



CITY OF TAMPA

December 2021

PREPARED FOR
CITY OF TAMPA

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PROFESSIONAL ENGINEER ENDORSEMENT

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PROJECT: City of Tampa Neighborhood Transportation Study

LOCATION: The City Center at Hanna Avenue

CLIENT: City of Tampa – Mobility Department

The results contained in this report were developed using procedures and references standard to the transportation engineering practice. These references and procedures were applied using professional judgment and experience.

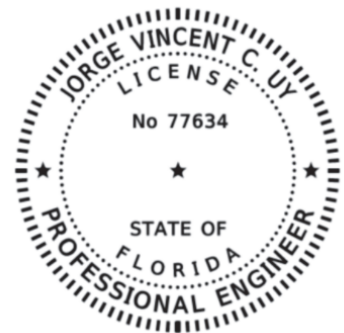
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EXECUTIVE SUMMARY

The City of Tampa (City) is constructing a new municipal office complex in East Tampa that will serve up to 500 employees from multiple departments and functional areas. The site is located at 2515 E. Hanna Avenue in the City of Tampa. Currently, the proposed site is a vacant industrial property. In preparation for this project, the City of Tampa is studying the impacts to the transportation network and developing plans to, avoid, minimize, or mitigate these impacts and ensure the new facility integrates seamlessly with the surrounding neighborhood. This report summarizes the traffic impact analysis, safety crash analysis, sidewalk network evaluation, school safety evaluation, traffic calming, multimodal opportunities, and travel demand management strategies for the proposed development.

Traffic Impact Analysis

Trip generation for the existing and proposed development was performed utilizing the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. The proposed development consists of approximately 500 employees utilizing government office space, 1,962 square feet of culinary program space, 2,573 square feet of career source space, 9,375 square feet of technology and arts space, and 2,650 square feet of wellness center/doctor's office space. The project is expected to generate 543 net new trips in the AM peak hour and 420 net new trips in the PM peak hour. The project is expected to be completed and opened in the year 2023.

An operations analysis was performed to determine the level of service for the future total project traffic in the years 2023, 2028, and 2033. Future total traffic conditions are expected traffic conditions in the study area with the proposed development. Future total traffic volumes were calculated from the sum of the future background traffic and the net new project trips. Future background traffic volumes were calculated from the sum of the existing traffic, committed development traffic, and the additional traffic generated by the growth in the study area.

In 2023, the signalized intersection of E. Hanna Avenue at N. 22nd Street during the PM peak hour with the proposed development showed improved traffic operations after signal optimization. Similarly in 2028, E. Hanna Avenue at N. 22nd Street during the AM peak hour and E. Hillsborough Avenue at N. 22nd Street during the AM peak hour and PM peak hour, with the proposed development showed improved traffic operations after signal optimization. In 2033, E. Hanna Avenue at N. 22nd Street during the PM peak hour, and E. Hillsborough Avenue at N. 22nd Street and E. Hillsborough Avenue at N. 40th Street during the AM peak hour with the proposed development showed improved traffic operations after signal optimization.

Based on the analysis, the following intersection improvements are recommended to reduce the delays and to improve the operations at the intersections within the study area:

- Consider performing a feasibility study to install a southbound left-turn lane at the intersection of E. Hanna Avenue and N. 22nd Street by the year 2033. The addition of a southbound left-turn lane to the intersection is expected to reduce the delay at the intersection and operate at LOS D during the AM peak hour.
- Consider installing a traffic signal at the intersection of E. Hanna Avenue and N. 15th Street. The all-way stop-controlled intersection of E. Hanna Avenue and N. 15th Street is expected to operate at LOS F under future total traffic conditions during the PM peak hour with or without proposed project, while a signalized intersection is expected to operate at LOS B under future total traffic conditions for the future year 2033 during the PM peak hour.
- Consider installing a traffic signal at the intersection of E. Sligh Avenue and N. 30th Street. The all-way stop-controlled intersection at E. Sligh Avenue and N. 30th Street is expected to operate at LOS F in the future year 2023 with or without proposed project. The signalized intersection is expected to operate at LOS C under future total traffic conditions for the future year with no changes to the existing lane configurations.
- Consider installing a northbound left-turn lane at the intersection of E. Sligh Avenue and N. 30th Street. The addition of a northbound left-turn lane to the intersection is expected to reduce the delay at the intersection and operate at LOS B for the 2023 year and LOS D for the future year 2033.

Additional information related to the intersection improvement recommendations can be found in Section 3.2.2.

Safety Crash Analysis

A safety crash analysis locates high crash locations, analyzes the crash types and determine any crash trends, and provide safety improvement recommendations that can help mitigate future crashes from occurring. Through a community based feedback, the following corridors were identified to be analyzed under the Safety Crash Analysis section.

- E. Hanna Avenue from N. Nebraska Avenue to N. 40th Street,
- N. 24th Street from E. Hanna Avenue to E. Sligh Avenue,
- N. 23rd Street south of E. Hanna Avenue

Based on the crash trends, the E. Hanna Avenue corridor observed many rear end, angle, and left turn crashes at the intersections at N. 15th Street, N. 22nd Street, N. 24th Street, N. 30th Street, and N. 40th Street. No fatalities were observed, but there was one pedestrian crash and two bicycle crashes observed at these five intersections. The recommendations along Hanna Ave. include reconfiguring the intersection geometries to increase stopping sight distance and reducing crosswalk lengths by aligning the crosswalks perpendicular to the path of travel, improving street lighting which had observed over 20% of the crashes occurring beyond the daylight hours, and adding a protected bicycle lane.

The corridor along N. 24th Street observed 23 crashes, but 21 of those crashes occurred at the intersection of N. 24th Street and E. Sligh Avenue. No fatalities, pedestrian, or bicycle crashes were observed, however speeding appears to be an issue with vehicles averaging 11 mph above the posted speed limit.

N. 23rd Street south of E. Hanna Avenue did not observe any crashes within the five year study period and the speed study did not yield a significant speeding concern.

Sidewalk Network Evaluation

The City's sidewalk missing network was evaluated and prioritized based on the guiding principles of providing mobility for all, economic opportunity, vision for strong neighborhoods, transportation equity, and public safety.

As a result, the following lists the City's prioritized sidewalks within the project area. Reference **Appendix P** for a full view analysis of the sidewalk network evaluation.

- E. Hanna Avenue from N. 22nd Street to N. 30th Street – Southside
- E. Hanna Avenue from N. 15th Street to N. 19th Street – Northside
- E. Hanna Avenue from N. Nebraska Avenue to N. 9th Street – Southside
- E. Henry Avenue from N. 22nd Street to Stabilization Center Driveway Entrance – Northside
- N. 22nd Street from E. Henry Avenue to E. Hanna Avenue – Eastside

School Safety Evaluation

Foster Elementary and Sligh Middle Magnet School were observed during the morning and afternoon admission and dismissal periods of an average weekday to assess the existing operating conditions and to determine any improvements that could be made to improve the safety and efficiency of the roads surrounding these two schools.

The streets surrounding Foster Elementary, E. Diana Street, and N 22nd Street, offer students sidewalks on both sides of the street along with crossing guards stationed at three intersections providing access points into the school. Queujouye backs up along E. Diana Street from N. 20th Street back to N. 22nd Street and along N. 22nd Street from E. Diana Street to Minnehaha Street. The intersection at E. Diana Street and N. 22nd Street is controlled by an all-way stop-controlled condition. However, a couple of vehicles were observed driving through the stop conditions. As such, the recommendations centered around Foster Elementary reflected in **Appendix G** include signs and pavement marking enhancements, maintenance repairs and rehabilitation, and providing parking prohibitions intruding on the sidewalk path.

Sligh Middle Magnet resides on the southwest corner of E. Sligh Avenue and N. 22nd Street. Two crossing guards are stationed at this intersection with a sidewalk present along both sides of N. 22nd Street and the south side of E. Sligh Avenue. Crosswalks are present at this intersection but do not offer additional crossing opportunities throughout the frontage area of the school. The afternoon dismissal hour traffic observes spillovers from the Sligh Middle School traffic circulator

entrance road onto E. Sligh Avenue. A no-left turn condition during the school peak traffic periods is posted for the westbound movement along E. Sligh Avenue, but vehicles were observed violating this condition. As a result, the recommendations for Sligh Middle Magnet include signs and pavement marking enhancements, the addition of mid-block crosswalks, road widening along E. Sligh Avenue to allow a safe left turn maneuver and storage lane for vehicles entering the traffic circulator off E. Sligh Avenue, and maintenance repairs and rehabilitation. See **Appendix O** for a complete list of improvements.

Traffic Calming

The following corridors were examined from the existing data, crash analysis, evaluation of existing conditions, evaluation of traffic projections, and input received through the public involvement process.

- E. Hanna Avenue from N. 15th Street to N. 40th Street
- N. 24th Street from Hanna Avenue to E. Sligh Avenue
- N. 23rd Street from Hanna Avenue to E. Idlewild Avenue

The project corridor running on E. Hanna Avenue and N. 24th Street were observed to have speeding issues with the measured 85th percentile speed being 7 mph and 11 mph over the posted speed limit, respectively. Crashes were observed at the major intersection as noted in the Safety Crash Analysis and as a result, the following systematic improvements are recommended:

- E. Hanna Avenue
 - Consider reducing the intersection turning radius to 21.5 feet along each intersecting street with E. Hanna Avenue.
 - Install flashing speed feedback signs along E. Hanna Avenue for both eastbound and westbound facing traffic to advise vehicles of their driving speeds.
- N. 24th Street
 - Short Term – Install flashing Speed Feedback signs in the northbound and southbound direction of N. 24th Street between E. Hanna Avenue and E. Sligh Avenue
 - Mid Term – Install chicanes through the N. 24th Street corridor.
 - Long Term – Design and construct raised intersections at Diana Street and Minnehaha Street
 - Install a sidewalk corridor along the west side of N. 24th Street from E. Hanna Avenue to E. Sligh Avenue
- N 23rd Street – No major improvements identified.

Multimodal Opportunities

With the construction of the Tampa City Center, identifying multimodal opportunities for pedestrians, bicyclists, micro-mobility, and transit users was completed through an assessment of the existing infrastructures of sidewalk connectivity, transit stops, and bicycle/shared-use paths.

The recommendations provided through the sections above are summarized in the following:

- Provide sidewalk connectivity to the prioritized sidewalk locations as shown in **Appendix P** with the following prioritized corridors:
 - E. Hanna Avenue from N. Nebraska Avenue to N. 9th Street – Southside
 - E. Hanna Avenue from N. 15th Street to N. 19th Street – Northside
 - E. Hanna Avenue from N. 23rd Street to N. 30th Street – Southside
 - E. Henry Avenue from N. 22nd Street to Stabilization Center Driveway Entrance – Northside
 - N. 22nd Street from E Henry Avenue to E. Hanna Avenue – Eastside
- Coordinate with HART transit to consider including an additional route along:
 - E. Hanna Avenue from N. Nebraska Avenue to N. 40th Street
 - N. 15th Street from E. Hillsborough Avenue to E. Sligh Avenue
- Provide bicycle routes through the following corridors:
 - E. Hanna Avenue east of N. 30th Street to N. 40th Street (0.76 miles)
 - N. 15th Street from E. Hillsborough Avenue to E. Sligh Avenue (1.0 mile)
 - N. 22nd Street from E. Hanna Avenue to E. Sligh Avenue (0.5 miles)

Travel Demand Management Strategies

The travel demand induced through the Tampa City Center brings an evaluation of travel demand management strategies to address both staff commuters and customers utilizing the facility. A long list of strategies is developed for the City's consideration with the following prioritized strategies.

- Coordinate with HART to provide a transit route on E. Hanna Avenue and N. 15th Street to serve the new development.
- Encourage bicycle travel by providing safe, continuous, protected bike lanes.
- Provide micromobility infrastructure solutions through a connected network of sidewalks.
- Expand or enhance the current benefits and incentives to reduce transit fares for City employees.
- Offer flexible work schedules.
- Offer teleworking/ telecommuting work option to reduce home to work trips.
- Provide access to the City Center through Henry Ave. to reduce the demand along E. Hanna Avenue.
- Leverage public-private partnerships to offer Micro-transit options for employees and residents within a 2-mile radius of the City Center.
- Provide Transit Signal Priority to offer consistent, reliable transit modes.

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Acronyms

AADT	Annual Average Daily Traffic
ASCT	Advanced Signal Control Technology
CARS	Crash Analysis Reporting System
DDHV	Directional Design Hourly Volume
FSUTMS	Florida Standard Urban Transportation Model Structure
FTO	Florida Traffic Online
HART	Hillsborough Area Regional Transit
HCM	Highway Capacity Manual
HSM	Highway Safety Manual
ITE	Institute of Transportation Engineers
LUC	Land Use Code
LOS	Level of Service
MPO	Metropolitan Planning Organization
RSA	Roadway Safety Audit
TBRPM	Tampa Bay Regional Transit Model
TDM	Transportation Demand Management
TIP	Transportation Improvement Program
TMC	Turning Movement Count
TSP	Transit Signal Priority

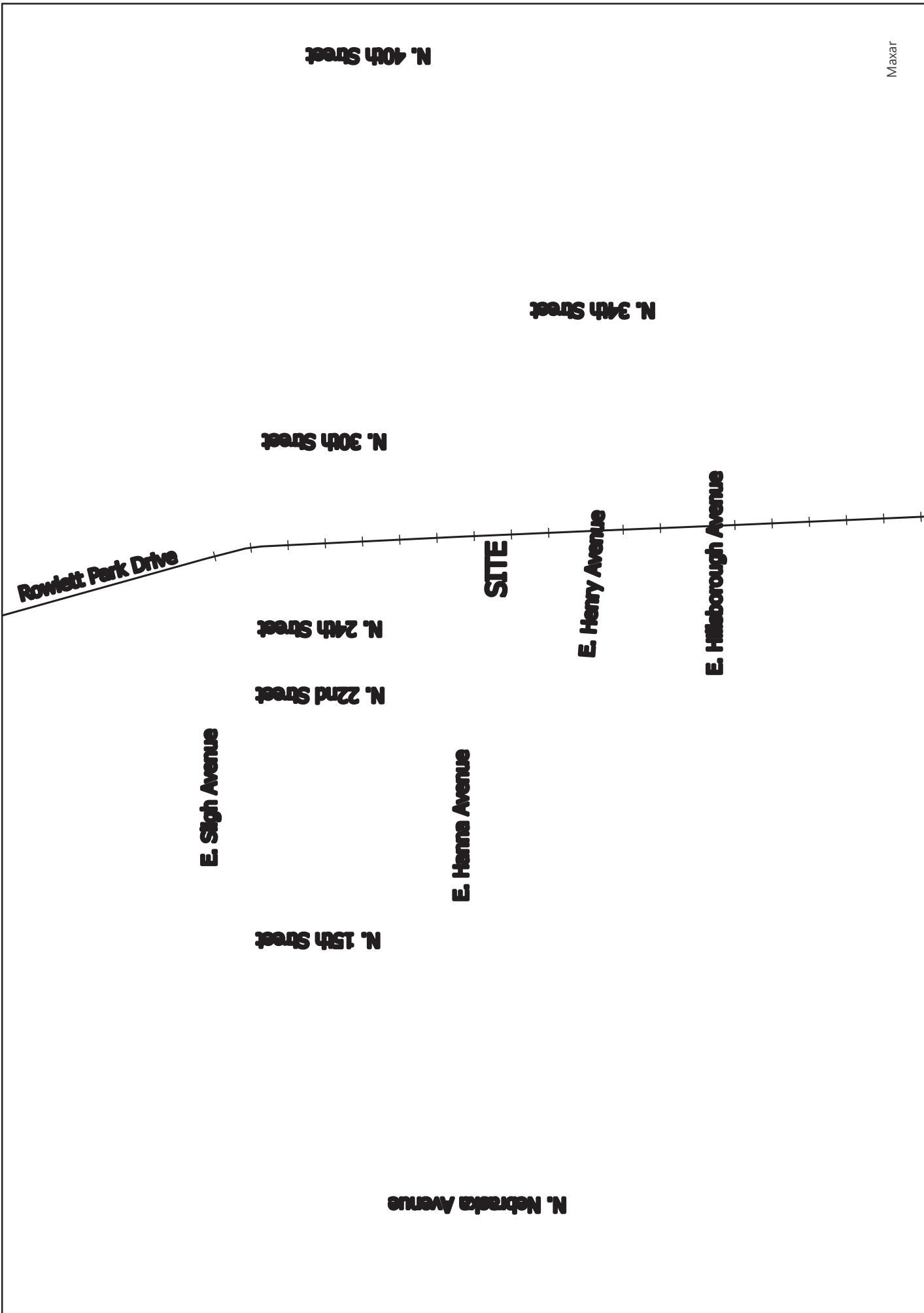
1 INTRODUCTION

The City of Tampa (City) is constructing a new municipal office complex in East Tampa that will serve up to 500 employees from multiple departments and functional areas. The site is located at 2515 E. Hanna Avenue in the City of Tampa. Currently, the proposed site is a vacant industrial property.

In preparation for this project, the City of Tampa is studying the impacts on the transportation network and developing plans to avoid, minimize, or mitigate these impacts. This report summarizes the traffic impact analysis, safety crash analysis, sidewalk network evaluation, school safety evaluation, traffic calming, multimodal opportunities, and travel demand management strategies for the proposed development. This is completed for the proposed study area bounded by E. Hillsborough Avenue to the south, E. Sligh Avenue to the north, I-275 to the west, and N. 40th Street to the east, as seen in **Figure 1-1**.

The project is expected to be completed and opened by the year 2023 and the recommendations provided throughout this report look to minimize the impacts of the proposed facility and ensure the new facility integrates seamlessly within the surrounding neighborhood.

A site plan is provided in **Appendix A**.



Maxar



Project Location Map

Figure 1-1

2 EXISTING CONDITIONS ANALYSIS

2.1 Existing Lane Configuration, Study Intersections, and Signal Timing

E. Hanna Avenue is part of the collector system in Hillsborough County located between Interstate 275 and N. 40th Street. The proposed project is located between N. 22nd Street and N. 30th Street, with an area of influence boundary extending from N. 15th Street to the west, N. 40th Street to the east, E. Hillsborough Avenue to the south, and E. Sligh Avenue to the North.

The functional classification, speed limit, and roadway type within the study area are given in **Table 2-1**. Within the project limits, E. Hanna Avenue is primarily a two-lane undivided collector road. **Figure 2-1** illustrates the lane geometry along the corridors of the study area for the existing year (2021).

Table 2-1 - Functional Classification, Speed Limit and Roadway Type

Number	Roadway Name	Functional Classification *	Speed Limit (mph) *	Roadway Type
1	E. Hanna Avenue	Urban Major Collector	30	2 lane undivided road
2	E. Sligh Avenue	Urban Major Collector	35	2 lane undivided road
3	US 92/E. Hillsborough Avenue	Urban Principal Arterial Other	40	6 lane divided road
4	N. 15 th Street	Urban Minor Collector	30	2 lane undivided road
5	N. 22 nd Street	Urban Major Collector	30	2 lane undivided road
6	N. 30 th Street	Urban Major Collector	30	2 lane undivided road
7	N. 40 th Street	Urban Minor Art	40	4 lane divided road

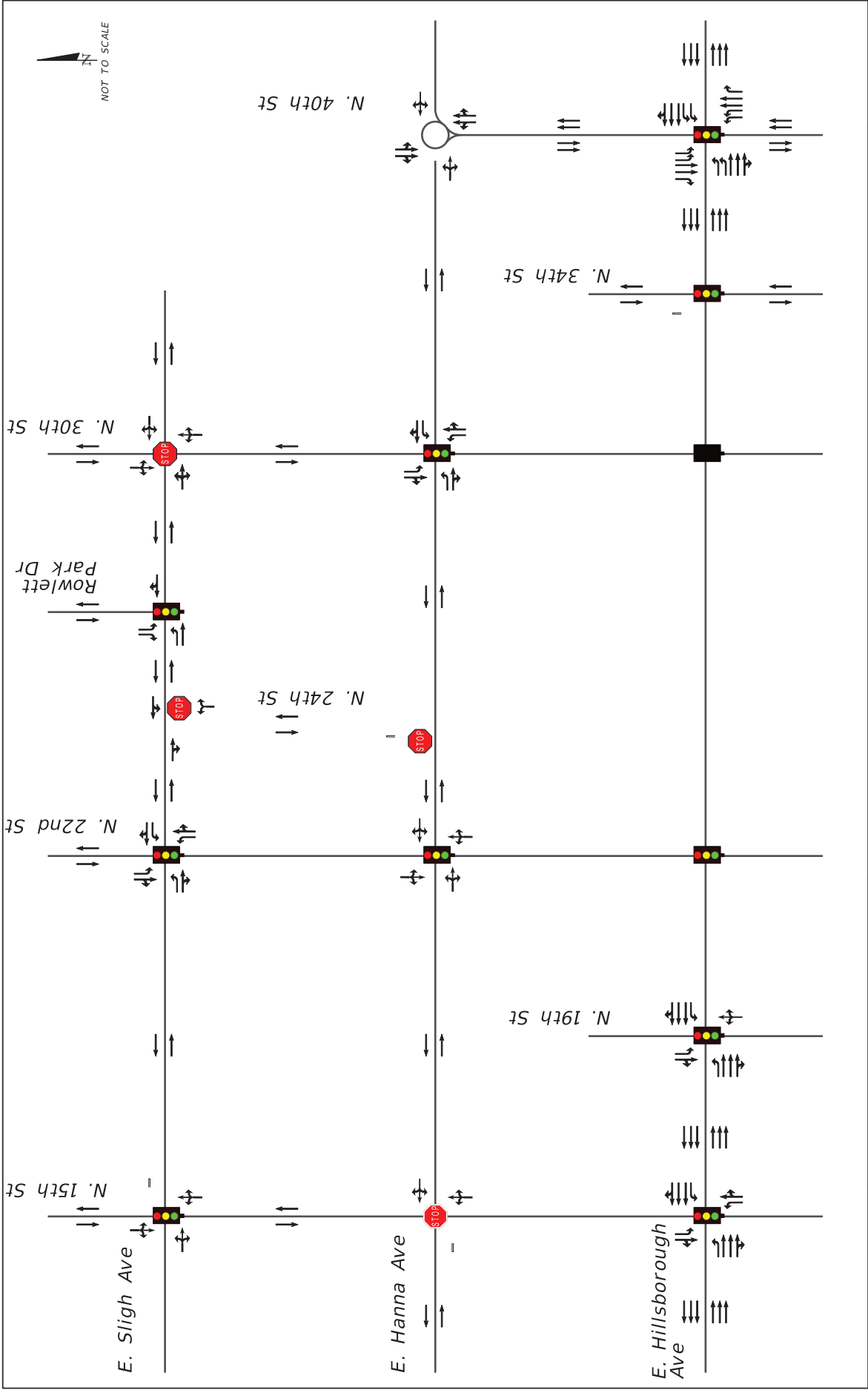
*Source: <https://gis-fdot.opendata.arcgis.com/>

The intersections within the study area that are evaluated under this study include:

- E. Hanna Avenue and N. 15th Street*
- E. Hanna Avenue and N. 22nd Street
- E. Hanna Avenue and N. 24th Street*
- E. Hanna Avenue and N. 30th Street
- E. Hanna Avenue and N. 40th Street
- E. Hillsborough Avenue and N. 15th Street
- E. Hillsborough Avenue and N. 19th Street
- E. Hillsborough Avenue and N. 22nd Street
- E. Hillsborough Avenue and N. 30th Street
- E. Hillsborough Avenue and N. 34th Street
- E. Hillsborough Avenue and N. 40th Street
- E. Sligh Avenue and N. 15th Street
- E. Sligh Avenue and N. 22nd Street
- E. Sligh Avenue and Rowlett Park Drive
- E. Sligh Avenue and N. 30th Street

* Denotes stop-controlled intersections.

Raw traffic counts collected within the study limits are shown in **Appendix B** and the signal timings sheets received from the City of Tampa are shown in **Appendix C**.



Existing Year (2021) Lane Geometry

The City Center at Hanna Avenue

Figure 2-1



2.2 Existing Year (2021) Balanced Peak Hour Volumes

The traffic data used for this study was collected in October 2021, on a typical weekday (Tuesday and Wednesday) at the intersections listed above within the study area. The traffic data consisted of four-hour Turning Movement Counts (TMCs), and 48-hour approach/departure machine counts along the corridor. The TMCs were collected at the study intersections during the AM and PM peak periods of 7:00 AM – 9:00 AM, and 4:00 PM – 6:00 PM, respectively. 48-hour approach/departure machine counts were collected on E. Hanna Avenue, E. Sligh Avenue, and E. Hillsborough Avenue for selected approaches at selected intersections.

Per traffic counts, the AM and PM peak hours were found to be 7:15-8:15 AM and 4:00-5:00 PM, respectively. The collected traffic data is included in **Appendix B**.

The location of 4-hour TMCs, 24-hour approach/departure counts and 48-hour Approach/Departure Machine Counts are listed below:

- **Four-hour Turning Movement Counts (TMCs)**

- E. Hanna Avenue and N. 15th Street *
- E. Hanna Avenue and N. 22nd Street
- E. Hanna Avenue and N. 24th Street *
- E. Hanna Avenue and N. 30th Street
- E. Hanna Avenue and N. 40th Street
- E. Hillsborough Avenue and N. 15th Street
- E. Hillsborough Avenue and N. 19th Street
- E. Hillsborough Avenue and N. 22nd Street
- E. Hillsborough Avenue and N. 30th Street
- E. Hillsborough Avenue and N. 34th Street
- E. Hillsborough Avenue and N. 40th Street
- E. Sligh Avenue and N. 15th Street
- E. Sligh Avenue and N. 22nd Street
- E. Sligh Avenue and N. 30th Street

- **48-hour Approach/Departure Machine Counts**

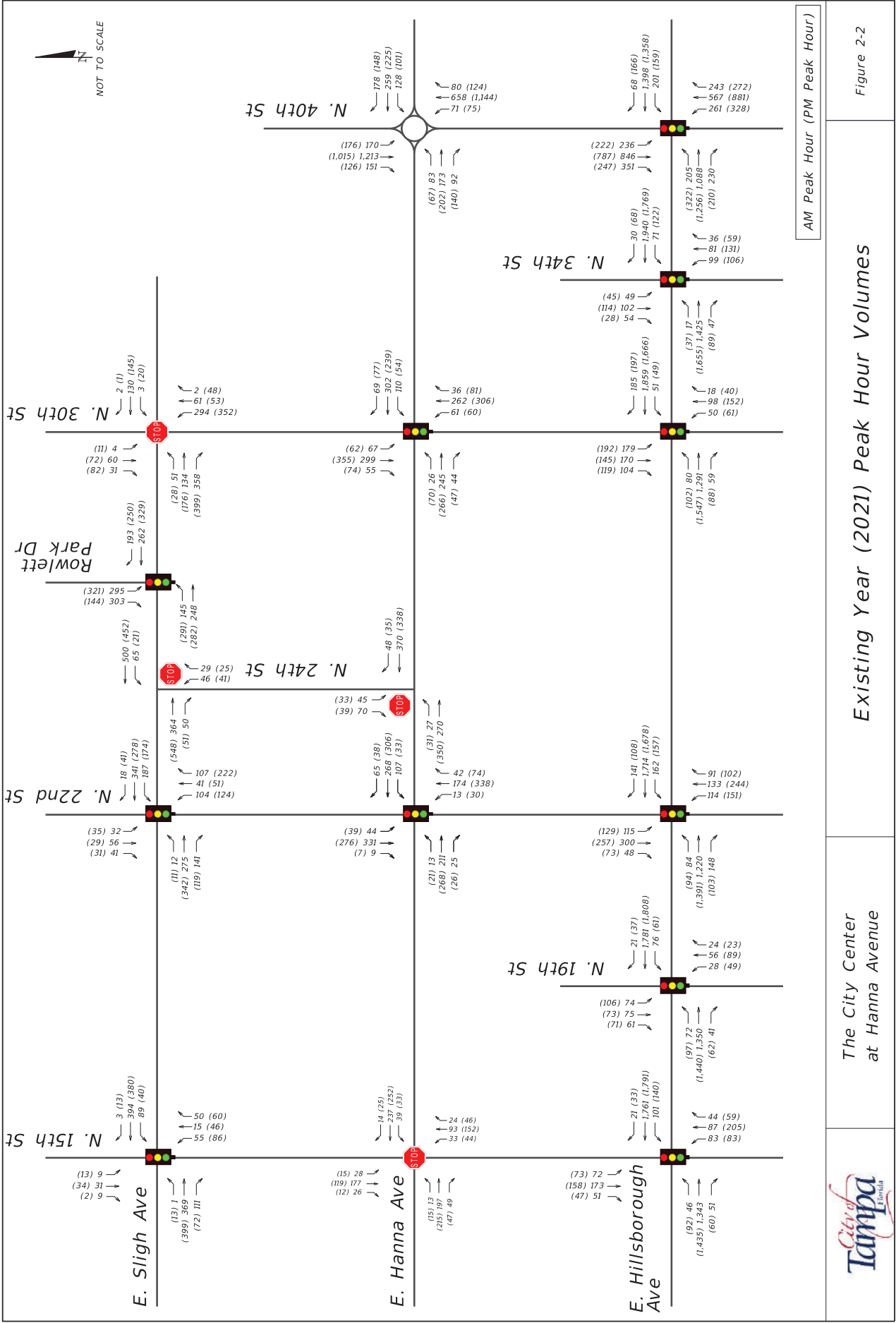
- E. Hanna Avenue west of N. 22nd Street
- E. Hanna Avenue east of N. 30th Street and west of N. 40th Street
- E. Sligh Avenue east of 22nd Street
- E. Sligh Avenue east of N. 30th Street
- E. Hillsborough Avenue west of N. 22nd Street
- E. Hillsborough Avenue east of N. 30th Street and west of N. 40th Street
- N. 22nd Street between E. Sligh Avenue and E. Hanna Avenue

- N. 22nd Street between E. Hanna Avenue and E. Hillsborough Avenue

The approach counts and TMC percentages were utilized to develop existing balanced AM and PM peak hour volumes for the study area. An appropriate seasonal factor of 0.96 from the Florida Department of Transportation (FDOT) 2020 peak season factor category report for Hillsborough County, based on the date of the data collection, was applied to the collected traffic data at the intersections. The 2020 peak season factor category report is given in **Appendix B** along with the collected traffic data.

Due to atypical traffic conditions caused by the COVID-19 pandemic, a volume adjustment factor was calculated based on data from Florida Traffic Online's (FTO) historical years and the data collected for the present study. The comparison included 48-hour continuous counts collected as part of the data collection effort for the study area and FDOT's historical Annual Average Daily Traffic (AADT) from four FDOT count stations on the study roadway segments. The sites included 105165 (E. Hillsborough Avenue east of E. Nebraska Avenue), 105167 (E. Hillsborough Avenue East of N. 22nd Street), 105169 (E. Hillsborough Avenue east of N. 40th Street), and 105099 (N. 40th Street south of E. Hillsborough Avenue). The historic AADT from FTO were compared with the data collected and a COVID-19 volume adjustment factor of 1.15 was calculated and applied to the turning movement counts to develop the existing conditions' peak hour volumes.

Figure 2-2 illustrates the balanced peak hour volume for the study limits.



2.2.1 Existing Year (2021) Intersection Operational Analysis

The study intersections for the Existing Year (2021) conditions were analyzed using SYNCHRO 11 for signalized intersections and HCS7 for un-signalized intersections found in **Appendix D** and **Appendix E**, respectively. The SYNCHRO reports were created using the Highway Capacity Manual (HCM) 2000 methodology for the study intersections to report HCM control delay and level of service (LOS). The later HCM editions do not analyze intersections with exclusive pedestrian phases. The intersection performance results for the Existing Year's (2021) AM and PM peak hours are presented in **Table 2-2** and **Table 2-3** respectively.

The analysis results indicate that all of the intersection's overall level of service within the study area operate at an acceptable LOS (LOS D or better) during both the AM and PM peak hours except for E. Sligh Avenue at N. 30th Street in the PM peak hour and E. Hillsborough Avenue at N. 40th Street in the AM and PM peak hours.

The approach level of service recognized which intersection approaches (northbound, southbound, eastbound, westbound) were operating at failing conditions (LOS E or F) due to a high traffic demand. E. Sligh Avenue at N. 30th Street as well as E. Hillsborough Avenue at N. 15th Street, N. 19th Street, N. 22nd Street, N. 30th Street, N. 34th Street, and N. 40th Street had particular approaches operate at failing conditions during AM and PM peak hours. These failing conditions are mainly due to the inadequate capacity to accommodate peak hour demand volumes for these approaches.

Table 2-2 - Existing Year (2021) Analysis – LOS and Delay (AM Peak Hour)

Corridor	Intersecting Roadway	Eastbound		Westbound		Northbound		Southbound		Intersection	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
E. Hillsborough Avenue	N. 15th Street	B	13.4	C	23.8	F	122.7	E	78.0	C	29.9
	N. 19th street	A	5.0	B	13.6	F	198.4	F	97.3	C	20.4
	N. 22nd Street	D	40.0	E	61.4	E	56.4	E	72.6	D	54.9
	N. 30th Street	D	39.5	D	36.3	E	63.8	F	87.0	D	43.9
	N. 34th Street	B	10.1	A	9.0	F	84.6	F	112.1	B	18.9
	N. 40th Street	D	52.3	D	52.0	E	65.6	F	84.1	E	62.7
E. Hanna Avenue	N. 15th Street *	B	12.8	B	13.9	B	11.3	B	12.8	B	12.9
	N. 22nd Street	B	15.4	C	34.6	B	14.4	B	15.2	C	21.2
	N. 24th Street*	-	-	-	-	-	-	C	15.4	-	-
	N. 30th Street	C	20.3	C	22.5	B	10.1	B	10.7	B	16.1
E. Sligh Avenue	N. 15th Street	A	5.0	A	6.6	C	29.9	C	28.0	A	9.4
	N. 22nd Street	A	6.5	A	6.5	D	43.6	D	37.4	B	18.0
	N. 24th Street*	-	-	-	-	C	21.5	-	-	-	-
	Rowlett Park Drive	B	13.5	B	16.2	-	-	C	24.8	B	18.8
	N. 30th Street *	E	41.5	B	12.1	C	22.5	B	11.5	D	29.5

*Unsignalized Intersection

Table 2-3 - Existing Year (2021) Analysis – LOS and Delay (PM Peak Hour)

Corridor	Intersecting Roadway	Eastbound		Westbound		Northbound		Southbound		Intersection	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
E. Hillsborough Avenue	N. 15th Street	B	15.8	D	35.2	F	87.0	F	115.0	D	37.5
	N. 19th street	A	9.7	A	7.6	F	189.7	F	102.2	C	22.0
	N. 22nd Street	D	37.2	D	47.1	E	71.5	E	78.6	D	49.4
	N. 30th Street	B	19.4	B	16.8	E	60.1	F	89.5	C	27.9
	N. 34th Street	A	4.6	B	15.7	F	84.8	F	195.2	C	23.8
	N. 40th Street	E	72.2	E	60.7	F	86.4	E	75.6	E	73.2
E. Hanna Avenue	N. 15th Street*	B	13.7	B	14.9	B	13.4	B	11.6	B	13.7
	N. 22nd Street	C	26.7	D	39.0	B	11.7	B	10.6	C	22.6
	N. 24th Street*	-	-	-	-	-	-	B	14.7	-	-
	N. 30th Street	C	32.8	C	28.2	B	10.3	B	10.9	B	19.9
E. Sligh Avenue	N. 15th Street	A	8.8	A	8.7	C	30.4	C	22.3	B	13.3
	N. 22nd Street	A	5.9	A	5.4	D	44.2	D	42.0	B	18.5
	N. 24th Street*	-	-	-	-	C	22.3	-	-	-	-
	Rowlett Park Drive	C	22.9	C	27.8	-	-	C	32.8	C	27.5
	N. 30th Street*	F	314.3	C	15.7	F	71.1	B	15.0	F	163.5

*Unsignalized Intersection

2.3 Crash Safety Analysis

The crash data for the five years from January 1, 2016, to December 31, 2020, were analyzed for the project area. Crash data was downloaded from the Signal Four database and reported by intersection. Select intersections were identified based on a heat map analysis of the crash hot spots and proximity to the City Center, seen in **Figure 4-1**.

The crash summary tables took a systematic approach to the analysis. All intersections with locally classified roadways observed all crashes within a 250 feet radius of the intersections and 580 feet for collector/arterial road intersections.

All crash summary tables are referenced in **Appendix F**.

2.3.1 Intersection Crash Summary

E. Hanna Avenue, N. 24th Street, and N. 23rd Street are the three corridors of concern through the development of the Tampa City Center and analyzed in the following sections.

E. Hanna Avenue

E. Hanna Avenue from N. 15th Street to N. 40th Street covers five major intersections at N.15th Street, N. 22nd Street, N. 24th Street, N. 30th Street, and N. 40th Street.

- E. Hanna Avenue at N. 15th Street
 - 60% of crashes were angled crashes.
 - Approximately 36% of the crashes occur after dark.
 - The majority (96%) of the crashes did not have any contributing causes.
 - No pedestrian crashes and one bicycle crash were observed in 2018.
 - No fatalities were observed.
- E. Hanna Avenue at N. 22nd Street
 - Rear-end crashes (27%) are the primary crash types followed by Angled crashes (21%) and left-turn crashes.
 - Approximately 21% of the crashes occur after dark.
 - No pedestrian crashes and one bicycle crash were observed in 2018.
 - 4% of the drivers attributed the road surface condition as the contributing cause to the crashes.
 - No fatalities were observed.
- E. Hanna Avenue at N. 24th Street
 - Rear-end collisions (63%) are the primary crash type. Angled (25%) and left turn (13%) crashes comprise the remaining crash types.
 - A total of eight crashes were observed in the five-year study period.
 - There were no contributable causes associated with the crashes.
 - No pedestrian or bicycle crashes were observed.

- No fatalities were observed.
- E. Hanna Avenue at N. 30th Street
 - A total of 33 crashes were observed within the five years.
 - There was one pedestrian crash and no bicycle crashes were observed.
 - Eight (24%) of the total crashes occur after dark.
 - Five crashes were observed in wet surface conditions.
 - Road Surface Conditions attributed to 9% of the total crashes.
 - No fatalities were observed.
- E. Hanna Avenue at N. 40th Street
 - A total of 43 crashes were observed within the five years.
 - There was one pedestrian crash and no bicycle crashes were observed.
 - 15 (35%) of the total crashes occur after dark.
 - Six crashes were observed in wet surface conditions.
 - No fatalities were observed.

N. 24th Street

N 24th Street from E. Hanna Avenue to E. Sligh Avenue covers three major intersections at Diana Street, Minnehaha Street, and E. Sligh Avenue. The following summarizes the crash analysis tables referenced in **Appendix F**.

- N. 24th Street at Diana Street
 - One accident was recorded in the five-year study period.
 - No contributing causes.
 - The one crash occurred after dark.
- N. 24th Street at Minnehaha Street
 - One sideswipe accident was recorded in the five-year study period.
 - No contributing causes.
 - The crash occurred at daylight.
- N. 24th Street at E. Sligh Avenue
 - A total of 21 crashes occurred at the intersection of E. Sligh Avenue and N. 24th Street. Of which, six (6) vehicles were making a westbound left turn, twelve (12) heading westbound through, and three (3) heading eastbound.
 - Rear-end collisions (48%) were the primary crash type followed by Left Turns (29%) and Sideswipes (14%).
 - No fatal incidents.
 - No bicycle or pedestrian crashes were observed.
 - No contributing causes.

N. 23rd Street

N 23rd Street from E. Hanna Avenue to Idlewild Avenue is a one-block segment measuring approximately 705 feet in length. The following provides a safety analysis of the corridor:

- A review of the crash data over the five-year study period showed no crashes on N. 23rd Street and Idlewild Avenue

- There were three crashes recorded on N. 23rd Street and E. Hanna Avenue – (2) angled and (1) rear end but will be addressed as part of the E. Hanna Avenue traffic calming section.

2.3.2 Economic Loss from Crashes

FDOT’s CAR (Crash Analysis Reporting) System provides unit costs for calculating the cost of crashes and injuries. Based on these unit costs, the crashes within these three corridors will cost an estimated \$13.7 million as shown in **Table 2-4 to Table 2-6**.

Table 2-4 - Estimated Economic Loss Along E. Hanna Avenue from Crashes (2016- 2020)

Crash Severity	Crashes along E. Hanna Avenue	Comprehensive Crash Cost	Economic Loss
Fatal	0	\$10,670,000	\$0
Injury	64	\$174,018	\$11,137,152
Property Damage Only	164	\$7,700	\$1,262,800
Total			\$12,399,952

Table 2-5 - Estimated Economic Loss Along N. 24th Street from Crashes (2016- 2020)

Crash Severity	Crashes along N. 24 th Street	Comprehensive Crash Cost	Economic Loss
Fatal	0	\$10,670,000	\$0
Injury	7	\$174,018	\$1,218,126
Property Damage Only	16	\$7,700	\$123,200
Total			\$1,341,326

Table 2-6 - Estimated Economic Loss Along N. 23rd Street from Crashes (2016- 2020)

Crash Severity	Crashes along N. 23 rd Street	Comprehensive Crash Cost	Economic Loss
Fatal	0	\$10,670,000	\$0
Injury	0	\$174,018	\$0
Property Damage Only	0	\$7,700	\$0
Total			\$0

2.3.3 Safety Recommendations

- **Consider reconfiguring the crosswalk layout at the intersections of E. Hanna Avenue and N. 15th Street and E. Hanna Avenue and N. 22nd Street** to align the sidewalk perpendicular to the vehicle path of travel and push the stop bars closer to the intersection. Angled crashes comprise 60% of the total crash type, which could be due to a lack of visual perception of crossing vehicles.
- **Improve street lighting.** Over 20% of the crashes occur after dark along E. Hanna Avenue.
- **Consider providing a protected bicycle lane along E. Hanna Avenue** The 85th percentile speed on E. Hanna Avenue is 37 mph and with guidance from the NACTO standards, sharrow lane condition should be used on bicycle boulevards with speeds less than 25 mph.
- E. Sligh Avenue and N. 24th Street observe that 29% of the crashes were attributed to left turns. **Consider providing a two-way left-turn lane connecting the eastbound and westbound left-turn lanes along E. Sligh Avenue.**
- **Consider drainage improvements at the intersection of Hanna Ave. and 22nd Street.** Six of the recorded crashes within the five year study period cited the road surface condition as the contributing cause. All six crashes occurred during wet conditions.

2.4 School Safety Evaluation

Foster Elementary and Sligh Middle Magnet School were identified to be impacted by the proposed Tampa City Center. As such, the two schools were observed by a registered professional engineer during the morning and afternoon admission and dismissal periods of an average weekday to assess the existing operating conditions and to determine what, if any, improvements could be made to improve the safety and efficiency of the roads surrounding these two schools. Detailed school safety evaluation information can also be seen in **Appendix G**.

The following analysis includes efficiency of operations and interaction of motor vehicles, transit vehicles, pedestrians, and bicycles on the roadway. The results of these observations are summarized below.

2.4.1 Foster Elementary

- Breakfast starts at 7:10 AM. School starts at 7:40 AM.
- School dismisses at 12:55 PM on Mondays and 1:55 PM from Tuesday to Friday.
- School demographics are primarily Black (72.28%), Hispanic (20.05%), and White (3.96%).
- There are approximately 404 students that attend Foster Elementary, with 1/3 of the school population walking to school.
- The school mentioned having two school busses for students living south of E. Hillsborough Avenue.

- Students and busses utilize N. 22nd Street and E. Diana Street. as the two main roads entering and exiting the school.
- 15 mph school zone flashing signs are located along N. 22nd Street north and south of E. Diana Street.
- No school zone pavement markings are present on either N. 22nd Street or E. Diana Street. **Recommend installing school zone pavement markings along both N. 22nd Street and E. Diana Street.**

Figure 2-3 - Students Walking on Diana Street



- School busses enter through the school entrance located on N. 22nd Street.
- Sidewalks are present on both sides of N. 22nd Street and both sides of E. Diana Street. West of N. 22nd Street. However, no sidewalks are present on E. Diana Street east of N. 22nd Street. The afternoon dismissal bell observed a group of students walking down E. Diana Street east of N. 22nd Street. **Recommend installing a sidewalk on E. Diana Street from N. 22nd Street to N. 24th Street.** See **Figure 2-3**. E. Diana Street from N. 22nd to N. 24th Street is ranked as Medium to High Priority through the City’s Sidewalk Prioritization tool.
- There are three (3) crossing guards present during a typical school day. Two are located on N. 22nd Street and E. Diana Street, one is located on N. 21st Street and E. Diana Street, and a school resource officer is stationed at N. 20th Street and E. Diana Street.

Figure 2-4 - N. 22nd Street Queue Backup During PM Peak



- The intersection of N. 22nd Street and E. Diana Street was recently converted to a 4-way stop. During the Qualitative Assessment, there were two cars observed running through the Stop condition. **Consider installing a “Stop” pavement marking in advance of the intersection.**
- Vehicles were observed speeding on E. Diana Street. **Consider installing Speed Feedback signs along E. Diana Street.**
- The student drop-off area is located on E. Diana Street and N. 20th Street through a traffic circulator.
- During the afternoon dismissal hour, vehicles are queued along E. Diana Street from N. 20th Street back to N. 22nd Street and along N. 22nd Street from E. Diana Street to Minnehaha Street. See **Figure 2-4**. The school resource officer requested a “No Left Turn” sign installed for the eastbound left-turn movement from E. Diana Street to the traffic

circulation. **Consider performing a route study to determine the impacts of implementing a no-left turn condition.**

- The Hillsborough Area Regional Transit (HART) route stops in front of the school at 2:05 PM.
- The hedge bush located on the south sidewalk of E. Diana Street blocks the pedestrians and bicyclists' path. See **Figure 2-5. The request for trimming maintenance was forwarded to the City's Maintenance group.**
- The Verizon box on the southside sidewalk on E. Diana Street is depressed, creating a tripping hazard. **Coordinate with Verizon to bring the box level with the sidewalk.**
- Vehicles were observed parking along the south side of E. Diana Street and blocking the sidewalk path. **Consider parking prohibition measures to prevent blocking the sidewalk.** Additionally, vehicles have been observed parking in the stall adjacent to the concrete separator entering the traffic circulator on E. Diana Street. Parked vehicles encroach the westbound through lanes. **Consider striping this stall to prohibit parking and adding yellow contrasting paint to the concrete curb at the drop-off area.**
- The existing crosswalk is not currently marked to the curb ramps. See **Figure 2-6. Consider removing and restriping the existing crosswalk on E. Diana Street and N. 21st Street.**

Figure 2-5 - South Sidewalk of E. Diana Street Hedge Bush



Figure 2-6 - Crosswalk at E. Diana Street and N. 21st Street



2.4.2 Sligh Middle Magnet School

- School starts at 8:30 AM and dismisses at 3:25 PM.
- School demographics are comprised primarily Black (61.15%), Hispanic (26.69%), and White (7.77%).
- There are approximately 592 students that attend Sligh Middle School.

- No sidewalks are present on the north side of E. Sligh Avenue in front of the school. The sidewalk located on the north side of E. Sligh Avenue, east of N. 19th Street to N. 20th Street is ranked as a prioritized sidewalk location. **Consider including this sidewalk gap for construction.**

Figure 2-7 - Students Crossing N. 22nd Street from Family Dollar



- The only crosswalks present on the adjacent roads to Sligh Middle are at the intersection of E. Sligh Avenue and N. 22nd Street. No mid-block crosswalks are present. Students were observed running across N. 22nd Street for the Family Dollar and 7 Eleven convenience stores, located on the southeast corner of E. Sligh Avenue and N. 22nd Street. See **Figure 2-7**. One of the parents was observed using the church across from Sligh Middle School to pick their student up. **Consider installing mid-block crosswalks with Rectangular Rapid Flashing Beacons (RRFB) on N. 22nd Street adjacent to the convenience store and E. Sligh Avenue next to the church.**

- No school zone markings or flashers are present around Sligh Middle School. **Consider Signing and Pavement Marking improvements around Sligh Middle School to mark the school zone.**

- The afternoon dismissal hour traffic spillovers from the Sligh Middle School traffic circulator entrance road onto E. Sligh Avenue. Vehicles heading eastbound were observed maneuvering around queued vehicles, crossing the double yellow, and avoiding head-on collisions with the westbound through movement. Additionally, the “No Left Turn on School Days from 8 to 8:45, 3:10 to 3:55” sign posted for the westbound direction along E. Sligh Avenue, observes drivers continuing to make the westbound left turn into the school traffic circulator. **Consider a road-widening project to include a two-way left-turn lane extending to the eastbound left-turn lane on E. Sligh Avenue and N. 22nd Street. For a possible short-term improvement, consider coordinating with the Tampa Police Department for enhanced enforcement.**

Figure 2-8 - Palm Tree



- The sidewalk is depressed next to the water meter box on N. 22nd Street north of Minnehaha Street on the west sidewalk. **This request has been forwarded to the City’s Mobility Department for maintenance.**
- The palm tree located on the west side of N. 22nd Street is blocking the sidewalk path See **Figure 2-8**. **This request has been forwarded to the City’s Mobility Department for maintenance.**

- The curb entrance to Sligh Middle School on N. 22nd Street requires repair. See **Figure 2-9. This request has been forwarded to the City’s Mobility Department for maintenance.**
- The existing signage at the school traffic circulator (Stop and Do Not Enter) is faded and needs replacement on E. Sligh Avenue. **This request has been forwarded to the City’s Mobility Department for maintenance.**

Figure 2-9 - Broken Curb



2.5 Road Safety Audits

A Road Safety Audit (RSA) is a formal safety performance examination of existing road segments and associated intersections. An independent multidisciplinary team conducts the RSA, considering all road users and interactions with the roadway elements throughout the audit limits. The RSA was held on Friday, October 29, 2021.

The purpose of the RSA is to determine if improvements, or a combination of improvements, could cost-effectively reduce the number of vehicular and pedestrian, and bicycle-related crashes along the corridor and provide appropriate features along the corridor to accommodate all users. The following identifies the existing conditions of the area bounded by E. Hillsborough Avenue on the south, E. Sligh Avenue on the north, N. Nebraska Avenue on the west, and N. 40th Street on the east.

2.5.1 Inspection Method

The Road Safety Audit covered the major surroundings of the project boundary of E. Hillsborough Avenue on the south, E. Sligh Avenue to the north, I-275 on the west, and N. 40th Street on the east. Please see **Figure 2-10** with the project boundary area shaded.

