	5084	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	3121	7
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	3128	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	100.0	
Effective Green, g (s)	100.0	
Actuated g/C Ratio	0.62	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	3177	
v/s Ratio Prot	c0.62	
v/s Ratio Perm		
v/c Ratio	0.98	
Uniform Delay, d1	29.2	
Progression Factor	1.00	
Incremental Delay, d2	12.7	
Delay (s)	42.0	
Level of Service	D	
Approach Delay (s)	46.9	
Approach LOS	D	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	261	612	1388	0	0	0	0	1264	1229	66	1959	0
Future Volume (vph)	261	612	1388	0	0	0	0	1264	1229	66	1959	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0					7.0	7.0	7.0	7.0	
Lane Util. Factor		0.91	0.91					0.91	0.91	1.00	0.95	
Frt		0.93	0.85					0.96	0.85	1.00	1.00	
Flt Protected		0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3141	1441					3253	1441	1770	3539	
Flt Permitted		0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3141	1441					3253	1441	1770	3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	275	644	1461	0	0	0	0	1331	1294	69	2062	0
RTOR Reduction (vph)	0	29	143	0	0	0	0	21	373	0	0	0
Lane Group Flow (vph)	0	1606	602	0	0	0	0	1802	429	69	2062	0
Turn Type	Perm	NA	Prot					NA	custom	Prot	NA	
Protected Phases		1	1					3 4	3 4 5	2	2 3 4 5	
Permitted Phases	1											
Actuated Green, G (s)		20.0	20.0					34.0	66.0	60.0	133.0	
Effective Green, g (s)		20.0	20.0					34.0	66.0	60.0	133.0	
Actuated g/C Ratio		0.12	0.12					0.20	0.40	0.36	0.80	
Clearance Time (s)		7.0	7.0							7.0		
Vehicle Extension (s)		2.0	2.0							3.0		
Lane Grp Cap (vph)		376	172					662	569	635	2818	
v/s Ratio Prot			0.42					c0.55	c0.30	0.04	c0.58	
v/s Ratio Perm		0.51										
v/c Ratio		4.27	3.50					2.72	0.75	0.11	0.73	
Uniform Delay, d1		73.5	73.5					66.5	43.5	35.7	8.3	
Progression Factor		1.00	1.00					1.00	1.00	0.60	1.71	
Incremental Delay, d2		1478.2	1138.2					779.4	5.0	0.0	0.1	
Delay (s)		1551.7	1211.7					845.9	48.5	21.6	14.3	
Level of Service		F	F					F	D	C	B	
Approach Delay (s)		1445.3			0.0			602.3			14.5	
Approach LOS		F			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	707.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.86		
Actuated Cycle Length (s)	167.0	Sum of lost time (s)	35.0
Intersection Capacity Utilization	169.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	2025	766	1525	0
Future Volume (vph)	0	0	2025	766	1525	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0	7.0	
Lane Util. Factor			0.91	0.91	0.97	
Frt			1.00	1.00	1.00	
Flt Protected			0.95	0.97	0.95	
Satd. Flow (prot)			1610	3296	3433	
Flt Permitted			0.95	0.97	0.95	
Satd. Flow (perm)			1610	3296	3433	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	2132	806	1605	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1066	1872	1605	0
Turn Type			Split	NA	Prot	
Protected Phases			2 3	2 3	1 4 5	
Permitted Phases						
Actuated Green, G (s)			69.0	69.0	84.0	
Effective Green, g (s)			69.0	69.0	84.0	
Actuated g/C Ratio			0.41	0.41	0.50	
Clearance Time (s)						
Vehicle Extension (s)						
Lane Grp Cap (vph)			665	1361	1726	
v/s Ratio Prot			c0.66	0.57	c0.47	
v/s Ratio Perm						
v/c Ratio			1.60	1.54dl	0.93	
Uniform Delay, d1			49.0	49.0	38.8	
Progression Factor			1.00	1.00	0.60	
Incremental Delay, d2			278.4	173.7	1.0	
Delay (s)			327.4	222.7	24.4	
Level of Service			F	F	C	
Approach Delay (s)	0.0			260.7	24.4	
Approach LOS	A			F	C	

Intersection Summary			
HCM 2000 Control Delay	177.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	167.0	Sum of lost time (s)	35.0
Intersection Capacity Utilization	178.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