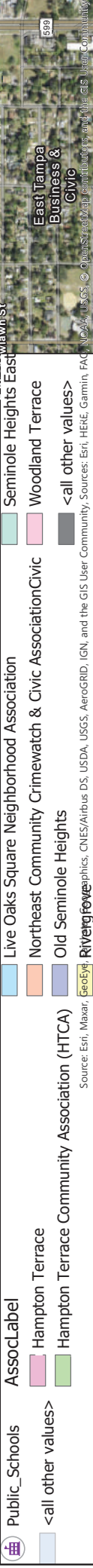
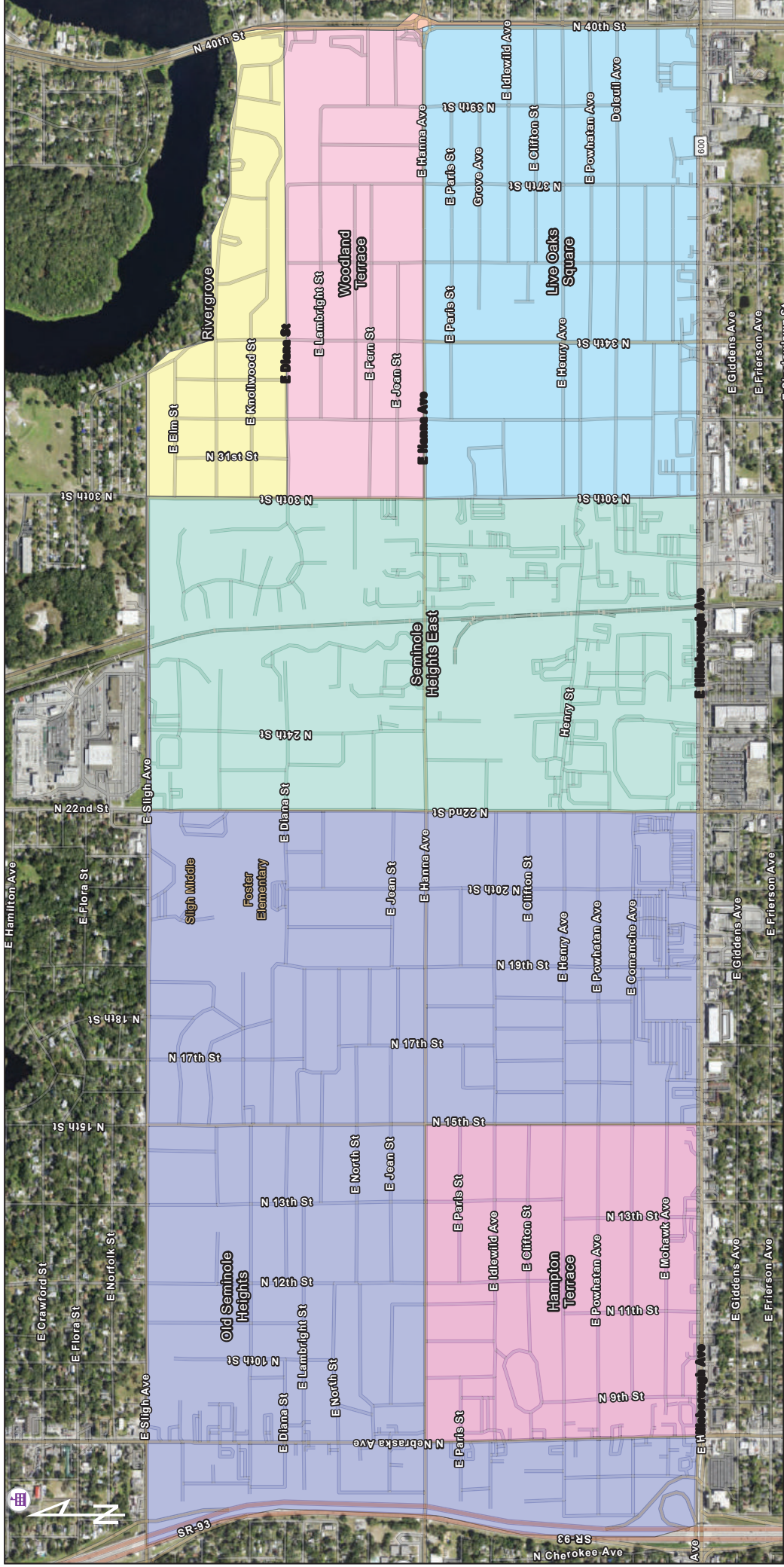


Figure 2-10 - Project Boundary Area

Inspections were conducted using Razor scooters with RSA comments collected through Survey123, an ESRI-based data collection software. A link to the Survey123 file can be found using the QR code in **Figure 2-11** below.

Figure 2-11 - Survey123 QR Code



Figure 2-12 - Razor Scooters



The RSA was held on Friday, October 29 at 7 AM during the morning peak hour. The study route started at the City Center on E. Hanna Avenue, north on N. 30th Street, west on E. Sligh Avenue, south on N. 22nd Street, east on E. Hanna Avenue, north and south along N. 24th Street, and concluding east towards the City Center. The Safety Team used Razor Scooters, **Figure 2-12**, to perform the Road Safety Audit.

2.5.2 Existing Conditions

The following section identifies existing conditions of the major roadways within the project boundary, seen in **Table 2-7**.

Table 2-7 - Existing Conditions

Category	Description
Typical Section of E. Hanna Avenue	<ul style="list-style-type: none"> • Suburban, 2 lanes, 2-way undivided • 10-foot lanes • Sporadic asphalt curb
Existing Lighting	<ul style="list-style-type: none"> • Limited lighting throughout the corridor.
Posted Speed Limit	<ul style="list-style-type: none"> • Hanna Avenue is 30 MPH • N 22nd Street is 30 MPH • N 30th Street is 30 MPH
Pedestrian/Bicyclist features	<ul style="list-style-type: none"> • Crosswalks are marked as special emphasis. • Sharrow bicycle markings • The sidewalk is only one side of Hanna Avenue.
Schools (7) (within one-mile radius)	<ul style="list-style-type: none"> • Sligh Middle Magnet • Foster Elementary • Sheehy Elementary • Learey Technical College

	<ul style="list-style-type: none"> • Erwin Technical College • Carver-Mendez Center • Pepin Academies – Tampa
Transit (Hillsborough Area Regional Transit (HART))	<ul style="list-style-type: none"> • Bus route 2, 5, 9, 12, 18, 34, 41. • E Hillsborough Ave. from N Nebraska Ave. to N 40th St. • E Sligh Ave. from N Nebraska Ave. to N 40th St. • E Hanna Ave. from N 30th St. to N 40th St. • N Nebraska Ave. from E Hillsborough Ave. to E Sligh Ave. • N 15th St. from E Hillsborough Ave. to E Sligh Ave. • N 22nd St. from E Hillsborough Ave. to E Sligh Ave. • N 30th St. from E Hillsborough Ave. to E Sligh Ave. • N 40th St. from E Hillsborough Ave. to E Sligh Ave.
Neighborhoods	<ul style="list-style-type: none"> • Hampton Terrace Community Association • Hampton Terrace • Old Seminole Heights • Seminole Heights East • Rivergrove Neighborhood Association • Woodland Terrace • Northwest Community Crimewatch and Civic Association • Live Oaks Square Neighborhood Association
Work Program projects	<ul style="list-style-type: none"> • Sidewalks- Fern St (N 9th St to N 12th St) – 2021 Construction • E. Hanna Ave. Corridor Improvements - 2023 Construction

2.5.3 Findings

This section of the report presents the findings that were obtained for this study.

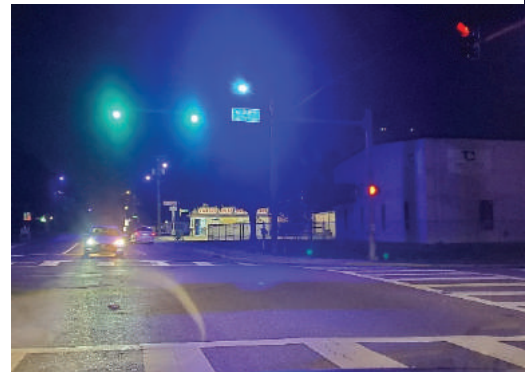
- Erosion on the right of way west of 2919 E. Sligh Avenue. See **Figure 2-13**.
- **Improve pedestrian ramps at the intersection of E. Hanna Avenue and N. 30th Street.**

Figure 2-13 - 2919 E Sligh Avenue Erosion



- N. 24th Street observed pedestrians walking in the road and speeding along the corridor. **A request for additional sidewalks along N. 24th Street has been forwarded to the City's Mobility Department.**
- At least 20% of the crashes occurred past daylight hours. Additionally, several streetlights illuminate a bluish hue, as shown in Figure 2-14, which is a result of a defective LED lighting. **Consider installing streetlights with a focus on intersections with crosswalks and school zone areas. Additionally, the City should continue the on-going coordination efforts with TECO to secure warranty replacement of defective LED lighting**
- E. Hanna Avenue between N. 15th Street and N. 40th Street has shared lane markings between bicyclists and vehicles. With the speeding observed on E. Hanna Avenue, **consider adding buffered/protected bicycle lanes for bi-directional flow.** Alternatively, if E. Hanna Avenue does not have adequate right of way space, **consider adding buffered/protected bicycle lanes along E. Henry Avenue.**
- The sidewalk alternates between the north and south side along E. Hanna Avenue. **Consider connecting sidewalks continuously along both sides of E. Hanna Avenue from 22nd Street to 30th Street.**

Figure 2-14 - Blue Hue Street Lights



3 Future Traffic Development

3.1 Future Background Traffic

Future background traffic conditions are expected traffic conditions in the study area in the years 2023, 2028, and 2033 without the proposed development. Future background traffic volumes were calculated from the sum of the existing traffic, committed development traffic, and the additional traffic generated by the growth in the study area. The future background traffic for the study area for the years 2023, 2028, and 2033 can be seen in **Figures 3-1** through **3-3**.

3.1.1 Background Area Growth

Future traffic growth was determined by utilizing historic growth trends at nearby Florida Traffic Online (FTO) traffic count stations, and volume comparisons from the Florida Standard Urban Transportation Model Structure (FSUTMS) Tampa Bay Regional Planning Model (TBRPM) version 9.2.

The FDOT count stations used in the historic trend analysis are listed in **Table 3-1** below:

Table 3-1 - FTO Traffic Count Stations and Description

Count Station Number	Description (Milepoint)
9054	N. 15 th Street, North of SR 600/US 92/E. Hillsborough Avenue (0.08)
9055	N. 22 nd Street, North of SR 600/US 92/E. Hillsborough Avenue (0.148)
9056	N. 30 th Street, South of SR 600/US 92/E. Hillsborough Avenue (0.821)
9059	E. Hanna Avenue, East of N. Florida Avenue (0.049)
5167	SR 600/US 92/E. Hillsborough Avenue, East of N. 22 nd Street (1.3)
5165	SR 600/US 92/E. Hillsborough Avenue, East of N. Nebraska Avenue (0.03)
5164	SR 600/US 92/E. Hillsborough Avenue, West of N. Nebraska Avenue (12.808)
9161	N. 40 th Street, North of SR 600/US 92/E. Hillsborough Avenue (0.171)
5099	N. 40 th Street, South of SR 600/US 92/E. Hillsborough Avenue (2.594)
5081	N. Nebraska Avenue, North of SR 600/US 92/E. Hillsborough Avenue (3.708)
9154	E. Sligh Avenue, East of Rowlett Park Drive (0.097)

The historic trend analysis was run using the FDOT Traffic Trend Analysis Tool and examined the linear, exponential, and decaying growth rates for the most recent ten year period. The results from the trend analysis and TBRPM are given in the **Table 3-2** below with the recommended growth rate.

Table 3-2 - Historic Growth Rate and FSUTMS TBRPM Annual Growth Rate

Growth Rate	E. Hanna Avenue	E. Hillsborough Avenue	E. Sligh Avenue	N. 15 th Street/ N. 22 nd Street/ N. 30 th Street
TBRPM Annual Growth Rate	3.5%	1.0%	2.0%	2.0%
Linear trend	1.5%	-0.6%	1.2%	1.0%
Exponential trend	1.4%	-0.6%	1.2%	1.0%
Decaying Exponential trend	1.1%	-0.7%	0.9%	0.8%
Recommended Growth Rate	3.5%	1.0%	2.0%	2.0%

To provide a conservative analysis, the recommended growth rates were selected based on the highest growth rates along each corridor and were applied to the existing traffic volumes to determine future background traffic volumes for the analysis years 2023, 2028, and 2033. The historic growth trend worksheets are provided in **Appendix H**.

3.1.2 Committed Developments

Committed developments in the study area are included as part of the future background traffic conditions. There is a committed project located north of E. Hillsborough Avenue and east of N. 22nd Street. The proposed development consists of 324 multi-family dwelling units. The information regarding the project is given in **Appendix I**.

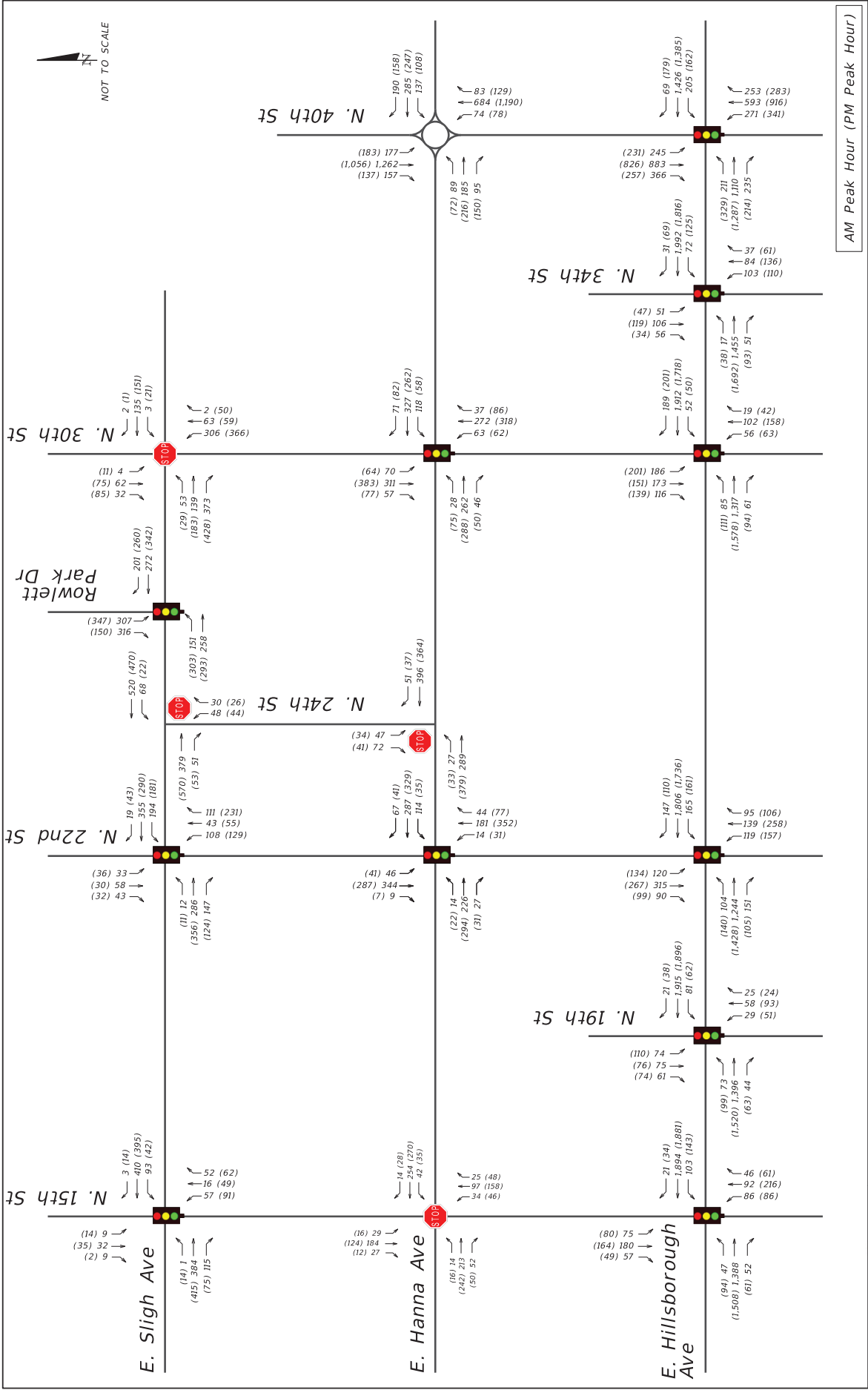


Figure 3-1

Future Background (2023) Peak Hour Volumes

The City Center at Hanna Avenue

City of Tampa

Neighborhood Transportation Study

December 2021

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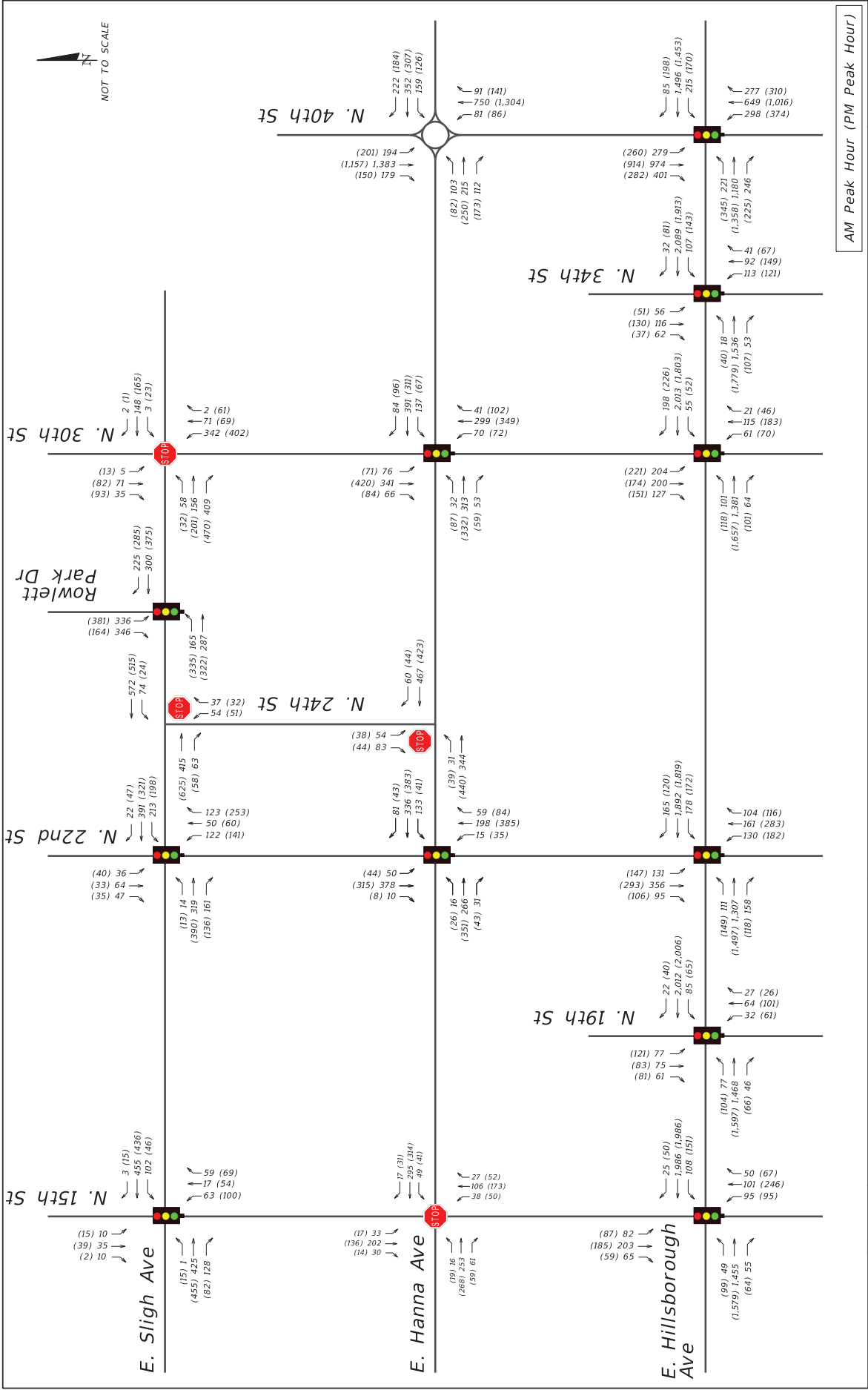
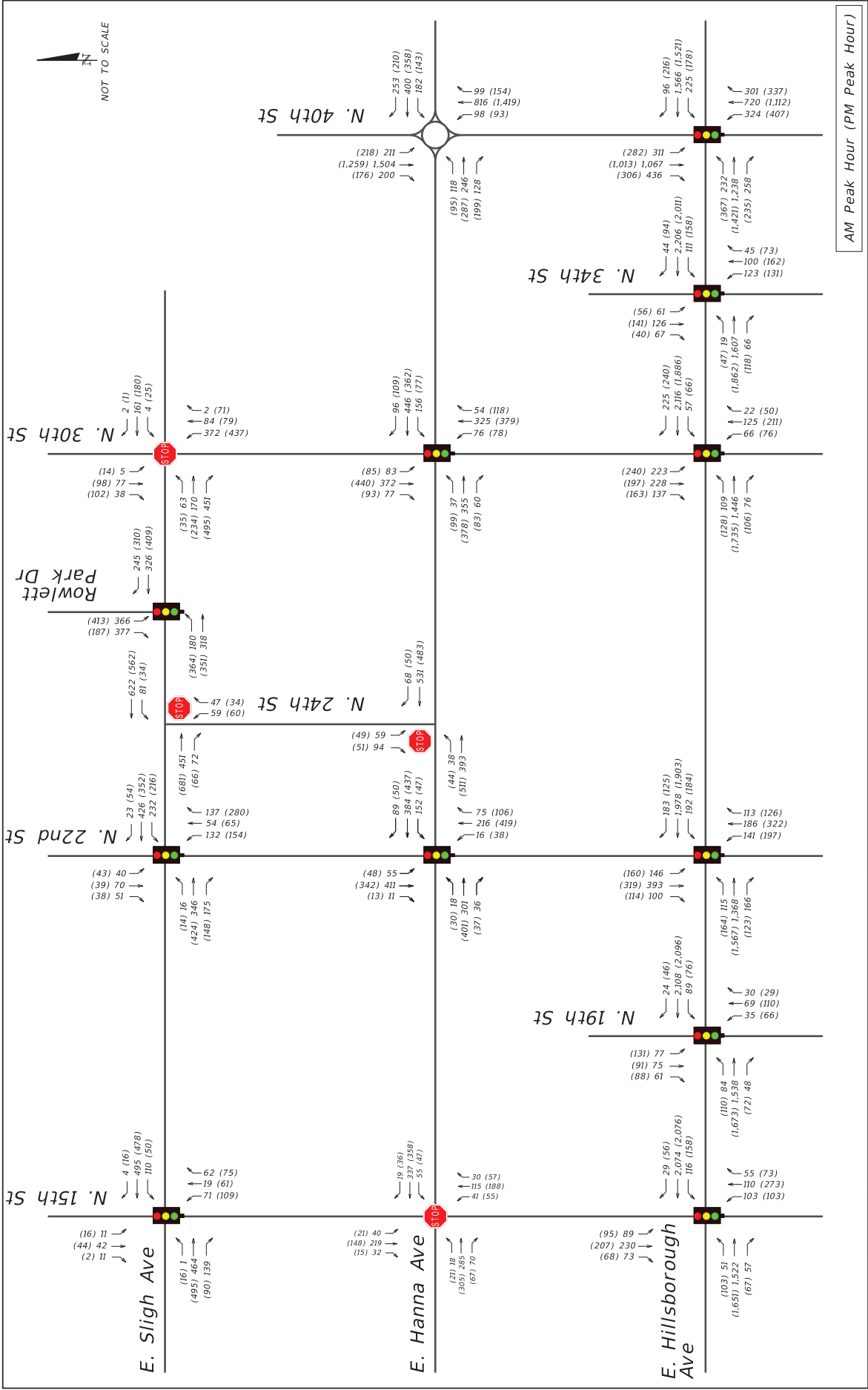


Figure 3-2
 Future Background (2028) Peak Hour Volumes
 The City Center at Hanna Avenue





Future Background (2033) Peak Hour Volumes

The City Center at Hanna Avenue

City of Tampa

Neighborhood Transportation Study

December 2021

Figure 3-3

3.2 Project Traffic

The project traffic used in this analysis is defined as the total number of vehicle trips expected to be generated by the proposed development at 2515 E. Hanna Avenue and the distribution and assignment of those new vehicle trips within the study area.

3.2.1 Existing and Proposed Land Uses

The area proposed for redevelopment currently consists of vacant industrial land. The proposed development consists of approximately 500 employees utilizing government office space, 1,962 square feet of culinary program space, 2,573 square feet of career source space, 9,375 square feet of technology and arts space, and 2,650 square feet of wellness center/doctor's office space. The project is expected to be completed and opened in the year 2023.

3.2.2 Project Access

Access to the site is proposed via two driveways along E. Hanna Avenue, with one driveway operating as entrance only, and one driveway operating as an exit only. The detailed site plan is provided in **Appendix A**. The following provides a summary of each driveway:

West Driveway (Entrance)

This driveway acts as the main entrance to the site along E. Hanna Avenue and can be accessed from the eastbound lane of travel and via westbound from a dedicated left-turn storage lane.

East Driveway (Exit)

This driveway acts as the main exit to the site along E. Hanna Avenue and will feature a left-turn-only exit lane and a right-turn-only exit lane.

3.2.3 Trip Generation

Trip generation for the existing and proposed development was performed utilizing the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. The existing land use of the site is vacant industrial, so no trips are currently generated by the site. The trip generation for the proposed land uses was determined using ITE Land Use Code (LUC) 730 (Government Office Space), LUC 590 (Library - Culinary Program), LUC 590 (Library - Career Source), LUC 590 (Library - Technology Arts), and LUC 590 (Library - Wellness Center/Doctor's Office). Project trips were generated for the weekday AM and PM peak hours.

3.2.4 Multimodal Reduction

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census Means of Transportation to Work data was reviewed for Hillsborough County as well as the two census tracts in which the development is located. The census tracts had a multimodal factor of seven percent, while the county had a factor of 5%. To maintain a conservative analysis, a multimodal factor of five percent (5%) was determined for the proposed development.

The Hillsborough Area Regional Transit Authority (HART) provides bus services along N. 22nd Street, N. 30th Street, N. 40th Street, N. Nebraska Avenue, and E Hillsborough Avenue near the E. Hanna Avenue corridor. The following transit routes are provided within the study area and can also be seen in **Appendix J**:

- **Route 5** – 40th Street - Downtown/Marion Transit Center to University Area Transit Center via 40th Street with one-hour headways on a peak weekday. The nearest transit stops are approximately 1.25 miles from the proposed site at the intersection of E. Hanna Avenue and N. 40th Street.
- **Route 9** – 15th/30th Street - Downtown/Marion Transit Center to University Area Transit Center via 15th/30th Street with one-hour headways on a peak weekday. The nearest transit stops are within a quarter-mile of the proposed site at the intersection of E. Hanna Avenue and N. 30th Street.
- **Route 12** – 22nd Street - Downtown/Marion Transit Center to University Area Transit Center via 22nd Street with 30-minute headways on a peak weekday. The nearest transit stops are within a quarter-mile of the proposed site at the intersection of E. Hanna Avenue and N. 22nd Street.
- **Route 34** – Hillsborough Avenue – Northwest Center to Netp@rk Transfer Center via Hillsborough Avenue with 20-minute headways on a peak weekday. The nearest transit stops are within a mile of the proposed site at the intersection of E. Hillsborough Avenue and N. 22nd Street.
- **Route 400** – Downtown Tampa to University Area via Nebraska Avenue with 15-minute headways on a peak weekday. The nearest transit stops are approximately 1.50 miles from the proposed site north of E. Hanna Avenue along N. Nebraska Avenue.

3.2.5 Internal Capture

To maintain a conservative analysis, there is no internal capture expected between the complementary land uses for the proposed development.

3.2.6 Net New Project Trips

The net new project trips represent the new vehicle trips that are expected within the study area due to the proposed development. The project is expected to generate 543 net new trips in the AM peak hour and 420 net new trips in the PM peak hour. Detailed trip generation information is included in **Appendix K**. The net new project trips can be seen in **Table 3-3**.

Table 3-3 - Proposed Net New Trip Generation

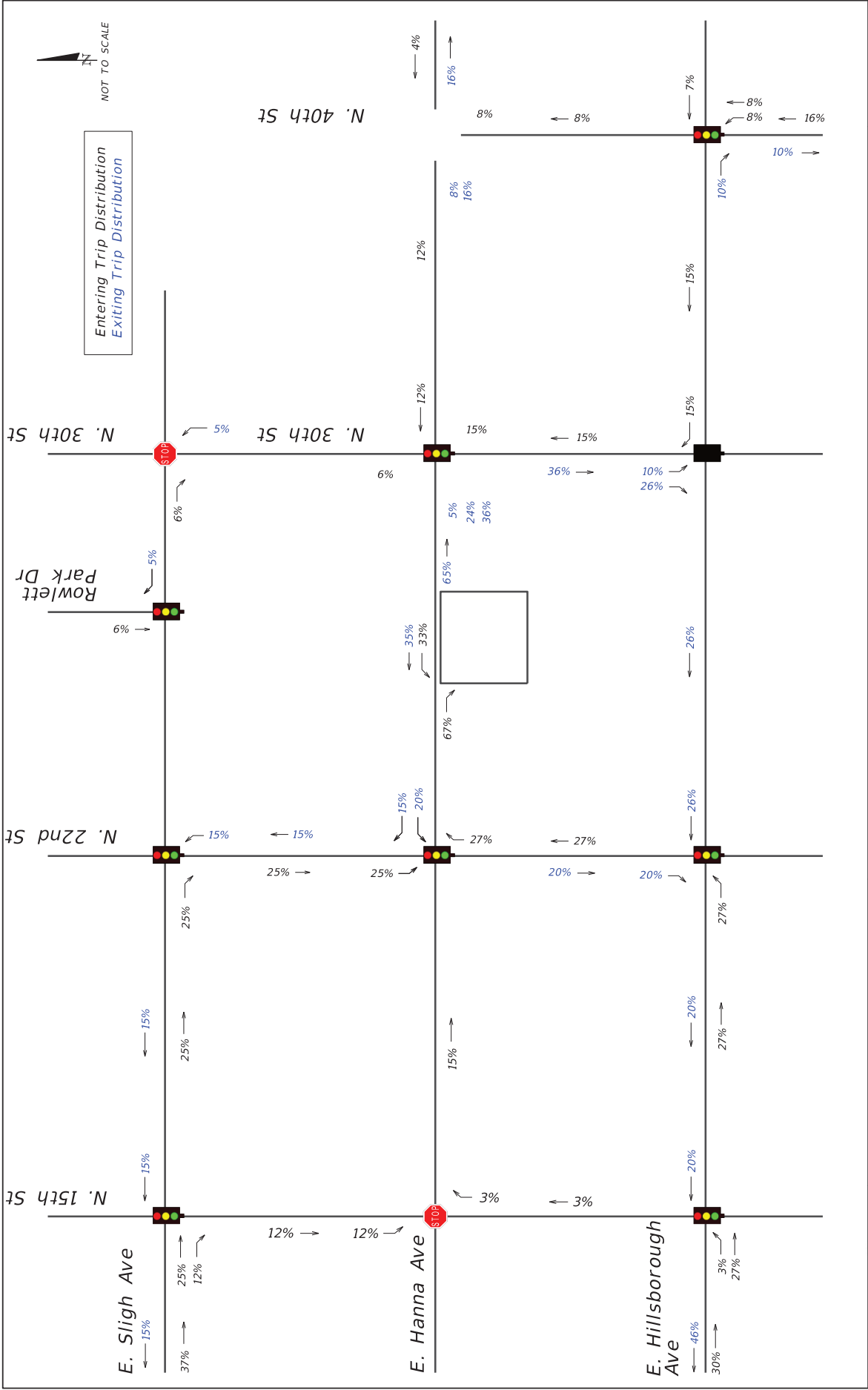
Proposed Development					
Future Land Use (ITE Code)	Scale	ITE units	Net New External Trips AM (PM)	Entering Trips AM (PM)	Exiting Trips AM (PM)
Government Office (730)	500	employees	523 (337)	392 (67)	131 (270)
Culinary Program (590)	1,962	sq. ft.	2 (1)	1 (1)	0 (1)
Career Source (590)	2,573	sq. ft.	2 (7)	2 (3)	1 (3)
Technology & Arts (590)	9,375	sq. ft.	9 (67)	6 (32)	2 (35)
Wellness Center/Doctor's Office (590)	2,650	sq. ft.	7 (9)	5 (2)	2 (6)
Net New Project Trips			543 (420)	408 (106)	135 (315)

3.2.7 Trip Distribution and Assignment

The trip distribution was based on the interpolated cardinal trip distribution for the project site obtained from the City of Tampa staff's home address breakdown by zip code provided by the City of Tampa. The distribution of employee home addresses is given in **Appendix L**. The majority of trips during the AM and PM peak hour is assumed to be made by the city employees. Trip distribution for AM and PM peak hours are given in **Figure 3-4** and **Figure 3-5**. The project trip assignment can be seen in **Figure 3-6** and **Figure 3-7**.

3.2.1 Future Total Traffic

Future total traffic conditions are expected traffic conditions in the study area in the years 2023, 2028, and 2033 with the proposed development. Future total traffic volumes were calculated from the sum of the future background traffic and the net new project trips. The future total traffic for the study area for the years 2023, 2028, and 2033 can be seen in **Figures 3-8** through **3-10**.

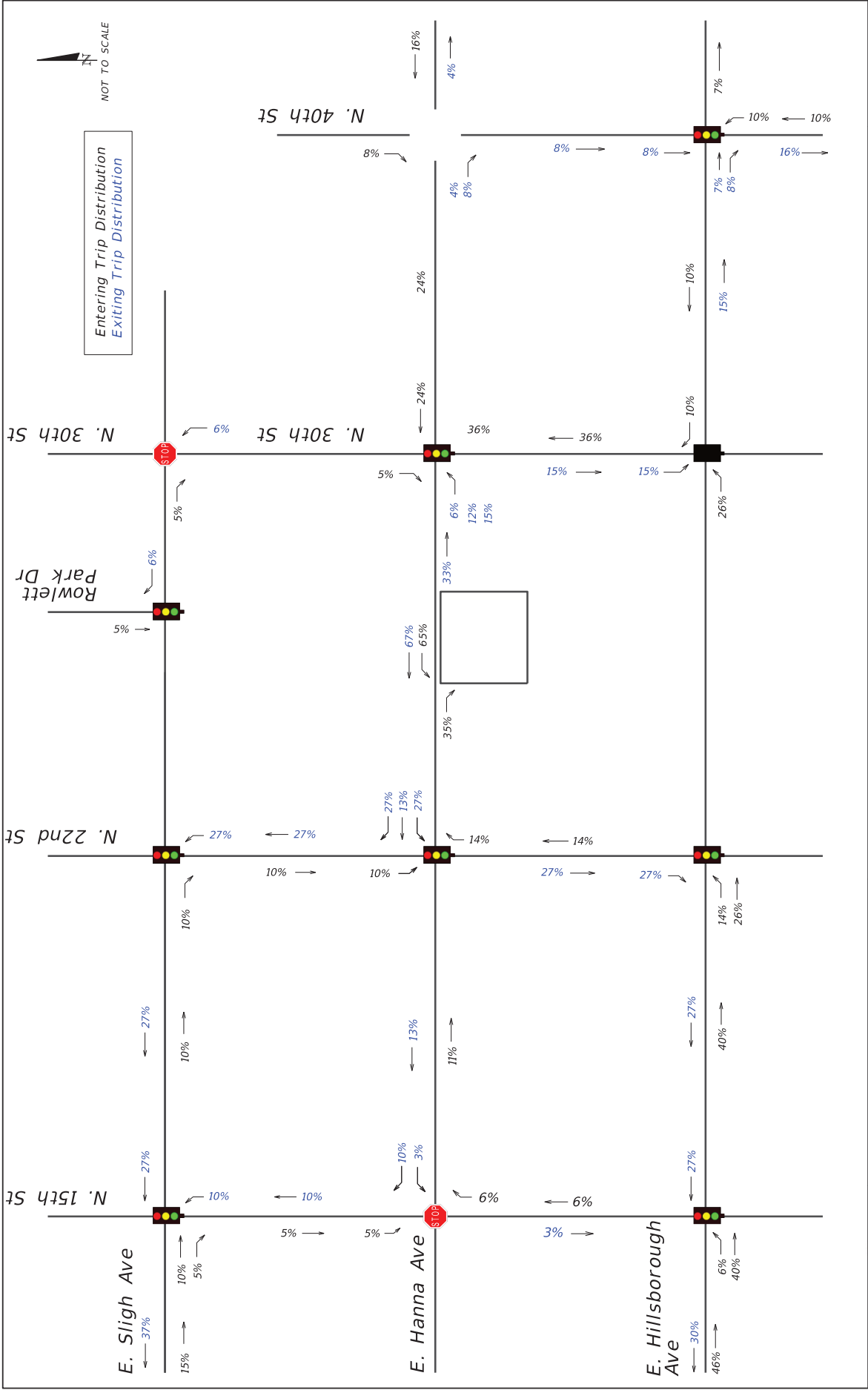


The City Center
at Hanna Avenue



AM Peak Hour Project Trip Distribution

Figure 3-4



The City Center
at Hanna Avenue

PM Peak Hour Project Trip Distribution

Figure 3-5

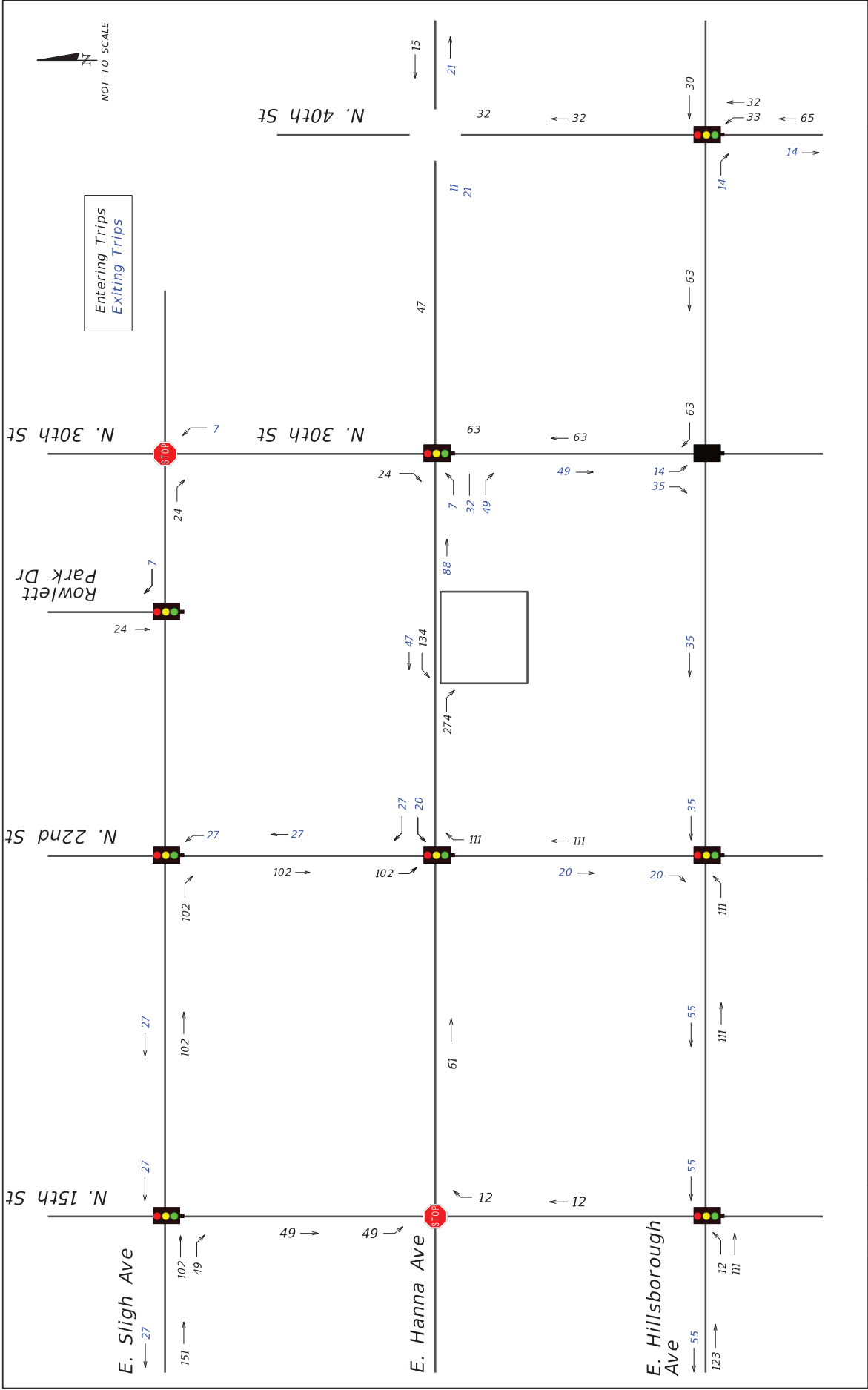
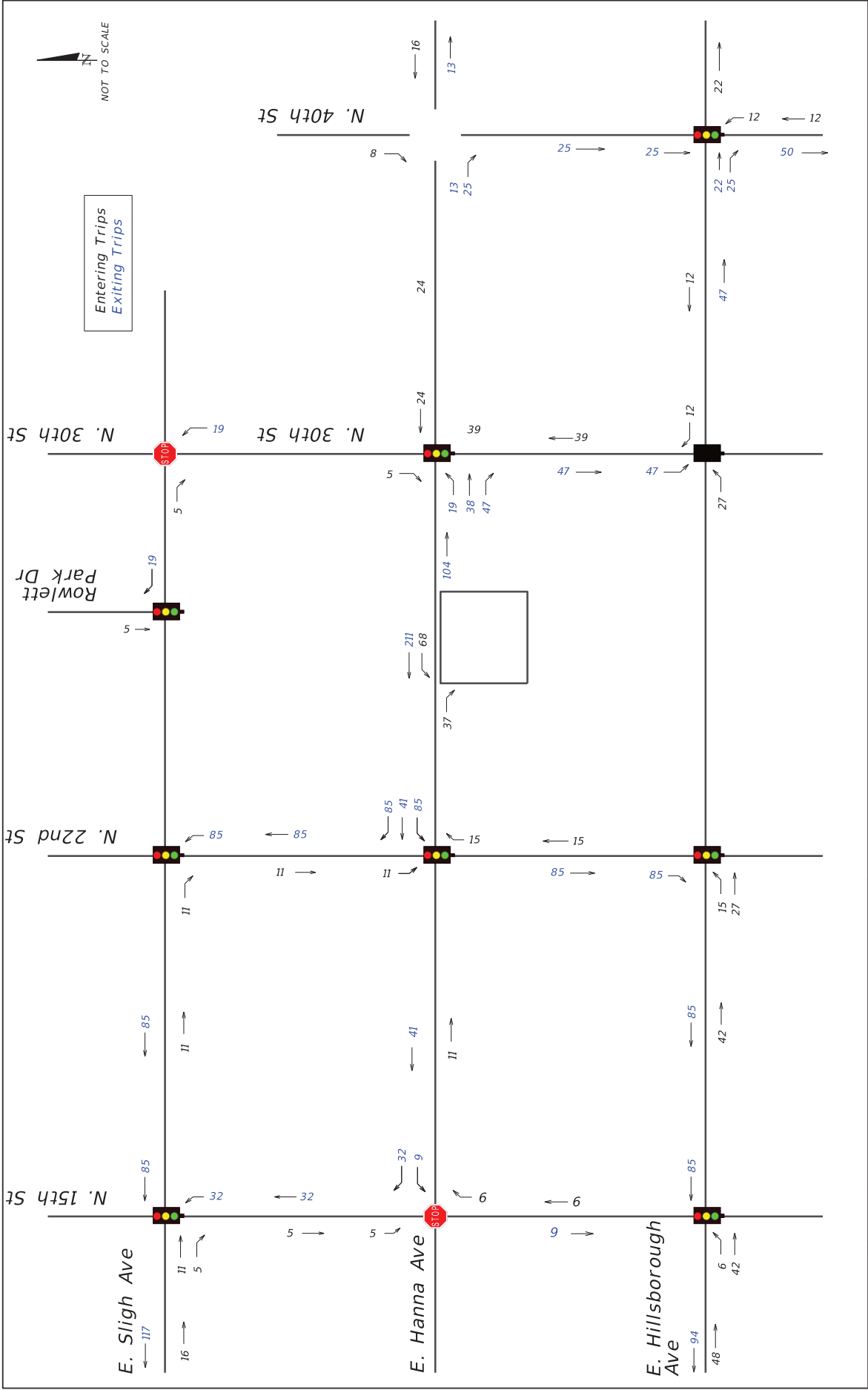


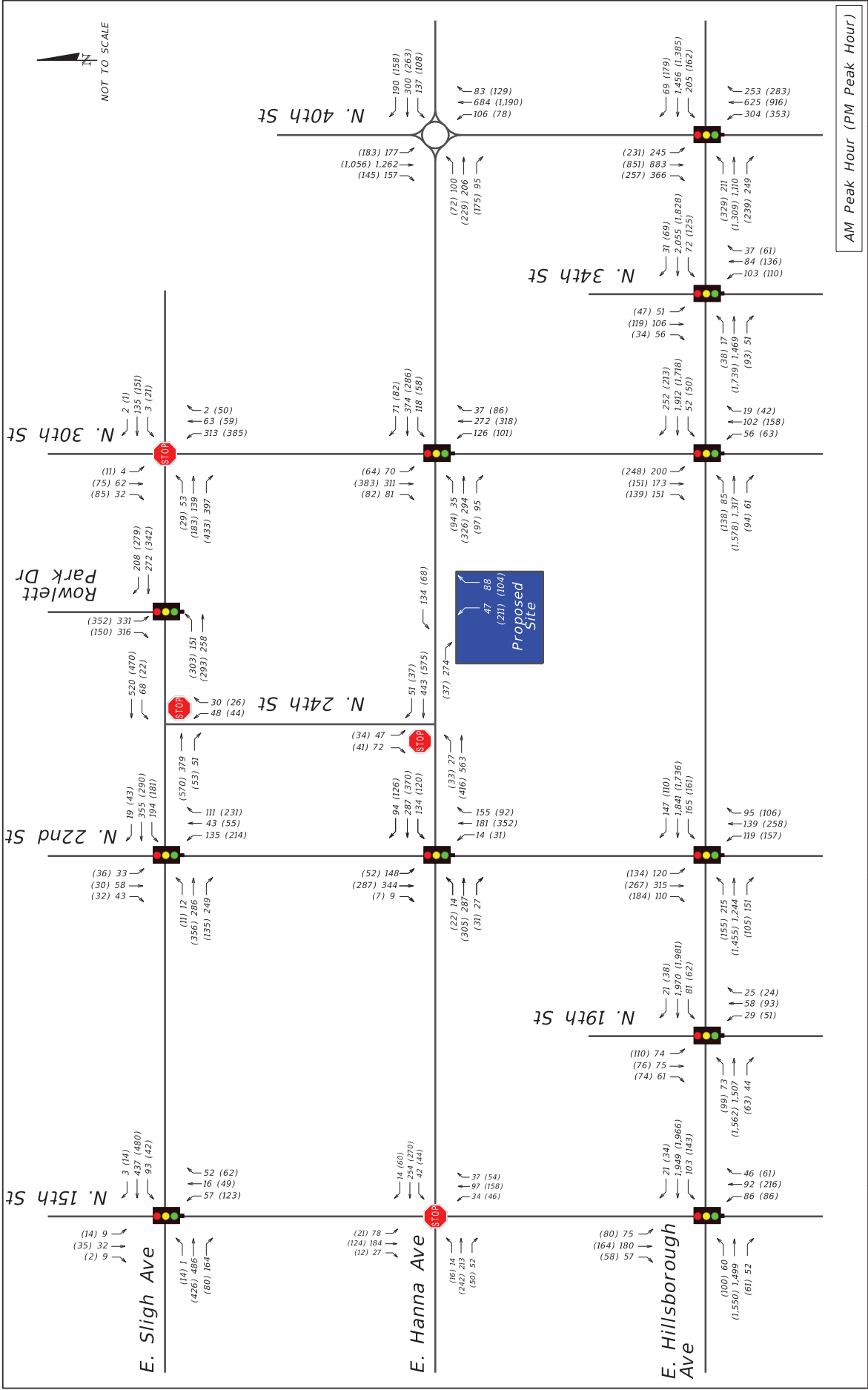
Figure 3-6
 AM Peak Hour Project Trip Assignment
 The City Center at Hanna Avenue



The City Center at Hanna Avenue

PM Peak Hour Project Trip Assignment

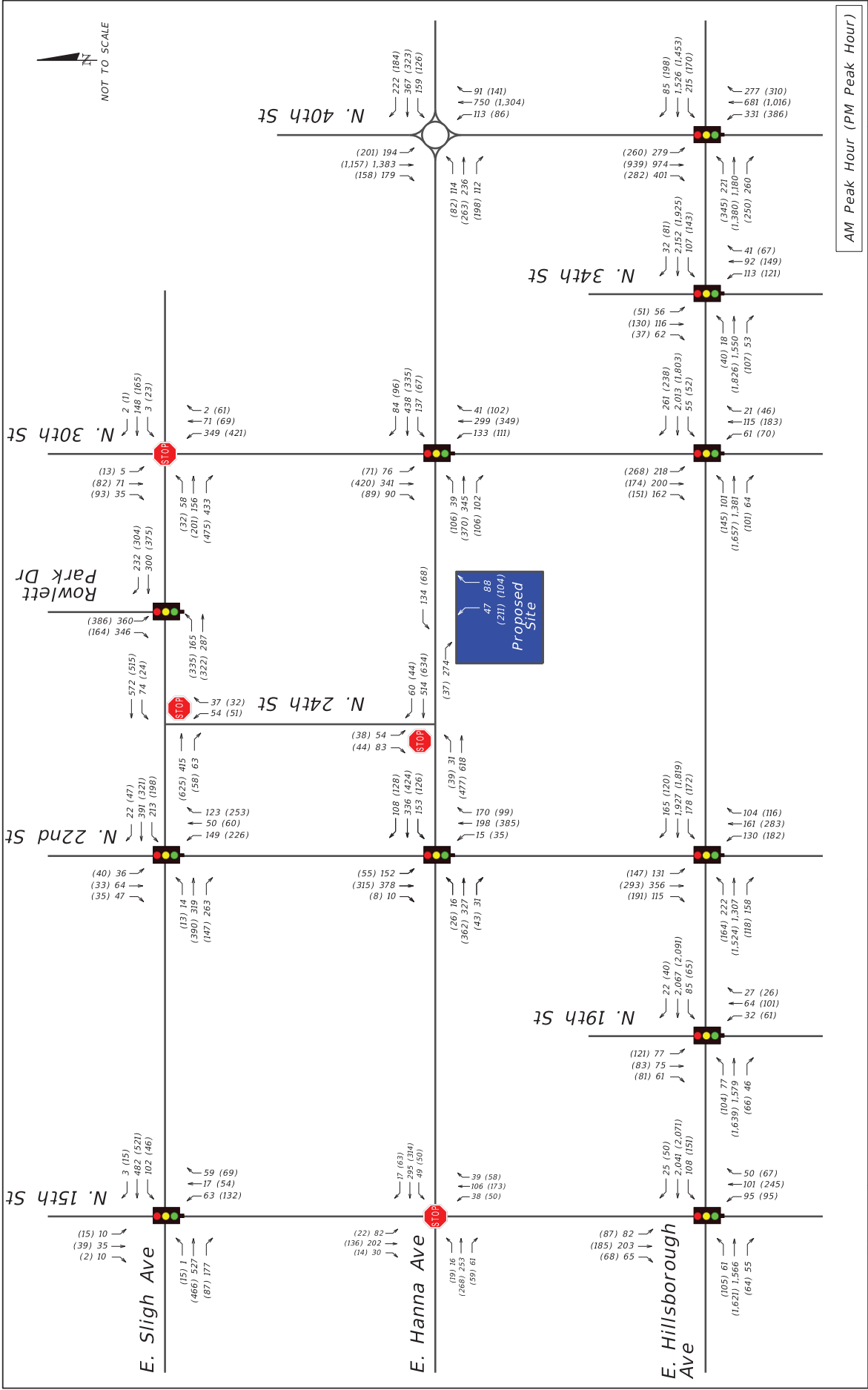
Figure 3-7



The City Center
at Hanna Avenue

Future Total Project (2023) Peak Hour Volumes

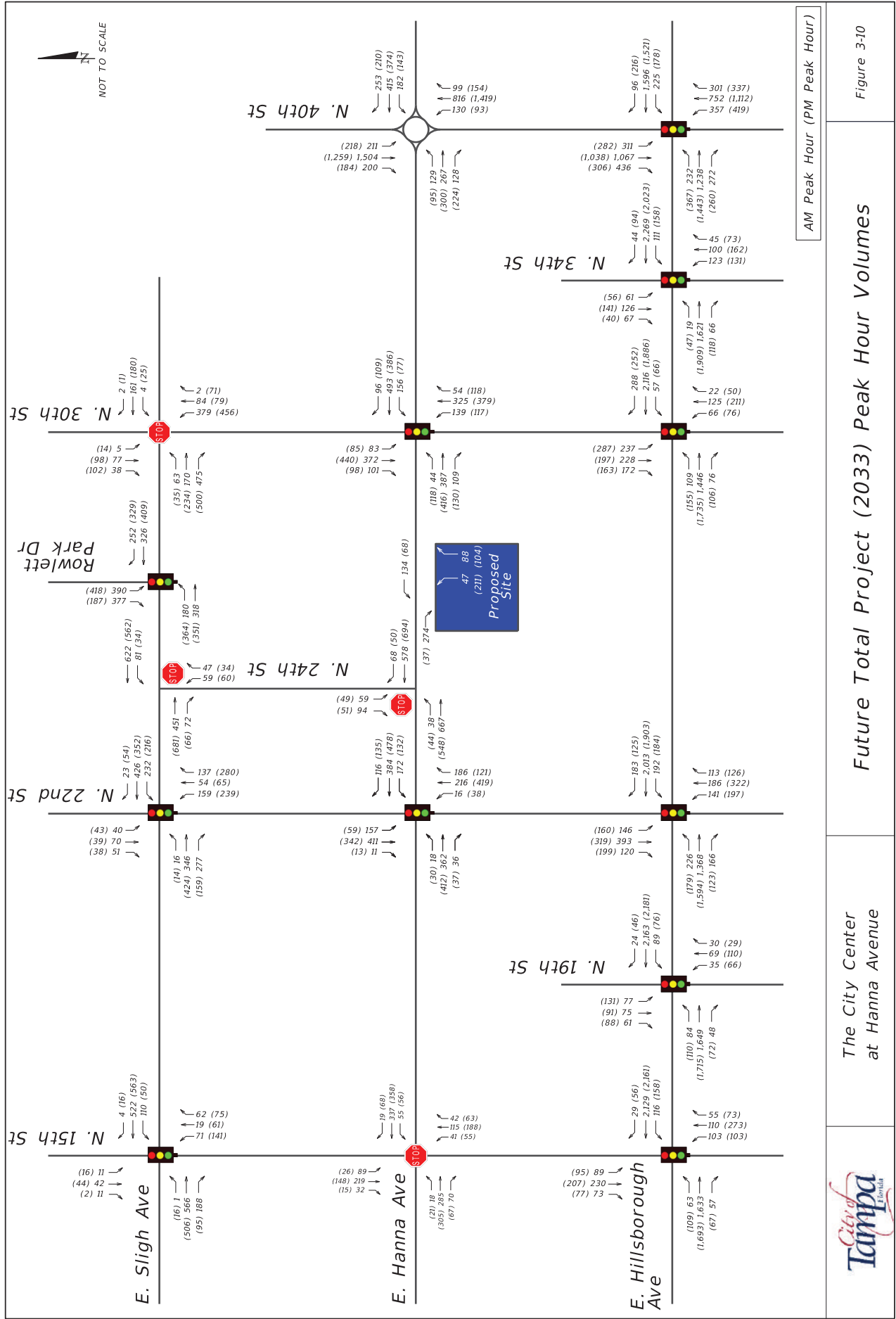
Figure 3-8



The City Center
at Hanna Avenue

Future Total Project (2028) Peak Hour Volumes

Figure 3-9



3.2.2 Future Year Intersection Operation Analysis

The study area intersection level of service (LOS) and delay operating conditions were analyzed for the Future Background Traffic (2023, 2028, 2033) and Future Total Traffic (2023, 2028, 2033) for the AM and PM peak hours. The study intersections for the two scenarios were analyzed using SYNCHRO 11 for signalized intersections and HCS7 for un-signalized intersections found in **Appendix M** and **Appendix N**, respectively. The SYNCHRO reports were created using the Highway Capacity Manual (HCM) 2000 methodology for the study intersections to report HCM control delay and level of service (LOS). The later HCM editions do not analyze intersections with exclusive pedestrian phases.

All study intersections operate at an acceptable level (D or better) under all scenarios except the following intersections:

Future Background Traffic Conditions

2023

- E. Sligh Avenue at N. 30th Street (AM - LOS E & PM - LOS F)
- E. Hillsborough Avenue at N. 22nd Street (AM - LOS E)
- E. Hillsborough Avenue at N. 40th Street (AM - LOS E & PM - LOS E)

2028

- E. Sligh Avenue at N. 30th Street (AM - LOS F PM - LOS F)
- E. Hillsborough Avenue at N. 22nd Street (AM - LOS E & PM - LOS E)
- E. Hillsborough Avenue at N. 40th Street (AM - LOS E PM - LOS F)

2033

- E. Hanna Avenue at N. 15th Street (PM- LOS F)
- E. Sligh Avenue at Rowlett Park Drive (PM - LOS E)
- E. Sligh Avenue at N. 30th Street (AM - LOS F & PM - LOS F)
- E. Hillsborough Avenue at N. 22nd Street (AM - LOS F & PM - LOS F)
- E. Hillsborough Avenue at N. 30th Street (AM - LOS E)
- E. Hillsborough Avenue at N. 40th Street (AM - LOS F & PM - LOS F)

Future Total Traffic Conditions

2023

- E. Sligh Avenue at N. 30th Street (AM - LOS F PM - LOS F)
- E. Hillsborough Avenue at N. 40th Street (AM - LOS E PM - LOS E)

2028

- E. Sligh Avenue at N. 30th Street (AM - LOS F PM - LOS F)
- E. Hillsborough Avenue at N. 40th Street (AM - LOS E PM - LOS E)

2033

- E. Hanna Avenue at N. 15th Street (AM - LOS E & PM - LOS F)
- E. Hanna Avenue at N. 22nd Street (AM - LOS F)
- E. Hanna Avenue at N. 24th Street (AM & PM)
- E. Sligh Avenue at Rowlett Park Drive (PM - LOS E)
- E. Sligh Avenue at N. 30th Street (AM - LOS F PM - LOS F)
- E. Hillsborough Avenue at N. 22nd Street (AM - LOS E & PM - LOS E)
- E. Hillsborough Avenue at N. 30th Street (AM- LOS E)
- E. Hillsborough Avenue at N. 40th Street (AM - LOS E PM - LOS F)

The intersection performance results for the future background traffic and future total traffic’s AM and PM peak hours are given in **Table 3-5**, and seen in **Appendix O**.

In the future total project traffic scenario, the level of service and delay were analyzed for the west driveway entrance to the site. This driveway acts as the main entrance to the site along westbound E. Hanna Avenue from a dedicated left-turn storage lane. The results are given in **Table 3-4** and can be found in **Appendix N**.

Table 3-4 - E. Hanna Avenue Westbound Entrance Traffic Operations Analysis

Future Total Project Traffic Year	Time Period (Peak Hour)	LOS	Delay
2023	AM	A	9.5
	PM	A	8.6
2028	AM	A	9.8
	PM	A	8.8
2033	AM	B	10.1
	PM	A	9.1

Table 3-5 - Future Background and Future Total Traffic AM & PM Peak Hour Intersection Delay and LOS

Corridor	Intersecting Roadway	2023						2028						2033					
		Background Traffic		Total Traffic		Background Traffic		Total Traffic		Background Traffic		Total Traffic		Background Traffic		Total Traffic			
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)		
E. Hillisborough Avenue	N. 15th Street	C	26.9	C	22.8	C	29.4	C	25.3	C	30.9	C	27.1	C	30.9	C	27.1		
	N. 19th Street	C	23.2	B	14	C	24.2	B	15.3	C	24.9	B	13.4	C	24.9	B	13.4		
	N. 22nd Street	E	64.7	D	43	E	78.9	D	52.6	F ¹	90.6	E	64.6	F ¹	90.6	E	64.6		
	N. 30th Street	D	45.7	D	40.9	D	52.8	D	48	E	56.9	E	57.9	E	56.9	E	57.9		
	N. 34th Street	C	20.1	B	16.3	C	23.5	B	19	C	28.8	B	18.1	C	28.8	B	18.1		
	N. 40th Street	E	65	E	58.6	E	75.5	E	64.8	F ¹	88.9	E	76.3	F ¹	88.9	E	76.3		
E. Hanna Avenue	N. 15th Street *	B	13.9	C	15.7	C	18.7	C	22.5	C	31.5	E	48.2	D	31.5	E	48.2		
	N. 22nd Street	C	22.5	C	32.2	C	26.2	D	54.3	C	34.1	F	88.9	D	34.1	F	88.9		
	N. 24th Street ³	C	16.3	C	22.9	C	20.5	D	32.7	D	27.0	F	54.2	D	27.0	F	54.2		
	N. 30th Street	B	16.3	B	16.5	B	17.4	B	18.6	B	19.4	C	20.7	B	19.4	C	20.7		
E. Sligh Avenue	N. 15th Street	A	9.3	A	9.7	B	10.1	B	10.7	B	12	B	13.3	B	12	B	13.3		
	N. 22nd Street	B	15.9	B	16.5	B	16.5	B	17.4	B	17.4	B	18.4	B	17.4	B	18.4		
	N. 24th Street ³	C	23.3	C	23.3	D	29.2	D	29.2	E	38.9	E	38.9	E	38.9	E	38.9		
	Rowlett Park rive	B	19.5	C	20.1	C	21.2	C	21.4	C	23.3	C	23.4	C	23.3	C	23.4		
	N. 30th Street *	E	39.8	F	55.5	F ²	123.5	F ²	156.1	F ²	262.2	F ²	310.3	F ²	262.2	F ²	310.3		
E. Hillisborough Avenue	N. 15th Street	D	37.4	C	30.1	D	37.5	C	25.3	C	39.2	D	31.8	D	39.2	C	31.8		
	N. 19th Street	C	21.8	B	16.1	C	22.3	B	15.3	C	24.2	B	15.7	C	24.2	B	15.7		
	N. 22nd Street	D	52.9	D	46.6	E	56.3	D	52.6	E	65.1	E	64.8	E	65.1	E	64.8		
	N. 30th Street	C	29.4	C	31.5	C	48	C	31.5	D	43	D	43	D	43	D	43		
	N. 34th Street	C	23.5	B	18.5	C	24.8	B	19	C	26.5	C	24.4	C	26.5	C	24.4		
	N. 40th Street	E	76.8	E	69.7	F ¹	89.5	E	64.8	F ²	108.8	F ²	93.2	F ²	108.8	F ²	93.2		
E. Hanna Avenue	N. 15th Street *	C	15.6	C	17.4	C	21.3	D	27.2	D	50.6	F ²	79.1	D	27.2	F ²	79.1		
	N. 22nd Street	C	22.5	C	27	C	27.9	D	54.3	D	41.8	D	53.4	D	41.8	D	53.4		
	N. 24th Street ³	C	15.6	C	21.5	C	18.6	D	27.3	C	25.0	E	43.0	C	25.0	E	43.0		
	N. 30th Street	B	19.8	B	18.3	C	21.2	B	18.6	C	23.6	C	22.5	C	23.6	C	22.5		
E. Sligh Avenue	N. 15th Street	B	12.4	B	14	B	13.4	B	10.7	B	14.7	B	17	B	14.7	B	17		
	N. 22nd Street	B	19	C	20.5	B	19.8	B	17.4	C	21	C	21.9	C	21	C	21.9		
	N. 24th Street ³	C	24.2	C	24.2	D	30.6	D	30.6	D	46.3	E	46.3	E	46.3	E	46.3		
	Rowlett Park rive	C	31.8	C	29.1	D	43.6	C	21.4	E	62.6	E	55.8	E	21.4	E	62.6		
	N. 30th Street *	F ^{2,4}	255.6	F ²	265	F ²	420.6	F ²	449.8	F ²	637.1	F ²	669.6	F ²	449.8	F ²	669.6		

Notes:

- * Unsignalised Intersection
- 1. Future Background traffic is not optimized
- 2. Future Background traffic operates at LOS F. Traffic operations at these intersections falls (LOS F) with or without the proposed project without any recommended improvements.
- 3. Delay reported is for the NBSB approach.
- 4. Installation of a traffic signal at the intersection of E. Sligh Avenue and N. 30th Street is recommended for the future year 2023 and is expected to operate at LOS B.

The signalized intersection of E. Hanna Avenue at N. 22nd Street is expected to operate at LOS F under future total traffic conditions during the PM peak hour. However, with the signal timing optimization, the intersection is expected to operate at **LOS D** under future total traffic conditions during the PM Peak hour.

For the future year 2028, the signalized intersection of E. Hanna Avenue at N. 22nd Street is expected to operate at LOS E under future total traffic conditions during the AM peak hour. However, with the signal timing optimization, the intersection is expected to operate at **LOS D** under future total traffic conditions during the AM peak hour. Also, the signalized intersection of E. Hillsborough Avenue at N. 22nd Street is expected to operate at LOS F under future total traffic conditions during the AM peak hour and PM peak hour. However, with the signal timing optimization, the intersection is expected to operate at **LOS D** under future total traffic conditions during the AM peak hour and PM peak hour.

For the future year 2033, the signalized intersection of E. Hanna Avenue at N. 22nd Street is expected to operate at LOS F during the PM peak hour. However, with the signal timing optimization, the intersection is expected to operate at **LOS D** under future total traffic conditions during the PM peak hour. Also, the signalized intersection of E. Hillsborough Avenue at N. 22nd Street is expected to operate at LOS F under future total traffic conditions during the AM peak hour. However, with the signal timing optimization, the intersection is expected to operate at **LOS E** under future total traffic conditions during the AM peak hour. The signalized intersection of E. Hillsborough Avenue at N. 40th Street is expected to operate at LOS F under future total traffic conditions during the AM peak hour. However, with the signal timing optimization, the intersection is expected to operate at **LOS E** under future total traffic conditions during the AM peak hour.

Recommendations

Based on the analysis, **consider monitoring traffic conditions and considering a southbound left-turn lane for the future year (2033) conditions to address the LOS at the intersection of E. Hanna Avenue and N. 22nd Street.** The addition of a southbound left-turn lane to the intersection is expected to reduce the delay at the intersection and operate at LOS D during the AM peak hour.

The all-way stop-controlled intersection of E. Hanna Avenue and N. 15th Street is expected to operate at LOS F under future total traffic conditions during the PM peak hour, with or without the proposed project. **Consider performing a signal warrant analysis at the intersection of E. Hanna Avenue and N. 15th Street to see if a traffic signal is warranted.** The signalized intersection is expected to operate at LOS B under future total traffic conditions for the future year 2033 during the PM peak hour.

The all-way stop-controlled intersection of E. Sligh Avenue and N. 30th Street is expected to operate at LOS F in the future year 2023, with or without the proposed project.. **Consider performing a signal warrant analysis at the intersection of E. Sligh Avenue and N. 30th Street to see if the 2023 future conditions warrants a traffic signal.** The signalized intersection is expected to operate at LOS B under future total traffic conditions for the future year 2023 with the addition of a traffic signal. Based on the analysis, a northbound left-turn lane would be needed for the future year 2033, to address the delay at the intersection of E. Sligh Avenue and N. 30th Street. The addition of a northbound left-turn lane to

the intersection is expected to reduce the delay at the intersection and operate at LOS D for the future year 2033.

Consider performing a traffic safety study at the intersection of E. Hillsborough Avenue and N. 40th Street and coordinating efforts with FDOT and Hillsborough County to identify measures that can improve the LOS and reduce delay.

4 MULTIMODAL EVALUATION

About 88,000 people in Hillsborough County make up the sample size of residents who aren't able to drive because of age, disability, or the high cost of owning, maintaining, and operating a vehicle. (Hillsborough Metropolitan Planning Organization (MPO)). Alternatively, cost-effective, multimodal systems and solutions are needed to provide the 88,000 with an equal opportunity to enjoy the various amenities and events within the City of Tampa. With the construction of the Tampa City Center, this section focuses on identifying multimodal opportunities for pedestrians, bicyclists, micro-mobility, and transit users through an assessment of the existing infrastructures of sidewalk connectivity, transit stops, and bicycle/shared-use paths. **Figure 4-1** provides a high-level overview of transit stops, missing sidewalks, school locations, and hot spots for crash locations.

Identifying multimodal solutions focuses on the existing infrastructures that will likely encourage multimodal users – sidewalk, transit, and bicycle/shared-use paths. The following sections analyze the three multimodal infrastructures with recommended projects and opportunities.

4.1 Sidewalk Connectivity

The sidewalk network analysis identifies the missing sidewalk gaps within the area from E. Hillsborough Avenue to E. Sligh Avenue and from I-275 to N. 40th Street and is prioritized according to the City of Tampa's Sidewalk Prioritization tool.

The black lines reflected in **Figure 4-1** show all the sidewalk gaps within the project area, totaling approximately 66 miles with the crash hot spots. The Sidewalk Prioritization process provides 1) Mobility for All, 2) Economic Opportunity, 3) Visions for Strong Neighborhoods, 4) Transportation Equity, and 5) Public Safety as described in **Table 4-1**.

As a result, the Sidewalk Prioritization tool identified the following major routes as the highest priority projects for the project area. Sidewalk network analysis maps are referenced in **Appendix P**.

- E. Hanna Avenue from N. 15th Street to N. 19th Street – Northside
- E. Hanna Avenue from N. Nebraska Avenue to N. 9th Street – Southside
- E. Henry Avenue from N. 22nd Street to Stabilization Center Driveway Entrance – Northside
- N. 22nd Street from E. Henry Avenue to E. Hanna Avenue – Eastside

The frontage area along E. Hanna Avenue from N. 22nd Street to N. 30th Street will include sidewalk as part of the building construction project.

For a complete view of the prioritized sidewalk corridors within the project area, please refer to **Appendix P**.

Table 4-1 - Sidewalk Prioritization Measures

Guiding Principle	Performance Measure	Points	Criteria
Mobility for All	Function Classification	2	Local
		4	Neighborhood Collector
		6	Collector
		8	Arterial
	Sidewalk Gap(s)	0	Begins a new sidewalk segment
		2	Fills sidewalk gap greater than 500' next to an existing sidewalk
		4	Fills sidewalk gap between 300' and 500' next to an existing sidewalk
		6	Fills sidewalk gap between 100' and 300' next to an existing sidewalk
	Average Annual Daily Traffic	8	Fills sidewalk gap less than 100' next to an existing sidewalk
		0	0—1,999 AADT
		2	2,000—7,999 AADT
		4	8,000—14,999 AADT
		6	15,000—24,999 AADT
Economic Opportunity	Proximity to Transit Facilities	8	25,000+ AADT
		0	Over ½-mile of an identified transit stop
		2	Within ½-mile of at least (1) one identified transit stop
		4	Within ¼-mile of at least (1) one identified transit stop
		6	Within ¼-mile of (2) two identified transit stops
Vision for Strong	Proximity to Schools	8	Within ¼-mile of (3) three or more identified transit stops
		0	Over 2 miles from a school
		2	Within 1-2 miles of a private school, college, or university
		4	Within 1-2 miles of a public school
		6	Within ½-mile of a public school
	Proximity to Daily Needs	8	Within ¼-mile of a public school
		0	Over ½-mile of an identified destination
		2	Within ½-mile of (1) one identified destination
		4	Within ¼-mile of (1) one identified destination
		6	Within ¼-mile of (2) two identified destinations
Transportation Equity	Communities of Concern ¹	8	Within ¼-mile of (3) three or more identified destinations
		0	0-1 characteristic
		2	2 characteristics
		4	3 characteristics
		6	4 characteristics
Public Safety ²	Posted or Observed Speed	8	5+ characteristics
		0	Adjacent street with a 20 MPH or below
		2	Adjacent street with a 25 MPH
		4	Adjacent street with a 30 MPH
		6	Adjacent street with a 35 MPH
8	Adjacent street with a 40 MPH or higher		

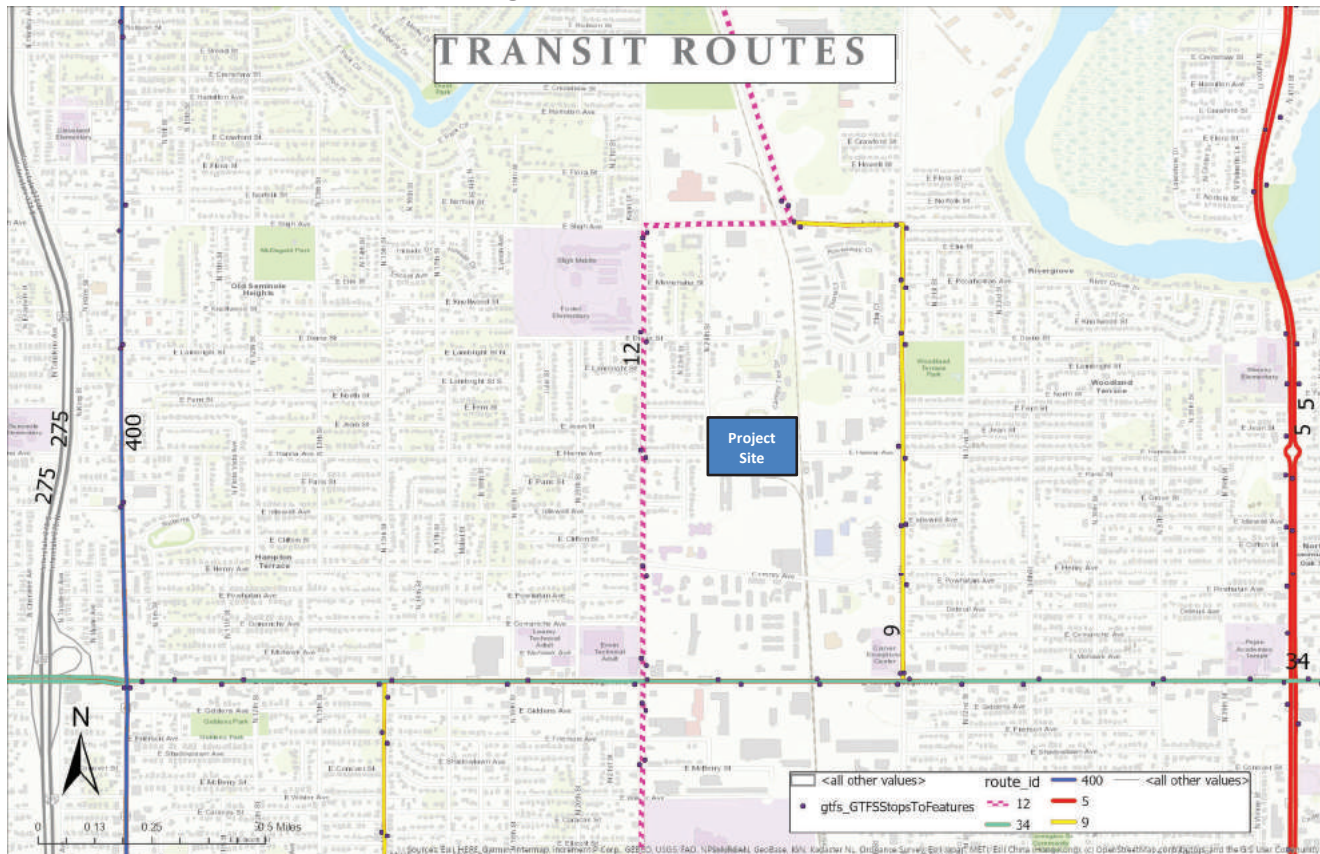
¹ Hillsborough MPO's Non-Discrimination Plan https://planhillsborough.org/wp-content/uploads/2018/03/2018-Title-VI_Nondiscrimination-Plan_Final.pdf

² The City is currently in the process of developing a Vision Zero Action Plan. After this plan is completed, additional measures will be added for Public Safety.

4.2 Transit

The Hillsborough Area Regional Transit (HART) provides convenient, affordable public transportation options. HART offers five separate bus service lines through the project area (Routes 5, 9, 12, 34, and 400) as described in **Section 3.2.4** and **Figure 4-2**. Detailed route information can also be found in **Appendix J**.

Figure 4-2 - Transit Routes



The five service routes vary in timing and frequency and are described below:

- Bus Route 5
 - Operates N/S on N. 40th Street
 - Operating Hours: 5 AM to 11 PM, primarily operates hourly.
- Bus Route 9
 - Operates E/W on E. Hillsborough Avenue N/S on N. 30th Street past E. Hanna Avenue
 - Operating Hours: 5 AM to 10 PM, primarily operates hourly.
- Bus Route 12
 - Operates N/S on N. 22nd Street past E. Hanna Avenue.
 - Operating Hours: 4 AM to 12 AM, primarily operates in 30-minute increments.

- Bus Route 34
 - Operates E/W on E. Hillsborough Avenue and bus stops at N. 22nd Street., N. 30th Street, and railroad crossing.
 - Operating Hours: 4:45 AM to 11:45 PM, in 20–30-minute increments depending on peak hours.
- Bus Route 400 (MetroVan)
 - Operates N/S on N. Nebraska Avenue.
 - Operating Hours: 4:30 AM to 12 AM, primarily operates in 15–30-minute increments depending on peak hours.

A route analysis was performed to determine the high-use routes within the project area, highlighted in the Traffic Impact Analysis section. The results of the route analysis factor into identifying additional high-use routes where transit may be considered. Both AM and PM peak hours are included in the analysis.

Of the estimated 500 employees, the trip distribution for both the AM and PM peak hours shows that N. 15th Street, N. 22nd Street, N. 30th Street, and N. Nebraska Avenue are the main North-South corridors utilized in accessing the City Center. Please reference the Traffic Impact Analysis section for distribution percentages. Of the main north-south corridors, transit routes 5, 9, and 12 operate along N. 22nd Street, N. 30th Street, and N. Nebraska Avenue, leaving N. 15th Street without a transit alternative.

Furthermore, with the addition of the new City Center along E. Hanna Avenue, the main east-west corridors are E. Hillsborough Avenue, E. Hanna Avenue, and E. Sligh Avenue. Of which, bus route 34 travels along the project area of E. Hillsborough Avenue, and parts of bus routes 9 and 12 operate along E. Sligh Avenue, leaving E Hanna Avenue without a transit alternative.

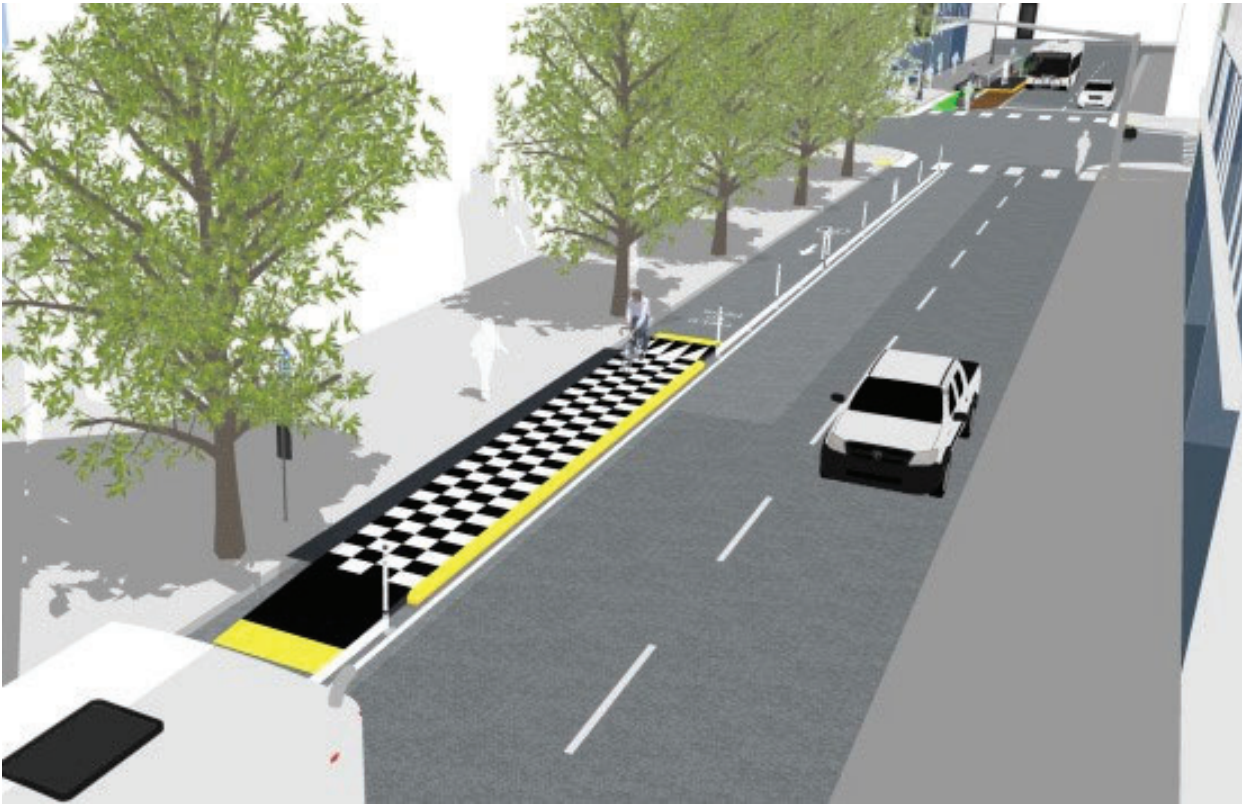
As a result, based on the employee trip distributions, the following transit routes are suggested.

- **E. Hanna Avenue from N. Nebraska Avenue to N 40th Street.**
- **N. 15th Street from E. Hillsborough Avenue to E. Sligh Avenue.**

With the services offered at the City Center, additional consideration should be made to include a transit stop along the City’s frontage area. The potential for transit users utilizing the Center’s services should also increase. Thereby, a transit stop is recommended to be located in front of the City Center.

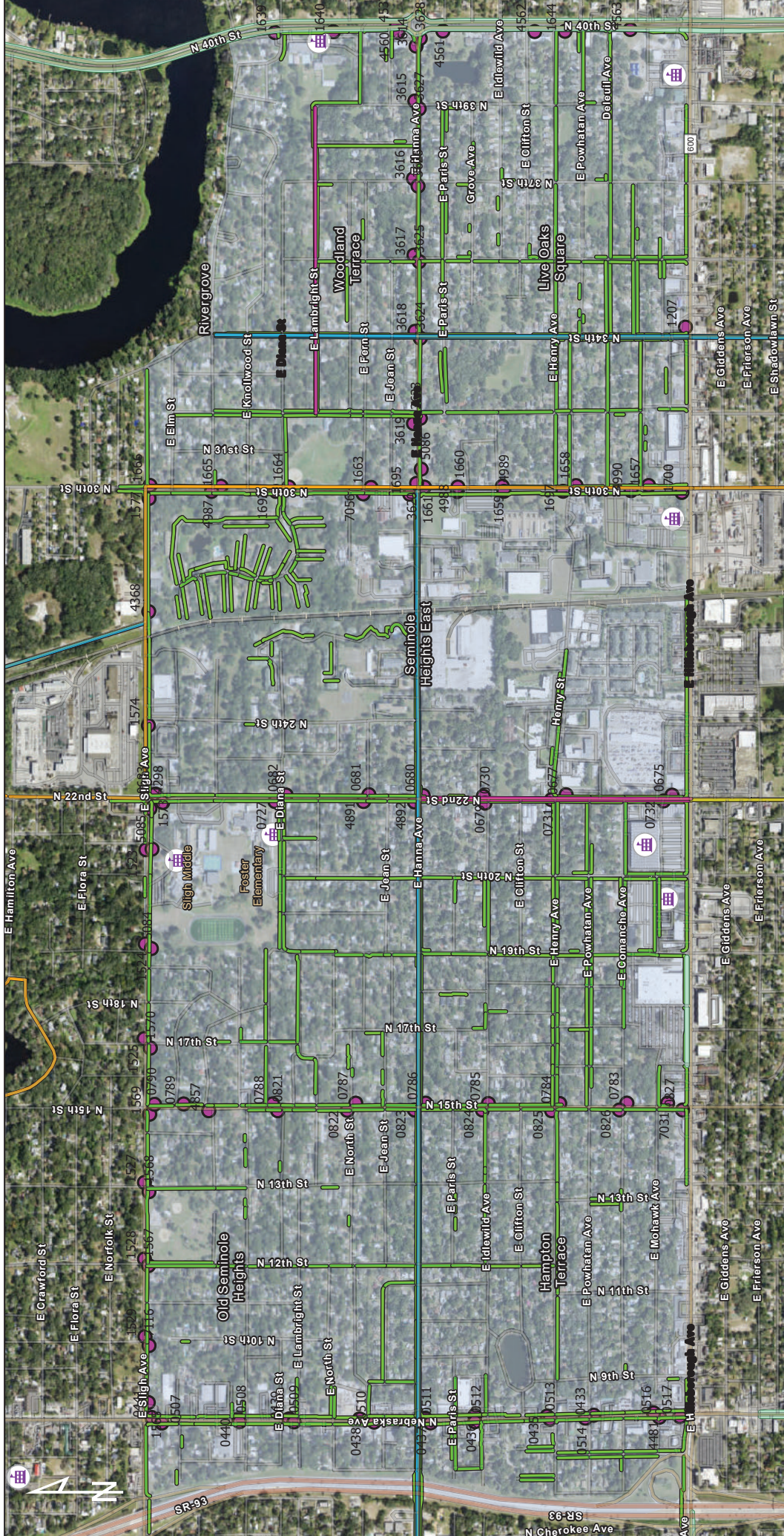
Upon the City and HART approval of adding a transit route on E. Hanna Avenue from N. Nebraska Avenue to N. 40th Street, **consider a bus loading zone that utilizes the proposed 7’ space between the 2’ buffer and 5’ bicycle lane.** The bus loading zone should be considered with the proposed typical section for Hanna Ave. proposed in Section 5. Traffic Calming. The proposed locations for the bus loading zone will depend on the coordination efforts with HART and the location of bus stops along Hanna Ave. between N 15th Street and N 40th Street. However, a transit stop should be considered in front of the City Center. The bicycle lane should ramp up approximately 6” to be vertically aligned with the sidewalk space, seen in **Figure 4-3.**

Figure 4-3 - Transit Concept Plans



4.3 Bicycle and Shared Use Paths

The existing and planned bicycle lanes were evaluated to identify opportunities to improve connectivity and encourage multimodal alternatives. **Figure 4-4** demonstrates the existing bike infrastructure - either separated or shared lane conditions - within the project boundary area. The symbology includes green lines for existing bicycle paths and yellow lines for future planned bicycle routes.



- bus_stop_point selection
 - Existing, Multi-Use Path
 - Existing, Shared Lane Markings
 - Planned, Bicycle Lane
 - Public_Schools
 - Existing, Multi-Use Path
 - Existing, Shared Lane Markings
 - Existing, Bicycle Lane
 - Planned, Multi-Use Path
 - Planned, Shared Lane Markings
 - Planned, Bicycle Lane
- <all other values> BIKELANEST, TYPE

Figure 4-4 - Bicycle/Shared Use Paths/Trails and Greenways



Source: Esri, NOAA, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

The following recommendations are suggested to improve connectivity within the bicycle network of the study area. Recommendations are based on three factors: 1) bicycle traffic counts, 2) network connectivity and 3) existing/proposed transit routes.

- **Consider extending the existing bicycle lane (shared lane) on E. Hanna Avenue east of N. 30th Street to N. 40th Street.** The existing bicycle lane extends west of I-275 and connects to the shared use path on N. 30th Street heading south of E. Hanna Avenue (0.76 miles)
- **Consider a bicycle route on N. 15th Street from E. Hillsborough Avenue to E. Sligh Avenue (1.0 mile)**
- **Consider a bicycle route on N. 22nd Street from E. Hanna Avenue to E. Sligh Avenue (0.5 miles)**
- **Future signing and pavement markings should be coordinated with the Florida Department of Transportation (FDOT) to plan future bicycle lanes markings to expand the existing corridor along Hillsborough Avenue from Mohawk Street to N. 19th Street**

4.4 Multimodal Recommendations

The analysis performed on the multimodal infrastructure identifies opportunities to provide cost-effective alternative modes of transportation by increasing the infrastructure for multimodal opportunities. The recommendations provided through the sections above are summarized in the following:

- Provide sidewalk connectivity to the prioritized sidewalk locations as shown in **Appendix P** with the following prioritized corridors:
 - E. Hanna Avenue from N. Nebraska Avenue to N. 9th Street – Southside
 - E. Hanna Avenue from N. 15th Street to N. 19th Street – Northside
 - E. Henry Avenue from N. 22nd Street to Stabilization Center Driveway Entrance – Northside
 - N. 22nd Street from E Henry Avenue to E. Hanna Avenue – Eastside
- Coordinate with HART transit to consider including an additional route along:
 - E. Hanna Avenue from N. Nebraska Avenue to N. 40th Street
 - N. 15th Street from E. Hillsborough Avenue to E. Sligh Avenue
- Provide bicycle routes through the following corridors:
 - E. Hanna Avenue east of N. 30th Street to N. 40th Street (0.76 miles)
 - N. 15th Street from E. Hillsborough Avenue to E. Sligh Avenue (1.0 mile)
 - N. 22nd Street from E. Hanna Avenue to E. Sligh Avenue (0.5 miles)

5 TRAFFIC CALMING

The following corridors were examined from the existing data, crash analysis, evaluation of existing conditions, evaluation of traffic projections, and input received through the public involvement process.

- E. Hanna Avenue from N. 15th Street to N. 40th Street
- N. 24th Street from E. Hanna Avenue to E. Sligh Avenue
- N. 23rd Street from E. Hanna Avenue to E. Idlewild Avenue

5.1 Hanna Avenue from 15th Street to 40th Street

- The Speed Study conducted on E. Hanna Avenue between N. 15th Street to N. 40th Street showed the 85th percentile speed at 37 mph on a 30-mph posted speed limit with the average speed documented at 33 mph, as seen in **Appendix Q**.

Figure 5-1 - Typical Section for E. Hanna Avenue Corridor



Figure 5-1 provides the recommended typical section with safety enhancements described below pending the City's evaluation of the available right of way space and utility coordination.

- **A reduction in intersection turning radius to 21.5 feet should be considered along each intersecting street with E. Hanna Avenue** to slow the turning vehicles entering the intersection and to increase the awareness of potential conflicting movements. Rear ends, angles, and left-turn crashes are known as the top three crash types observed within the five-year study period along E. Hanna Avenue.
- **Consider traffic calming measures like the installation of flashing speed feedback signs along E. Hanna Avenue to advise drivers of their speeds.** The 85th percentile speed was recorded at 7 mph over the posted speed limit of 30 mph.

5.2 N. 24th Street from E. Hanna Avenue to E. Sligh Avenue

The Speed Study conducted on N. 24th Street from E. Hanna Avenue to E. Sligh Avenue shows the 85th percentile speed at 36 mph on a 25-mph posted speed limit, 11 mph above the posted speed limit. The average speed was measured at 29 mph.

The typical section for N. 24th Street varies depending on the City's analysis of the right-of-way space. The following describes the typical section and safety improvements along this corridor:

- Pavement width varies from 16 to 20 feet wide.
- Speeding is a concern with the 85th percentile speed recorded 11 mph over the 25-mph posted speed limit. The following safety countermeasures should be considered:
 - Short Term – **Consider traffic calming measures like the installation of flashing speed feedback signs in the northbound and southbound direction of N. 24th Street between E. Hanna Avenue and E. Sligh Avenue**
 - Mid Term – **Consider installing chicanes through the N. 24th Street corridor.**
 - Long Term – **Consider the design and construction of vertical deflection measures like raised intersections at Diana Street and Minnehaha Street**
- **Consider installing a sidewalk on the west side of N. 24th Street from E. Hanna Avenue to E. Sligh Avenue** The proposed sidewalk is dependent on the available right-of-way space and utility relocation coordination. The City of Tampa is currently reviewing the available right of way to determine the sufficient width for a proposed sidewalk. Additionally, **utility coordination is necessary to relocate the existing TECO poles from the proposed sidewalk corridor.**

5.3 N. 23rd Street from E. Hanna Avenue to E. Idlewild Avenue

- The Speed Study conducted on N. 23rd Street south of E. Hanna Avenue showed the 85th percentile speed at 28 mph on a 25-mph posted speed limit, with no clear speeding concern. The average speed was measured at 23 mph.

N 23rd Street south of E. Hanna Avenue to E. Idlewild Avenue has varying frontage widths with no recorded issues of speeding and no recorded crashes at N. 23rd Street and E. Idlewild Avenue. Therefore, the no-build alternative is recommended along this corridor.

6 TRANSPORTATION DEMAND MANAGEMENT (TDM) STRATEGY

The City is evaluating travel demand management (TDM) strategies to address both staff commuter and customer peak travel demands for the Hanna Avenue municipal facility. The long list of strategies below includes a series of TDM best practices specifically selected to meet the unique needs of this facility while minimizing the transportation system impacts.

6.1 TDM Strategies

- Shifting priority away from driving alone.
 - Offer monetary incentives to switch modes away from a single-occupancy vehicle.
 - Carsharing - a ride-matching platform allowing commuters to find other commuters close to their home or work address to make a trip to a similar destination and period.
 - Vanpool - A vanpool (e.g., EZ Ride) can be formed by a group of commuters to share a journey to work regularly. Riders share expenses. The individual who serves as the driver/coordinator generally pays less. With EZ Ride a subsidized vehicle is leased from a transit agency-approved provider.
 - Walking – Improve pedestrian-oriented design elements, such as short pedestrian crossings, wide sidewalks, and aesthetic streetscapes.
 - Taxi – traditional on-demand rental of a vehicle for a short ride.
- Employer Benefits
 - Subsidized employee transit and micro-mobility options.
 - Employer-organized and hosted vanpools and carpools
 - Priority parking for carpools
 - Reduced transit fares.
 - Include showers, changing rooms, and secure bike parking to help employees bike to work.
 - Eliminate or reduce free parking.
 - Flexible work schedules - Flex-time work schedules with employers to reduce congestion during peak times.
 - Teleworking/ Telecommuting – Stagger peak period travel demand through telecommuting options either partially or fully to reduce the number of home-to-work trips.
- Access Management: Provide alternative access points to the Tampa City Center reducing the travel demand on E. Hanna Avenue.
- Education
 - Market the benefits of ditching cars.
 - Bicycling safety classes
 - Multimodal awareness events
- Parking
 - Dynamic pricing and parking restrictions – Adjust pricing at the parking garage dependent on the peak periods of the day.

- Park-and-Ride Services – Coordinate with HART to increase park and ride services that would include a route to the Tampa City Center.
- Public Transportation Infrastructure
 - Encourage bicycle travel through protected bike lane infrastructure.
 - Micromobility – Provide first mile, last-mile services through the encouragement of alternate modes of transportation for short-distance travel provided by lightweight, usually single-person vehicles like bicycles and scooters. Additionally, a connected infrastructure network of sidewalks or multimodal paths is necessary.
 - Transit Signal Priority (TSP) - TSP involves communication between buses and traffic signals so that a signal can alter its timing to give priority to transit operations. Priority may be accomplished through several methods, such as extending greens on identified phases, altering phase sequences, and including special phases without interrupting the coordination of green lights between adjacent intersections. TSP has the potential to improve transit reliability, efficiency, and mobility encouraging commuters to seek transit alternatives.
 - Additional transit route - Improve the public transportation infrastructure for bus stops, add additional bus routes to the City Center, and increase the frequency of transit routes to serve new development and trip generation.
 - Micro-transit – Transit agencies are implementing micro-transit solutions that improve the rider’s experience by operating small-scale, on-demand public transit services that that can offer fixed routes and schedules, as well as flexible routes and on-demand scheduling.
 - Implement Connected/Autonomous Vehicle infrastructure and introduce applications like Mobile Routing Analytics (MRA), which optimizes route finding to load balance the traffic within the project study area.
 - Adaptive Signal Control Technology (ASCT) - The goal of ASCT is to optimize the overall traffic signal performance on signalized arterials by continually adapting to actual traffic conditions on through lanes, cross streets and turn lanes. ASCT also provides additional signal performance data to traffic signal managers to support Advance Arterial Management systems.
- Legal and Economic Policies
 - Prohibit car traffic in city centers.
 - Control parking
 - Taxation of cars and fuel
 - Road or congestion pricing
 - Vehicle miles traveled tax
 - Decreasing costs for public transport

6.2 Prioritized TDM Strategies

Of the travel demand management strategies listed above, the following is a prioritized list of recommended strategies. The prioritized list is organized by measures introduced in other sections of this report vs. additional considerations to mitigate travel demand.

Recommended in this Report

- Coordinate with HART to provide a transit route on E. Hanna Avenue and N. 15th Street to serve the new development.
- Encourage bicycle travel by providing safe, continuous, protected bike lanes.
- Provide micromobility infrastructure solutions through a connected network of sidewalks.
- Expand, enhance, and emphasize the current benefits and incentives to reduce transit fares for City employees.

Additional Considerations

- Offer flexible work schedules.
- Offer teleworking/ telecommuting work option to reduce home to work trips.
- Provide access to the City Center through E. Henry Avenue to reduce the demand along E. Hanna Avenue.
- Leverage public-private partnerships to offer Micro-transit options for employees and residents within a 2-mile radius of the City Center.
- Provide Transit Signal Priority to offer consistent, reliable transit modes.

7 PUBLIC INVOLVEMENT

7.1 Public Walking Tour

The City organized a neighborhood walking tour on Saturday, July 17, 2021. The walking tour provided the general public an opportunity to voice their concerns and recommend improvements as part of the Tampa City Center development. The Walking Tour included members from the City of Tampa, East Seminole Heights Community Group, and staff from the City’s Consultant. **Table 7-1** through **Table 7-5** highlights comments, requests, and concerns received on the Walking Tour.

7.1.1 General

Table 7-1 - General Concerns

Community Concerns	City Response
<ul style="list-style-type: none"> •Look at getting an easement from the CBD distributor to add a driveway connection to the City building from Henry Ave, to split the amount of traffic accessing the building to both Hanna and Henry. 	<p>The City does not currently own the right of way that would allow for a secondary entrance from Henry Ave. but will consider this option for future improvement and coordination.</p>
<ul style="list-style-type: none"> •Potentially add bus stop at new city building location so residents can use the services. 	<p>The City is coordinating with the Hillsborough Area Regional Transit to increase the bus services to include Hanna Ave.</p>
<ul style="list-style-type: none"> •Concern with potentially hazardous chemicals from the demolition of the site. 	<p>The City mitigated any contamination as part of preparing for the development.</p>
<ul style="list-style-type: none"> •Request for River Road to have speed humps to reduce speeding in the neighborhood. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •The post office on Hillsborough is underutilized and could provide an opportunity to have cross access from Hillsborough Avenue to Henry Avenue east of the railroad tracks keeping significant traffic from using 22nd and 30th Streets. 	<p>The request to utilize the post office space is out of this project’s scope. If this should be coordinated with the</p>
<ul style="list-style-type: none"> •Need to expand residential traffic management for this project to eliminate traffic from wandering through neighborhoods from I-275 and Sligh / Busch trying to get to the new facility. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Several specific sidewalk gaps and repairs were requested: <ul style="list-style-type: none"> o 34th Street south of Hanna – whole block in disrepair o 36th Street south of Hanna – whole block in disrepair o Additional locations would come through online comments 	<p>The request for sidewalks was evaluated through the City's Sidewalk Prioritization Tool and has been forwarded to the City's Mobility Department to consider including within their Maintenance Log.</p>

<ul style="list-style-type: none"> •Dumping trash and garbage on the ROW of 37th Street from Deleuil Ave to Hillsborough Avenue 	The dumping concern has been forwarded to the City's Neighborhood Enhancement Division.
<ul style="list-style-type: none"> •36th Street and Deleuil Ave need a 4-way stop sign. 	The 4-way stop request has been referred to the City's Traffic Studies group.
<ul style="list-style-type: none"> •The City responded to a question received regarding the Brownfield designation of the property and whether the contamination was resolved. They informed the resident that the appropriate measures had been completed to mitigate the contamination. 	The City mitigated any contamination as part of preparing for the development.
<ul style="list-style-type: none"> •Build more affordable housing in the area. 	The request for affordable housing has been noted and will be handled external to this report.

7.1.2 E. Hanna Avenue

Table 7-2 - E. Hanna Avenue Concerns

<u>Community Concerns</u>	<u>City Response</u>
<ul style="list-style-type: none"> •The Tampa City Center needs a left-turn bay into the site. 	A left turn lane is proposed in the Concept Plans into the new City Center along the entire frontage of the facility.
<ul style="list-style-type: none"> •Hanna sidewalks flip flop from one side of the street to the other, need cohesive connected sidewalk network. 	The City has reviewed the missing sidewalk network and identified segments of Hanna Ave. as the highest priority in the City's Sidewalk Prioritization Tool. Please refer to the Multimodal Opportunities section of this report.
<ul style="list-style-type: none"> •Concern that adding 500 veh/day to this site will overload the traffic network, especially the neighborhood streets. 	This report provides a traffic impact analysis of the additional 500 employees and provides alternative transportation modes to reduce travel demand and impact to the project area.
<ul style="list-style-type: none"> •Residents think that the estimate of 500 veh/day is low due to the services building will provide. 	The Tampa City Center will introduce 500 employees to the project area resulting in 571 vehicle trips during the AM peak hour and 443 vehicle trips during the PM peak.
<ul style="list-style-type: none"> •Recommend creating a separate bike lane with a buffer. 	The City is currently evaluating design options for Hanna Ave. and will be addressed through the design process.
<ul style="list-style-type: none"> •The city building will be close to a building that provides services to many vulnerable road users including those with mobility disadvantages (wheelchairs, etc.). 	Safety is a major focus for the City and will factor in identifying improvement solutions for multimodal opportunities along Hanna Ave.