SR 7

Movement	EBU	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	2	653	123	109	3626	2830	321
Future Volume (vph)	2	653	123	109	3626	2830	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	7.0	7.0	7.0	7.0
Lane Util. Factor		1.00	1.00	1.00	0.91	0.91	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1770	1583	1770	5085	5085	1583
Flt Permitted		0.95	1.00	0.04	1.00	1.00	1.00
Satd. Flow (perm)		1770	1583	83	5085	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	687	129	115	3817	2979	338
RTOR Reduction (vph)	0	0	33	0	0	0	102
Lane Group Flow (vph)	0	689	96	115	3817	2979	236
Turn Type	Prot	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4	4		1	2	2	
Permitted Phases			4	2			2
Actuated Green, G (s)		46.0	46.0	94.0	90.0	90.0	90.0
Effective Green, g (s)		46.0	46.0	94.0	90.0	90.0	90.0
Actuated g/C Ratio		0.29	0.29	0.59	0.56	0.56	0.56
Clearance Time (s)		6.0	6.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		2.0	2.0	1.5	3.0	3.0	3.0
Lane Grp Cap (vph)		508	455	90	2860	2860	890
v/s Ratio Prot		c0.39		c0.03	c0.75	0.59	
v/s Ratio Perm			0.06	0.71			0.15
v/c Ratio		1.36	0.21	1.28	1.33	1.04	0.27
Uniform Delay, d1		57.0	43.2	41.8	35.0	35.0	18.0
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		172.8	0.1	186.6	153.0	28.9	0.7
Delay (s)		229.8	43.3	228.4	188.0	63.9	18.7
Level of Service		F	D	F	F	E	B
Approach Delay (s)		200.4			189.2	59.3	
Approach LOS		F			F	E	

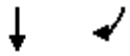
Intersection Summary			
HCM 2000 Control Delay	136.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	117.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	190	61	132	497	99	156	53	241	2903	676	37	99
Future Volume (vph)	190	61	132	497	99	156	53	241	2903	676	37	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			7.0	7.0	7.0		7.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00			1.00	0.91	1.00		1.00
Frt	1.00	1.00	0.85	1.00	0.91			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1770	1863	1583	3433	1692			1770	5085	1583		1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.04	1.00	1.00		0.04
Satd. Flow (perm)	1770	1863	1583	3433	1692			70	5085	1583		75
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	200	64	139	523	104	164	56	254	3056	712	39	104
RTOR Reduction (vph)	0	0	132	0	28	0	0	0	0	146	0	0
Lane Group Flow (vph)	200	64	7	523	240	0	0	310	3056	566	0	143
Turn Type	Prot	NA	Perm	Prot	NA		custom	pm+pt	NA	custom	custom	pm+pt
Protected Phases	3	8		7	4			5	2			1
Permitted Phases			8				5	2		2 3	1	6
Actuated Green, G (s)	21.0	10.6	10.6	35.4	25.0			135.0	118.0	146.0		110.0
Effective Green, g (s)	21.0	10.6	10.6	35.4	25.0			135.0	118.0	146.0		110.0
Actuated g/C Ratio	0.10	0.05	0.05	0.18	0.12			0.68	0.59	0.73		0.55
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			7.0	7.0			7.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			1.5	3.0			1.5
Lane Grp Cap (vph)	185	98	83	607	211			285	3000	1155		126
v/s Ratio Prot	c0.11	0.03		0.15	c0.14			c0.15	c0.60			0.06
v/s Ratio Perm			0.00					0.58		0.36		c0.57
v/c Ratio	1.08	0.65	0.09	0.86	1.14			1.09	1.02	0.49		1.13
Uniform Delay, d1	89.5	92.9	90.1	79.9	87.5			75.4	41.0	11.3		66.3
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	89.4	11.3	0.2	11.6	103.9			78.7	21.3	0.1		121.0
Delay (s)	178.9	104.2	90.3	91.6	191.4			154.1	62.3	11.5		187.3
Level of Service	F	F	F	F	F			F	E	B		F
Approach Delay (s)		136.5			125.4				60.4			
Approach LOS		F			F				E			

Intersection Summary			
HCM 2000 Control Delay	76.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	111.1%	ICU Level of Service	H
Analysis Period (min)	15		