Community Concerns	City Response
<ul style="list-style-type: none"> •Traffic modeling needs to take into account all the land-use changes in the area and not underestimate the traffic impact. 	<p>The land use will be considered in recommending improvements for the project area.</p>
<ul style="list-style-type: none"> •Connection with 30th St shared use path needed. 	<p>The missing sidewalk on the south side of Hanna Ave. between N 23rd St. and N 30th St. has been identified as a prioritized sidewalk project, which will provide a connection to the 30th St. shared use path from the north and south side of Hanna Ave.</p>
<ul style="list-style-type: none"> •Implement an 8ft shared use path on Hanna Avenue. 	<p>A shared-use path is one of the alternatives currently being evaluated for the Hanna Ave. corridor.</p>
<ul style="list-style-type: none"> •Need to have a bus route reestablished on Hanna Avenue. 	<p>The City is coordinating with the Hillsborough Area Regional Transit to increase the bus service routes to include Hanna Ave.</p>
<ul style="list-style-type: none"> •Railroad Crossing is rough and panels adjacent to the tracks are popping up. Needs major repair. Sligh Railroad Crossing is also bad and should be looked at too. 	<p>The City has reached out to CSX and forwarded the request to repair the crossing at the railroad.</p>
<ul style="list-style-type: none"> •Hanna is very busy adding 500+ employees. Adding an entrance off Henry would help. 	<p>The City does not currently own the right of way that would allow for a secondary entrance from Henry Ave. but will consider this option for future improvements.</p>
<ul style="list-style-type: none"> •The Speed Limit on Hanna is too high. 	<p>Speed Limits are based on the 85th percentile speed observed, +/- 5mph, and are currently set at the lowest allowable speed limit.</p>
<ul style="list-style-type: none"> •Hanna needs to be widened to accommodate the additional traffic from the new building plus the roadway is already too busy. 	<p>The new City Center will include a left turn storage lane along the full frontage of the building facility. Additional road widening measures along Hanna Ave. will be evaluated through the design stage managed by the City's Mobility Department, external to this report.</p>
<ul style="list-style-type: none"> •Cars are stacking at the intersection of 30th and 22nd Streets, blocking driveways and preventing residents from getting out. 	<p>The City is evaluating the traffic impacts from the additional 500 employees and determining multi-modal solutions to help mitigate this issue.</p>
<ul style="list-style-type: none"> •Speed tables/speed control along Hanna Ave. 	<p>This request has been forwarded to the City's Mobility Department for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •This is an important neighborhood, and the City should invest in roadway beautification along Hanna.Ave. 	<p>Roadway beautification will be considered in the Hanna Ave. design.</p>

Community Concerns	City Response
<ul style="list-style-type: none"> •Install RRFBs along Hanna for safe pedestrian crossings and to slow down traffic 	<p>This request has been forwarded to the City's Mobility Department for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Hanna is a school walking route and there is concern that the kids might try and get into the construction site. Requested a more positive method other than the chain-link fence. She felt like the kids would just climb the fence. 	<p>The City and Developer have installed a chain-link fence and dedicated staff to supervise the project area from potential trespassers.</p>
<ul style="list-style-type: none"> •Several people had negative comments on the roundabout at 40th Street and Hanna. One resident suggested it needed to be removed and a signal re-installed. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Add missing segments of the sidewalk along Hanna Avenue on the south side of the street. 	<p>The missing sidewalk on the south side of Hanna Ave. between N 22nd St. and N 30th St. has been identified as a prioritized sidewalk project, and will be considered for construction.</p>
<ul style="list-style-type: none"> •Speed limit sign 30 MPH is trashed on the side of the road nearby E Hanna Ave and Canopy Tree Dr 	<p>This request has been forwarded to the City's Mobility Department for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Markings are poor near E Hanna Ave and N 30th St 	<p>This request has been forwarded to the City's Mobility Department Operations Division for repair.</p>
<ul style="list-style-type: none"> •Potholes (very small) near roadway nearby railroad crossing at E Hanna Ave: could cause trouble for bicycles. 	<p>The City is coordinating with CSX to repair the crossing at the railroad.</p>
<ul style="list-style-type: none"> •There is no sidewalk along E Hanna Ave between N 24th St and N 30th St. 	<p>The missing sidewalk on the south side of Hanna Ave. between N 22nd St. and N 30th St. has been identified as a prioritized sidewalk project, and will be considered for construction.</p>
<ul style="list-style-type: none"> •No striping was observed in the school zone along E Henry Ave. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •It might be difficult for people to get out of their driveways in the morning with bicycles and people exercising and an additional 500 trips a day (it seems to be more than that). 	<p>The City is evaluating the traffic impacts from the additional 500 employees and determining multimodal solutions to help mitigate this issue.</p>
<ul style="list-style-type: none"> •E Hanna Ave at N 24th St is unsafe for ADA. 	<p>The Traffic Impact Analysis included an ADA evaluation of all pedestrian facilities and will be coordinated with the City's sidewalk contractor for repair.</p>

7.1.3 N. 22nd Street

Table 7-3 - N. 22nd Street Concerns

Community Concerns	City Response
<ul style="list-style-type: none"> •Add split phasing to accommodate the traffic during peak hours arriving and leaving the new city building site at 22nd Street and Hanna Ave. 	<p>The City will review the signal timing to determine the optimal phasing sequence for the safe and efficient movement of vehicles.</p>
<ul style="list-style-type: none"> •Push people to use 30th St rather than 22nd St. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Suggested analyzing zip code data for all potential employees to see where they will be traveling from. 	<p>A zipcode analysis of all potential employees that would report to the Tampa City Center is included as part of this Traffic Impact Analysis.</p>
<ul style="list-style-type: none"> •Move bus stop to the far side of the intersection on 22nd St at Hanna Avenue. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Gracepoint is willing to give up land to install a roundabout at this intersection. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Three pedestrians were hit by a vehicle on Henry Avenue but not all people wait for emergency services, so they go unreported. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •New housing and apartments are being built off of Henry Ave, so traffic will get worse. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Tighten curb radius of northbound 22nd St to EB Henry Ave movement, have trucks use 30th Street to get to Henry Ave. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Around 350 employees at the CBD facility work in shifts throughout the day with a lot of truck traffic. 	<p>The CBD facility traffic demand is included in the existing traffic conditions in addition to the project demand with the construction of the Tampa City Center.</p>
<ul style="list-style-type: none"> •Sidewalks surrounding schools on 22nd St need maintenance, covered in dirt, overgrown, and large bumps. 	<p>This study performed a School Safety Analysis which included identifying maintenance concerns that could pose a safety hazard. The recommendations are listed in this report.</p>
<ul style="list-style-type: none"> •22nd St at Minnehaha St – developer building apartments (150 residents), the road is very narrow. Many children use this road after school with no sidewalks. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Install traffic calming measures on Minnehaha St. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>
<ul style="list-style-type: none"> •Find ways to push traffic to 22nd St or 30th St. and keep cut thru traffic out of neighborhoods. 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>

7.1.4 N. 23rd Street

Table 7-4 - N. 23rd Street Concerns

<u>Community Concerns</u>	<u>City Response</u>
<ul style="list-style-type: none"> •23rd Street is used as a cut-thru road and detour route, with no sidewalks. 	<p>A speed study and crash analysis over the last 5 years was assessed along 23rd St. south of Hanna Ave. and did not identify new improvements for the corridor.</p>
<ul style="list-style-type: none"> •The idea to close the access from Hanna Ave to 23rd St. was brought up, but a counterpoint was brought up about how doing this would limit emergency access. 	<p>A speed study and crash analysis over the last 5 years was assessed along 23rd St. south of Hanna Ave. and did not find the corridor required restricting access.</p>
<ul style="list-style-type: none"> •Implement traffic calming measures on 23rd St. 	<p>A speed study and crash analysis over the last 5 years was assessed along 23rd St. south of Hanna Ave. and did not find the corridor required adding traffic calming measures.</p>

7.1.5 N. 24th Street

Table 7-5 - N. 24th Street Concerns

<u>Community Concerns</u>	<u>City Response</u>
<ul style="list-style-type: none"> •Northbound traffic using 24th St as a cut-thru to Sligh Ave. Traffic backs up during peak times on 24th Street. 	<p>This corridor was studied for traffic calming measures. Recommendations can be view in Section 5.2 N. 24th Street from E. Hanna Avenue to E. Sligh Avenue.</p>
<ul style="list-style-type: none"> •Install traffic calming measures and raised intersection tables, especially at Diana Street. 	<p>This study performed a School Safety Analysis which included identifying maintenance concerns that could pose a safety hazard. The recommendations are listed in this report.</p>
<ul style="list-style-type: none"> •Make sure there are safe routes for pedestrians and bicyclists to go to school. 	<p>This study performed a School Safety Analysis which included identifying maintenance concerns that could pose a safety hazard. The recommendations are listed in this report.</p>
<ul style="list-style-type: none"> •Traffic going Southbound coming from 24th Street do not stop at Hanna 	<p>This request has been forwarded to the City's Traffic Studies group for review and will be addressed external to this report.</p>

7.2 Community Listening Session

Additionally, the City of Tampa hosted a Community Listening Session, an event exclusively held for the residents within the seven neighborhood groups, to discuss the impacts of the development of the Tampa City Center located on 2515 E. Hanna Avenue. The meeting provided an opportunity for the residents to meet the design and construction project leads, learn about construction timelines relevant

to the project, see how their input contributed to the project's design, review digital renderings of the building and green space, learn a little more about every department and division relocating to the Center and view a model of the office building design.

Representatives from the City of Tampa, DPR Construction, and Fleischman Garcia Architects were on-hand to make presentations to the audience. Approximately twenty-four residents were in attendance. Adri Colina, with the City of Tampa, provided an overview of the project and the departments relocating there.

Most of the participants' concerns centered around transportation. The residents believe E. Hanna Avenue is too narrow of a street to handle the additional traffic generated by the City Center. They were hoping to hear more about plans for traffic mitigation. In addition, they would like to see street improvements (sidewalks, curb cuts, gateways, beatification) in areas of E. Hanna Avenue that is further east of the City Center. All residents in attendance would like to have more conversations/discussions about traffic density.

The following comments were brought to the City's attention:

- Althea Wynn, President of Live Oaks Square, asked about funding to beautify the streets just east of 2515 E. Hanna Avenue. Ms. Wynn would like to see attractive landscaping at the roundabout located at E. Hanna Avenue and N. 40th Street. She would also like for the N. 40th Street Bridge to be pressure washed. Ms. Wynn believes Live Oaks Square does not have some of the basic street features found throughout Old Seminole Heights and Hampton Terrace. This would include features such as a neighborhood sign, sidewalks, and curb cuts.

Also, Ms. Wynn brought along one of her elderly neighbors. This particular neighbor has seen several accidents near her home at N. 36th Street and Deleuil Avenue.

- Kevin Carr, President of Rivergrove Neighborhood Association, expressed concern over traffic density. He mentioned a recent accident that occurred at N. 30th Street and E. Hanna Avenue.
- Tim Keeports, President of Old Seminole Heights, asked about methods to relieve traffic along E. Hanna Avenue. In particular, he wanted to know if the City has plans to create an access point along Henry Avenue.
- Kacy Curry and others wanted to know if a turning lane would be constructed in front of the site.
- Don Bayer expressed concern over the timing of the transportation study.

The Community Listening Session requested a document should be drafted outlining transportation projects that have been completed within the impacted area over the last 10 years. This same document should also list planned-funded improvement projects over the next 10 years, as well as planned-unfunded improvement projects over the next 10 years. In doing so, the City can illustrate its commitment to the residents with the seven impacted neighborhoods and ease doubts about "second rate" treatment. Additionally, a specific request to discuss the proposed project with representatives from Ryerson and Kennicot Brothers was requested to discover their transportation concerns. Both organizations use large trucks for the distribution of their goods.

8 UTILITY COORDINATION

8.1 Utility Owners

The City of Tampa initiated a preliminary utility and project coordination with the area utility companies and government agencies relative to the new development to determine potential impacts or conflicts within the study area. A Utility Design Ticket (#307107542) was entered and identified the following utility owners within the study area, seen in **Table 8-1**.

Table 8-1 - Utility Owners

UTILITY OWNERS	CONTACT NAME	CONTACT NUMBER
AMERICAN TRAFFIC SOLUTIONS	VICTORIA GRASSER	480-596-4559
BLACK & VEATCH TAMPA 1F	KEN SOULE	913-458-4667
ZAYO GROUP / FORMERLY LIGHTWAVE, LLC	HENRY KLOBUCAR	406-496-6510
FRONTIER COMMUNICATIONS	TONI CANNON	813-875-1014
CENTURYLINK	NETWORK RELATIONS	877-366-8344 Ext: 2
MCI	MCIU01 INVESTIGATIONS	N/A
CROWN CASTLE NG	FIBERDIG TEAM – JOHN TRUDOCK	786-701-7343
TECO PEOPLES GAS- TAMPA	JOAN DOMNING	813-275-3783
UNITI FIBER LLC	JOHN HALLEY	251-753-8695
TAMPA WATER DEPARTMENT	VIK BHIDE (TRANSPORTATION)	813-274-8066
TAMPA WATER DEPARTMENT	WATER MAPS AND AS-BUILTS IN	813-274-7109
TAMPA WASTEWATER DEPARTMENT	JACK FERRAS (SEWER)	813-274-8095
TRANSCORE FL DEPARTMENT OF TRANSPORTATI	KEVIN MCCAFFREY	813-620-3983 Ext: 320
TAMPA ELECTRIC COMPANY	ENGINEERING GROUP CSAADMIN	N/A
SPECTRUM SUNSHINE STATE, LLC	MICHAEL DECROIX	727-329-2951

8.2 Utility Conflicts

A request was issued to the utility owners to identify any potential project conflicts in the next five years. **Table 8-2** summarizes the utility owners and potential conflict status. Project conflict maps for the utility owners that indicated a project conflict are attached in **Appendix R**. Note that conflict statuses are subject to change as conflict arises. Therefore, additional coordination efforts are recommended as the project construction date approaches.

Table 8-2 - Utility Conflicts

UTILITY OWNERS	FUTURE PROJECT CONFLICTS
AMERICAN TRAFFIC SOLUTIONS	No response.
BLACK & VEATCH TAMPA 1F	No response.
ZAYO GROUP / FORMERLY LIGHTWAVE, LLC	Conflicts.
FRONTIER COMMUNICATIONS	No response.
CENTURYLINK	No response.
MCI	No response.
CROWN CASTLE NG	No response.
TECO PEOPLES GAS- TAMPA	No conflict.
UNITI FIBER LLC	No response.
TAMPA MOBILITY DEPARTMENT	No response.
TAMPA WASTEWATER DEPARTMENT	No conflict.
TAMPA WATER DEPARTMENT	Conflicts.
TRANSCORE FL DEPARTMENT OF TRANSPORTATION	No conflict.
TAMPA ELECTRIC COMPANY	No response.
SPECTRUM SUNSHINE STATE, LLC	No conflict.

9 RECOMMENDATIONS

The recommendations provided through the Public Walking Tour, Community Listening session, Citizen Concerns, Road Safety Audit, Multimodal Opportunities, Traffic Calming strategies, and Operations Analysis are summarized in this section. Projects are categorized according to short-term (1-2 years), mid-term (≤ 5 years), and long-term (> 5 years) improvements.

9.1 Short Term (1-2 years)

Operations

- Install a traffic signal at the intersection of E. Sligh Avenue and N. 30th Street by 2023.
- Repair the curb entrance to Sligh Middle School on N. 22nd Street.

Signs and Pavement Markings:

- Recommend installing school zone pavement markings along both N. 22nd Street and Diana Street.
- Consider installing a “Stop” pavement marking on N 22nd Street in advance of the intersection with E. Diana Street.
- Consider installing Speed Feedback signs along E. Diana Street to help reduce speeding concerns.
- At E Diana Street and N. 20th Street, consider installing pavement markings to indicate no parking on the section adjacent to the parking stall closest to the traffic circulator.
- Consider parking prohibition measures along the south side of E. Diana Street to prevent vehicles from parking and blocking the sidewalk path.
- Remove and restripe the existing crosswalk on E. Diana Street and N. 21st Street.
- Consider Signing and Pavement Marking improvements around Sligh Middle School to mark the school zone.
- Increase curb visibility by painting contrasting markings on the N. 22nd Street bus entrance.
- Existing signage at the school traffic circulator (Stop and Do Not Enter) is faded and needs replacement on E. Sligh Avenue.
- Install flashing speed feedback signs along E. Hanna Avenue for both eastbound and westbound facing traffic to advise vehicles of their driving speeds. The 85th percentile speed was recorded at 7 mph over the posted speed limit of 30 mph.
- Install flashing Speed Feedback signs in the northbound and southbound direction of N. 24th Street between E. Hanna Avenue and E. Sligh Avenue.
- Investigate the potential for an additional access from the project site to Henry Ave.

Sidewalk Maintenance:

- Coordinate with Verizon to bring the depressed Verizon box level with the south sidewalk on E. Diana Street.
- Consider including the depressed sidewalk next to the water meter box on N. 22nd Street north of Minnehaha Street on the west sidewalk onto the City’s Sidewalk Maintenance list.

Miscellaneous:

- Consider trimming maintenance for the hedge bush located on the south sidewalk area of E. Diana Street.
- Consider including the palm tree located north of Minnehaha on the west side of N 22nd Street for City maintenance.
- For violations of the restricted westbound left turn from Sligh Ave., consider coordinating with the Tampa Police Department for enhanced enforcement.

Engineering

- Coordinate with HART transit to consider including an additional route along:
 - E. Hanna Avenue from N. Nebraska Avenue to N. 40th Street.
 - N. 15th Street from E. Hillsborough Avenue to E. Sligh Avenue.
- Consider a bus loading zone, similar to Figure 4.3, for future bus stops along Hanna Ave. between 15th St. and 40th St. with one of the stops in front of the City Center or as identified by HART.

9.2 Mid-Term (≤5 years)

Sidewalk:

- Recommend installing a sidewalk on E. Diana Street from N. 22nd Street to N. 24th Street.
- Construct the sidewalk gap on the north side of E. Sligh Avenue between N 19th Street and N 20th Street for construction.
- Improve pedestrian ramps at the intersection of E. Hanna Avenue and N. 30th Street.
- Provide sidewalk connectivity to the prioritized sidewalk locations as shown in **Appendix P** with the following prioritized corridors:
 - E. Hanna Avenue from N. Nebraska Avenue to N 9th Street – Southside
 - E. Hanna Avenue from N. 15th Street to N 19th Street – Northside
 - E. Henry Avenue from N. 22nd Street to Stabilization Center Driveway Entrance – Northside
 - N. 22nd Street from E Henry Avenue to E Hanna Avenue – Eastside

Signing and Pavement Markings:

- Consider installing mid-block crosswalks with Rectangular Rapid Flashing Beacons (RRFB) on N 22nd Street adjacent to the convenience store and E. Sligh Avenue next to the church.
- Reconfigure the crosswalk layout at the intersections of E. Hanna Avenue and N. 15th Street and E. Hanna Avenue and N. 22nd Street to align the sidewalk perpendicular to the vehicle path of travel and push the stop bars closer to the intersection.

Engineering:

- Consider performing a route study to determine the impacts of implementing a no-left turn condition for the eastbound left-turn movement into the traffic circulator on E Diana St. for Foster Elementary School.

Streetlighting:

- Consider installing streetlights with a focus on intersections with crosswalks and school zone areas within the study area.

Capital Improvement Program:

- Provide bicycle routes through the following corridors:
 - E. Hanna Avenue east of N. 30th Street to N. 40th Street (0.76 miles)
 - N. 15th Street from E. Hillsborough Avenue to E. Sligh Avenue (1.0 mile)
 - N. 22nd Street from E. Hanna Avenue to E. Sligh Avenue (0.5 miles)
- Consider reducing the intersection turning radius to 21.5 feet along E. Hanna Avenue corridor to slow the turning vehicles entering the intersection and to increase the awareness of potential conflicting movements.
- Consider providing protected bicycle lanes for bi-directional flow along the Hanna Ave. corridor.
- Upon the approval of adding a transit route on E. Hanna Avenue from N. Nebraska Avenue to N. 40th Street, consider a bus loading zone in front of the City Center and as directed by HART.
- Consider install a traffic calming strategy such as chicanes through the N. 24th Street corridor.
- Consider drainage improvements along Hanna Ave. Six of the recorded crashes within the five year study period cited the road surface condition as the contributing cause. All occurred during wet conditions.
- Consider installing a traffic signal at the intersection of E. Sligh Avenue and N. 30th Street and a northbound left-turn lane at the intersection of E. Sligh Avenue and N. 30th Street by the year 2023.

9.3 Long Term (>5 years)

Capital Improvement Program:

- Consider performing a feasibility study to install a southbound left-turn lane at the intersection of E. Hanna Avenue and N. 22nd Street by the year 2033.
- Consider installing a traffic signal at the intersection of E. Hanna Avenue and N. 15th Street by the year 2033.
- Install a northbound left-turn lane at the intersection of E. Sligh Avenue and N. 30th Street by the year 2033.
- Consider a road-widening project to include a two-way left-turn lane from the school entrance on E. Sligh Avenue to the eastbound left-turn lane on E. Sligh Avenue and N 22ndStreet.
- Design and construct raised intersections at E. Diana Street and Minnehaha Street.
- Consider providing a two-way left-turn lane connecting the eastbound and westbound left-turn lanes along E. Sligh Avenue.

Sidewalk:

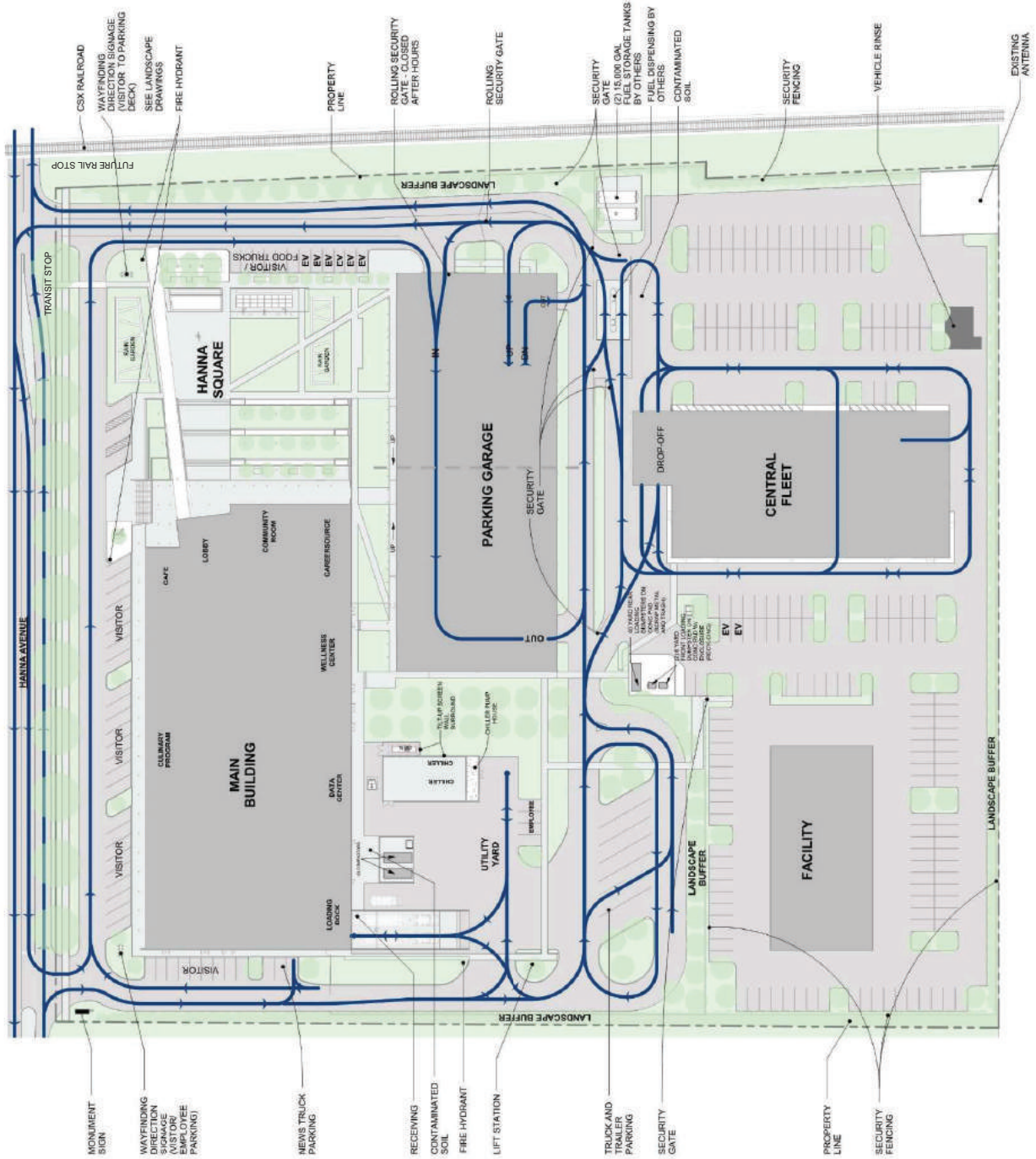
- Consider installing a sidewalk on the west side of N. 24th Street from E. Hanna Avenue to E. Sligh Avenue. It is currently categorized as a “Medium to Highest Priority” sidewalk.

Engineering:

- Coordinate the future signing and pavement markings to extend the existing bicycle lanes on E. Hillsborough Avenue between Mohawk Street to N. 19th Street. The Florida Department of Transportation (FDOT) currently does not have the project corridor of E. Hillsborough Avenue listed on their 5 year Work Program.
- Coordinate a study to provide adequate improvements at E. Hillsborough Avenue and N. 40th Street by 2028.

APPENDIX A

SITE PLAN



APPENDIX B

Traffic Counts

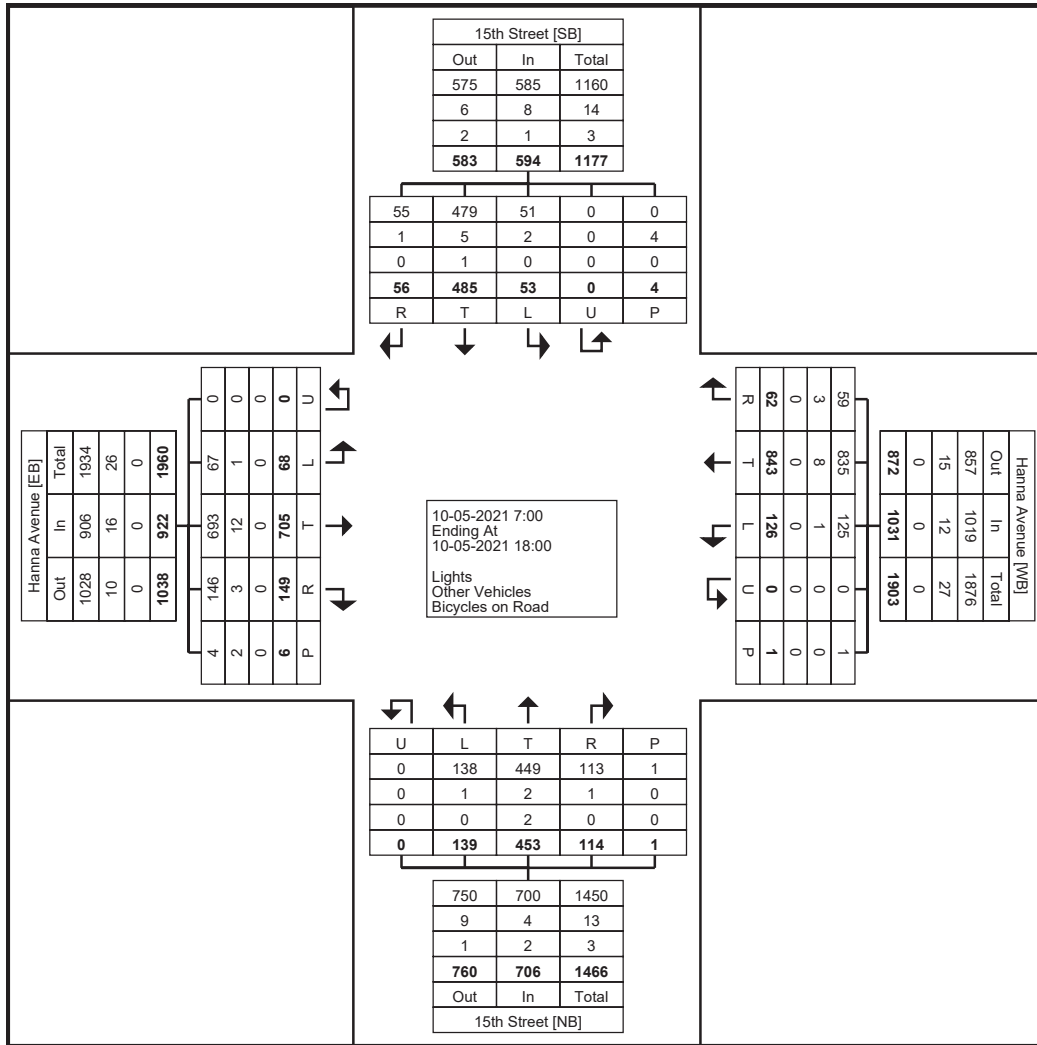
Hanna Avenue @ 15th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 1_Hanna Avenue
@ 15th Street
Site Code: 1
Start Date: 10-05-2021
Page No: 1

Turning Movement Data

Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						15th Street Northbound						15th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	0	21	3	1	24	0	7	34	3	0	44	0	8	9	6	0	23	0	1	27	1	0	29	120
7:15	0	4	33	12	1	49	0	12	57	5	0	74	0	4	15	3	1	22	0	2	28	9	0	39	184
7:30	0	4	48	11	0	63	0	6	67	3	0	76	0	4	16	7	0	27	0	7	36	4	0	47	213
7:45	0	2	35	11	1	48	0	9	45	3	1	57	0	3	18	3	0	24	0	4	42	2	0	48	177
Hourly Total	0	10	137	37	3	184	0	34	203	14	1	251	0	19	58	19	1	96	0	14	133	16	0	163	694
8:00	0	2	46	10	1	58	0	8	44	2	0	54	0	12	13	4	0	29	0	8	54	9	0	71	212
8:15	0	4	44	8	0	56	0	9	39	4	0	52	0	9	26	5	0	40	0	4	36	3	0	43	191
8:30	0	3	28	12	1	43	0	4	49	3	0	56	0	9	21	4	0	34	0	1	26	1	0	28	161
8:45	0	3	29	7	0	39	0	9	59	0	0	68	0	3	17	2	0	22	0	4	21	2	1	27	156
Hourly Total	0	12	147	37	2	196	0	30	191	9	0	230	0	33	77	15	0	125	0	17	137	15	1	169	720
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	6	40	9	0	55	0	5	83	6	0	94	0	9	30	8	0	47	0	2	26	2	0	30	226
16:15	0	3	54	9	0	66	0	7	46	7	0	60	0	16	37	16	0	69	0	6	23	2	1	31	226
16:30	0	2	47	14	0	63	0	9	50	7	0	66	0	6	37	6	0	49	0	3	30	3	0	36	214
16:45	0	3	54	11	0	68	0	9	49	3	0	61	0	9	34	12	0	55	0	3	29	4	1	36	220
Hourly Total	0	14	195	43	0	252	0	30	228	23	0	281	0	40	138	42	0	220	0	14	108	11	2	133	886
17:00	0	8	59	6	0	73	0	5	65	9	0	79	0	10	40	12	0	62	0	3	31	1	0	35	249
17:15	0	5	64	5	0	74	0	5	57	4	0	66	0	17	53	12	0	82	0	0	32	6	0	38	260
17:30	0	7	48	6	0	61	0	11	50	1	0	62	0	10	42	4	0	56	0	2	23	3	0	28	207
17:45	0	12	55	15	1	82	0	11	49	2	0	62	0	10	45	10	0	65	0	3	21	4	1	28	237
Hourly Total	0	32	226	32	1	290	0	32	221	16	0	269	0	47	180	38	0	265	0	8	107	14	1	129	953
Grand Total	0	68	705	149	6	922	0	126	843	62	1	1031	0	139	453	114	1	706	0	53	485	56	4	594	3253
Approach %	0.0	7.4	76.5	16.2	-	-	0.0	12.2	81.8	6.0	-	-	0.0	19.7	64.2	16.1	-	-	0.0	8.9	81.6	9.4	-	-	-
Total %	0.0	2.1	21.7	4.6	-	28.3	0.0	3.9	25.9	1.9	-	31.7	0.0	4.3	13.9	3.5	-	21.7	0.0	1.6	14.9	1.7	-	18.3	-
Lights	0	67	693	146	4	906	0	125	835	59	1	1019	0	138	449	113	1	700	0	51	479	55	0	585	3210
% Lights	-	98.5	98.3	98.0	66.7	98.3	-	99.2	99.1	95.2	100.0	98.8	-	99.3	99.1	99.1	100.0	99.2	-	96.2	98.8	98.2	0.0	98.5	98.7
Other Vehicles	0	1	12	3	2	16	0	1	8	3	0	12	0	1	2	1	0	4	0	2	5	1	4	8	40
% Other Vehicles	-	1.5	1.7	2.0	33.3	1.7	-	0.8	0.9	4.8	0.0	1.2	-	0.7	0.4	0.9	0.0	0.6	-	3.8	1.0	1.8	100.0	1.3	1.2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	0	1	3
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.4	0.0	0.0	0.3	-	0.0	0.2	0.0	0.0	0.2	0.1



Turning Movement Data Plot

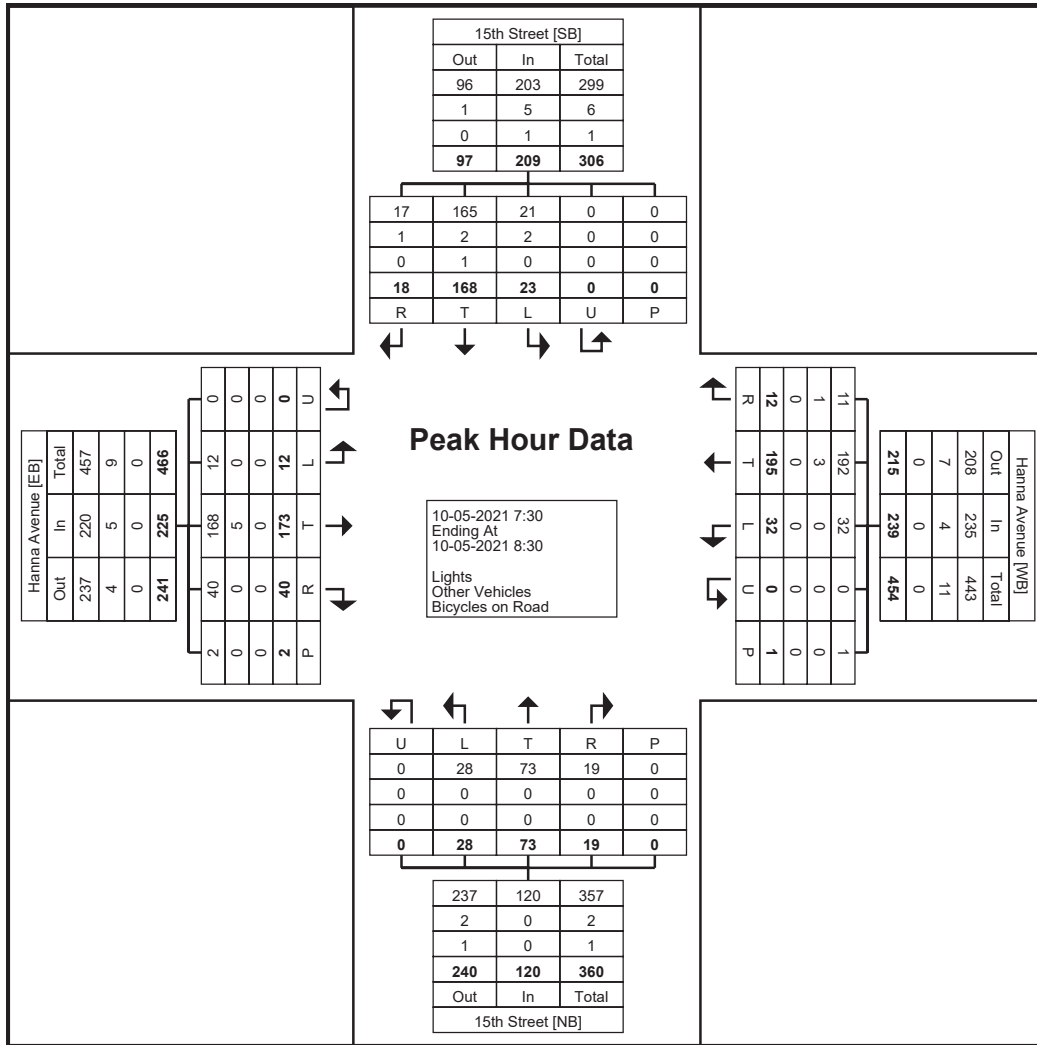
Hanna Avenue @ 15th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 1_Hanna Avenue
@ 15th Street
Site Code: 1
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:30)

Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						15th Street Northbound						15th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	0	4	48	11	0	63	0	6	67	3	0	76	0	4	16	7	0	27	0	7	36	4	0	47	213
7:45	0	2	35	11	1	48	0	9	45	3	1	57	0	3	18	3	0	24	0	4	42	2	0	48	177
8:00	0	2	46	10	1	58	0	8	44	2	0	54	0	12	13	4	0	29	0	8	54	9	0	71	212
8:15	0	4	44	8	0	56	0	9	39	4	0	52	0	9	26	5	0	40	0	4	36	3	0	43	191
Total	0	12	173	40	2	225	0	32	195	12	1	239	0	28	73	19	0	120	0	23	168	18	0	209	793
Approach %	0.0	5.3	76.9	17.8	-	-	0.0	13.4	81.6	5.0	-	-	0.0	23.3	60.8	15.8	-	-	0.0	11.0	80.4	8.6	-	-	-
Total %	0.0	1.5	21.8	5.0	-	28.4	0.0	4.0	24.6	1.5	-	30.1	0.0	3.5	9.2	2.4	-	15.1	0.0	2.9	21.2	2.3	-	26.4	-
PHF	0.000	0.750	0.901	0.909	-	0.893	0.000	0.889	0.728	0.750	-	0.786	0.000	0.583	0.702	0.679	-	0.750	0.000	0.719	0.778	0.500	-	0.736	0.931
Lights	0	12	168	40	2	220	0	32	192	11	1	235	0	28	73	19	0	120	0	21	165	17	0	203	778
% Lights	-	100.0	97.1	100.0	100.0	97.8	-	100.0	98.5	91.7	100.0	98.3	-	100.0	100.0	100.0	-	100.0	-	91.3	98.2	94.4	-	97.1	98.1
Other Vehicles	0	0	5	0	0	5	0	0	3	1	0	4	0	0	0	0	0	0	0	2	2	1	0	5	14
% Other Vehicles	-	0.0	2.9	0.0	0.0	2.2	-	0.0	1.5	8.3	0.0	1.7	-	0.0	0.0	0.0	-	0.0	-	8.7	1.2	5.6	-	2.4	1.8
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.6	0.0	-	0.5	0.1



Turning Movement Peak Hour Data Plot (7:30)

Hanna Avenue @ 15th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 1_Hanna Avenue
@ 15th Street
Site Code: 1
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (17:00)

Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						15th Street Northbound						15th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
17:00	0	8	59	6	0	73	0	5	65	9	0	79	0	10	40	12	0	62	0	3	31	1	0	35	249
17:15	0	5	64	5	0	74	0	5	57	4	0	66	0	17	53	12	0	82	0	0	32	6	0	38	260
17:30	0	7	48	6	0	61	0	11	50	1	0	62	0	10	42	4	0	56	0	2	23	3	0	28	207
17:45	0	12	55	15	1	82	0	11	49	2	0	62	0	10	45	10	0	65	0	3	21	4	1	28	237
Total	0	32	226	32	1	290	0	32	221	16	0	269	0	47	180	38	0	265	0	8	107	14	1	129	953
Approach %	0.0	11.0	77.9	11.0	-	-	0.0	11.9	82.2	5.9	-	-	0.0	17.7	67.9	14.3	-	-	0.0	6.2	82.9	10.9	-	-	-
Total %	0.0	3.4	23.7	3.4	-	30.4	0.0	3.4	23.2	1.7	-	28.2	0.0	4.9	18.9	4.0	-	27.8	0.0	0.8	11.2	1.5	-	13.5	-
PHF	0.000	0.667	0.883	0.533	-	0.884	0.000	0.727	0.850	0.444	-	0.851	0.000	0.691	0.849	0.792	-	0.808	0.000	0.667	0.836	0.583	-	0.849	0.916
Lights	0	32	223	32	0	287	0	31	221	16	0	268	0	47	177	37	0	261	0	8	107	14	0	129	945
% Lights	-	100.0	98.7	100.0	0.0	99.0	-	96.9	100.0	100.0	-	99.6	-	100.0	98.3	97.4	-	98.5	-	100.0	100.0	100.0	0.0	100.0	99.2
Other Vehicles	0	0	3	0	1	3	0	1	0	0	0	1	0	0	1	1	0	2	0	0	0	0	1	0	6
% Other Vehicles	-	0.0	1.3	0.0	100.0	1.0	-	3.1	0.0	0.0	-	0.4	-	0.0	0.6	2.6	-	0.8	-	0.0	0.0	0.0	100.0	0.0	0.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	1.1	0.0	-	0.8	-	0.0	0.0	0.0	0.0	0.0	0.2

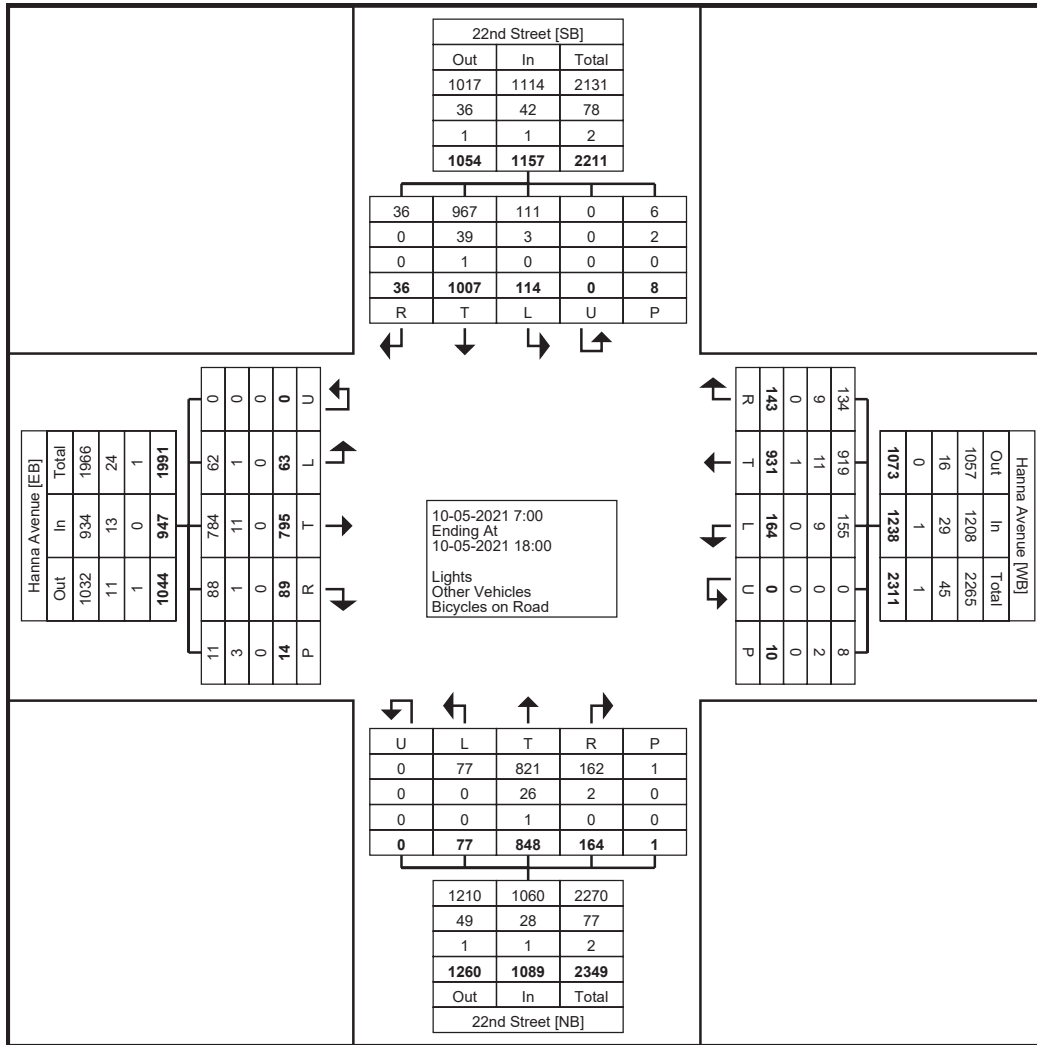
Hanna Avenue @ 22nd Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 2_Hanna Avenue
@ 22nd Street
Site Code: 2
Start Date: 10-05-2021
Page No: 1

Turning Movement Data

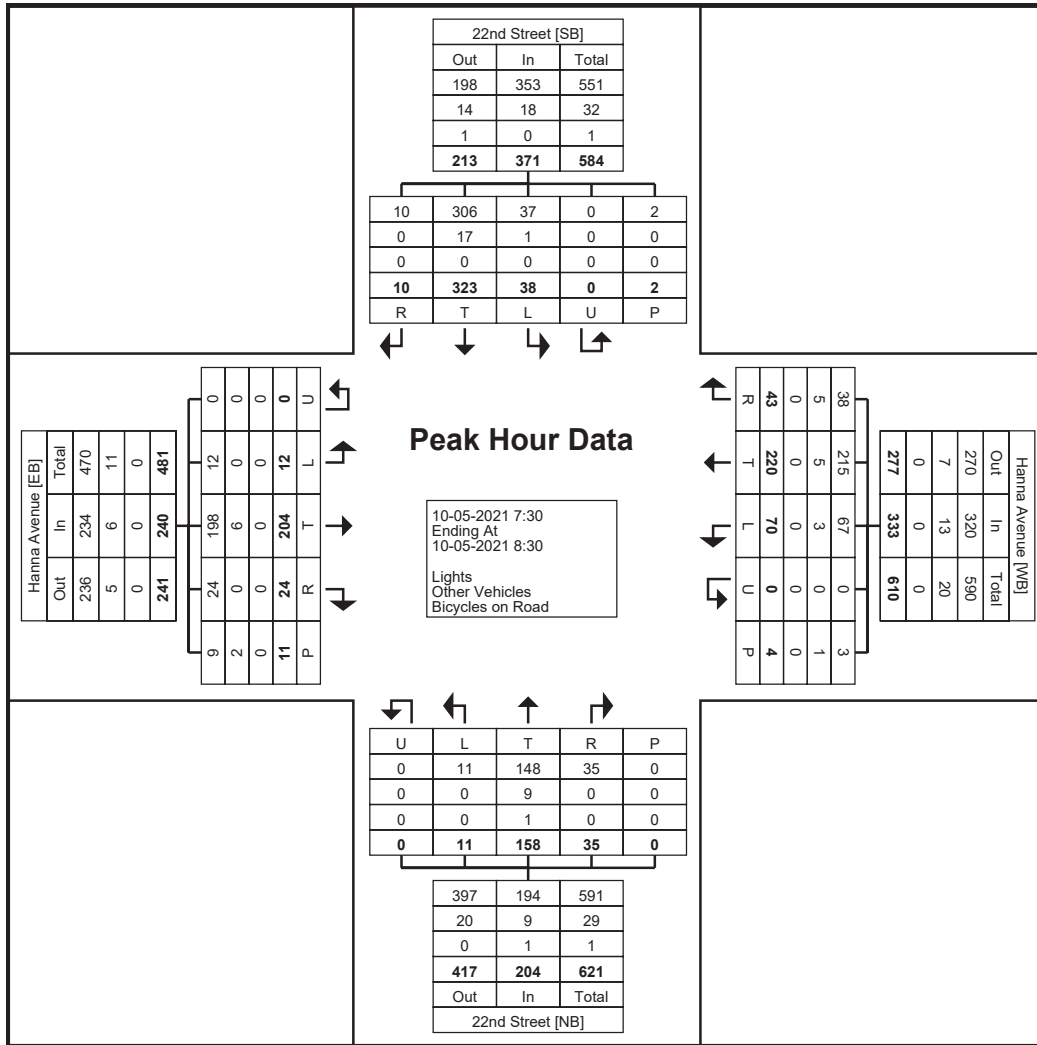
Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						22nd Street Northbound						22nd Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	4	21	1	1	26	0	11	35	5	0	51	0	2	24	5	0	31	0	2	35	4	0	41	149
7:15	0	2	38	4	0	44	0	14	71	11	0	96	0	4	36	9	0	49	0	13	55	2	2	70	259
7:30	0	4	58	9	0	71	0	11	70	20	0	101	0	1	45	12	0	58	0	10	70	4	0	84	314
7:45	0	3	43	7	2	53	0	30	50	8	2	88	0	3	29	9	0	41	0	6	81	0	1	87	269
Hourly Total	0	13	160	21	3	194	0	66	226	44	2	336	0	10	134	35	0	179	0	31	241	10	3	282	991
8:00	0	3	52	3	2	58	0	17	52	7	2	76	0	4	48	8	0	60	0	11	94	2	0	107	301
8:15	0	2	51	5	7	58	0	12	48	8	0	68	0	3	36	6	0	45	0	11	78	4	1	93	264
8:30	0	0	28	5	0	33	0	8	52	7	0	67	0	6	51	9	0	66	0	1	53	1	0	55	221
8:45	0	3	32	2	0	37	0	8	56	3	1	67	0	2	38	8	0	48	0	8	46	7	0	61	213
Hourly Total	0	8	163	15	9	186	0	45	208	25	3	278	0	15	173	31	0	219	0	31	271	14	1	316	999
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	5	62	4	0	71	0	11	67	8	1	86	0	9	73	12	0	94	0	4	57	2	0	63	314
16:15	0	4	62	9	1	75	0	7	63	9	2	79	0	7	86	12	0	105	0	10	74	2	0	86	345
16:30	0	5	55	6	0	66	0	3	59	6	0	68	0	7	87	16	0	110	0	10	68	1	3	79	323
16:45	0	5	64	5	0	74	0	9	60	11	0	80	0	4	60	6	0	70	0	5	51	1	1	57	281
Hourly Total	0	19	243	24	1	286	0	30	249	34	3	313	0	27	306	46	0	379	0	29	250	6	4	285	1263
17:00	0	2	59	8	0	69	0	8	75	12	0	95	0	10	63	16	0	89	0	5	59	0	0	64	317
17:15	0	11	64	2	0	77	0	7	51	11	1	69	0	8	67	9	0	84	0	2	58	2	0	62	292
17:30	0	5	48	8	1	61	0	3	57	5	1	65	0	3	63	13	0	79	0	9	69	3	0	81	286
17:45	0	5	58	11	0	74	0	5	65	12	0	82	0	4	42	14	1	60	0	7	59	1	0	67	283
Hourly Total	0	23	229	29	1	281	0	23	248	40	2	311	0	25	235	52	1	312	0	23	245	6	0	274	1178
Grand Total	0	63	795	89	14	947	0	164	931	143	10	1238	0	77	848	164	1	1089	0	114	1007	36	8	1157	4431
Approach %	0.0	6.7	83.9	9.4	-	-	0.0	13.2	75.2	11.6	-	-	0.0	7.1	77.9	15.1	-	-	0.0	9.9	87.0	3.1	-	-	-
Total %	0.0	1.4	17.9	2.0	-	21.4	0.0	3.7	21.0	3.2	-	27.9	0.0	1.7	19.1	3.7	-	24.6	0.0	2.6	22.7	0.8	-	26.1	-
Lights	0	62	784	88	11	934	0	155	919	134	8	1208	0	77	821	162	1	1060	0	111	967	36	6	1114	4316
% Lights	-	98.4	98.6	98.9	78.6	98.6	-	94.5	98.7	93.7	80.0	97.6	-	100.0	96.8	98.8	100.0	97.3	-	97.4	96.0	100.0	75.0	96.3	97.4
Other Vehicles	0	1	11	1	3	13	0	9	11	9	2	29	0	0	26	2	0	28	0	3	39	0	2	42	112
% Other Vehicles	-	1.6	1.4	1.1	21.4	1.4	-	5.5	1.2	6.3	20.0	2.3	-	0.0	3.1	1.2	0.0	2.6	-	2.6	3.9	0.0	25.0	3.6	2.5
Bicycles on Road	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	3
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.1	0.0	0.0	0.1	-	0.0	0.1	0.0	0.0	0.1	-	0.0	0.1	0.0	0.0	0.1	0.1



Turning Movement Data Plot

Turning Movement Peak Hour Data (7:30)

Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						22nd Street Northbound						22nd Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	0	4	58	9	0	71	0	11	70	20	0	101	0	1	45	12	0	58	0	10	70	4	0	84	314
7:45	0	3	43	7	2	53	0	30	50	8	2	88	0	3	29	9	0	41	0	6	81	0	1	87	269
8:00	0	3	52	3	2	58	0	17	52	7	2	76	0	4	48	8	0	60	0	11	94	2	0	107	301
8:15	0	2	51	5	7	58	0	12	48	8	0	68	0	3	36	6	0	45	0	11	78	4	1	93	264
Total	0	12	204	24	11	240	0	70	220	43	4	333	0	11	158	35	0	204	0	38	323	10	2	371	1148
Approach %	0.0	5.0	85.0	10.0	-	-	0.0	21.0	66.1	12.9	-	-	0.0	5.4	77.5	17.2	-	-	0.0	10.2	87.1	2.7	-	-	-
Total %	0.0	1.0	17.8	2.1	-	20.9	0.0	6.1	19.2	3.7	-	29.0	0.0	1.0	13.8	3.0	-	17.8	0.0	3.3	28.1	0.9	-	32.3	-
PHF	0.000	0.750	0.879	0.667	-	0.845	0.000	0.583	0.786	0.538	-	0.824	0.000	0.688	0.823	0.729	-	0.850	0.000	0.864	0.859	0.625	-	0.867	0.914
Lights	0	12	198	24	9	234	0	67	215	38	3	320	0	11	148	35	0	194	0	37	306	10	2	353	1101
% Lights	-	100.0	97.1	100.0	81.8	97.5	-	95.7	97.7	88.4	75.0	96.1	-	100.0	93.7	100.0	-	95.1	-	97.4	94.7	100.0	100.0	95.1	95.9
Other Vehicles	0	0	6	0	2	6	0	3	5	5	1	13	0	0	9	0	0	9	0	1	17	0	0	18	46
% Other Vehicles	-	0.0	2.9	0.0	18.2	2.5	-	4.3	2.3	11.6	25.0	3.9	-	0.0	5.7	0.0	-	4.4	-	2.6	5.3	0.0	0.0	4.9	4.0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.6	0.0	-	0.5	-	0.0	0.0	0.0	0.0	0.0	0.1



Turning Movement Peak Hour Data Plot (7:30)

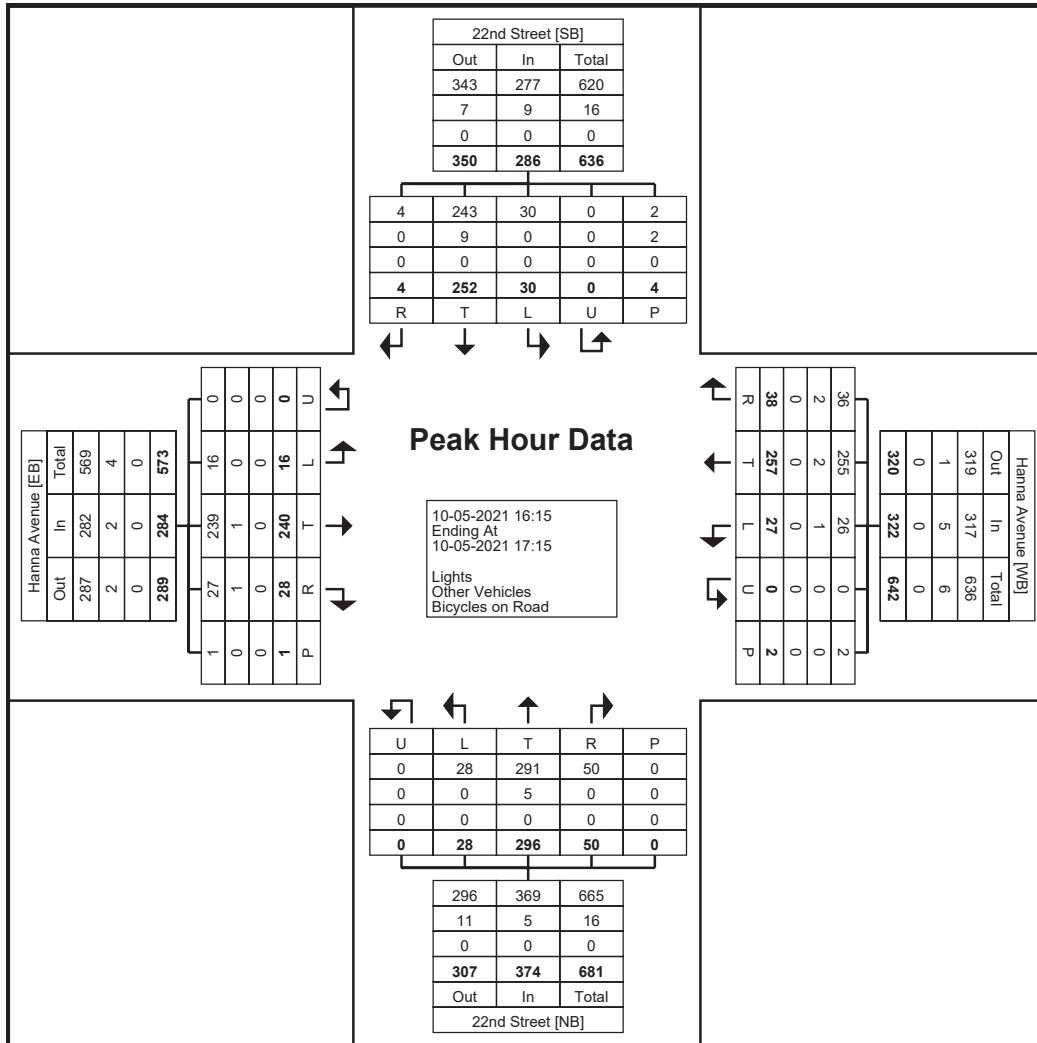
Hanna Avenue @ 22nd Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 2_Hanna Avenue
@ 22nd Street
Site Code: 2
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:15)

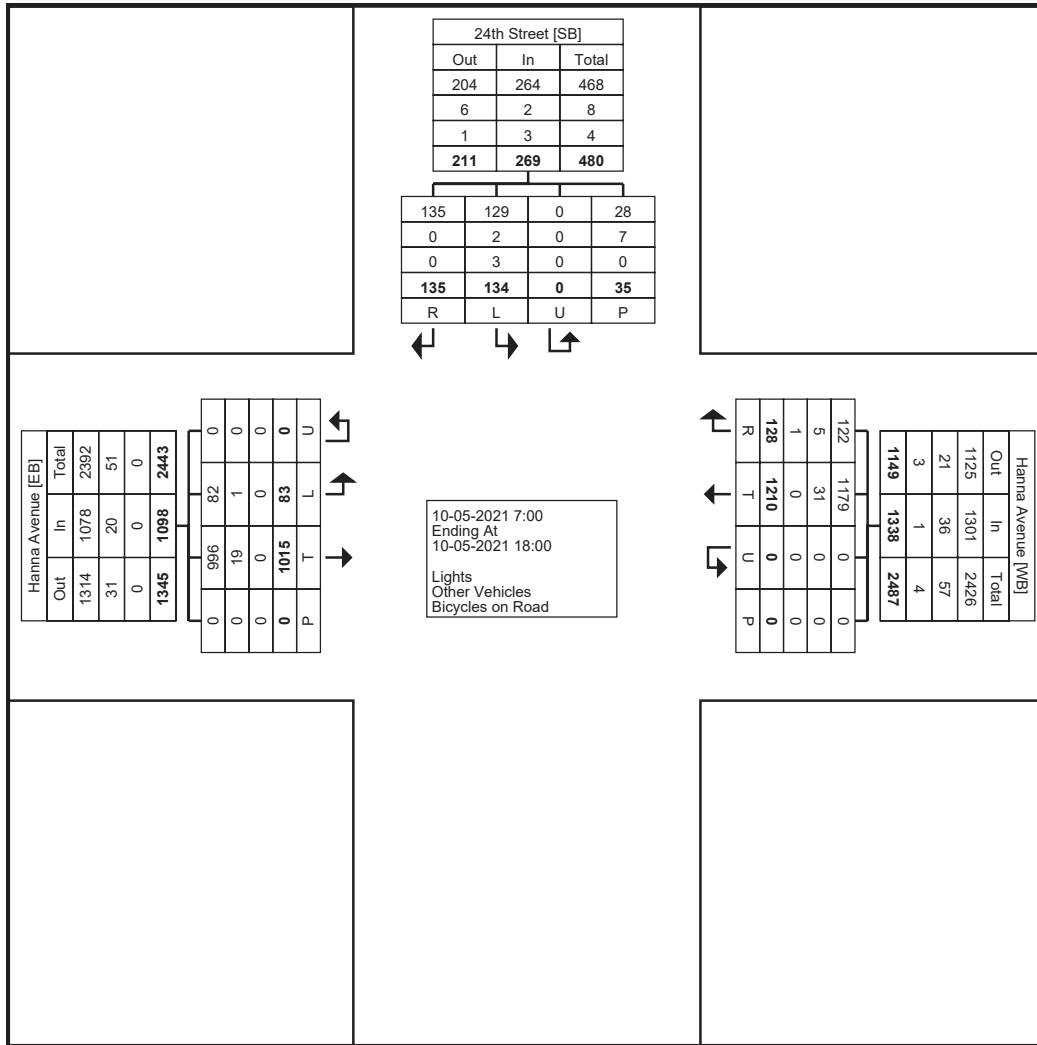
Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						22nd Street Northbound						22nd Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:15	0	4	62	9	1	75	0	7	63	9	2	79	0	7	86	12	0	105	0	10	74	2	0	86	345
16:30	0	5	55	6	0	66	0	3	59	6	0	68	0	7	87	16	0	110	0	10	68	1	3	79	323
16:45	0	5	64	5	0	74	0	9	60	11	0	80	0	4	60	6	0	70	0	5	51	1	1	57	281
17:00	0	2	59	8	0	69	0	8	75	12	0	95	0	10	63	16	0	89	0	5	59	0	0	64	317
Total	0	16	240	28	1	284	0	27	257	38	2	322	0	28	296	50	0	374	0	30	252	4	4	286	1266
Approach %	0.0	5.6	84.5	9.9	-	-	0.0	8.4	79.8	11.8	-	-	0.0	7.5	79.1	13.4	-	-	0.0	10.5	88.1	1.4	-	-	-
Total %	0.0	1.3	19.0	2.2	-	22.4	0.0	2.1	20.3	3.0	-	25.4	0.0	2.2	23.4	3.9	-	29.5	0.0	2.4	19.9	0.3	-	22.6	-
PHF	0.000	0.800	0.938	0.778	-	0.947	0.000	0.750	0.857	0.792	-	0.847	0.000	0.700	0.851	0.781	-	0.850	0.000	0.750	0.851	0.500	-	0.831	0.917
Lights	0	16	239	27	1	282	0	26	255	36	2	317	0	28	291	50	0	369	0	30	243	4	2	277	1245
% Lights	-	100.0	99.6	96.4	100.0	99.3	-	96.3	99.2	94.7	100.0	98.4	-	100.0	98.3	100.0	-	98.7	-	100.0	96.4	100.0	50.0	96.9	98.3
Other Vehicles	0	0	1	1	0	2	0	1	2	2	0	5	0	0	5	0	0	5	0	0	9	0	2	9	21
% Other Vehicles	-	0.0	0.4	3.6	0.0	0.7	-	3.7	0.8	5.3	0.0	1.6	-	0.0	1.7	0.0	-	1.3	-	0.0	3.6	0.0	50.0	3.1	1.7
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (16:15)

Turning Movement Data

Start Time	Hanna Avenue Eastbound					Hanna Avenue Westbound					24th Street Southbound					Int. Total
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
7:00	0	1	26	0	27	0	52	8	0	60	0	3	4	1	7	94
7:15	0	2	54	0	56	0	90	9	0	99	0	8	8	8	16	171
7:30	0	8	69	0	77	0	104	14	0	118	0	8	13	3	21	216
7:45	0	7	65	0	72	0	66	7	0	73	0	14	26	3	40	185
Hourly Total	0	18	214	0	232	0	312	38	0	350	0	33	51	15	84	666
8:00	0	7	56	0	63	0	75	11	0	86	0	11	16	2	27	176
8:15	0	3	71	0	74	0	63	8	0	71	0	15	6	3	21	166
8:30	0	4	38	0	42	0	63	5	0	68	0	7	5	0	12	122
8:45	0	1	51	0	52	0	68	3	0	71	0	5	2	1	7	130
Hourly Total	0	15	216	0	231	0	269	27	0	296	0	38	29	6	67	594
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	5	70	0	75	0	77	5	0	82	0	3	7	2	10	167
16:15	0	8	76	0	84	0	87	12	0	99	0	11	10	0	21	204
16:30	0	10	80	0	90	0	65	6	0	71	0	11	10	4	21	182
16:45	0	5	71	0	76	0	77	9	0	86	0	5	8	0	13	175
Hourly Total	0	28	297	0	325	0	306	32	0	338	0	30	35	6	65	728
17:00	0	8	77	0	85	0	95	9	0	104	0	7	7	3	14	203
17:15	0	7	74	0	81	0	73	12	0	85	0	10	5	1	15	181
17:30	0	4	68	0	72	0	66	5	0	71	0	8	4	3	12	155
17:45	0	3	69	0	72	0	89	5	0	94	0	8	4	1	12	178
Hourly Total	0	22	288	0	310	0	323	31	0	354	0	33	20	8	53	717
Grand Total	0	83	1015	0	1098	0	1210	128	0	1338	0	134	135	35	269	2705
Approach %	0.0	7.6	92.4	-	-	0.0	90.4	9.6	-	-	0.0	49.8	50.2	-	-	-
Total %	0.0	3.1	37.5	-	40.6	0.0	44.7	4.7	-	49.5	0.0	5.0	5.0	-	9.9	-
Lights	0	82	996	0	1078	0	1179	122	0	1301	0	129	135	28	264	2643
% Lights	-	98.8	98.1	-	98.2	-	97.4	95.3	-	97.2	-	96.3	100.0	80.0	98.1	97.7
Other Vehicles	0	1	19	0	20	0	31	5	0	36	0	2	0	7	2	58
% Other Vehicles	-	1.2	1.9	-	1.8	-	2.6	3.9	-	2.7	-	1.5	0.0	20.0	0.7	2.1
Bicycles on Road	0	0	0	0	0	0	0	1	0	1	0	3	0	0	3	4
% Bicycles on Road	-	0.0	0.0	-	0.0	-	0.0	0.8	-	0.1	-	2.2	0.0	0.0	1.1	0.1



Turning Movement Data Plot

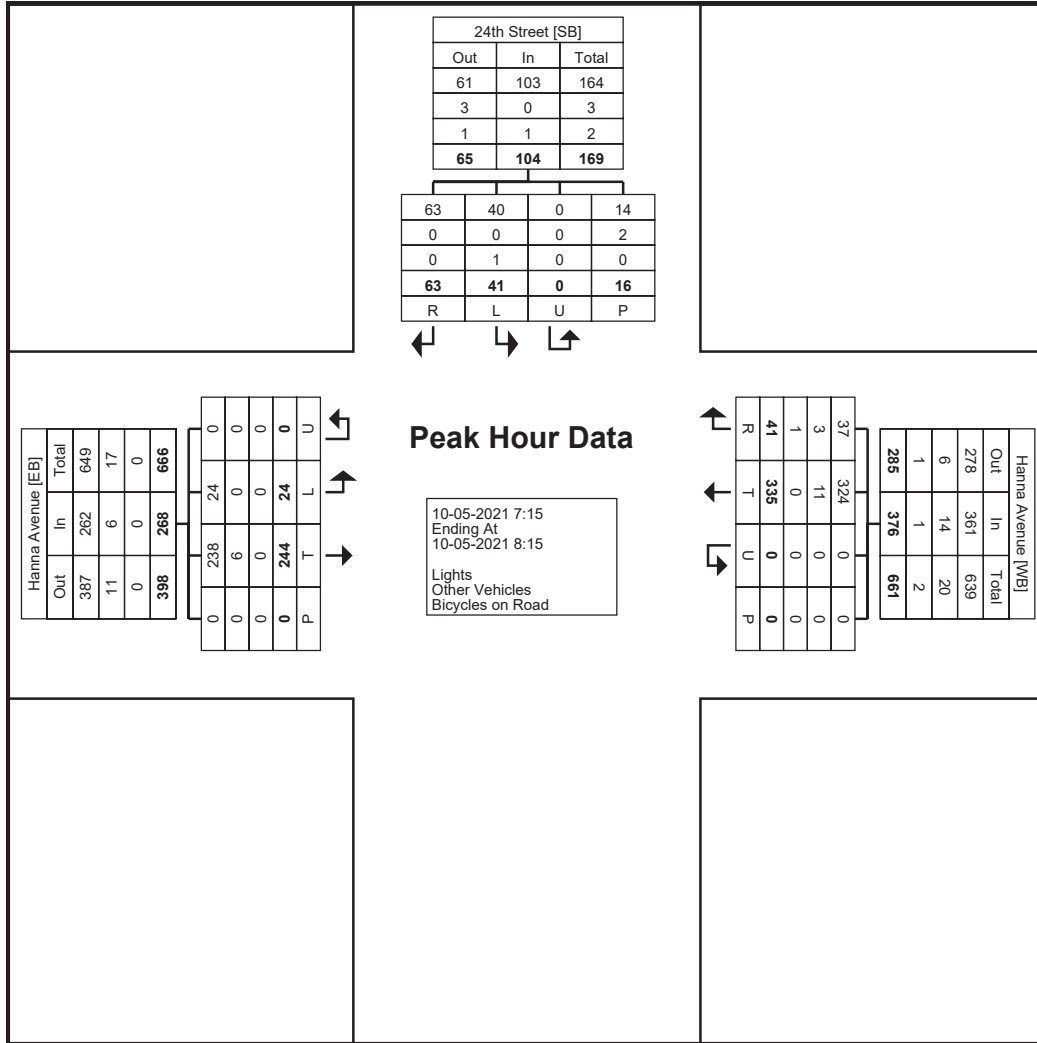
Hanna Avenue and 24th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 3_Hanna Avenue
and 24th Street
Site Code: 3
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:15)

Start Time	Hanna Avenue Eastbound					Hanna Avenue Westbound					24th Street Southbound					Int. Total
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
7:15	0	2	54	0	56	0	90	9	0	99	0	8	8	8	16	171
7:30	0	8	69	0	77	0	104	14	0	118	0	8	13	3	21	216
7:45	0	7	65	0	72	0	66	7	0	73	0	14	26	3	40	185
8:00	0	7	56	0	63	0	75	11	0	86	0	11	16	2	27	176
Total	0	24	244	0	268	0	335	41	0	376	0	41	63	16	104	748
Approach %	0.0	9.0	91.0	-	-	0.0	89.1	10.9	-	-	0.0	39.4	60.6	-	-	-
Total %	0.0	3.2	32.6	-	35.8	0.0	44.8	5.5	-	50.3	0.0	5.5	8.4	-	13.9	-
PHF	0.000	0.750	0.884	-	0.870	0.000	0.805	0.732	-	0.797	0.000	0.732	0.606	-	0.650	0.866
Lights	0	24	238	0	262	0	324	37	0	361	0	40	63	14	103	726
% Lights	-	100.0	97.5	-	97.8	-	96.7	90.2	-	96.0	-	97.6	100.0	87.5	99.0	97.1
Other Vehicles	0	0	6	0	6	0	11	3	0	14	0	0	0	2	0	20
% Other Vehicles	-	0.0	2.5	-	2.2	-	3.3	7.3	-	3.7	-	0.0	0.0	12.5	0.0	2.7
Bicycles on Road	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
% Bicycles on Road	-	0.0	0.0	-	0.0	-	0.0	2.4	-	0.3	-	2.4	0.0	0.0	1.0	0.3



Turning Movement Peak Hour Data Plot (7:15)

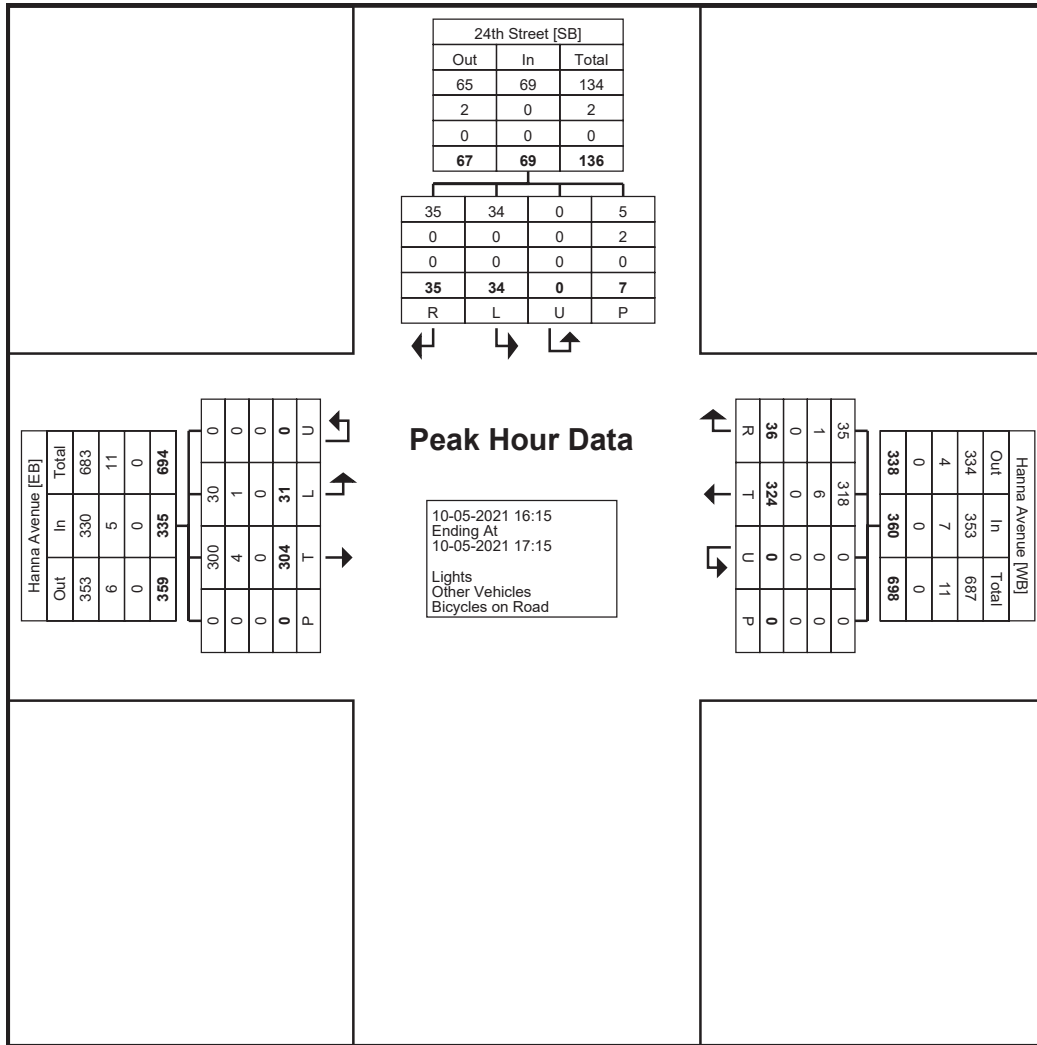
Hanna Avenue and 24th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 3_Hanna Avenue
and 24th Street
Site Code: 3
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:15)

Start Time	Hanna Avenue Eastbound					Hanna Avenue Westbound					24th Street Southbound					Int. Total
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
16:15	0	8	76	0	84	0	87	12	0	99	0	11	10	0	21	204
16:30	0	10	80	0	90	0	65	6	0	71	0	11	10	4	21	182
16:45	0	5	71	0	76	0	77	9	0	86	0	5	8	0	13	175
17:00	0	8	77	0	85	0	95	9	0	104	0	7	7	3	14	203
Total	0	31	304	0	335	0	324	36	0	360	0	34	35	7	69	764
Approach %	0.0	9.3	90.7	-	-	0.0	90.0	10.0	-	-	0.0	49.3	50.7	-	-	-
Total %	0.0	4.1	39.8	-	43.8	0.0	42.4	4.7	-	47.1	0.0	4.5	4.6	-	9.0	-
PHF	0.000	0.775	0.950	-	0.931	0.000	0.853	0.750	-	0.865	0.000	0.773	0.875	-	0.821	0.936
Lights	0	30	300	0	330	0	318	35	0	353	0	34	35	5	69	752
% Lights	-	96.8	98.7	-	98.5	-	98.1	97.2	-	98.1	-	100.0	100.0	71.4	100.0	98.4
Other Vehicles	0	1	4	0	5	0	6	1	0	7	0	0	0	2	0	12
% Other Vehicles	-	3.2	1.3	-	1.5	-	1.9	2.8	-	1.9	-	0.0	0.0	28.6	0.0	1.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (16:15)

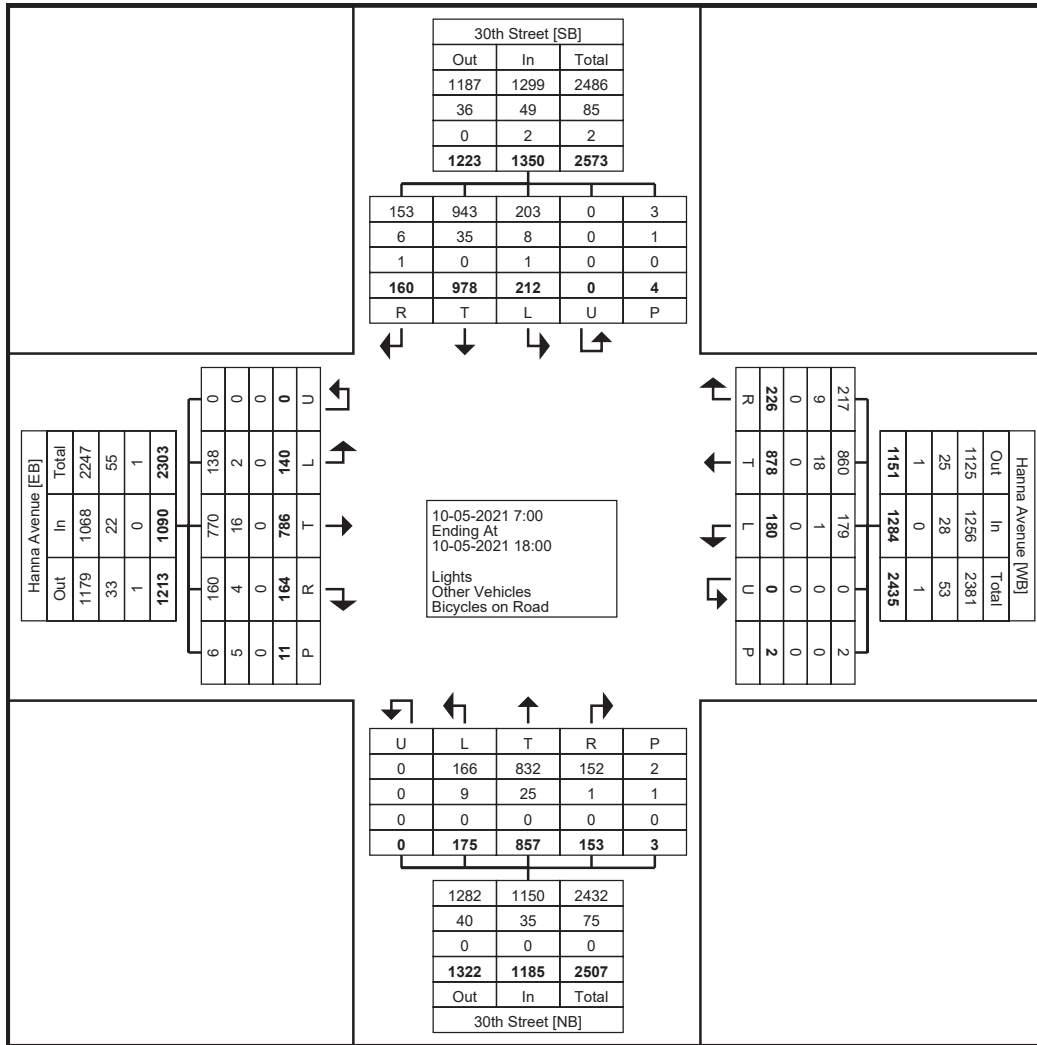
Hanna Avenue @ 30th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 4_Hanna Avenue
@ 30th Street
Site Code: 4
Start Date: 10-05-2021
Page No: 1

Turning Movement Data

Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						30th Street Northbound						30th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	0	26	4	2	30	0	5	31	7	0	43	0	10	33	6	1	49	0	7	43	9	0	59	181
7:15	0	1	36	8	0	45	0	7	61	10	0	78	0	8	43	7	0	58	0	16	56	17	0	89	270
7:30	0	6	51	13	0	70	0	15	83	14	1	112	0	10	43	5	0	58	0	13	73	16	1	102	342
7:45	0	6	44	11	2	61	0	29	65	13	0	107	0	9	40	6	0	55	0	7	70	13	0	90	313
Hourly Total	0	13	157	36	4	206	0	56	240	44	1	340	0	37	159	24	1	220	0	43	242	55	1	340	1106
8:00	0	3	50	8	0	61	0	22	50	7	0	79	0	10	42	5	0	57	0	14	72	15	0	101	298
8:15	0	8	56	10	1	74	0	10	54	8	0	72	0	6	52	7	0	65	0	10	65	7	0	82	293
8:30	0	9	21	8	2	38	0	16	57	16	0	89	0	6	45	10	0	61	0	17	74	11	0	102	290
8:45	0	6	32	7	2	45	0	10	44	15	1	69	0	5	32	6	0	43	0	12	45	9	0	66	223
Hourly Total	0	26	159	33	5	218	0	58	205	46	1	309	0	27	171	28	0	226	0	53	256	42	0	351	1104
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	15	53	9	2	77	0	13	51	21	0	85	0	16	66	15	1	97	0	24	66	4	2	94	353
16:15	0	16	63	8	0	87	0	10	53	15	0	78	0	11	75	19	0	105	0	14	54	7	0	75	345
16:30	0	21	69	15	0	105	0	5	44	15	0	64	0	19	74	18	0	111	0	15	69	9	0	93	373
16:45	0	11	54	11	0	76	0	12	59	14	0	85	0	8	62	12	0	82	0	14	60	14	0	88	331
Hourly Total	0	63	239	43	2	345	0	40	207	65	0	312	0	54	277	64	1	395	0	67	249	34	2	350	1402
17:00	0	14	63	13	0	90	0	3	62	17	0	82	0	18	60	8	0	86	0	14	59	14	0	87	345
17:15	0	9	60	12	0	81	0	6	54	22	0	82	0	15	58	17	0	90	0	12	61	8	0	81	334
17:30	0	8	54	17	0	79	0	9	50	19	0	78	0	14	69	8	1	91	0	10	60	3	0	73	321
17:45	0	7	54	10	0	71	0	8	60	13	0	81	0	10	63	4	0	77	0	13	51	4	1	68	297
Hourly Total	0	38	231	52	0	321	0	26	226	71	0	323	0	57	250	37	1	344	0	49	231	29	1	309	1297
Grand Total	0	140	786	164	11	1090	0	180	878	226	2	1284	0	175	857	153	3	1185	0	212	978	160	4	1350	4909
Approach %	0.0	12.8	72.1	15.0	-	-	0.0	14.0	68.4	17.6	-	-	0.0	14.8	72.3	12.9	-	-	0.0	15.7	72.4	11.9	-	-	-
Total %	0.0	2.9	16.0	3.3	-	22.2	0.0	3.7	17.9	4.6	-	26.2	0.0	3.6	17.5	3.1	-	24.1	0.0	4.3	19.9	3.3	-	27.5	-
Lights	0	138	770	160	6	1068	0	179	860	217	2	1256	0	166	832	152	2	1150	0	203	943	153	3	1299	4773
% Lights	-	98.6	98.0	97.6	54.5	98.0	-	99.4	97.9	96.0	100.0	97.8	-	94.9	97.1	99.3	66.7	97.0	-	95.8	96.4	95.6	75.0	96.2	97.2
Other Vehicles	0	2	16	4	5	22	0	1	18	9	0	28	0	9	25	1	1	35	0	8	35	6	1	49	134
% Other Vehicles	-	1.4	2.0	2.4	45.5	2.0	-	0.6	2.1	4.0	0.0	2.2	-	5.1	2.9	0.7	33.3	3.0	-	3.8	3.6	3.8	25.0	3.6	2.7
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.5	0.0	0.6	0.0	0.1	0.0



Turning Movement Data Plot

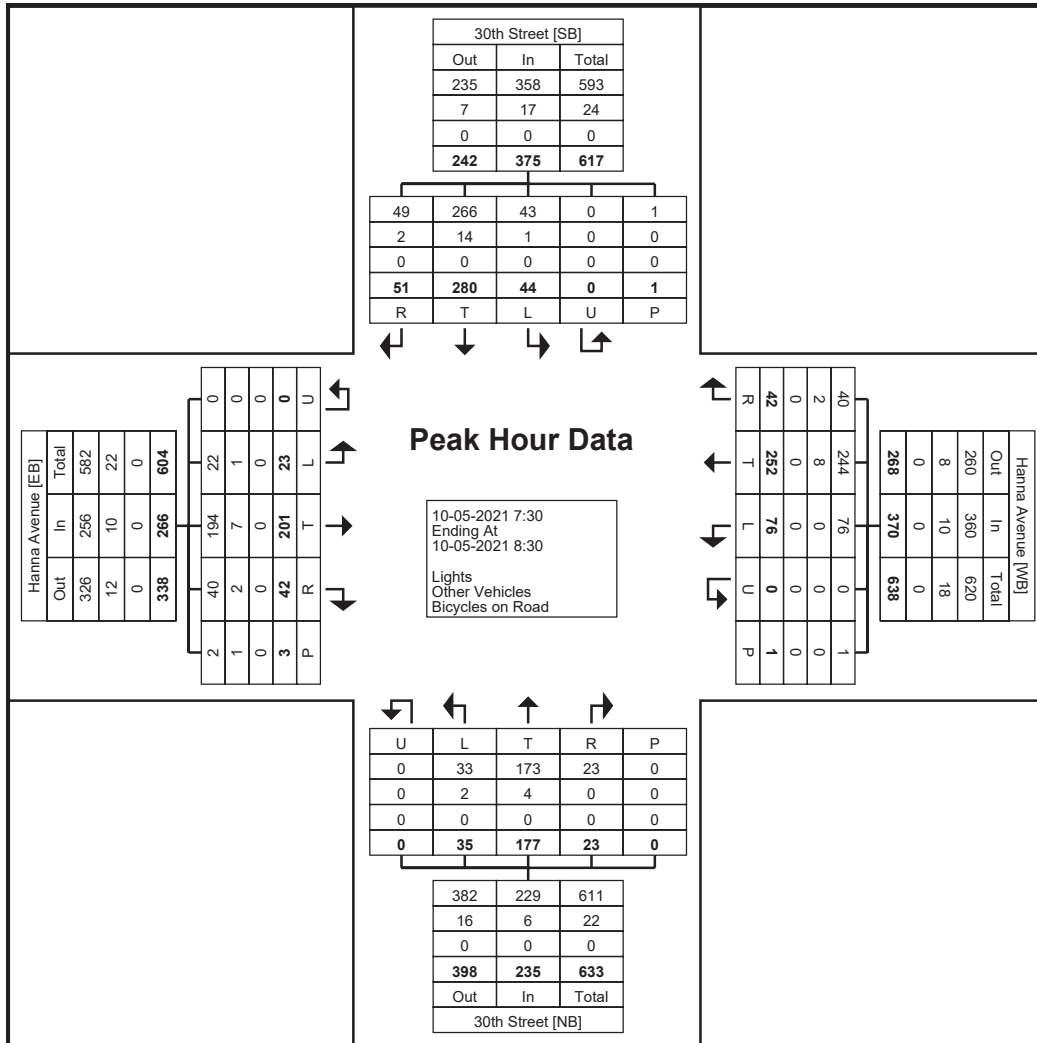
Hanna Avenue @ 30th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 4_Hanna Avenue
@ 30th Street
Site Code: 4
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:30)

Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						30th Street Northbound						30th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	0	6	51	13	0	70	0	15	83	14	1	112	0	10	43	5	0	58	0	13	73	16	1	102	342
7:45	0	6	44	11	2	61	0	29	65	13	0	107	0	9	40	6	0	55	0	7	70	13	0	90	313
8:00	0	3	50	8	0	61	0	22	50	7	0	79	0	10	42	5	0	57	0	14	72	15	0	101	298
8:15	0	8	56	10	1	74	0	10	54	8	0	72	0	6	52	7	0	65	0	10	65	7	0	82	293
Total	0	23	201	42	3	266	0	76	252	42	1	370	0	35	177	23	0	235	0	44	280	51	1	375	1246
Approach %	0.0	8.6	75.6	15.8	-	-	0.0	20.5	68.1	11.4	-	-	0.0	14.9	75.3	9.8	-	-	0.0	11.7	74.7	13.6	-	-	-
Total %	0.0	1.8	16.1	3.4	-	21.3	0.0	6.1	20.2	3.4	-	29.7	0.0	2.8	14.2	1.8	-	18.9	0.0	3.5	22.5	4.1	-	30.1	-
PHF	0.000	0.719	0.897	0.808	-	0.899	0.000	0.655	0.759	0.750	-	0.826	0.000	0.875	0.851	0.821	-	0.904	0.000	0.786	0.959	0.797	-	0.919	0.911
Lights	0	22	194	40	2	256	0	76	244	40	1	360	0	33	173	23	0	229	0	43	266	49	1	358	1203
% Lights	-	95.7	96.5	95.2	66.7	96.2	-	100.0	96.8	95.2	100.0	97.3	-	94.3	97.7	100.0	-	97.4	-	97.7	95.0	96.1	100.0	95.5	96.5
Other Vehicles	0	1	7	2	1	10	0	0	8	2	0	10	0	2	4	0	0	6	0	1	14	2	0	17	43
% Other Vehicles	-	4.3	3.5	4.8	33.3	3.8	-	0.0	3.2	4.8	0.0	2.7	-	5.7	2.3	0.0	-	2.6	-	2.3	5.0	3.9	0.0	4.5	3.5
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (7:30)

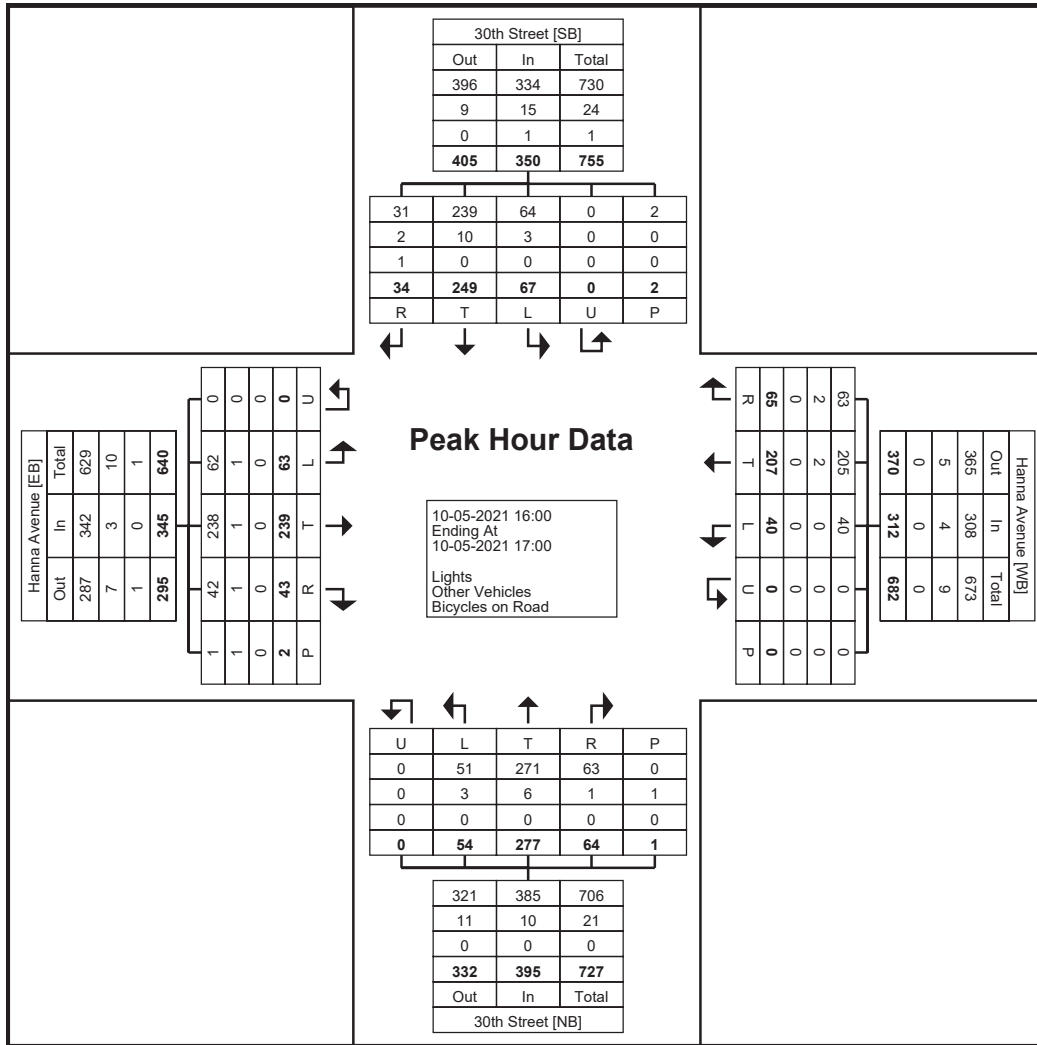
Hanna Avenue @ 30th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 4_Hanna Avenue
@ 30th Street
Site Code: 4
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:00)

Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						30th Street Northbound						30th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:00	0	15	53	9	2	77	0	13	51	21	0	85	0	16	66	15	1	97	0	24	66	4	2	94	353
16:15	0	16	63	8	0	87	0	10	53	15	0	78	0	11	75	19	0	105	0	14	54	7	0	75	345
16:30	0	21	69	15	0	105	0	5	44	15	0	64	0	19	74	18	0	111	0	15	69	9	0	93	373
16:45	0	11	54	11	0	76	0	12	59	14	0	85	0	8	62	12	0	82	0	14	60	14	0	88	331
Total	0	63	239	43	2	345	0	40	207	65	0	312	0	54	277	64	1	395	0	67	249	34	2	350	1402
Approach %	0.0	18.3	69.3	12.5	-	-	0.0	12.8	66.3	20.8	-	-	0.0	13.7	70.1	16.2	-	-	0.0	19.1	71.1	9.7	-	-	-
Total %	0.0	4.5	17.0	3.1	-	24.6	0.0	2.9	14.8	4.6	-	22.3	0.0	3.9	19.8	4.6	-	28.2	0.0	4.8	17.8	2.4	-	25.0	-
PHF	0.000	0.750	0.866	0.717	-	0.821	0.000	0.769	0.877	0.774	-	0.918	0.000	0.711	0.923	0.842	-	0.890	0.000	0.698	0.902	0.607	-	0.931	0.940
Lights	0	62	238	42	1	342	0	40	205	63	0	308	0	51	271	63	0	385	0	64	239	31	2	334	1369
% Lights	-	98.4	99.6	97.7	50.0	99.1	-	100.0	99.0	96.9	-	98.7	-	94.4	97.8	98.4	0.0	97.5	-	95.5	96.0	91.2	100.0	95.4	97.6
Other Vehicles	0	1	1	1	1	3	0	0	2	2	0	4	0	3	6	1	1	10	0	3	10	2	0	15	32
% Other Vehicles	-	1.6	0.4	2.3	50.0	0.9	-	0.0	1.0	3.1	-	1.3	-	5.6	2.2	1.6	100.0	2.5	-	4.5	4.0	5.9	0.0	4.3	2.3
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	2.9	0.0	0.3	0.1



Turning Movement Peak Hour Data Plot (16:00)

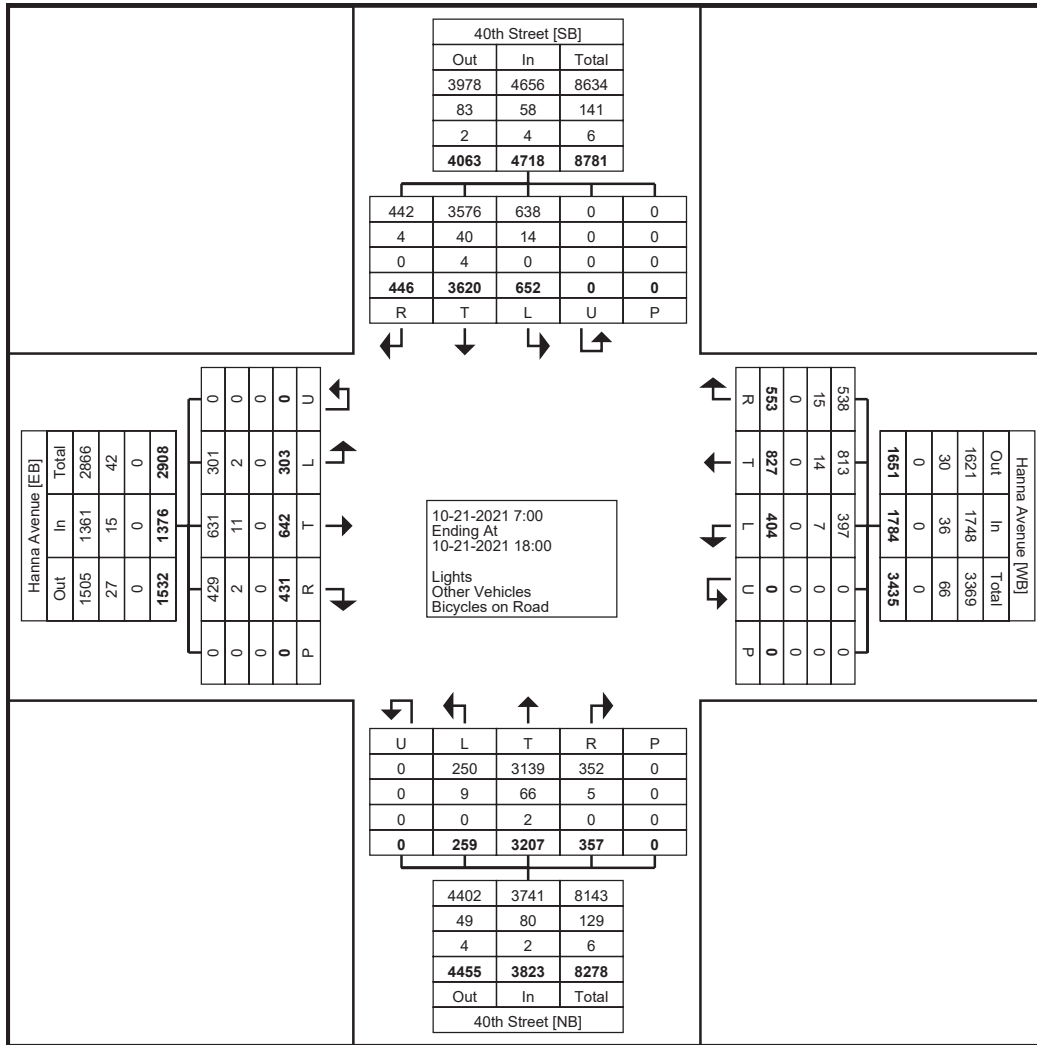
Hanna Avenue @ 40th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 5_Hanna Avenue
@ 40th Street
Site Code: 5
Start Date: 10-21-2021
Page No: 1

Turning Movement Data

Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						40th Street Northbound						40th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	14	16	14	0	44	0	30	37	26	0	93	0	8	95	19	0	122	0	29	157	11	0	197	456
7:15	0	20	32	17	0	69	0	32	52	35	0	119	0	13	130	19	0	162	0	34	236	29	0	299	649
7:30	0	23	33	20	0	76	0	24	74	51	0	149	0	16	139	17	0	172	0	37	282	39	0	358	755
7:45	0	12	29	16	0	57	0	30	49	38	0	117	0	20	113	18	0	151	0	44	307	37	0	388	713
Hourly Total	0	69	110	67	0	246	0	116	212	150	0	478	0	57	477	73	0	607	0	144	982	116	0	1242	2573
8:00	0	18	44	28	0	90	0	30	66	37	0	133	0	15	161	13	0	189	0	39	274	32	0	345	757
8:15	0	27	42	22	0	91	0	22	54	33	0	109	0	20	157	27	0	204	0	49	248	26	0	323	727
8:30	0	23	28	23	0	74	0	28	43	36	0	107	0	18	115	23	0	156	0	29	187	18	0	234	571
8:45	0	16	41	17	0	74	0	19	59	27	0	105	0	14	128	17	0	159	0	27	167	21	0	215	553
Hourly Total	0	84	155	90	0	329	0	99	222	133	0	454	0	67	561	80	0	708	0	144	876	97	0	1117	2608
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	13	52	39	0	104	0	22	54	27	0	103	0	17	289	19	0	325	0	39	176	27	0	242	774
16:15	0	19	36	28	0	83	0	19	50	44	0	113	0	18	249	32	0	299	0	36	258	27	0	321	816
16:30	0	12	49	34	0	95	0	17	55	35	0	107	0	17	231	21	0	269	0	35	217	26	0	278	749
16:45	0	17	46	26	0	89	0	28	45	28	0	101	0	16	258	32	0	306	0	49	219	34	0	302	798
Hourly Total	0	61	183	127	0	371	0	86	204	134	0	424	0	68	1027	104	0	1199	0	159	870	114	0	1143	3137
17:00	0	23	50	42	0	115	0	26	51	32	0	109	0	16	277	27	0	320	0	53	227	39	0	319	863
17:15	0	13	50	31	0	94	0	24	40	38	0	102	0	16	297	28	0	341	0	56	254	24	0	334	871
17:30	0	26	45	38	0	109	0	22	57	32	0	111	0	20	284	22	0	326	0	54	198	28	0	280	826
17:45	0	27	49	36	0	112	0	31	41	34	0	106	0	15	284	23	0	322	0	42	213	28	0	283	823
Hourly Total	0	89	194	147	0	430	0	103	189	136	0	428	0	67	1142	100	0	1309	0	205	892	119	0	1216	3383
Grand Total	0	303	642	431	0	1376	0	404	827	553	0	1784	0	259	3207	357	0	3823	0	652	3620	446	0	4718	11701
Approach %	0.0	22.0	46.7	31.3	-	-	0.0	22.6	46.4	31.0	-	-	0.0	6.8	83.9	9.3	-	-	0.0	13.8	76.7	9.5	-	-	-
Total %	0.0	2.6	5.5	3.7	-	11.8	0.0	3.5	7.1	4.7	-	15.2	0.0	2.2	27.4	3.1	-	32.7	0.0	5.6	30.9	3.8	-	40.3	-
Lights	0	301	631	429	0	1361	0	397	813	538	0	1748	0	250	3139	352	0	3741	0	638	3576	442	0	4656	11506
% Lights	-	99.3	98.3	99.5	-	98.9	-	98.3	98.3	97.3	-	98.0	-	96.5	97.9	98.6	-	97.9	-	97.9	98.8	99.1	-	98.7	98.3
Other Vehicles	0	2	11	2	0	15	0	7	14	15	0	36	0	9	66	5	0	80	0	14	40	4	0	58	189
% Other Vehicles	-	0.7	1.7	0.5	-	1.1	-	1.7	1.7	2.7	-	2.0	-	3.5	2.1	1.4	-	2.1	-	2.1	1.1	0.9	-	1.2	1.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	4	0	0	4	6
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.1	0.0	-	0.1	-	0.0	0.1	0.0	-	0.1	0.1