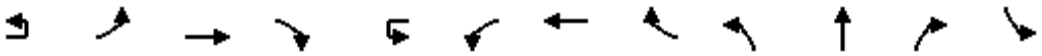
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	2476	135
Future Volume (vph)	2476	135
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	7.0	7.0
Lane Util. Factor	0.91	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5085	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5085	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	2606	142
RTOR Reduction (vph)	0	71
Lane Group Flow (vph)	2606	71
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	100.0	100.0
Effective Green, g (s)	100.0	100.0
Actuated g/C Ratio	0.50	0.50
Clearance Time (s)	7.0	7.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2542	791
v/s Ratio Prot	0.51	
v/s Ratio Perm		0.04
v/c Ratio	1.03	0.09
Uniform Delay, d1	50.0	26.2
Progression Factor	1.00	1.00
Incremental Delay, d2	24.6	0.2
Delay (s)	74.6	26.4
Level of Service	E	C
Approach Delay (s)	77.8	
Approach LOS	E	

Intersection Summary

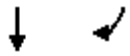
Peters Road



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	84	1234	67	51	30	741	153	115	24	95	380
Future Volume (vph)	12	84	1234	67	51	30	741	153	115	24	95	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0		6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1789	1583	
Flt Permitted		0.27	1.00	1.00		0.08	1.00	1.00		0.32	1.00	
Satd. Flow (perm)		498	3539	1583		151	3539	1583		587	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	13	88	1299	71	54	32	780	161	121	25	100	400
RTOR Reduction (vph)	0	0	0	38	0	0	0	85	0	0	62	0
Lane Group Flow (vph)	0	101	1299	33	0	86	780	76	0	146	38	0
Turn Type	custom	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	pm+pt	NA	custom	pm+pt
Protected Phases		1	6			5	2		7	4	4	3
Permitted Phases	1	6		6	5	2		2	4		4	8
Actuated Green, G (s)		81.3	74.8	74.8		82.1	75.2	75.2		60.3	60.3	
Effective Green, g (s)		81.3	74.8	74.8		82.1	75.2	75.2		60.3	60.3	
Actuated g/C Ratio		0.51	0.47	0.47		0.51	0.47	0.47		0.38	0.38	
Clearance Time (s)		6.0	6.0	6.0		6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		1.5	3.0	3.0		1.5	3.0	3.0		2.5	2.5	
Lane Grp Cap (vph)		304	1654	740		147	1663	744		221	596	
v/s Ratio Prot		0.01	c0.37			c0.03	0.22				0.02	
v/s Ratio Perm		0.15		0.02		0.28		0.05		0.25		
v/c Ratio		0.33	0.79	0.04		0.59	0.47	0.10		0.66	0.06	
Uniform Delay, d1		21.8	35.8	23.2		28.6	28.8	23.6		41.4	31.8	
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2	2.5	0.0		3.8	1.0	0.3		6.5	0.0	
Delay (s)		22.0	38.4	23.2		32.4	29.8	23.9		47.9	31.9	
Level of Service		C	D	C		C	C	C		D	C	
Approach Delay (s)			36.5				29.1			41.4		
Approach LOS			D				C			D		

Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	13	177
Future Volume (vph)	13	177
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	6.0
Lane Util. Factor	1.00	1.00
Frt	1.00	0.85
Flt Protected	0.95	1.00
Satd. Flow (prot)	1777	1583
Flt Permitted	0.60	1.00
Satd. Flow (perm)	1121	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	14	186
RTOR Reduction (vph)	0	108
Lane Group Flow (vph)	414	78
Turn Type	NA	Perm
Protected Phases	8	
Permitted Phases		8
Actuated Green, G (s)	60.3	60.3
Effective Green, g (s)	60.3	60.3
Actuated g/C Ratio	0.38	0.38
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	2.5	2.5
Lane Grp Cap (vph)	422	596
v/s Ratio Prot		
v/s Ratio Perm	c0.37	0.05
v/c Ratio	0.98	0.13
Uniform Delay, d1	49.3	32.7
Progression Factor	1.00	1.00
Incremental Delay, d2	38.6	0.1
Delay (s)	87.9	32.8
Level of Service	F	C
Approach Delay (s)	70.8	
Approach LOS	E	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1892	227	0	0	0	152
Future Volume (Veh/h)	1892	227	0	0	0	152
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1992	239	0	0	0	160
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			2231		2112	1116
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2231		2112	1116
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	21
cM capacity (veh/h)			229		44	202

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	1328	903	160
Volume Left	0	0	0
Volume Right	0	239	160
cSH	1700	1700	202
Volume to Capacity	0.78	0.53	0.79
Queue Length 95th (ft)	0	0	139
Control Delay (s)	0.0	0.0	68.3
Lane LOS			F
Approach Delay (s)	0.0		68.3
Approach LOS			F

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		