Turning Movement Data Plot

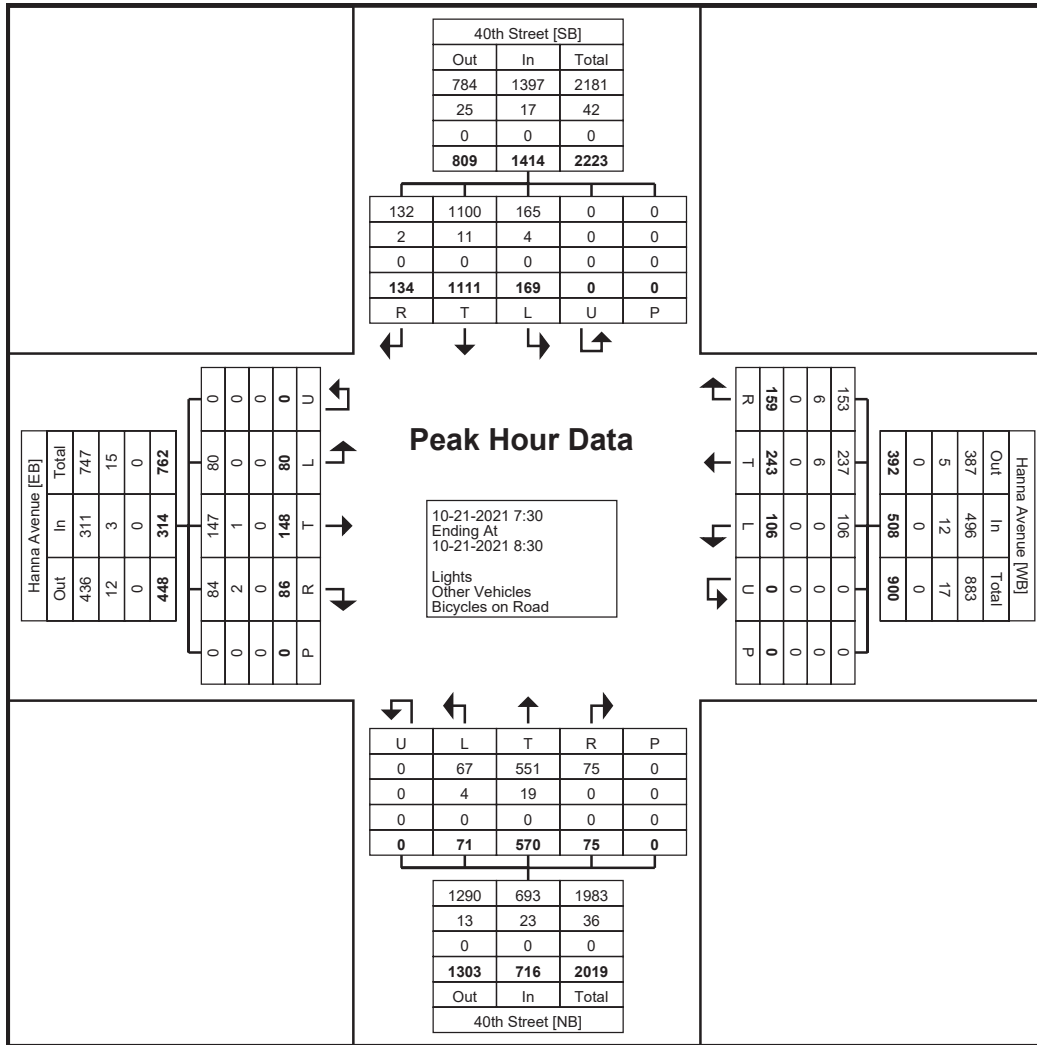
Hanna Avenue @ 40th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 5_Hanna Avenue
@ 40th Street
Site Code: 5
Start Date: 10-21-2021
Page No: 3

Turning Movement Peak Hour Data (7:30)

Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						40th Street Northbound						40th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	0	23	33	20	0	76	0	24	74	51	0	149	0	16	139	17	0	172	0	37	282	39	0	358	755
7:45	0	12	29	16	0	57	0	30	49	38	0	117	0	20	113	18	0	151	0	44	307	37	0	388	713
8:00	0	18	44	28	0	90	0	30	66	37	0	133	0	15	161	13	0	189	0	39	274	32	0	345	757
8:15	0	27	42	22	0	91	0	22	54	33	0	109	0	20	157	27	0	204	0	49	248	26	0	323	727
Total	0	80	148	86	0	314	0	106	243	159	0	508	0	71	570	75	0	716	0	169	1111	134	0	1414	2952
Approach %	0.0	25.5	47.1	27.4	-	-	0.0	20.9	47.8	31.3	-	-	0.0	9.9	79.6	10.5	-	-	0.0	12.0	78.6	9.5	-	-	-
Total %	0.0	2.7	5.0	2.9	-	10.6	0.0	3.6	8.2	5.4	-	17.2	0.0	2.4	19.3	2.5	-	24.3	0.0	5.7	37.6	4.5	-	47.9	-
PHF	0.000	0.741	0.841	0.768	-	0.863	0.000	0.883	0.821	0.779	-	0.852	0.000	0.888	0.885	0.694	-	0.877	0.000	0.862	0.905	0.859	-	0.911	0.975
Lights	0	80	147	84	0	311	0	106	237	153	0	496	0	67	551	75	0	693	0	165	1100	132	0	1397	2897
% Lights	-	100.0	99.3	97.7	-	99.0	-	100.0	97.5	96.2	-	97.6	-	94.4	96.7	100.0	-	96.8	-	97.6	99.0	98.5	-	98.8	98.1
Other Vehicles	0	0	1	2	0	3	0	0	6	6	0	12	0	4	19	0	0	23	0	4	11	2	0	17	55
% Other Vehicles	-	0.0	0.7	2.3	-	1.0	-	0.0	2.5	3.8	-	2.4	-	5.6	3.3	0.0	-	3.2	-	2.4	1.0	1.5	-	1.2	1.9
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0



Turning Movement Peak Hour Data Plot (7:30)

Hanna Avenue @ 40th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 5_Hanna Avenue
@ 40th Street
Site Code: 5
Start Date: 10-21-2021
Page No: 5

Turning Movement Peak Hour Data (17:00)

Start Time	Hanna Avenue Eastbound						Hanna Avenue Westbound						40th Street Northbound						40th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
17:00	0	23	50	42	0	115	0	26	51	32	0	109	0	16	277	27	0	320	0	53	227	39	0	319	863
17:15	0	13	50	31	0	94	0	24	40	38	0	102	0	16	297	28	0	341	0	56	254	24	0	334	871
17:30	0	26	45	38	0	109	0	22	57	32	0	111	0	20	284	22	0	326	0	54	198	28	0	280	826
17:45	0	27	49	36	0	112	0	31	41	34	0	106	0	15	284	23	0	322	0	42	213	28	0	283	823
Total	0	89	194	147	0	430	0	103	189	136	0	428	0	67	1142	100	0	1309	0	205	892	119	0	1216	3383
Approach %	0.0	20.7	45.1	34.2	-	-	0.0	24.1	44.2	31.8	-	-	0.0	5.1	87.2	7.6	-	-	0.0	16.9	73.4	9.8	-	-	-
Total %	0.0	2.6	5.7	4.3	-	12.7	0.0	3.0	5.6	4.0	-	12.7	0.0	2.0	33.8	3.0	-	38.7	0.0	6.1	26.4	3.5	-	35.9	-
PHF	0.000	0.824	0.970	0.875	-	0.935	0.000	0.831	0.829	0.895	-	0.964	0.000	0.838	0.961	0.893	-	0.960	0.000	0.915	0.878	0.763	-	0.910	0.971
Lights	0	88	192	147	0	427	0	101	188	134	0	423	0	65	1136	97	0	1298	0	197	881	118	0	1196	3344
% Lights	-	98.9	99.0	100.0	-	99.3	-	98.1	99.5	98.5	-	98.8	-	97.0	99.5	97.0	-	99.2	-	96.1	98.8	99.2	-	98.4	98.8
Other Vehicles	0	1	2	0	0	3	0	2	1	2	0	5	0	2	6	3	0	11	0	8	10	1	0	19	38
% Other Vehicles	-	1.1	1.0	0.0	-	0.7	-	1.9	0.5	1.5	-	1.2	-	3.0	0.5	3.0	-	0.8	-	3.9	1.1	0.8	-	1.6	1.1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.1	0.0	-	0.1	0.0

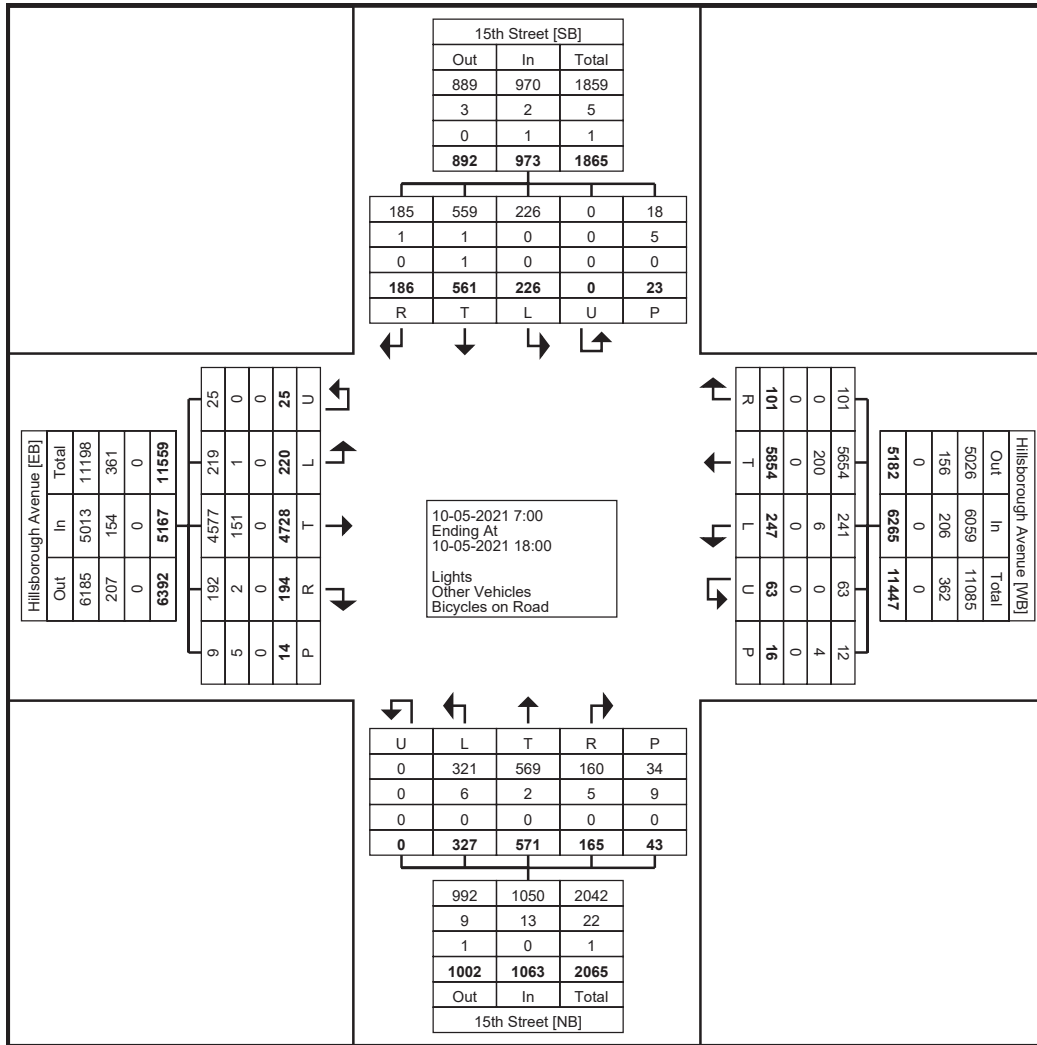
Hillsborough Avenue @ 15th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 6_Hillsborough Avenue @ 15th Street
Site Code: 6
Start Date: 10-05-2021
Page No: 1

Turning Movement Data

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						15th Street Northbound						15th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	1	9	277	11	4	298	0	10	336	3	0	349	0	18	12	5	0	35	0	10	24	11	0	45	727
7:15	1	11	282	13	2	307	0	19	364	5	1	388	0	20	15	6	1	41	0	9	28	14	2	51	787
7:30	1	4	311	11	0	327	1	14	350	5	1	370	0	21	21	14	2	56	0	20	33	7	1	60	813
7:45	1	11	325	10	1	347	2	15	398	3	0	418	0	13	18	10	2	41	0	17	37	9	0	63	869
Hourly Total	4	35	1195	45	7	1279	3	58	1448	16	2	1525	0	72	66	35	5	173	0	56	122	41	3	219	3196
8:00	1	12	282	12	0	307	1	17	352	6	0	376	0	21	25	10	0	56	0	19	59	16	1	94	833
8:15	3	9	304	13	0	329	2	14	345	4	1	365	0	24	38	5	1	67	0	8	46	15	1	69	830
8:30	0	11	259	17	1	287	4	13	362	1	0	380	0	11	29	8	2	48	0	11	30	11	2	52	767
8:45	1	15	253	10	2	279	2	20	329	9	1	360	0	17	19	16	4	52	0	7	29	10	0	46	737
Hourly Total	5	47	1098	52	3	1202	9	64	1388	20	2	1481	0	73	111	39	7	223	0	45	164	52	4	261	3167
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	2	18	337	15	3	372	7	19	401	8	1	435	0	20	48	12	2	80	0	20	30	9	0	59	946
16:15	3	22	285	9	0	319	8	17	370	5	2	400	0	26	56	10	1	92	0	18	26	10	2	54	865
16:30	0	19	305	12	0	336	8	13	392	7	3	420	0	16	38	9	1	63	0	14	45	11	2	70	889
16:45	2	17	305	18	0	342	6	12	385	10	2	413	0	13	44	10	10	67	0	14	42	13	2	69	891
Hourly Total	7	76	1232	54	3	1369	29	61	1548	30	8	1668	0	75	186	41	14	302	0	66	143	43	6	252	3591
17:00	2	20	347	9	0	378	5	12	344	4	0	365	0	32	48	14	3	94	0	26	32	15	3	73	910
17:15	2	21	280	7	1	310	6	14	401	13	2	434	0	25	57	12	6	94	0	8	38	15	1	61	899
17:30	0	7	319	19	0	345	6	20	362	7	1	395	0	24	52	9	4	85	0	13	32	11	3	56	881
17:45	5	14	257	8	0	284	5	18	363	11	1	397	0	26	51	15	4	92	0	12	30	9	3	51	824
Hourly Total	9	62	1203	43	1	1317	22	64	1470	35	4	1591	0	107	208	50	17	365	0	59	132	50	10	241	3514
Grand Total	25	220	4728	194	14	5167	63	247	5854	101	16	6265	0	327	571	165	43	1063	0	226	561	186	23	973	13468
Approach %	0.5	4.3	91.5	3.8	-	-	1.0	3.9	93.4	1.6	-	-	0.0	30.8	53.7	15.5	-	-	0.0	23.2	57.7	19.1	-	-	-
Total %	0.2	1.6	35.1	1.4	-	38.4	0.5	1.8	43.5	0.7	-	46.5	0.0	2.4	4.2	1.2	-	7.9	0.0	1.7	4.2	1.4	-	7.2	-
Lights	25	219	4577	192	9	5013	63	241	5654	101	12	6059	0	321	569	160	34	1050	0	226	559	185	18	970	13092
% Lights	100.0	99.5	96.8	99.0	64.3	97.0	100.0	97.6	96.6	100.0	75.0	96.7	-	98.2	99.6	97.0	79.1	98.8	-	100.0	99.6	99.5	78.3	99.7	97.2
Other Vehicles	0	1	151	2	5	154	0	6	200	0	4	206	0	6	2	5	9	13	0	0	1	1	5	2	375
% Other Vehicles	0.0	0.5	3.2	1.0	35.7	3.0	0.0	2.4	3.4	0.0	25.0	3.3	-	1.8	0.4	3.0	20.9	1.2	-	0.0	0.2	0.5	21.7	0.2	2.8
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.2	0.0	0.0	0.1	0.0



Turning Movement Data Plot

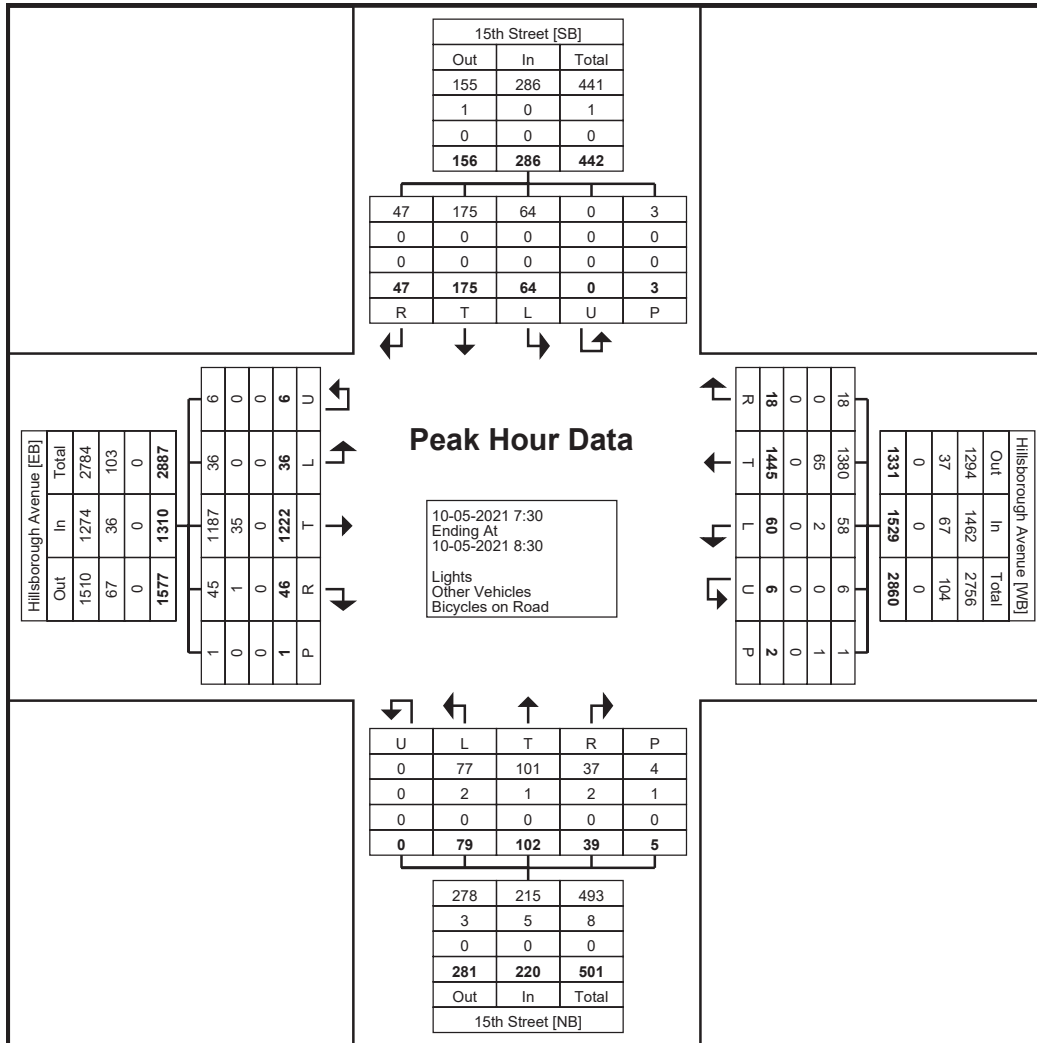
Hillsborough Avenue @ 15th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 6_Hillsborough Avenue @ 15th Street
Site Code: 6
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:30)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						15th Street Northbound						15th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	1	4	311	11	0	327	1	14	350	5	1	370	0	21	21	14	2	56	0	20	33	7	1	60	813
7:45	1	11	325	10	1	347	2	15	398	3	0	418	0	13	18	10	2	41	0	17	37	9	0	63	869
8:00	1	12	282	12	0	307	1	17	352	6	0	376	0	21	25	10	0	56	0	19	59	16	1	94	833
8:15	3	9	304	13	0	329	2	14	345	4	1	365	0	24	38	5	1	67	0	8	46	15	1	69	830
Total	6	36	1222	46	1	1310	6	60	1445	18	2	1529	0	79	102	39	5	220	0	64	175	47	3	286	3345
Approach %	0.5	2.7	93.3	3.5	-	-	0.4	3.9	94.5	1.2	-	-	0.0	35.9	46.4	17.7	-	-	0.0	22.4	61.2	16.4	-	-	-
Total %	0.2	1.1	36.5	1.4	-	39.2	0.2	1.8	43.2	0.5	-	45.7	0.0	2.4	3.0	1.2	-	6.6	0.0	1.9	5.2	1.4	-	8.6	-
PHF	0.500	0.750	0.940	0.885	-	0.944	0.750	0.882	0.908	0.750	-	0.914	0.000	0.823	0.671	0.696	-	0.821	0.000	0.800	0.742	0.734	-	0.761	0.962
Lights	6	36	1187	45	1	1274	6	58	1380	18	1	1462	0	77	101	37	4	215	0	64	175	47	3	286	3237
% Lights	100.0	100.0	97.1	97.8	100.0	97.3	100.0	96.7	95.5	100.0	50.0	95.6	-	97.5	99.0	94.9	80.0	97.7	-	100.0	100.0	100.0	100.0	100.0	96.8
Other Vehicles	0	0	35	1	0	36	0	2	65	0	1	67	0	2	1	2	1	5	0	0	0	0	0	0	108
% Other Vehicles	0.0	0.0	2.9	2.2	0.0	2.7	0.0	3.3	4.5	0.0	50.0	4.4	-	2.5	1.0	5.1	20.0	2.3	-	0.0	0.0	0.0	0.0	0.0	3.2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (7:30)

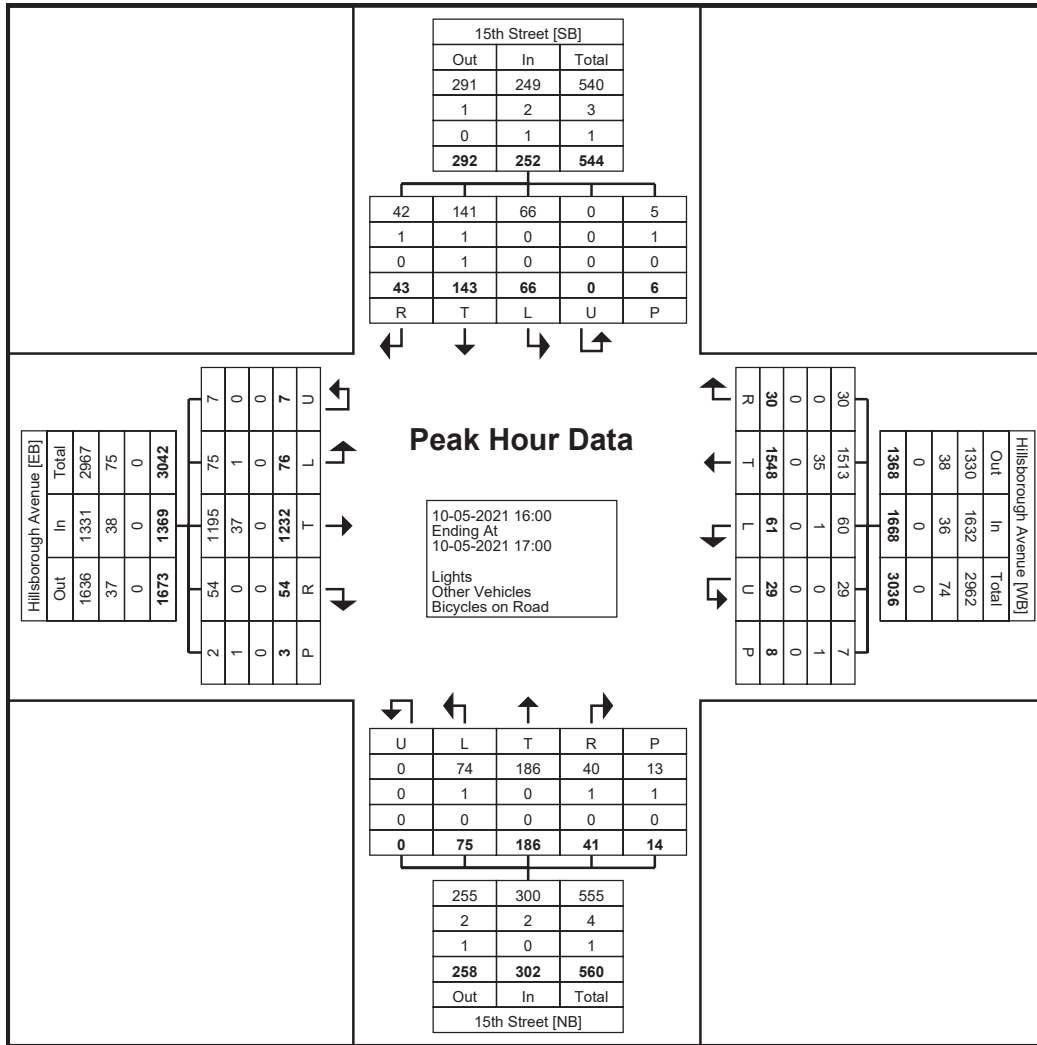
Hillsborough Avenue @ 15th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 6_Hillsborough Avenue @ 15th Street
Site Code: 6
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:00)

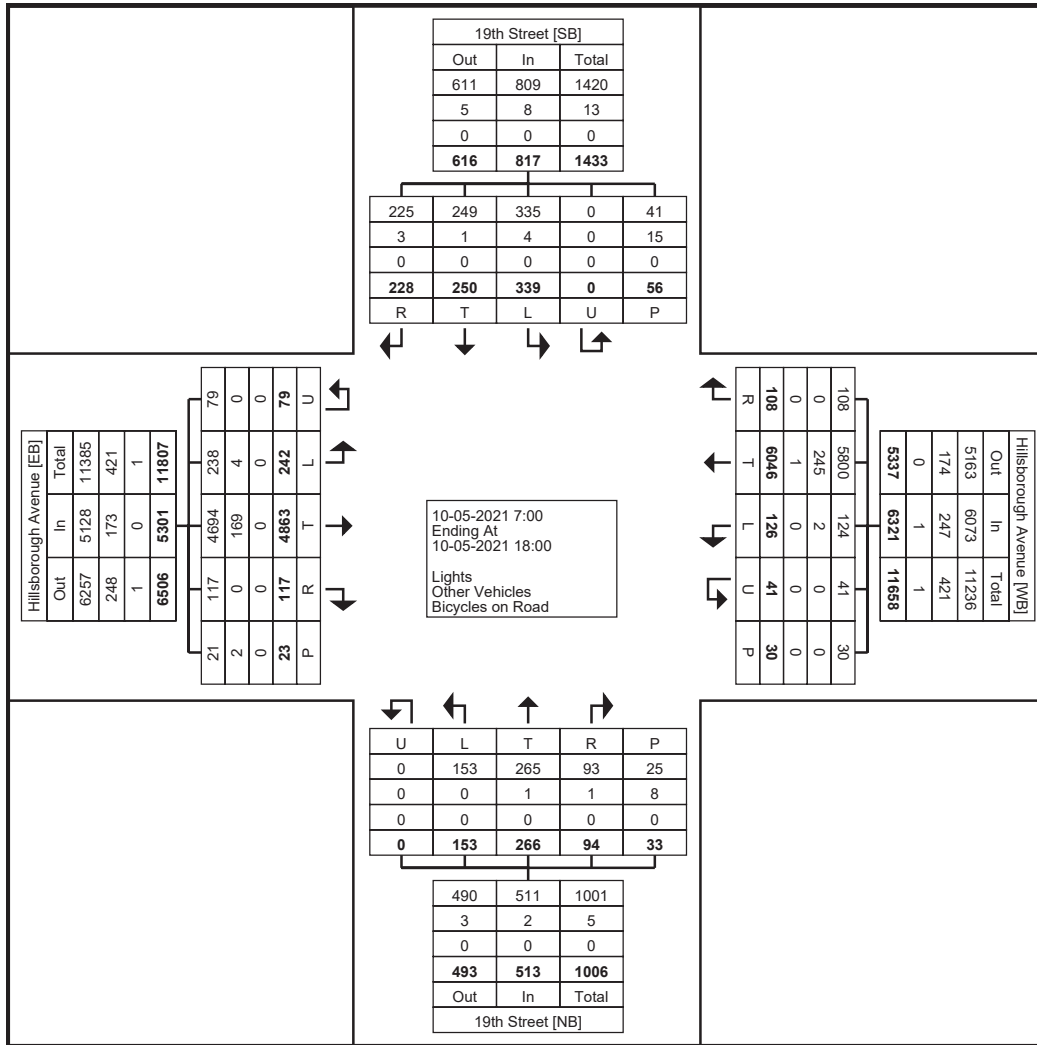
Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						15th Street Northbound						15th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:00	2	18	337	15	3	372	7	19	401	8	1	435	0	20	48	12	2	80	0	20	30	9	0	59	946
16:15	3	22	285	9	0	319	8	17	370	5	2	400	0	26	56	10	1	92	0	18	26	10	2	54	865
16:30	0	19	305	12	0	336	8	13	392	7	3	420	0	16	38	9	1	63	0	14	45	11	2	70	889
16:45	2	17	305	18	0	342	6	12	385	10	2	413	0	13	44	10	10	67	0	14	42	13	2	69	891
Total	7	76	1232	54	3	1369	29	61	1548	30	8	1668	0	75	186	41	14	302	0	66	143	43	6	252	3591
Approach %	0.5	5.6	90.0	3.9	-	-	1.7	3.7	92.8	1.8	-	-	0.0	24.8	61.6	13.6	-	-	0.0	26.2	56.7	17.1	-	-	-
Total %	0.2	2.1	34.3	1.5	-	38.1	0.8	1.7	43.1	0.8	-	46.4	0.0	2.1	5.2	1.1	-	8.4	0.0	1.8	4.0	1.2	-	7.0	-
PHF	0.583	0.864	0.914	0.750	-	0.920	0.906	0.803	0.965	0.750	-	0.959	0.000	0.721	0.830	0.854	-	0.821	0.000	0.825	0.794	0.827	-	0.900	0.949
Lights	7	75	1195	54	2	1331	29	60	1513	30	7	1632	0	74	186	40	13	300	0	66	141	42	5	249	3512
% Lights	100.0	98.7	97.0	100.0	66.7	97.2	100.0	98.4	97.7	100.0	87.5	97.8	-	98.7	100.0	97.6	92.9	99.3	-	100.0	98.6	97.7	83.3	98.8	97.8
Other Vehicles	0	1	37	0	1	38	0	1	35	0	1	36	0	1	0	1	1	2	0	0	1	1	1	2	78
% Other Vehicles	0.0	1.3	3.0	0.0	33.3	2.8	0.0	1.6	2.3	0.0	12.5	2.2	-	1.3	0.0	2.4	7.1	0.7	-	0.0	0.7	2.3	16.7	0.8	2.2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.7	0.0	0.0	0.4	0.0



Turning Movement Peak Hour Data Plot (16:00)

Turning Movement Data

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						19th Street Northbound						19th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	1	13	276	2	0	292	0	2	324	3	3	329	0	9	11	3	1	23	0	13	7	14	3	34	678
7:15	2	13	267	8	2	290	0	7	364	3	0	374	0	6	6	5	2	17	0	8	10	14	3	32	713
7:30	4	16	337	7	2	364	2	6	377	3	1	388	0	8	15	8	0	31	0	19	18	10	2	47	830
7:45	3	14	329	12	0	358	1	8	409	9	4	427	0	3	12	4	1	19	0	16	18	11	0	45	849
Hourly Total	10	56	1209	29	4	1304	3	23	1474	18	8	1518	0	26	44	20	4	90	0	56	53	49	8	158	3070
8:00	3	10	290	8	3	311	1	10	343	4	5	358	0	8	18	5	1	31	0	24	22	20	2	66	766
8:15	3	18	289	4	1	314	0	12	352	5	0	369	0	11	19	2	3	32	0	11	18	7	5	36	751
8:30	1	19	268	5	4	293	7	6	384	5	2	402	0	10	15	8	1	33	0	21	18	16	9	55	783
8:45	4	15	260	1	1	280	1	6	325	7	7	339	0	6	9	4	6	19	0	24	9	19	4	52	690
Hourly Total	11	62	1107	18	9	1198	9	34	1404	21	14	1468	0	35	61	19	11	115	0	80	67	62	20	209	2990
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	15	15	351	11	0	392	6	5	409	4	3	424	0	10	17	5	1	32	0	28	20	22	2	70	918
16:15	6	9	310	7	1	332	3	5	397	7	2	412	0	10	21	4	2	35	0	22	12	9	5	43	822
16:30	5	15	321	8	0	349	4	7	399	6	0	416	0	15	23	9	2	47	0	21	16	19	2	56	868
16:45	7	16	322	7	2	352	4	9	387	5	2	405	0	9	20	3	0	32	0	25	18	14	5	57	846
Hourly Total	33	55	1304	33	3	1425	17	26	1592	22	7	1657	0	44	81	21	5	146	0	96	66	64	14	226	3454
17:00	1	14	370	8	3	393	2	12	388	13	0	415	0	17	30	6	3	53	0	31	15	17	2	63	924
17:15	7	10	297	5	2	319	2	11	410	15	0	438	0	11	16	12	4	39	0	28	19	10	2	57	853
17:30	8	23	317	13	1	361	2	7	380	14	0	403	0	11	17	7	0	35	0	25	16	15	7	56	855
17:45	9	22	259	11	1	301	6	13	398	5	1	422	0	9	17	9	6	35	0	23	14	11	3	48	806
Hourly Total	25	69	1243	37	7	1374	12	43	1576	47	1	1678	0	48	80	34	13	162	0	107	64	53	14	224	3438
Grand Total	79	242	4863	117	23	5301	41	126	6046	108	30	6321	0	153	266	94	33	513	0	339	250	228	56	817	12952
Approach %	1.5	4.6	91.7	2.2	-	-	0.6	2.0	95.6	1.7	-	-	0.0	29.8	51.9	18.3	-	-	0.0	41.5	30.6	27.9	-	-	-
Total %	0.6	1.9	37.5	0.9	-	40.9	0.3	1.0	46.7	0.8	-	48.8	0.0	1.2	2.1	0.7	-	4.0	0.0	2.6	1.9	1.8	-	6.3	-
Lights	79	238	4694	117	21	5128	41	124	5800	108	30	6073	0	153	265	93	25	511	0	335	249	225	41	809	12521
% Lights	100.0	98.3	96.5	100.0	91.3	96.7	100.0	98.4	95.9	100.0	100.0	96.1	-	100.0	99.6	98.9	75.8	99.6	-	98.8	99.6	98.7	73.2	99.0	96.7
Other Vehicles	0	4	169	0	2	173	0	2	245	0	0	247	0	0	1	1	8	2	0	4	1	3	15	8	430
% Other Vehicles	0.0	1.7	3.5	0.0	8.7	3.3	0.0	1.6	4.1	0.0	0.0	3.9	-	0.0	0.4	1.1	24.2	0.4	-	1.2	0.4	1.3	26.8	1.0	3.3
Bicycles on Road	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Data Plot

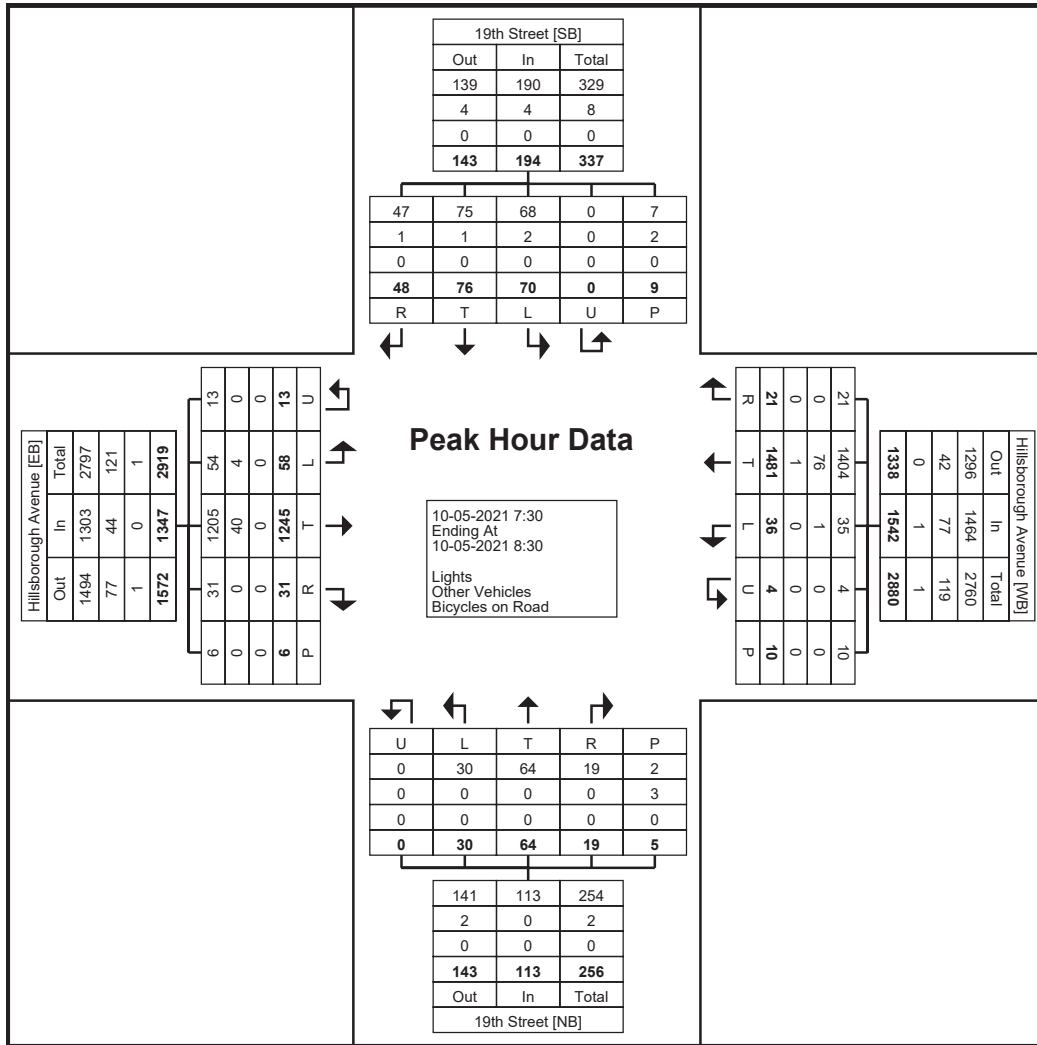
Hillsborough Avenue @ 19th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 7_Hillsborough Avenue @ 19th Street
Site Code: 7
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:30)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						19th Street Northbound						19th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	4	16	337	7	2	364	2	6	377	3	1	388	0	8	15	8	0	31	0	19	18	10	2	47	830
7:45	3	14	329	12	0	358	1	8	409	9	4	427	0	3	12	4	1	19	0	16	18	11	0	45	849
8:00	3	10	290	8	3	311	1	10	343	4	5	358	0	8	18	5	1	31	0	24	22	20	2	66	766
8:15	3	18	289	4	1	314	0	12	352	5	0	369	0	11	19	2	3	32	0	11	18	7	5	36	751
Total	13	58	1245	31	6	1347	4	36	1481	21	10	1542	0	30	64	19	5	113	0	70	76	48	9	194	3196
Approach %	1.0	4.3	92.4	2.3	-	-	0.3	2.3	96.0	1.4	-	-	0.0	26.5	56.6	16.8	-	-	0.0	36.1	39.2	24.7	-	-	-
Total %	0.4	1.8	39.0	1.0	-	42.1	0.1	1.1	46.3	0.7	-	48.2	0.0	0.9	2.0	0.6	-	3.5	0.0	2.2	2.4	1.5	-	6.1	-
PHF	0.813	0.806	0.924	0.646	-	0.925	0.500	0.750	0.905	0.583	-	0.903	0.000	0.682	0.842	0.594	-	0.883	0.000	0.729	0.864	0.600	-	0.735	0.941
Lights	13	54	1205	31	6	1303	4	35	1404	21	10	1464	0	30	64	19	2	113	0	68	75	47	7	190	3070
% Lights	100.0	93.1	96.8	100.0	100.0	96.7	100.0	97.2	94.8	100.0	100.0	94.9	-	100.0	100.0	100.0	40.0	100.0	-	97.1	98.7	97.9	77.8	97.9	96.1
Other Vehicles	0	4	40	0	0	44	0	1	76	0	0	77	0	0	0	0	3	0	0	2	1	1	2	4	125
% Other Vehicles	0.0	6.9	3.2	0.0	0.0	3.3	0.0	2.8	5.1	0.0	0.0	5.0	-	0.0	0.0	0.0	60.0	0.0	-	2.9	1.3	2.1	22.2	2.1	3.9
Bicycles on Road	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (7:30)

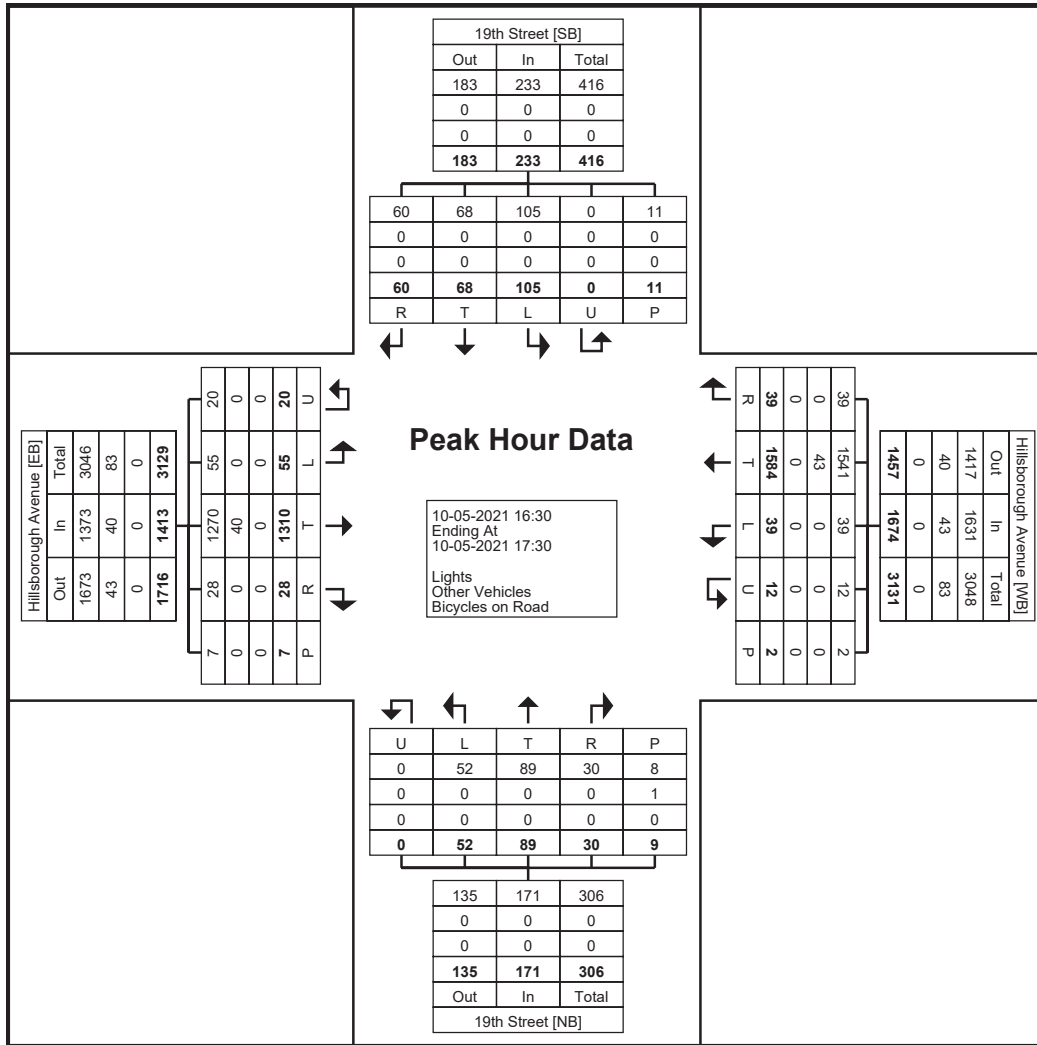
Hillsborough Avenue @ 19th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 7_Hillsborough Avenue @ 19th Street
Site Code: 7
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:30)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						19th Street Northbound						19th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:30	5	15	321	8	0	349	4	7	399	6	0	416	0	15	23	9	2	47	0	21	16	19	2	56	868
16:45	7	16	322	7	2	352	4	9	387	5	2	405	0	9	20	3	0	32	0	25	18	14	5	57	846
17:00	1	14	370	8	3	393	2	12	388	13	0	415	0	17	30	6	3	53	0	31	15	17	2	63	924
17:15	7	10	297	5	2	319	2	11	410	15	0	438	0	11	16	12	4	39	0	28	19	10	2	57	853
Total	20	55	1310	28	7	1413	12	39	1584	39	2	1674	0	52	89	30	9	171	0	105	68	60	11	233	3491
Approach %	1.4	3.9	92.7	2.0	-	-	0.7	2.3	94.6	2.3	-	-	0.0	30.4	52.0	17.5	-	-	0.0	45.1	29.2	25.8	-	-	-
Total %	0.6	1.6	37.5	0.8	-	40.5	0.3	1.1	45.4	1.1	-	48.0	0.0	1.5	2.5	0.9	-	4.9	0.0	3.0	1.9	1.7	-	6.7	-
PHF	0.714	0.859	0.885	0.875	-	0.899	0.750	0.813	0.966	0.650	-	0.955	0.000	0.765	0.742	0.625	-	0.807	0.000	0.847	0.895	0.789	-	0.925	0.945
Lights	20	55	1270	28	7	1373	12	39	1541	39	2	1631	0	52	89	30	8	171	0	105	68	60	11	233	3408
% Lights	100.0	100.0	96.9	100.0	100.0	97.2	100.0	100.0	97.3	100.0	100.0	97.4	-	100.0	100.0	100.0	88.9	100.0	-	100.0	100.0	100.0	100.0	100.0	97.6
Other Vehicles	0	0	40	0	0	40	0	0	43	0	0	43	0	0	0	0	1	0	0	0	0	0	0	0	83
% Other Vehicles	0.0	0.0	3.1	0.0	0.0	2.8	0.0	0.0	2.7	0.0	0.0	2.6	-	0.0	0.0	0.0	11.1	0.0	-	0.0	0.0	0.0	0.0	0.0	2.4
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (16:30)

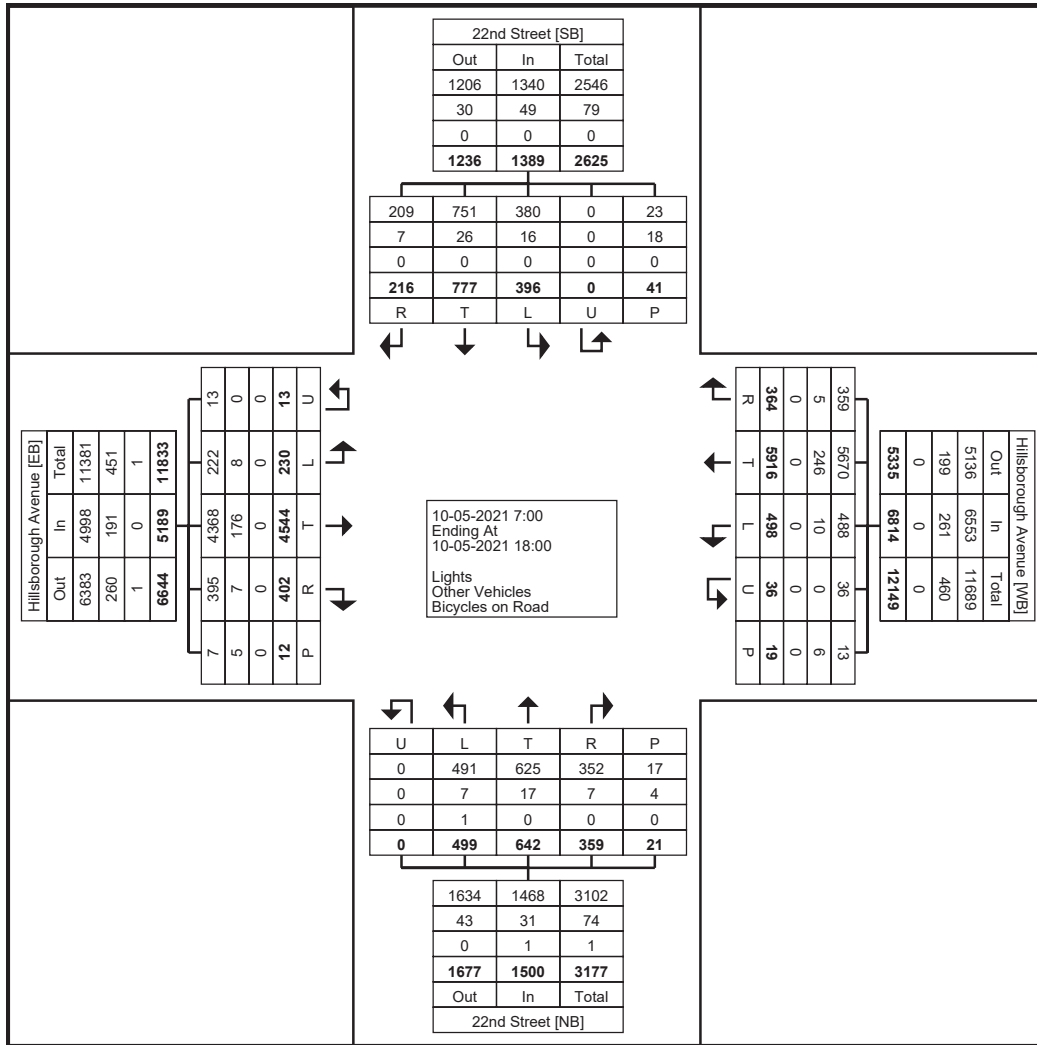
Hillsborough Avenue @ 22nd Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 8_Hillsborough Avenue @ 22nd Street
Site Code: 8
Start Date: 10-05-2021
Page No: 1

Turning Movement Data

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						22nd Street Northbound						22nd Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	6	249	24	0	279	1	17	353	23	1	394	0	17	14	6	3	37	0	5	33	8	2	46	756
7:15	0	20	247	21	1	288	1	17	365	31	0	414	0	17	21	9	1	47	0	18	32	14	1	64	813
7:30	0	15	270	27	1	312	1	19	376	32	1	428	0	18	33	18	1	69	0	25	48	12	2	85	894
7:45	2	19	267	33	1	321	1	45	400	31	2	477	0	30	32	24	1	86	0	23	61	7	1	91	975
Hourly Total	2	60	1033	105	3	1200	4	98	1494	117	4	1713	0	82	100	57	6	239	0	71	174	41	6	286	3438
8:00	0	20	301	46	0	367	1	42	368	34	1	445	0	38	38	31	2	107	0	29	65	7	1	101	1020
8:15	1	6	219	43	1	269	1	46	328	18	0	393	0	54	32	43	0	129	0	30	68	10	2	108	899
8:30	0	16	229	19	1	264	2	33	337	12	2	384	0	29	58	29	1	116	0	23	37	19	3	79	843
8:45	0	8	298	24	1	330	1	20	381	10	1	412	0	20	22	13	2	55	0	26	30	10	4	66	863
Hourly Total	1	50	1047	132	3	1230	5	141	1414	74	4	1634	0	141	150	116	5	407	0	108	200	46	10	354	3625
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	23	326	25	0	374	5	28	373	31	0	437	0	46	51	30	1	127	0	21	60	25	0	106	1044
16:15	3	19	288	20	2	330	1	44	378	29	4	452	0	27	47	24	1	98	0	36	54	16	5	106	986
16:30	0	21	327	20	2	368	2	30	387	21	0	440	0	34	58	20	2	112	0	34	62	12	2	108	1028
16:45	1	16	296	11	0	324	3	29	382	16	0	430	0	30	42	18	0	90	0	26	57	13	7	96	940
Hourly Total	4	79	1237	76	4	1396	11	131	1520	97	4	1759	0	137	198	92	4	427	0	117	233	66	14	416	3998
17:00	2	8	346	26	1	382	6	33	349	23	0	411	0	29	52	30	1	111	0	24	37	23	1	84	988
17:15	2	11	301	23	0	337	2	31	374	22	2	429	0	36	45	21	1	102	0	20	44	16	1	80	948
17:30	1	14	301	27	0	343	4	26	382	13	4	425	0	33	56	20	2	109	0	32	47	15	8	94	971
17:45	1	8	279	13	1	301	4	38	383	18	1	443	0	41	41	23	2	105	0	24	42	9	1	75	924
Hourly Total	6	41	1227	89	2	1363	16	128	1488	76	7	1708	0	139	194	94	6	427	0	100	170	63	11	333	3831
Grand Total	13	230	4544	402	12	5189	36	498	5916	364	19	6814	0	499	642	359	21	1500	0	396	777	216	41	1389	14892
Approach %	0.3	4.4	87.6	7.7	-	-	0.5	7.3	86.8	5.3	-	-	0.0	33.3	42.8	23.9	-	-	0.0	28.5	55.9	15.6	-	-	-
Total %	0.1	1.5	30.5	2.7	-	34.8	0.2	3.3	39.7	2.4	-	45.8	0.0	3.4	4.3	2.4	-	10.1	0.0	2.7	5.2	1.5	-	9.3	-
Lights	13	222	4368	395	7	4998	36	488	5670	359	13	6553	0	491	625	352	17	1468	0	380	751	209	23	1340	14359
% Lights	100.0	96.5	96.1	98.3	58.3	96.3	100.0	98.0	95.8	98.6	68.4	96.2	-	98.4	97.4	98.1	81.0	97.9	-	96.0	96.7	96.8	56.1	96.5	96.4
Other Vehicles	0	8	176	7	5	191	0	10	246	5	6	261	0	7	17	7	4	31	0	16	26	7	18	49	532
% Other Vehicles	0.0	3.5	3.9	1.7	41.7	3.7	0.0	2.0	4.2	1.4	31.6	3.8	-	1.4	2.6	1.9	19.0	2.1	-	4.0	3.3	3.2	43.9	3.5	3.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.2	0.0	0.0	0.0	0.1	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Data Plot

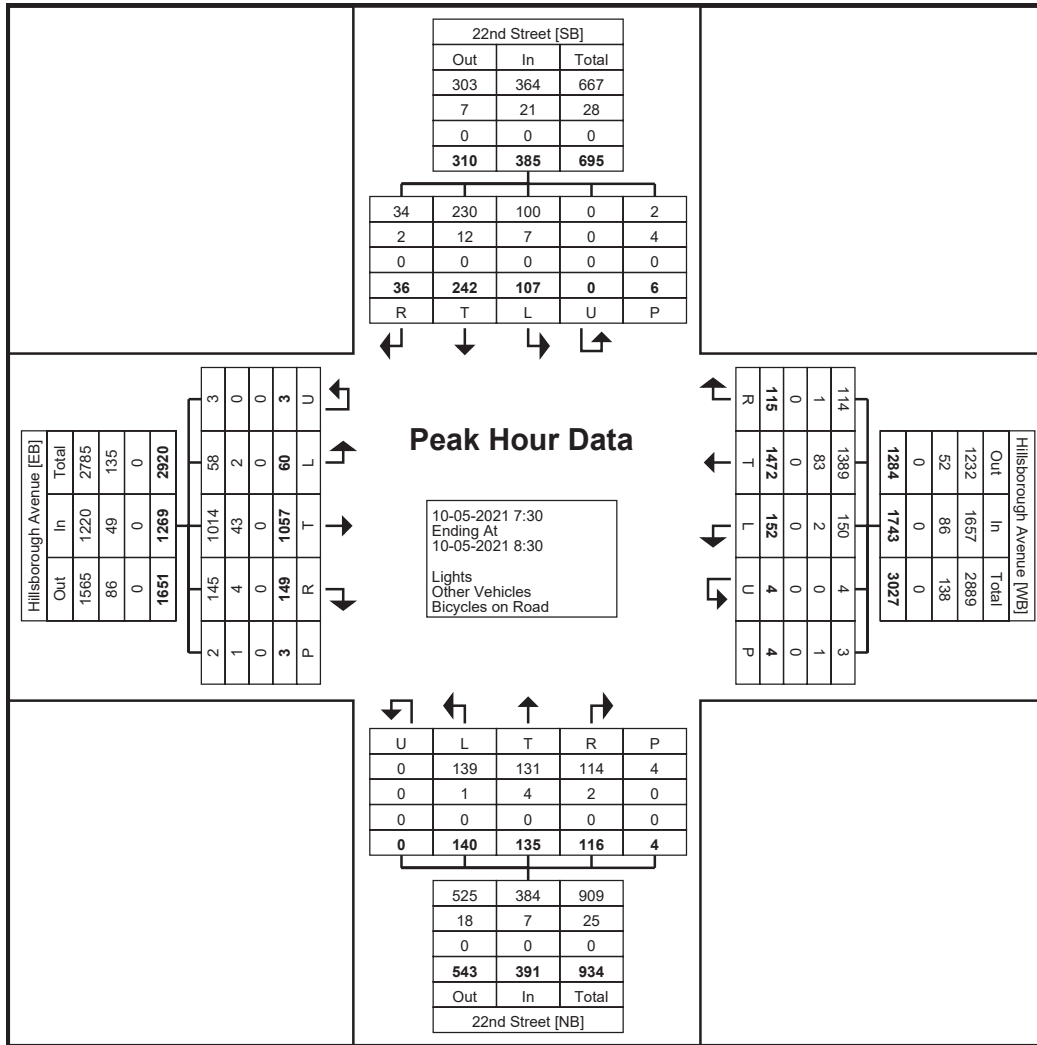
Hillsborough Avenue @ 22nd Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 8_Hillsborough Avenue @ 22nd Street
Site Code: 8
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:30)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						22nd Street Northbound						22nd Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	0	15	270	27	1	312	1	19	376	32	1	428	0	18	33	18	1	69	0	25	48	12	2	85	894
7:45	2	19	267	33	1	321	1	45	400	31	2	477	0	30	32	24	1	86	0	23	61	7	1	91	975
8:00	0	20	301	46	0	367	1	42	368	34	1	445	0	38	38	31	2	107	0	29	65	7	1	101	1020
8:15	1	6	219	43	1	269	1	46	328	18	0	393	0	54	32	43	0	129	0	30	68	10	2	108	899
Total	3	60	1057	149	3	1269	4	152	1472	115	4	1743	0	140	135	116	4	391	0	107	242	36	6	385	3788
Approach %	0.2	4.7	83.3	11.7	-	-	0.2	8.7	84.5	6.6	-	-	0.0	35.8	34.5	29.7	-	-	0.0	27.8	62.9	9.4	-	-	-
Total %	0.1	1.6	27.9	3.9	-	33.5	0.1	4.0	38.9	3.0	-	46.0	0.0	3.7	3.6	3.1	-	10.3	0.0	2.8	6.4	1.0	-	10.2	-
PHF	0.375	0.750	0.878	0.810	-	0.864	1.000	0.826	0.920	0.846	-	0.914	0.000	0.648	0.888	0.674	-	0.758	0.000	0.892	0.890	0.750	-	0.891	0.928
Lights	3	58	1014	145	2	1220	4	150	1389	114	3	1657	0	139	131	114	4	384	0	100	230	34	2	364	3625
% Lights	100.0	96.7	95.9	97.3	66.7	96.1	100.0	98.7	94.4	99.1	75.0	95.1	-	99.3	97.0	98.3	100.0	98.2	-	93.5	95.0	94.4	33.3	94.5	95.7
Other Vehicles	0	2	43	4	1	49	0	2	83	1	1	86	0	1	4	2	0	7	0	7	12	2	4	21	163
% Other Vehicles	0.0	3.3	4.1	2.7	33.3	3.9	0.0	1.3	5.6	0.9	25.0	4.9	-	0.7	3.0	1.7	0.0	1.8	-	6.5	5.0	5.6	66.7	5.5	4.3
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (7:30)

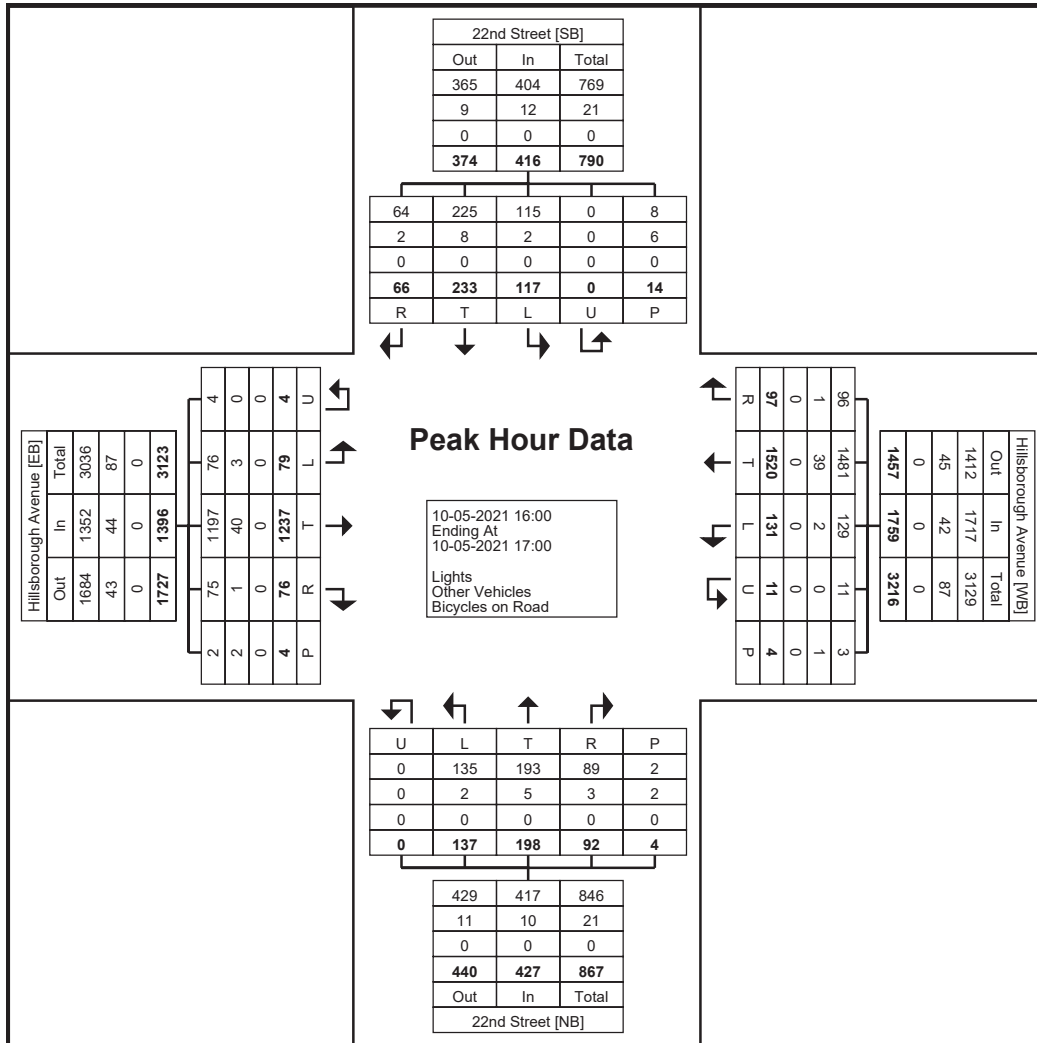
Hillsborough Avenue @ 22nd Street
Weekday TMC

Florida Transportation Engineering, Inc.
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8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 8_Hillsborough Avenue @ 22nd Street
Site Code: 8
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:00)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						22nd Street Northbound						22nd Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:00	0	23	326	25	0	374	5	28	373	31	0	437	0	46	51	30	1	127	0	21	60	25	0	106	1044
16:15	3	19	288	20	2	330	1	44	378	29	4	452	0	27	47	24	1	98	0	36	54	16	5	106	986
16:30	0	21	327	20	2	368	2	30	387	21	0	440	0	34	58	20	2	112	0	34	62	12	2	108	1028
16:45	1	16	296	11	0	324	3	29	382	16	0	430	0	30	42	18	0	90	0	26	57	13	7	96	940
Total	4	79	1237	76	4	1396	11	131	1520	97	4	1759	0	137	198	92	4	427	0	117	233	66	14	416	3998
Approach %	0.3	5.7	88.6	5.4	-	-	0.6	7.4	86.4	5.5	-	-	0.0	32.1	46.4	21.5	-	-	0.0	28.1	56.0	15.9	-	-	-
Total %	0.1	2.0	30.9	1.9	-	34.9	0.3	3.3	38.0	2.4	-	44.0	0.0	3.4	5.0	2.3	-	10.7	0.0	2.9	5.8	1.7	-	10.4	-
PHF	0.333	0.859	0.946	0.760	-	0.933	0.550	0.744	0.982	0.782	-	0.973	0.000	0.745	0.853	0.767	-	0.841	0.000	0.813	0.940	0.660	-	0.963	0.957
Lights	4	76	1197	75	2	1352	11	129	1481	96	3	1717	0	135	193	89	2	417	0	115	225	64	8	404	3890
% Lights	100.0	96.2	96.8	98.7	50.0	96.8	100.0	98.5	97.4	99.0	75.0	97.6	-	98.5	97.5	96.7	50.0	97.7	-	98.3	96.6	97.0	57.1	97.1	97.3
Other Vehicles	0	3	40	1	2	44	0	2	39	1	1	42	0	2	5	3	2	10	0	2	8	2	6	12	108
% Other Vehicles	0.0	3.8	3.2	1.3	50.0	3.2	0.0	1.5	2.6	1.0	25.0	2.4	-	1.5	2.5	3.3	50.0	2.3	-	1.7	3.4	3.0	42.9	2.9	2.7
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (16:00)

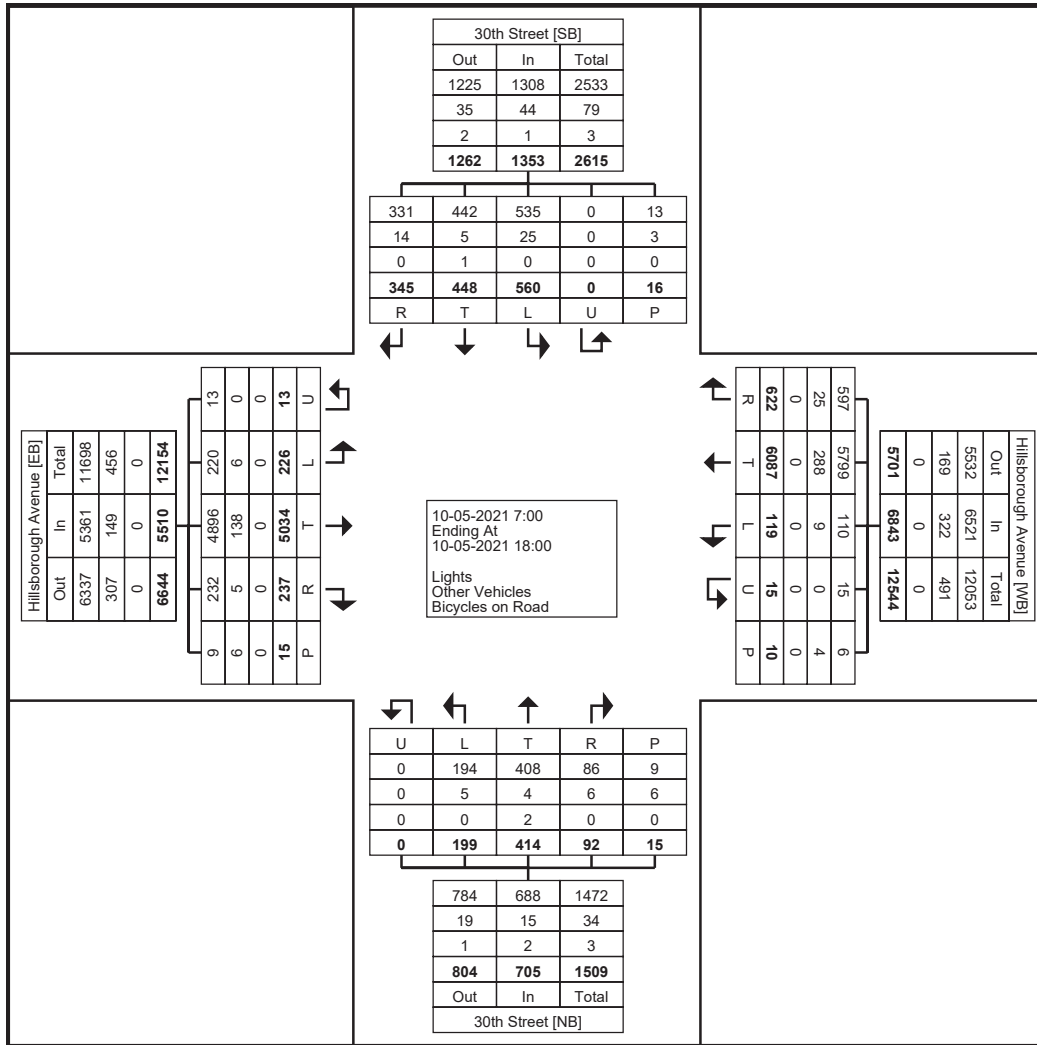
Hillsborough Avenue @ 30th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 9_Hillsborough Avenue @ 30th Street
Site Code: 9
Start Date: 10-05-2021
Page No: 1

Turning Movement Data

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						30th Street Northbound						30th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	5	260	23	2	288	0	7	347	44	2	398	0	6	6	2	1	14	0	21	14	15	3	50	750
7:15	0	13	236	6	1	255	0	4	410	37	0	451	0	7	14	3	1	24	0	31	18	11	1	60	790
7:30	0	15	271	12	1	298	0	8	418	45	0	471	0	10	31	5	0	46	0	43	30	23	0	96	911
7:45	2	20	296	15	1	333	1	6	426	49	0	482	0	13	17	1	0	31	0	34	22	32	0	88	934
Hourly Total	2	53	1063	56	5	1174	1	25	1601	175	2	1802	0	36	68	11	2	115	0	129	84	81	4	294	3385
8:00	2	19	321	16	0	358	0	9	412	37	0	458	0	15	27	7	0	49	0	27	30	19	0	76	941
8:15	0	15	254	13	2	282	0	4	391	40	0	435	0	10	28	5	0	43	0	31	27	21	0	79	839
8:30	1	9	259	9	2	278	0	9	330	36	1	375	0	6	32	4	0	42	0	48	28	32	0	108	803
8:45	0	10	316	12	3	338	0	4	367	31	0	402	0	8	10	7	2	25	0	13	24	14	0	51	816
Hourly Total	3	53	1150	50	7	1256	0	26	1500	144	1	1670	0	39	97	23	2	159	0	119	109	86	0	314	3399
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	15	369	19	2	403	0	14	380	50	2	444	0	18	20	9	1	47	0	43	33	28	1	104	998
16:15	1	14	340	15	0	370	2	8	395	33	3	438	0	13	40	10	1	63	0	41	32	23	3	96	967
16:30	1	24	376	14	0	415	0	9	388	39	0	436	0	13	41	9	0	63	0	50	37	32	0	119	1033
16:45	2	15	316	21	0	354	0	8	346	42	0	396	0	11	28	8	0	47	0	40	28	25	3	93	890
Hourly Total	4	68	1401	69	2	1542	2	39	1509	164	5	1714	0	55	129	36	2	220	0	174	130	108	7	412	3888
17:00	1	10	403	10	1	424	3	8	332	31	0	374	0	17	29	5	2	51	0	49	31	21	4	101	950
17:15	0	14	355	15	0	384	1	8	386	33	0	428	0	21	40	7	0	68	0	33	36	18	0	87	967
17:30	0	17	343	14	0	374	5	4	381	41	2	431	0	15	27	4	4	46	0	38	35	15	0	88	939
17:45	3	11	319	23	0	356	3	9	378	34	0	424	0	16	24	6	3	46	0	18	23	16	1	57	883
Hourly Total	4	52	1420	62	1	1538	12	29	1477	139	2	1657	0	69	120	22	9	211	0	138	125	70	5	333	3739
Grand Total	13	226	5034	237	15	5510	15	119	6087	622	10	6843	0	199	414	92	15	705	0	560	448	345	16	1353	14411
Approach %	0.2	4.1	91.4	4.3	-	-	0.2	1.7	89.0	9.1	-	-	0.0	28.2	58.7	13.0	-	-	0.0	41.4	33.1	25.5	-	-	-
Total %	0.1	1.6	34.9	1.6	-	38.2	0.1	0.8	42.2	4.3	-	47.5	0.0	1.4	2.9	0.6	-	4.9	0.0	3.9	3.1	2.4	-	9.4	-
Lights	13	220	4896	232	9	5361	15	110	5799	597	6	6521	0	194	408	86	9	688	0	535	442	331	13	1308	13878
% Lights	100.0	97.3	97.3	97.9	60.0	97.3	100.0	92.4	95.3	96.0	60.0	95.3	-	97.5	98.6	93.5	60.0	97.6	-	95.5	98.7	95.9	81.3	96.7	96.3
Other Vehicles	0	6	138	5	6	149	0	9	288	25	4	322	0	5	4	6	6	15	0	25	5	14	3	44	530
% Other Vehicles	0.0	2.7	2.7	2.1	40.0	2.7	0.0	7.6	4.7	4.0	40.0	4.7	-	2.5	1.0	6.5	40.0	2.1	-	4.5	1.1	4.1	18.8	3.3	3.7
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	0	1	3
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.5	0.0	0.0	0.3	-	0.0	0.2	0.0	0.0	0.1	0.0



Turning Movement Data Plot

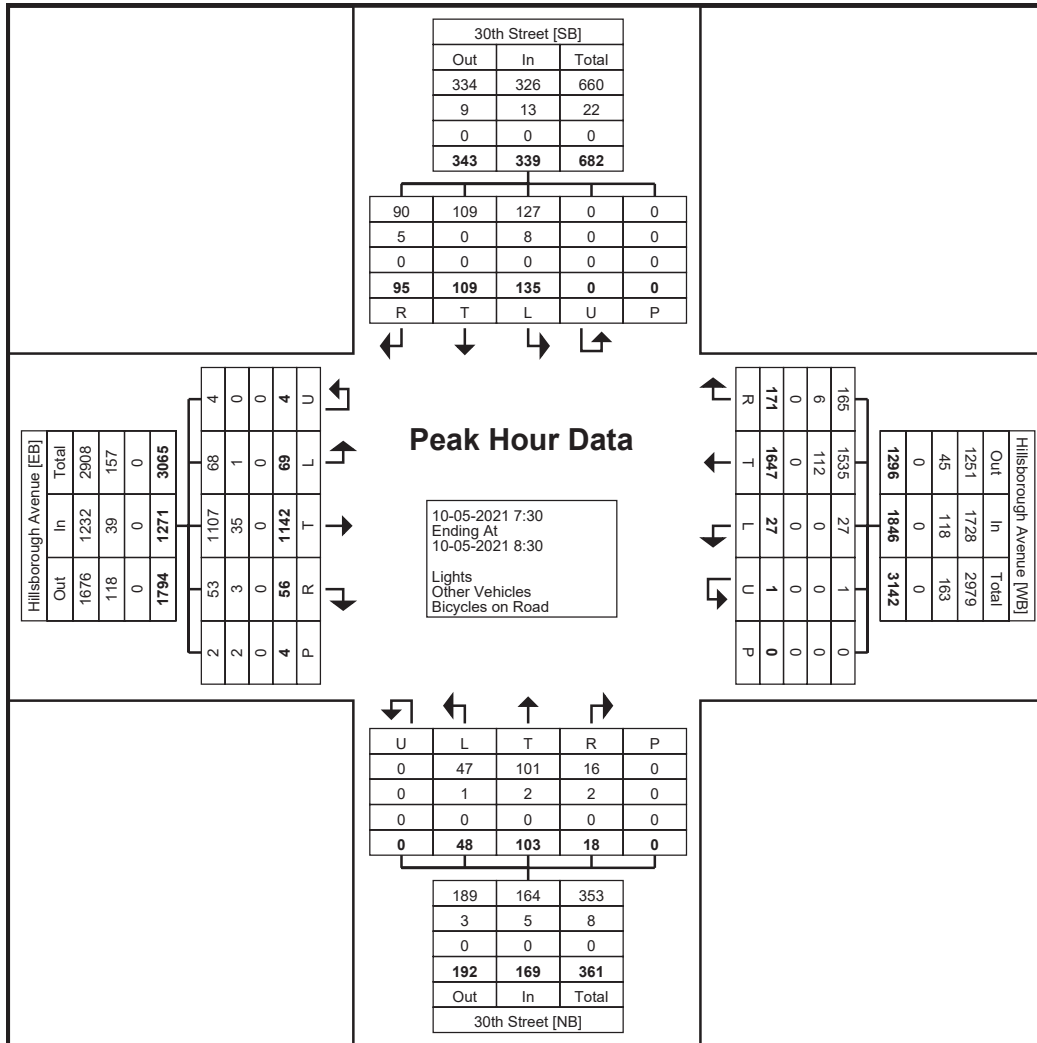
Hillsborough Avenue @ 30th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 9_Hillsborough Avenue @ 30th Street
Site Code: 9
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:30)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						30th Street Northbound						30th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	0	15	271	12	1	298	0	8	418	45	0	471	0	10	31	5	0	46	0	43	30	23	0	96	911
7:45	2	20	296	15	1	333	1	6	426	49	0	482	0	13	17	1	0	31	0	34	22	32	0	88	934
8:00	2	19	321	16	0	358	0	9	412	37	0	458	0	15	27	7	0	49	0	27	30	19	0	76	941
8:15	0	15	254	13	2	282	0	4	391	40	0	435	0	10	28	5	0	43	0	31	27	21	0	79	839
Total	4	69	1142	56	4	1271	1	27	1647	171	0	1846	0	48	103	18	0	169	0	135	109	95	0	339	3625
Approach %	0.3	5.4	89.9	4.4	-	-	0.1	1.5	89.2	9.3	-	-	0.0	28.4	60.9	10.7	-	-	0.0	39.8	32.2	28.0	-	-	-
Total %	0.1	1.9	31.5	1.5	-	35.1	0.0	0.7	45.4	4.7	-	50.9	0.0	1.3	2.8	0.5	-	4.7	0.0	3.7	3.0	2.6	-	9.4	-
PHF	0.500	0.863	0.889	0.875	-	0.888	0.250	0.750	0.967	0.872	-	0.957	0.000	0.800	0.831	0.643	-	0.862	0.000	0.785	0.908	0.742	-	0.883	0.963
Lights	4	68	1107	53	2	1232	1	27	1535	165	0	1728	0	47	101	16	0	164	0	127	109	90	0	326	3450
% Lights	100.0	98.6	96.9	94.6	50.0	96.9	100.0	100.0	93.2	96.5	-	93.6	-	97.9	98.1	88.9	-	97.0	-	94.1	100.0	94.7	-	96.2	95.2
Other Vehicles	0	1	35	3	2	39	0	0	112	6	0	118	0	1	2	2	0	5	0	8	0	5	0	13	175
% Other Vehicles	0.0	1.4	3.1	5.4	50.0	3.1	0.0	0.0	6.8	3.5	-	6.4	-	2.1	1.9	11.1	-	3.0	-	5.9	0.0	5.3	-	3.8	4.8
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0



Turning Movement Peak Hour Data Plot (7:30)

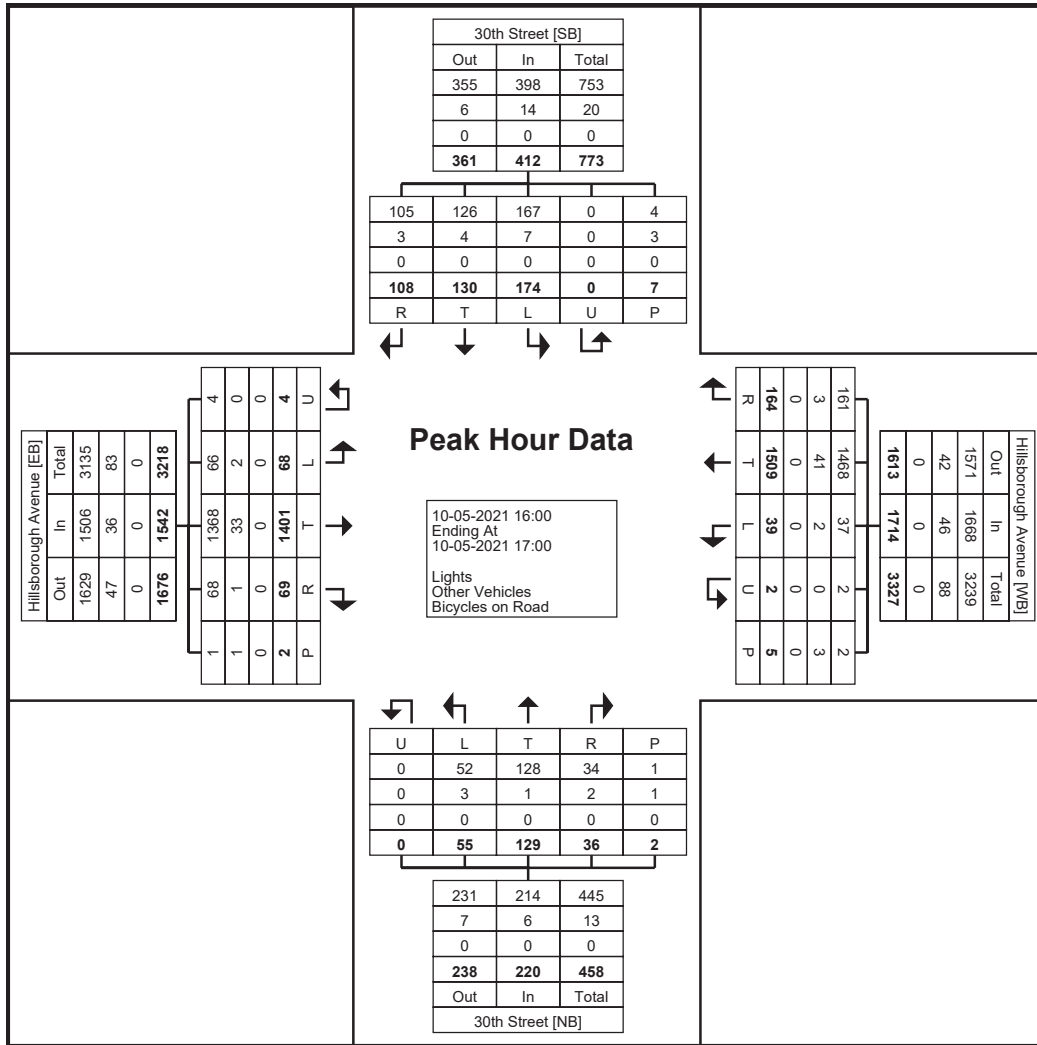
Hillsborough Avenue @ 30th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 9_Hillsborough Avenue @ 30th Street
Site Code: 9
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:00)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						30th Street Northbound						30th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:00	0	15	369	19	2	403	0	14	380	50	2	444	0	18	20	9	1	47	0	43	33	28	1	104	998
16:15	1	14	340	15	0	370	2	8	395	33	3	438	0	13	40	10	1	63	0	41	32	23	3	96	967
16:30	1	24	376	14	0	415	0	9	388	39	0	436	0	13	41	9	0	63	0	50	37	32	0	119	1033
16:45	2	15	316	21	0	354	0	8	346	42	0	396	0	11	28	8	0	47	0	40	28	25	3	93	890
Total	4	68	1401	69	2	1542	2	39	1509	164	5	1714	0	55	129	36	2	220	0	174	130	108	7	412	3888
Approach %	0.3	4.4	90.9	4.5	-	-	0.1	2.3	88.0	9.6	-	-	0.0	25.0	58.6	16.4	-	-	0.0	42.2	31.6	26.2	-	-	-
Total %	0.1	1.7	36.0	1.8	-	39.7	0.1	1.0	38.8	4.2	-	44.1	0.0	1.4	3.3	0.9	-	5.7	0.0	4.5	3.3	2.8	-	10.6	-
PHF	0.500	0.708	0.932	0.821	-	0.929	0.250	0.696	0.955	0.820	-	0.965	0.000	0.764	0.787	0.900	-	0.873	0.000	0.870	0.878	0.844	-	0.866	0.941
Lights	4	66	1368	68	1	1506	2	37	1468	161	2	1668	0	52	128	34	1	214	0	167	126	105	4	398	3786
% Lights	100.0	97.1	97.6	98.6	50.0	97.7	100.0	94.9	97.3	98.2	40.0	97.3	-	94.5	99.2	94.4	50.0	97.3	-	96.0	96.9	97.2	57.1	96.6	97.4
Other Vehicles	0	2	33	1	1	36	0	2	41	3	3	46	0	3	1	2	1	6	0	7	4	3	3	14	102
% Other Vehicles	0.0	2.9	2.4	1.4	50.0	2.3	0.0	5.1	2.7	1.8	60.0	2.7	-	5.5	0.8	5.6	50.0	2.7	-	4.0	3.1	2.8	42.9	3.4	2.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (16:00)

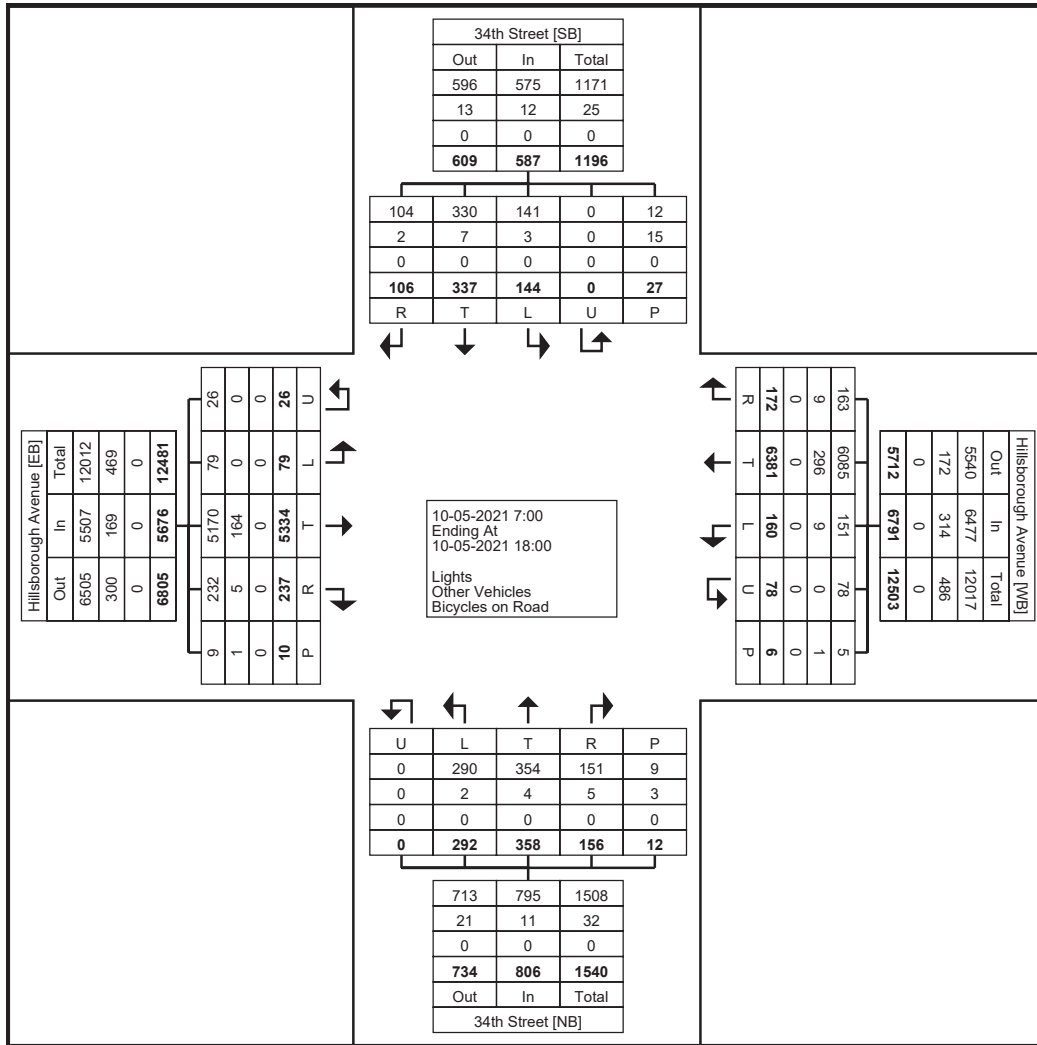
Hillsborough Avenue @ 34th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 10_Hillsborough Avenue @ 34th Street
Site Code: 10
Start Date: 10-05-2021
Page No: 1

Turning Movement Data

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						34th Street Northbound						34th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	1	282	5	1	288	0	6	355	2	0	363	0	8	10	1	2	19	0	5	7	2	2	14	684
7:15	0	2	246	7	0	255	0	7	392	5	0	404	0	7	22	4	0	33	0	10	22	1	1	33	725
7:30	2	2	304	7	0	315	5	14	423	7	1	449	0	19	15	9	0	43	0	12	16	10	0	38	845
7:45	0	7	324	16	0	347	4	7	462	8	0	481	0	13	20	10	1	43	0	11	31	5	0	47	918
Hourly Total	2	12	1156	35	1	1205	9	34	1632	22	1	1697	0	47	67	24	3	138	0	38	76	18	3	132	3172
8:00	0	3	334	10	0	347	3	13	422	7	0	445	0	13	16	10	0	39	0	11	23	15	2	49	880
8:15	3	6	260	16	1	285	5	16	384	15	0	420	0	14	20	11	0	45	0	11	26	8	0	45	795
8:30	1	4	300	15	1	320	4	5	383	7	0	399	0	18	13	5	1	36	0	6	17	9	1	32	787
8:45	3	2	295	24	0	324	5	9	390	5	0	409	0	12	15	3	0	30	0	8	10	5	2	23	786
Hourly Total	7	15	1189	65	2	1276	17	43	1579	34	0	1673	0	57	64	29	1	150	0	36	76	37	5	149	3248
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	3	380	26	2	409	7	11	418	20	1	456	0	25	26	11	2	62	0	9	19	8	3	36	963
16:15	4	8	362	12	2	386	6	16	392	14	0	428	0	28	31	18	1	77	0	11	24	8	2	43	934
16:30	1	6	405	23	0	435	5	9	418	13	0	445	0	22	31	13	2	66	0	8	28	7	1	43	989
16:45	3	4	347	18	0	372	8	9	364	15	0	396	0	21	31	11	1	63	0	13	32	2	6	47	878
Hourly Total	8	21	1494	79	4	1602	26	45	1592	62	1	1725	0	96	119	53	6	268	0	41	103	25	12	169	3764
17:00	3	13	440	17	1	473	9	2	380	12	2	403	0	22	27	14	1	63	0	8	21	7	0	36	975
17:15	3	8	362	21	0	394	4	14	392	9	2	419	0	19	31	15	0	65	0	5	20	6	0	31	909
17:30	3	8	361	11	1	383	7	7	406	21	0	441	0	24	17	14	1	55	0	10	22	4	2	36	915
17:45	0	2	332	9	1	343	6	15	400	12	0	433	0	27	33	7	0	67	0	6	19	9	5	34	877
Hourly Total	9	31	1495	58	3	1593	26	38	1578	54	4	1696	0	92	108	50	2	250	0	29	82	26	7	137	3676
Grand Total	26	79	5334	237	10	5676	78	160	6381	172	6	6791	0	292	358	156	12	806	0	144	337	106	27	587	13860
Approach %	0.5	1.4	94.0	4.2	-	-	1.1	2.4	94.0	2.5	-	-	0.0	36.2	44.4	19.4	-	-	0.0	24.5	57.4	18.1	-	-	-
Total %	0.2	0.6	38.5	1.7	-	41.0	0.6	1.2	46.0	1.2	-	49.0	0.0	2.1	2.6	1.1	-	5.8	0.0	1.0	2.4	0.8	-	4.2	-
Lights	26	79	5170	232	9	5507	78	151	6085	163	5	6477	0	290	354	151	9	795	0	141	330	104	12	575	13354
% Lights	100.0	100.0	96.9	97.9	90.0	97.0	100.0	94.4	95.4	94.8	83.3	95.4	-	99.3	98.9	96.8	75.0	98.6	-	97.9	97.9	98.1	44.4	98.0	96.3
Other Vehicles	0	0	164	5	1	169	0	9	296	9	1	314	0	2	4	5	3	11	0	3	7	2	15	12	506
% Other Vehicles	0.0	0.0	3.1	2.1	10.0	3.0	0.0	5.6	4.6	5.2	16.7	4.6	-	0.7	1.1	3.2	25.0	1.4	-	2.1	2.1	1.9	55.6	2.0	3.7
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Data Plot

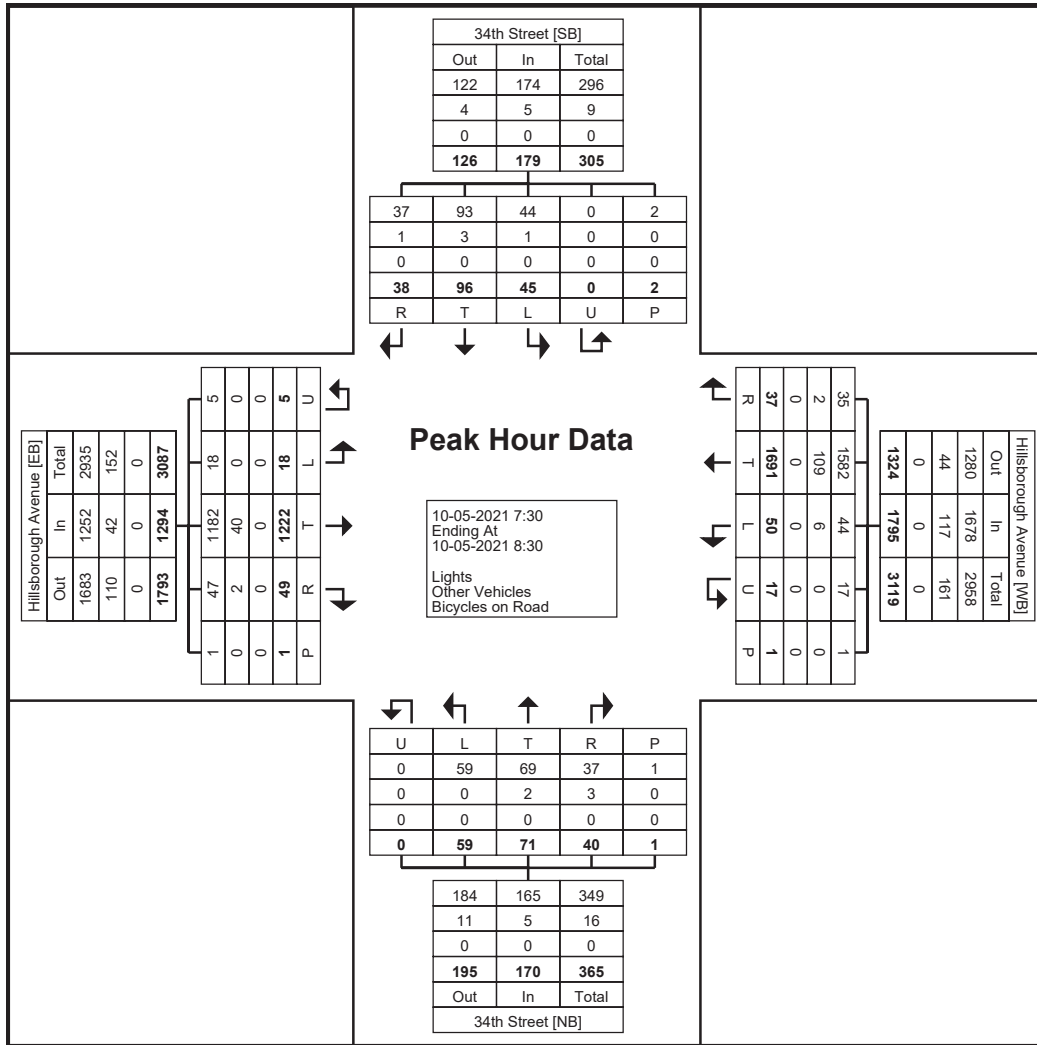
Hillsborough Avenue @ 34th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 10_Hillsborough Avenue @ 34th Street
Site Code: 10
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:30)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						34th Street Northbound						34th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	2	2	304	7	0	315	5	14	423	7	1	449	0	19	15	9	0	43	0	12	16	10	0	38	845
7:45	0	7	324	16	0	347	4	7	462	8	0	481	0	13	20	10	1	43	0	11	31	5	0	47	918
8:00	0	3	334	10	0	347	3	13	422	7	0	445	0	13	16	10	0	39	0	11	23	15	2	49	880
8:15	3	6	260	16	1	285	5	16	384	15	0	420	0	14	20	11	0	45	0	11	26	8	0	45	795
Total	5	18	1222	49	1	1294	17	50	1691	37	1	1795	0	59	71	40	1	170	0	45	96	38	2	179	3438
Approach %	0.4	1.4	94.4	3.8	-	-	0.9	2.8	94.2	2.1	-	-	0.0	34.7	41.8	23.5	-	-	0.0	25.1	53.6	21.2	-	-	-
Total %	0.1	0.5	35.5	1.4	-	37.6	0.5	1.5	49.2	1.1	-	52.2	0.0	1.7	2.1	1.2	-	4.9	0.0	1.3	2.8	1.1	-	5.2	-
PHF	0.417	0.643	0.915	0.766	-	0.932	0.850	0.781	0.915	0.617	-	0.933	0.000	0.776	0.888	0.909	-	0.944	0.000	0.938	0.774	0.633	-	0.913	0.936
Lights	5	18	1182	47	1	1252	17	44	1582	35	1	1678	0	59	69	37	1	165	0	44	93	37	2	174	3269
% Lights	100.0	100.0	96.7	95.9	100.0	96.8	100.0	88.0	93.6	94.6	100.0	93.5	-	100.0	97.2	92.5	100.0	97.1	-	97.8	96.9	97.4	100.0	97.2	95.1
Other Vehicles	0	0	40	2	0	42	0	6	109	2	0	117	0	0	2	3	0	5	0	1	3	1	0	5	169
% Other Vehicles	0.0	0.0	3.3	4.1	0.0	3.2	0.0	12.0	6.4	5.4	0.0	6.5	-	0.0	2.8	7.5	0.0	2.9	-	2.2	3.1	2.6	0.0	2.8	4.9
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (7:30)

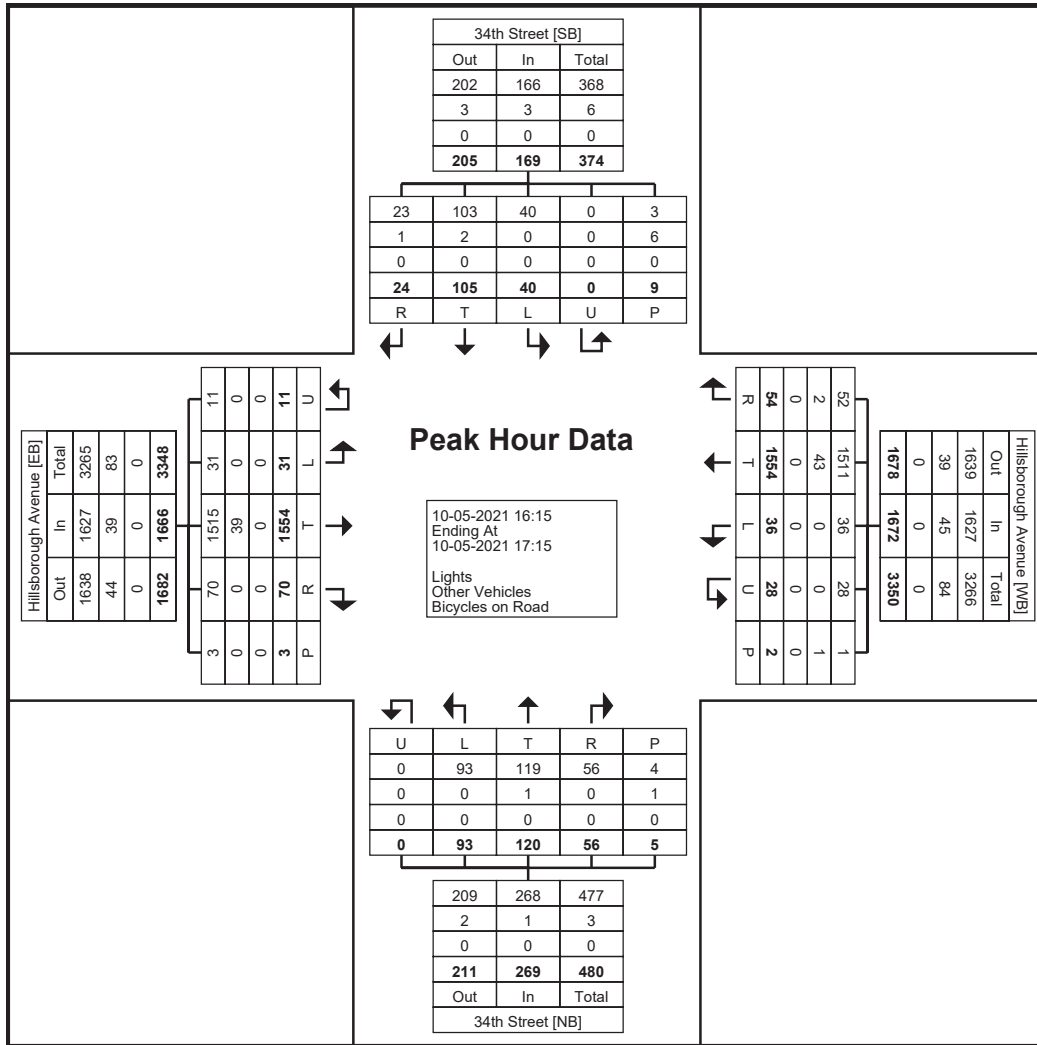
Hillsborough Avenue @ 34th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 10_Hillsborough Avenue @ 34th Street
Site Code: 10
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:15)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						34th Street Northbound						34th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:15	4	8	362	12	2	386	6	16	392	14	0	428	0	28	31	18	1	77	0	11	24	8	2	43	934
16:30	1	6	405	23	0	435	5	9	418	13	0	445	0	22	31	13	2	66	0	8	28	7	1	43	989
16:45	3	4	347	18	0	372	8	9	364	15	0	396	0	21	31	11	1	63	0	13	32	2	6	47	878
17:00	3	13	440	17	1	473	9	2	380	12	2	403	0	22	27	14	1	63	0	8	21	7	0	36	975
Total	11	31	1554	70	3	1666	28	36	1554	54	2	1672	0	93	120	56	5	269	0	40	105	24	9	169	3776
Approach %	0.7	1.9	93.3	4.2	-	-	1.7	2.2	92.9	3.2	-	-	0.0	34.6	44.6	20.8	-	-	0.0	23.7	62.1	14.2	-	-	-
Total %	0.3	0.8	41.2	1.9	-	44.1	0.7	1.0	41.2	1.4	-	44.3	0.0	2.5	3.2	1.5	-	7.1	0.0	1.1	2.8	0.6	-	4.5	-
PHF	0.688	0.596	0.883	0.761	-	0.881	0.778	0.563	0.929	0.900	-	0.939	0.000	0.830	0.968	0.778	-	0.873	0.000	0.769	0.820	0.750	-	0.899	0.954
Lights	11	31	1515	70	3	1627	28	36	1511	52	1	1627	0	93	119	56	4	268	0	40	103	23	3	166	3688
% Lights	100.0	100.0	97.5	100.0	100.0	97.7	100.0	100.0	97.2	96.3	50.0	97.3	-	100.0	99.2	100.0	80.0	99.6	-	100.0	98.1	95.8	33.3	98.2	97.7
Other Vehicles	0	0	39	0	0	39	0	0	43	2	1	45	0	0	1	0	1	1	0	0	2	1	6	3	88
% Other Vehicles	0.0	0.0	2.5	0.0	0.0	2.3	0.0	0.0	2.8	3.7	50.0	2.7	-	0.0	0.8	0.0	20.0	0.4	-	0.0	1.9	4.2	66.7	1.8	2.3
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (16:15)

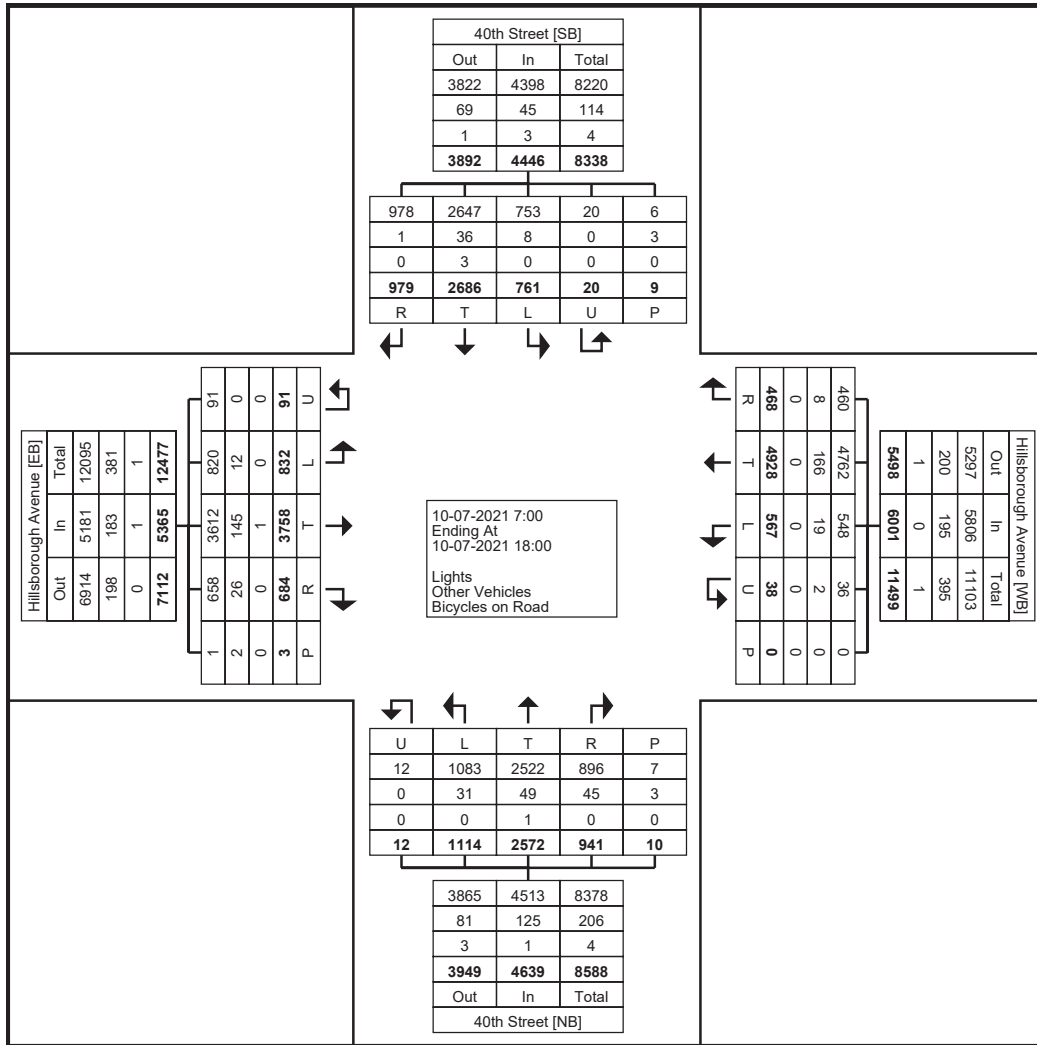
Hillsborough Avenue @ 40th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 11_Hillsborough Avenue @ 40th Street
Site Code: 11
Start Date: 10-07-2021
Page No: 1

Turning Movement Data

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						40th Street Northbound						40th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	8	25	181	49	2	263	4	24	276	18	0	322	0	72	80	36	1	188	0	42	129	64	2	235	1008
7:15	8	23	183	42	0	256	0	38	303	15	0	356	1	52	143	34	0	230	0	42	158	66	0	266	1108
7:30	6	25	184	43	0	258	1	34	320	12	0	367	3	59	115	55	0	232	0	65	180	74	2	319	1176
7:45	6	48	227	46	0	327	0	60	374	20	0	454	1	56	128	50	2	235	3	45	192	85	2	325	1341
Hourly Total	28	121	775	180	2	1104	5	156	1273	65	0	1499	5	239	466	175	3	885	3	194	659	289	6	1145	4633
8:00	8	44	200	32	0	284	3	46	269	15	0	333	0	69	128	81	2	278	4	41	173	70	0	288	1183
8:15	6	49	202	36	1	293	2	35	253	17	0	307	2	68	132	74	0	276	3	50	161	83	1	297	1173
8:30	8	47	200	38	0	293	4	26	374	16	0	420	0	63	104	34	0	201	0	41	173	63	0	277	1191
8:45	5	44	243	34	0	326	2	48	248	21	0	319	1	69	112	45	0	227	1	49	118	37	1	205	1077
Hourly Total	27	184	845	140	1	1196	11	155	1144	69	0	1379	3	269	476	234	2	982	8	181	625	253	2	1067	4624
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	7	56	279	38	0	380	2	43	306	31	0	382	0	77	207	66	0	350	3	58	174	49	0	284	1396
16:15	3	68	260	43	0	374	3	29	304	30	0	366	0	79	175	60	2	314	2	44	191	57	1	294	1348
16:30	7	66	265	48	0	386	5	33	322	45	0	405	1	69	200	69	0	339	0	48	177	58	0	283	1413
16:45	7	62	253	52	0	374	1	28	298	44	0	371	0	72	216	51	1	339	0	51	171	60	0	282	1366
Hourly Total	24	252	1057	181	0	1514	11	133	1230	150	0	1524	1	297	798	246	3	1342	5	201	713	224	1	1143	5523
17:00	4	71	283	46	0	404	5	34	320	46	0	405	1	70	205	63	2	339	3	42	181	67	0	293	1441
17:15	5	77	247	45	0	374	1	36	331	37	0	405	2	79	208	79	0	368	1	39	171	48	0	259	1406
17:30	3	63	296	58	0	420	2	25	345	51	0	423	0	81	212	65	0	358	0	53	181	59	0	293	1494
17:45	0	64	255	34	0	353	3	28	285	50	0	366	0	79	207	79	0	365	0	51	156	39	0	246	1330
Hourly Total	12	275	1081	183	0	1551	11	123	1281	184	0	1599	3	309	832	286	2	1430	4	185	689	213	0	1091	5671
Grand Total	91	832	3758	684	3	5365	38	567	4928	468	0	6001	12	1114	2572	941	10	4639	20	761	2686	979	9	4446	20451
Approach %	1.7	15.5	70.0	12.7	-	-	0.6	9.4	82.1	7.8	-	-	0.3	24.0	55.4	20.3	-	-	0.4	17.1	60.4	22.0	-	-	-
Total %	0.4	4.1	18.4	3.3	-	26.2	0.2	2.8	24.1	2.3	-	29.3	0.1	5.4	12.6	4.6	-	22.7	0.1	3.7	13.1	4.8	-	21.7	-
Lights	91	820	3612	658	1	5181	36	548	4762	460	0	5806	12	1083	2522	896	7	4513	20	753	2647	978	6	4398	19898
% Lights	100.0	98.6	96.1	96.2	33.3	96.6	94.7	96.6	96.6	98.3	-	96.8	100.0	97.2	98.1	95.2	70.0	97.3	100.0	98.9	98.5	99.9	66.7	98.9	97.3
Other Vehicles	0	12	145	26	2	183	2	19	166	8	0	195	0	31	49	45	3	125	0	8	36	1	3	45	548
% Other Vehicles	0.0	1.4	3.9	3.8	66.7	3.4	5.3	3.4	3.4	1.7	-	3.2	0.0	2.8	1.9	4.8	30.0	2.7	0.0	1.1	1.3	0.1	33.3	1.0	2.7
Bicycles on Road	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3	0	0	3	5
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0



Turning Movement Data Plot

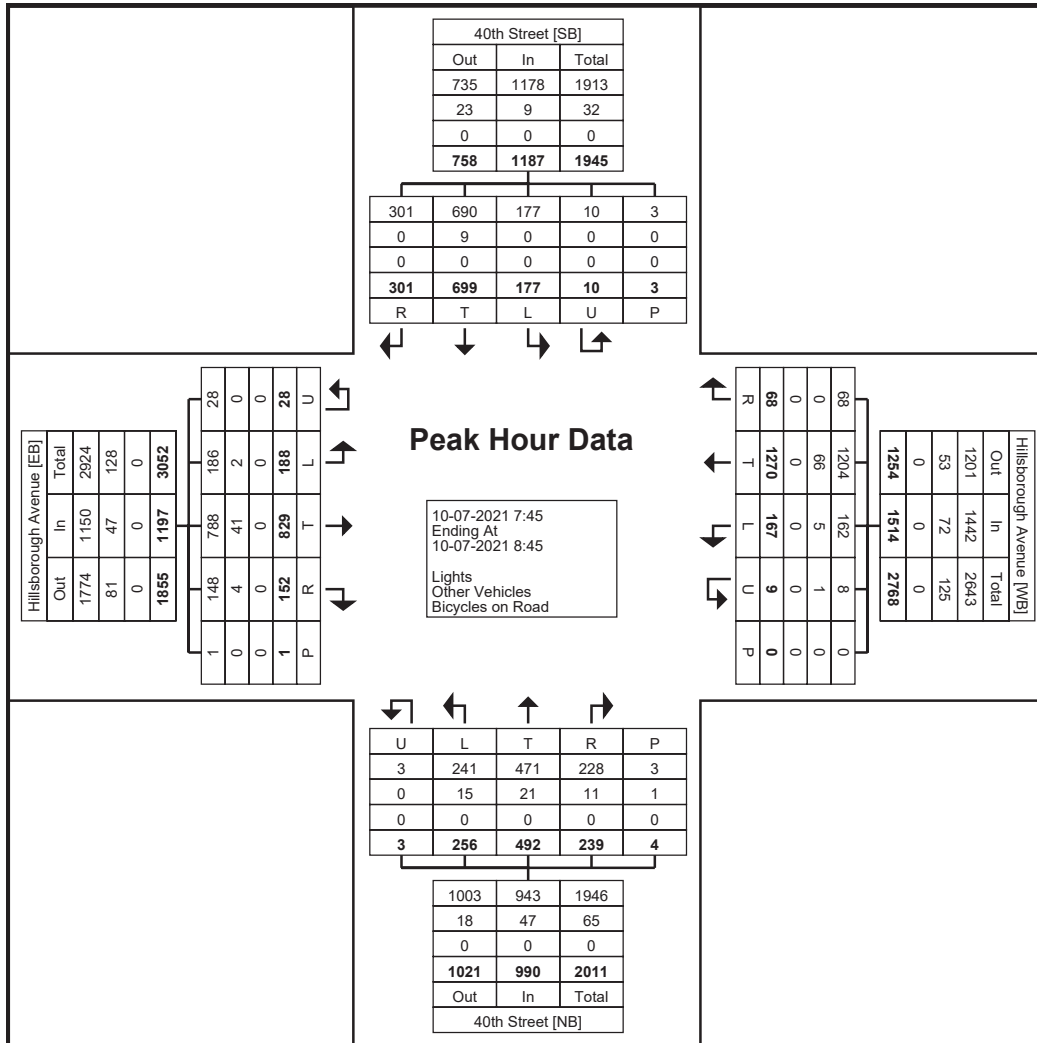
Hillsborough Avenue @ 40th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 11_Hillsborough Avenue @ 40th Street
Site Code: 11
Start Date: 10-07-2021
Page No: 3

Turning Movement Peak Hour Data (7:45)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						40th Street Northbound						40th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:45	6	48	227	46	0	327	0	60	374	20	0	454	1	56	128	50	2	235	3	45	192	85	2	325	1341
8:00	8	44	200	32	0	284	3	46	269	15	0	333	0	69	128	81	2	278	4	41	173	70	0	288	1183
8:15	6	49	202	36	1	293	2	35	253	17	0	307	2	68	132	74	0	276	3	50	161	83	1	297	1173
8:30	8	47	200	38	0	293	4	26	374	16	0	420	0	63	104	34	0	201	0	41	173	63	0	277	1191
Total	28	188	829	152	1	1197	9	167	1270	68	0	1514	3	256	492	239	4	990	10	177	699	301	3	1187	4888
Approach %	2.3	15.7	69.3	12.7	-	-	0.6	11.0	83.9	4.5	-	-	0.3	25.9	49.7	24.1	-	-	0.8	14.9	58.9	25.4	-	-	-
Total %	0.6	3.8	17.0	3.1	-	24.5	0.2	3.4	26.0	1.4	-	31.0	0.1	5.2	10.1	4.9	-	20.3	0.2	3.6	14.3	6.2	-	24.3	-
PHF	0.875	0.959	0.913	0.826	-	0.915	0.563	0.696	0.849	0.850	-	0.834	0.375	0.928	0.932	0.738	-	0.890	0.625	0.885	0.910	0.885	-	0.913	0.911
Lights	28	186	788	148	1	1150	8	162	1204	68	0	1442	3	241	471	228	3	943	10	177	690	301	3	1178	4713
% Lights	100.0	98.9	95.1	97.4	100.0	96.1	88.9	97.0	94.8	100.0	-	95.2	100.0	94.1	95.7	95.4	75.0	95.3	100.0	100.0	98.7	100.0	100.0	99.2	96.4
Other Vehicles	0	2	41	4	0	47	1	5	66	0	0	72	0	15	21	11	1	47	0	0	9	0	0	9	175
% Other Vehicles	0.0	1.1	4.9	2.6	0.0	3.9	11.1	3.0	5.2	0.0	-	4.8	0.0	5.9	4.3	4.6	25.0	4.7	0.0	0.0	1.3	0.0	0.0	0.8	3.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (7:45)

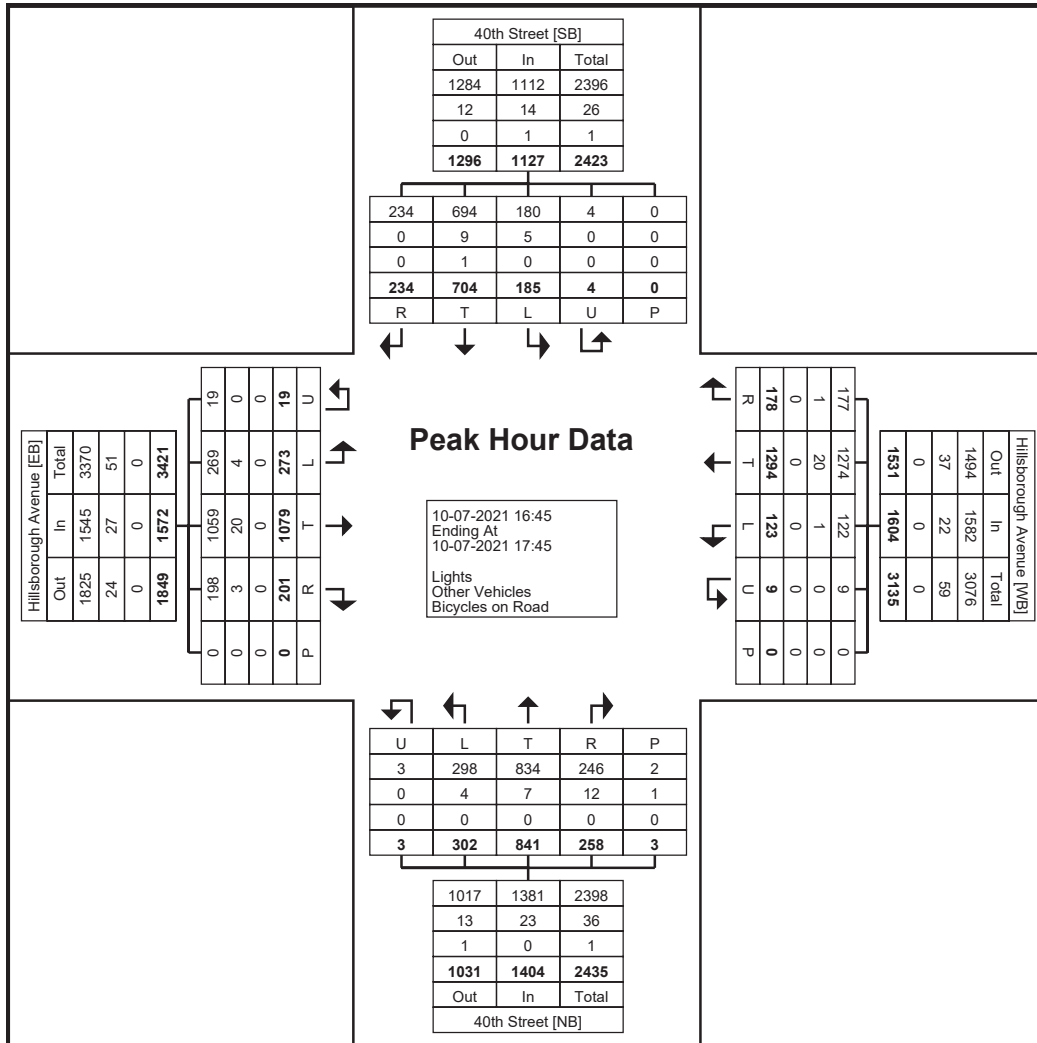
Hillsborough Avenue @ 40th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 11_Hillsborough Avenue @ 40th Street
Site Code: 11
Start Date: 10-07-2021
Page No: 5

Turning Movement Peak Hour Data (16:45)

Start Time	Hillsborough Avenue Eastbound						Hillsborough Avenue Westbound						40th Street Northbound						40th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:45	7	62	253	52	0	374	1	28	298	44	0	371	0	72	216	51	1	339	0	51	171	60	0	282	1366
17:00	4	71	283	46	0	404	5	34	320	46	0	405	1	70	205	63	2	339	3	42	181	67	0	293	1441
17:15	5	77	247	45	0	374	1	36	331	37	0	405	2	79	208	79	0	368	1	39	171	48	0	259	1406
17:30	3	63	296	58	0	420	2	25	345	51	0	423	0	81	212	65	0	358	0	53	181	59	0	293	1494
Total	19	273	1079	201	0	1572	9	123	1294	178	0	1604	3	302	841	258	3	1404	4	185	704	234	0	1127	5707
Approach %	1.2	17.4	68.6	12.8	-	-	0.6	7.7	80.7	11.1	-	-	0.2	21.5	59.9	18.4	-	-	0.4	16.4	62.5	20.8	-	-	-
Total %	0.3	4.8	18.9	3.5	-	27.5	0.2	2.2	22.7	3.1	-	28.1	0.1	5.3	14.7	4.5	-	24.6	0.1	3.2	12.3	4.1	-	19.7	-
PHF	0.679	0.886	0.911	0.866	-	0.936	0.450	0.854	0.938	0.873	-	0.948	0.375	0.932	0.973	0.816	-	0.954	0.333	0.873	0.972	0.873	-	0.962	0.955
Lights	19	269	1059	198	0	1545	9	122	1274	177	0	1582	3	298	834	246	2	1381	4	180	694	234	0	1112	5620
% Lights	100.0	98.5	98.1	98.5	-	98.3	100.0	99.2	98.5	99.4	-	98.6	100.0	98.7	99.2	95.3	66.7	98.4	100.0	97.3	98.6	100.0	-	98.7	98.5
Other Vehicles	0	4	20	3	0	27	0	1	20	1	0	22	0	4	7	12	1	23	0	5	9	0	0	14	86
% Other Vehicles	0.0	1.5	1.9	1.5	-	1.7	0.0	0.8	1.5	0.6	-	1.4	0.0	1.3	0.8	4.7	33.3	1.6	0.0	2.7	1.3	0.0	-	1.2	1.5
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-	0.1	0.0



Turning Movement Peak Hour Data Plot (16:45)

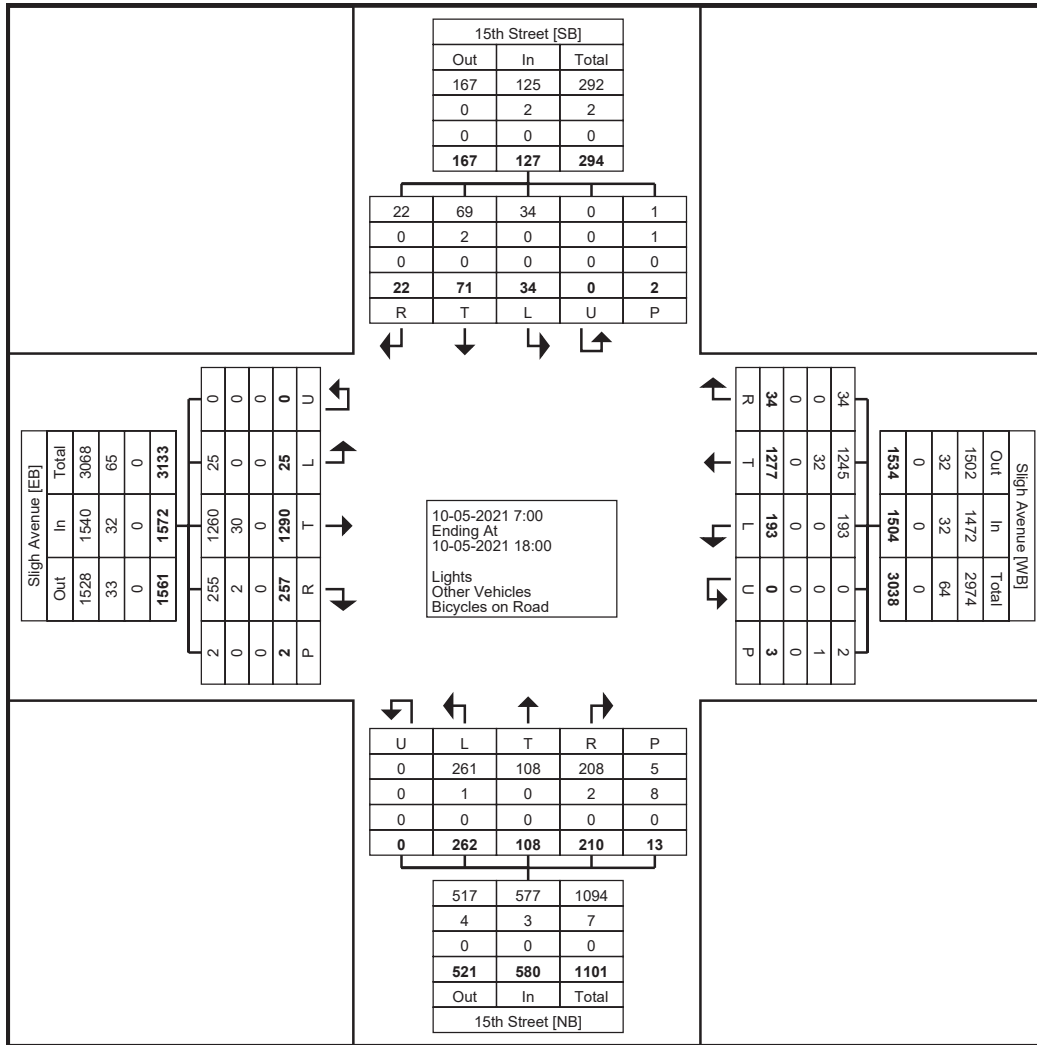
Sligh Avenue @ 15th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 12_ Sligh Avenue
@ 15th Street
Site Code: 12
Start Date: 10-05-2021
Page No: 1

Turning Movement Data

Start Time	Sligh Avenue Eastbound						Sligh Avenue Westbound						15th Street Northbound						15th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	1	58	12	0	71	0	6	76	0	0	82	0	10	0	8	2	18	0	0	6	2	1	8	179
7:15	0	0	72	15	0	87	0	19	65	0	0	84	0	13	3	9	1	25	0	3	1	3	0	7	203
7:30	0	0	69	25	1	94	0	15	85	1	0	101	0	16	4	16	1	36	0	1	9	3	0	13	244
7:45	0	1	82	12	0	95	0	19	83	2	1	104	0	13	5	12	0	30	0	1	9	1	0	11	240
Hourly Total	0	2	281	64	1	347	0	59	309	3	1	371	0	52	12	45	4	109	0	5	25	9	1	39	866
8:00	0	0	89	30	0	119	0	20	84	0	1	104	0	7	2	6	0	15	0	3	9	1	0	13	251
8:15	0	1	86	12	0	99	0	11	76	1	0	88	0	18	5	15	3	38	0	0	4	2	0	6	231
8:30	0	1	68	8	0	77	0	16	89	2	0	107	0	19	4	11	1	34	0	1	5	1	0	7	225
8:45	0	1	54	17	1	72	0	7	63	2	0	72	0	14	2	6	1	22	0	1	2	0	0	3	169
Hourly Total	0	3	297	67	1	367	0	54	312	5	1	371	0	58	13	38	5	109	0	5	20	4	0	29	876
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	4	96	17	0	117	0	6	83	4	0	93	0	21	10	13	1	44	0	6	5	1	0	12	266
16:15	0	1	87	17	0	105	0	7	93	4	0	104	0	23	8	11	0	42	0	1	1	0	0	2	253
16:30	0	4	87	18	0	109	0	10	92	2	0	104	0	18	10	19	0	47	0	3	6	0	0	9	269
16:45	0	3	91	13	0	107	0	13	76	2	0	91	0	16	8	11	0	35	0	2	4	1	0	7	240
Hourly Total	0	12	361	65	0	438	0	36	344	12	0	392	0	78	36	54	1	168	0	12	16	2	0	30	1028
17:00	0	2	78	18	0	98	0	11	82	7	0	100	0	23	10	13	0	46	0	1	2	0	0	3	247
17:15	0	1	94	15	0	110	0	9	91	3	0	103	0	22	14	17	1	53	0	6	3	2	1	11	277
17:30	0	2	78	11	0	91	0	12	72	3	0	87	0	16	8	18	0	42	0	3	3	2	0	8	228
17:45	0	3	101	17	0	121	0	12	67	1	1	80	0	13	15	25	2	53	0	2	2	3	0	7	261
Hourly Total	0	8	351	61	0	420	0	44	312	14	1	370	0	74	47	73	3	194	0	12	10	7	1	29	1013
Grand Total	0	25	1290	257	2	1572	0	193	1277	34	3	1504	0	262	108	210	13	580	0	34	71	22	2	127	3783
Approach %	0.0	1.6	82.1	16.3	-	-	0.0	12.8	84.9	2.3	-	-	0.0	45.2	18.6	36.2	-	-	0.0	26.8	55.9	17.3	-	-	-
Total %	0.0	0.7	34.1	6.8	-	41.6	0.0	5.1	33.8	0.9	-	39.8	0.0	6.9	2.9	5.6	-	15.3	0.0	0.9	1.9	0.6	-	3.4	-
Lights	0	25	1260	255	2	1540	0	193	1245	34	2	1472	0	261	108	208	5	577	0	34	69	22	1	125	3714
% Lights	-	100.0	97.7	99.2	100.0	98.0	-	100.0	97.5	100.0	66.7	97.9	-	99.6	100.0	99.0	38.5	99.5	-	100.0	97.2	100.0	50.0	98.4	98.2
Other Vehicles	0	0	30	2	0	32	0	0	32	0	1	32	0	1	0	2	8	3	0	0	2	0	1	2	69
% Other Vehicles	-	0.0	2.3	0.8	0.0	2.0	-	0.0	2.5	0.0	33.3	2.1	-	0.4	0.0	1.0	61.5	0.5	-	0.0	2.8	0.0	50.0	1.6	1.8
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Data Plot

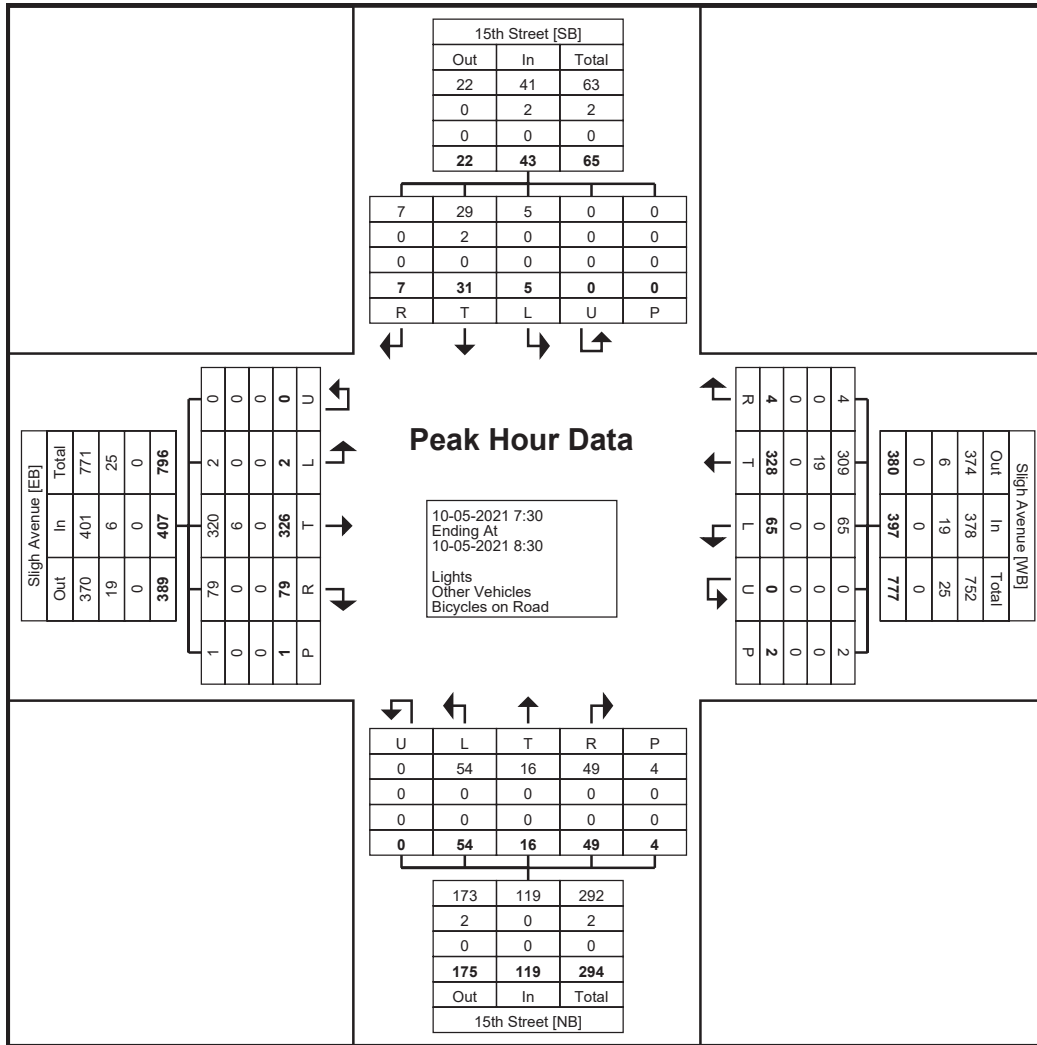
Sligh Avenue @ 15th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 12_ Sligh Avenue
@ 15th Street
Site Code: 12
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:30)

Start Time	Sligh Avenue Eastbound						Sligh Avenue Westbound						15th Street Northbound						15th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	0	0	69	25	1	94	0	15	85	1	0	101	0	16	4	16	1	36	0	1	9	3	0	13	244
7:45	0	1	82	12	0	95	0	19	83	2	1	104	0	13	5	12	0	30	0	1	9	1	0	11	240
8:00	0	0	89	30	0	119	0	20	84	0	1	104	0	7	2	6	0	15	0	3	9	1	0	13	251
8:15	0	1	86	12	0	99	0	11	76	1	0	88	0	18	5	15	3	38	0	0	4	2	0	6	231
Total	0	2	326	79	1	407	0	65	328	4	2	397	0	54	16	49	4	119	0	5	31	7	0	43	966
Approach %	0.0	0.5	80.1	19.4	-	-	0.0	16.4	82.6	1.0	-	-	0.0	45.4	13.4	41.2	-	-	0.0	11.6	72.1	16.3	-	-	-
Total %	0.0	0.2	33.7	8.2	-	42.1	0.0	6.7	34.0	0.4	-	41.1	0.0	5.6	1.7	5.1	-	12.3	0.0	0.5	3.2	0.7	-	4.5	-
PHF	0.000	0.500	0.916	0.658	-	0.855	0.000	0.813	0.965	0.500	-	0.954	0.000	0.750	0.800	0.766	-	0.783	0.000	0.417	0.861	0.583	-	0.827	0.962
Lights	0	2	320	79	1	401	0	65	309	4	2	378	0	54	16	49	4	119	0	5	29	7	0	41	939
% Lights	-	100.0	98.2	100.0	100.0	98.5	-	100.0	94.2	100.0	100.0	95.2	-	100.0	100.0	100.0	100.0	100.0	-	100.0	93.5	100.0	-	95.3	97.2
Other Vehicles	0	0	6	0	0	6	0	0	19	0	0	19	0	0	0	0	0	0	0	0	2	0	0	2	27
% Other Vehicles	-	0.0	1.8	0.0	0.0	1.5	-	0.0	5.8	0.0	0.0	4.8	-	0.0	0.0	0.0	0.0	0.0	-	0.0	6.5	0.0	-	4.7	2.8
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0



Turning Movement Peak Hour Data Plot (7:30)

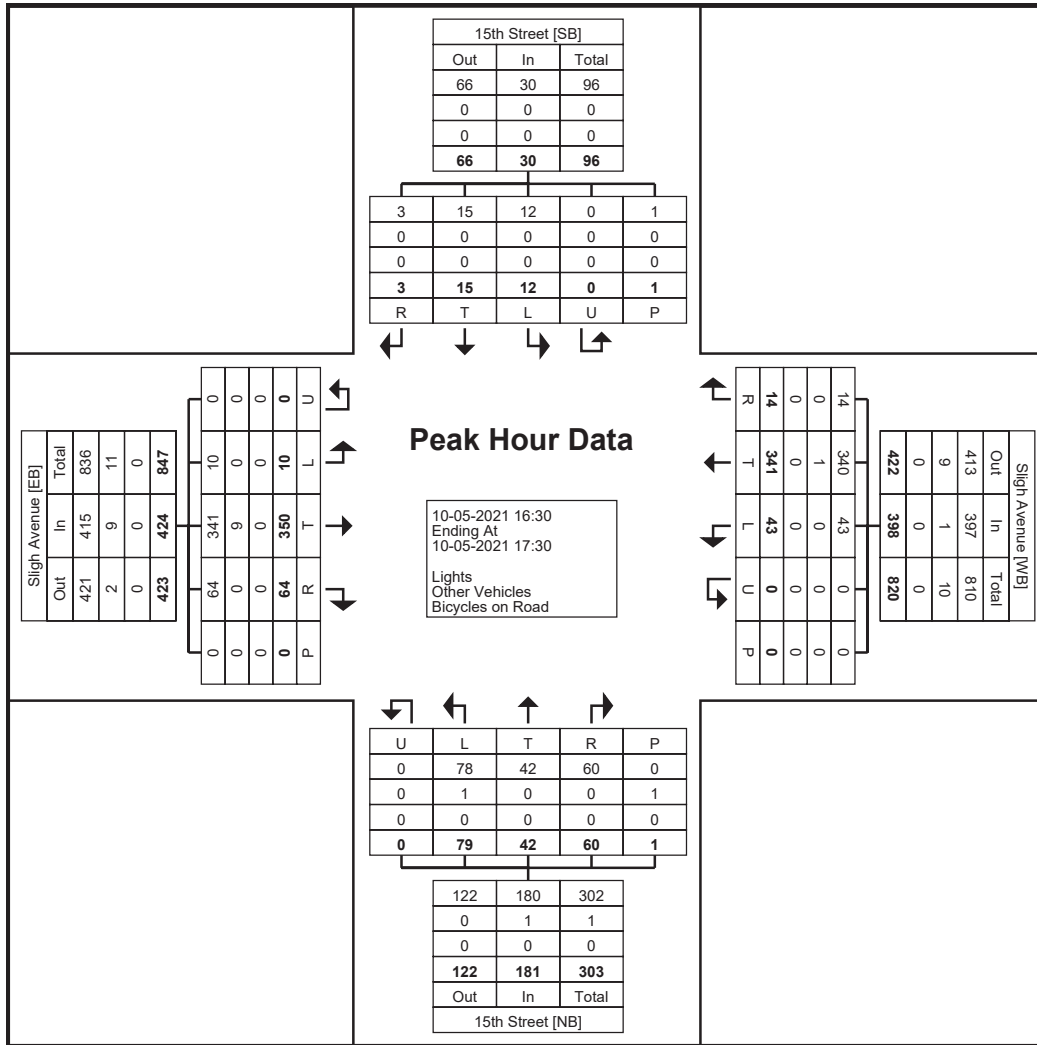
Sligh Avenue @ 15th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 12_ Sligh Avenue
@ 15th Street
Site Code: 12
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:30)

Start Time	Sligh Avenue Eastbound						Sligh Avenue Westbound						15th Street Northbound						15th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:30	0	4	87	18	0	109	0	10	92	2	0	104	0	18	10	19	0	47	0	3	6	0	0	9	269
16:45	0	3	91	13	0	107	0	13	76	2	0	91	0	16	8	11	0	35	0	2	4	1	0	7	240
17:00	0	2	78	18	0	98	0	11	82	7	0	100	0	23	10	13	0	46	0	1	2	0	0	3	247
17:15	0	1	94	15	0	110	0	9	91	3	0	103	0	22	14	17	1	53	0	6	3	2	1	11	277
Total	0	10	350	64	0	424	0	43	341	14	0	398	0	79	42	60	1	181	0	12	15	3	1	30	1033
Approach %	0.0	2.4	82.5	15.1	-	-	0.0	10.8	85.7	3.5	-	-	0.0	43.6	23.2	33.1	-	-	0.0	40.0	50.0	10.0	-	-	-
Total %	0.0	1.0	33.9	6.2	-	41.0	0.0	4.2	33.0	1.4	-	38.5	0.0	7.6	4.1	5.8	-	17.5	0.0	1.2	1.5	0.3	-	2.9	-
PHF	0.000	0.625	0.931	0.889	-	0.964	0.000	0.827	0.927	0.500	-	0.957	0.000	0.859	0.750	0.789	-	0.854	0.000	0.500	0.625	0.375	-	0.682	0.932
Lights	0	10	341	64	0	415	0	43	340	14	0	397	0	78	42	60	0	180	0	12	15	3	1	30	1022
% Lights	-	100.0	97.4	100.0	-	97.9	-	100.0	99.7	100.0	-	99.7	-	98.7	100.0	100.0	0.0	99.4	-	100.0	100.0	100.0	100.0	100.0	98.9
Other Vehicles	0	0	9	0	0	9	0	0	1	0	0	1	0	1	0	0	1	1	0	0	0	0	0	0	11
% Other Vehicles	-	0.0	2.6	0.0	-	2.1	-	0.0	0.3	0.0	-	0.3	-	1.3	0.0	0.0	100.0	0.6	-	0.0	0.0	0.0	0.0	0.0	1.1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (16:30)

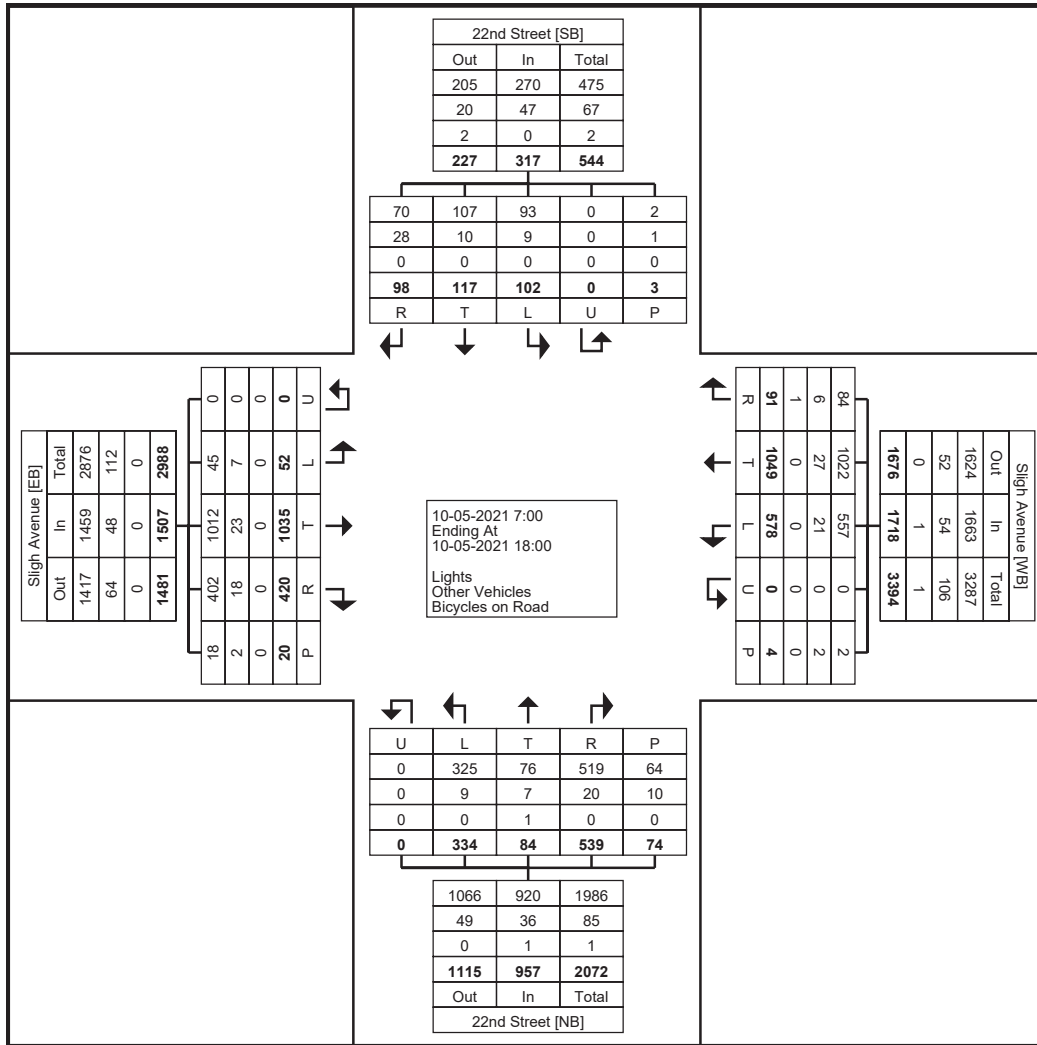
Sligh Avenue @ 22nd Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 13_Sligh Avenue
@ 22nd Street
Site Code: 13
Start Date: 10-05-2021
Page No: 1

Turning Movement Data

Start Time	Sligh Avenue Eastbound						Sligh Avenue Westbound						22nd Street Northbound						22nd Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	9	31	24	2	64	0	20	57	6	1	83	0	6	2	13	1	21	0	5	5	6	0	16	184
7:15	0	4	51	24	2	79	0	36	64	2	0	102	0	8	4	17	4	29	0	6	6	5	0	17	227
7:30	0	1	58	24	1	83	0	42	76	5	0	123	0	20	5	29	10	54	0	7	12	10	0	29	289
7:45	0	4	70	35	2	109	0	40	87	5	1	132	0	17	3	16	14	36	0	7	14	12	2	33	310
Hourly Total	0	18	210	107	7	335	0	138	284	18	2	440	0	51	14	75	29	140	0	25	37	33	2	95	1010
8:00	0	2	70	41	3	113	0	35	82	4	0	121	0	33	5	23	20	61	0	9	10	10	0	29	324
8:15	0	5	73	48	1	126	0	30	78	6	0	114	0	19	5	23	12	47	0	6	10	3	0	19	306
8:30	0	4	56	18	0	78	0	21	63	3	1	87	0	26	0	29	2	55	0	2	8	5	1	15	235
8:45	0	4	41	19	2	64	0	29	46	4	1	79	0	12	5	27	4	44	0	4	3	2	0	9	196
Hourly Total	0	15	240	126	6	381	0	115	269	17	2	401	0	90	15	102	38	207	0	21	31	20	1	72	1061
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	0	84	20	2	104	0	36	54	9	0	99	0	26	13	43	2	82	0	8	4	8	0	20	305
16:15	0	3	68	29	1	100	0	46	65	8	0	119	0	28	8	58	1	94	0	7	12	12	0	31	344
16:30	0	5	72	30	0	107	0	38	67	5	0	110	0	27	6	51	0	84	0	10	7	5	0	22	323
16:45	0	2	68	22	0	92	0	35	53	9	0	97	0	22	7	38	0	67	0	7	3	3	0	13	269
Hourly Total	0	10	292	101	3	403	0	155	239	31	0	425	0	103	34	190	3	327	0	32	26	28	0	86	1241
17:00	0	1	58	18	1	77	0	40	63	5	0	108	0	26	5	49	1	80	0	6	5	2	0	13	278
17:15	0	4	83	24	0	111	0	41	77	3	0	121	0	25	8	48	1	81	0	5	2	4	0	11	324
17:30	0	1	67	19	1	87	0	47	64	10	0	121	0	24	5	46	1	75	0	5	9	9	0	23	306
17:45	0	3	85	25	2	113	0	42	53	7	0	102	0	15	3	29	1	47	0	8	7	2	0	17	279
Hourly Total	0	9	293	86	4	388	0	170	257	25	0	452	0	90	21	172	4	283	0	24	23	17	0	64	1187
Grand Total	0	52	1035	420	20	1507	0	578	1049	91	4	1718	0	334	84	539	74	957	0	102	117	98	3	317	4499
Approach %	0.0	3.5	68.7	27.9	-	-	0.0	33.6	61.1	5.3	-	-	0.0	34.9	8.8	56.3	-	-	0.0	32.2	36.9	30.9	-	-	-
Total %	0.0	1.2	23.0	9.3	-	33.5	0.0	12.8	23.3	2.0	-	38.2	0.0	7.4	1.9	12.0	-	21.3	0.0	2.3	2.6	2.2	-	7.0	-
Lights	0	45	1012	402	18	1459	0	557	1022	84	2	1663	0	325	76	519	64	920	0	93	107	70	2	270	4312
% Lights	-	86.5	97.8	95.7	90.0	96.8	-	96.4	97.4	92.3	50.0	96.8	-	97.3	90.5	96.3	86.5	96.1	-	91.2	91.5	71.4	66.7	85.2	95.8
Other Vehicles	0	7	23	18	2	48	0	21	27	6	2	54	0	9	7	20	10	36	0	9	10	28	1	47	185
% Other Vehicles	-	13.5	2.2	4.3	10.0	3.2	-	3.6	2.6	6.6	50.0	3.1	-	2.7	8.3	3.7	13.5	3.8	-	8.8	8.5	28.6	33.3	14.8	4.1
Bicycles on Road	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	2
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	1.1	0.0	0.1	-	0.0	1.2	0.0	0.0	0.1	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Data Plot

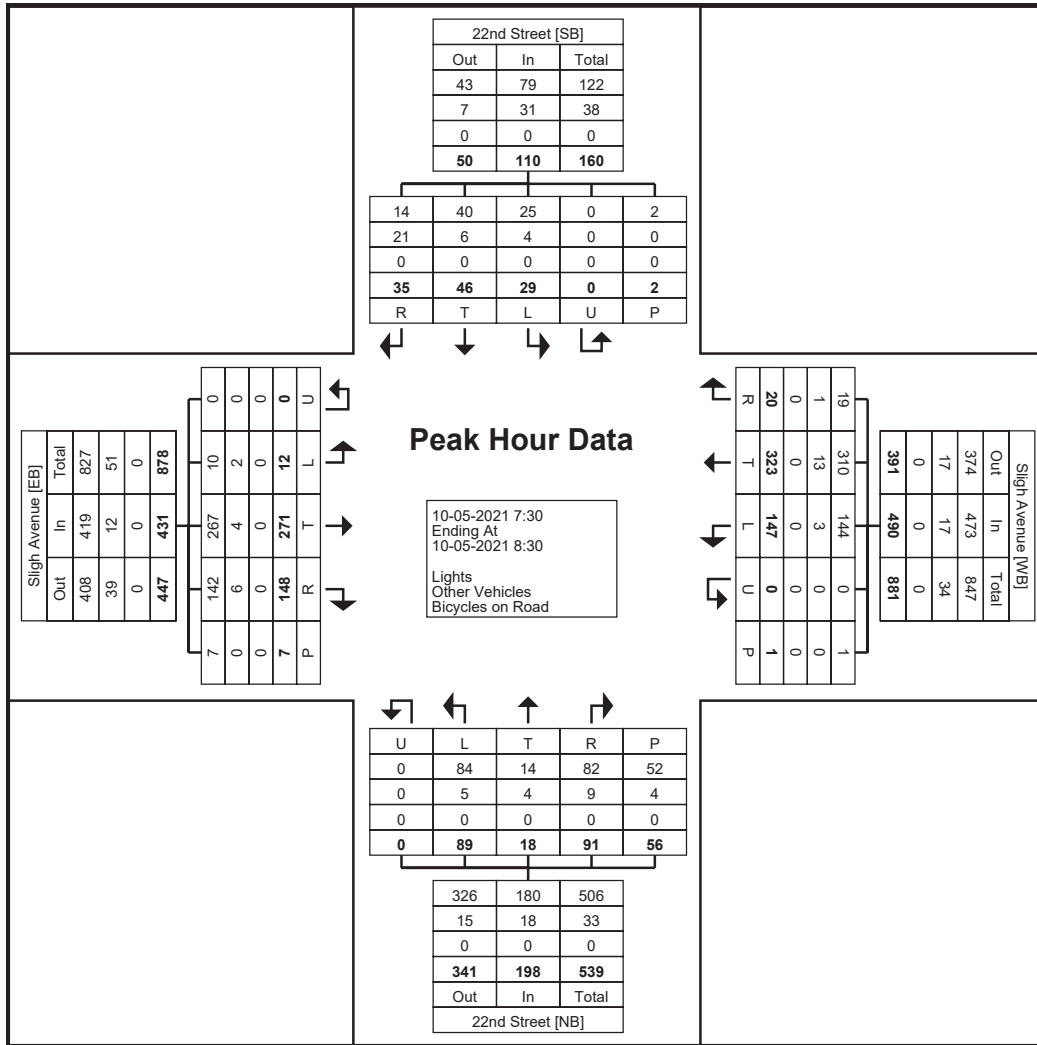
Sligh Avenue @ 22nd Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 13_Sligh Avenue
@ 22nd Street
Site Code: 13
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:30)

Start Time	Sligh Avenue Eastbound						Sligh Avenue Westbound						22nd Street Northbound						22nd Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	0	1	58	24	1	83	0	42	76	5	0	123	0	20	5	29	10	54	0	7	12	10	0	29	289
7:45	0	4	70	35	2	109	0	40	87	5	1	132	0	17	3	16	14	36	0	7	14	12	2	33	310
8:00	0	2	70	41	3	113	0	35	82	4	0	121	0	33	5	23	20	61	0	9	10	10	0	29	324
8:15	0	5	73	48	1	126	0	30	78	6	0	114	0	19	5	23	12	47	0	6	10	3	0	19	306
Total	0	12	271	148	7	431	0	147	323	20	1	490	0	89	18	91	56	198	0	29	46	35	2	110	1229
Approach %	0.0	2.8	62.9	34.3	-	-	0.0	30.0	65.9	4.1	-	-	0.0	44.9	9.1	46.0	-	-	0.0	26.4	41.8	31.8	-	-	-
Total %	0.0	1.0	22.1	12.0	-	35.1	0.0	12.0	26.3	1.6	-	39.9	0.0	7.2	1.5	7.4	-	16.1	0.0	2.4	3.7	2.8	-	9.0	-
PHF	0.000	0.600	0.928	0.771	-	0.855	0.000	0.875	0.928	0.833	-	0.928	0.000	0.674	0.900	0.784	-	0.811	0.000	0.806	0.821	0.729	-	0.833	0.948
Lights	0	10	267	142	7	419	0	144	310	19	1	473	0	84	14	82	52	180	0	25	40	14	2	79	1151
% Lights	-	83.3	98.5	95.9	100.0	97.2	-	98.0	96.0	95.0	100.0	96.5	-	94.4	77.8	90.1	92.9	90.9	-	86.2	87.0	40.0	100.0	71.8	93.7
Other Vehicles	0	2	4	6	0	12	0	3	13	1	0	17	0	5	4	9	4	18	0	4	6	21	0	31	78
% Other Vehicles	-	16.7	1.5	4.1	0.0	2.8	-	2.0	4.0	5.0	0.0	3.5	-	5.6	22.2	9.9	7.1	9.1	-	13.8	13.0	60.0	0.0	28.2	6.3
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0



Turning Movement Peak Hour Data Plot (7:30)

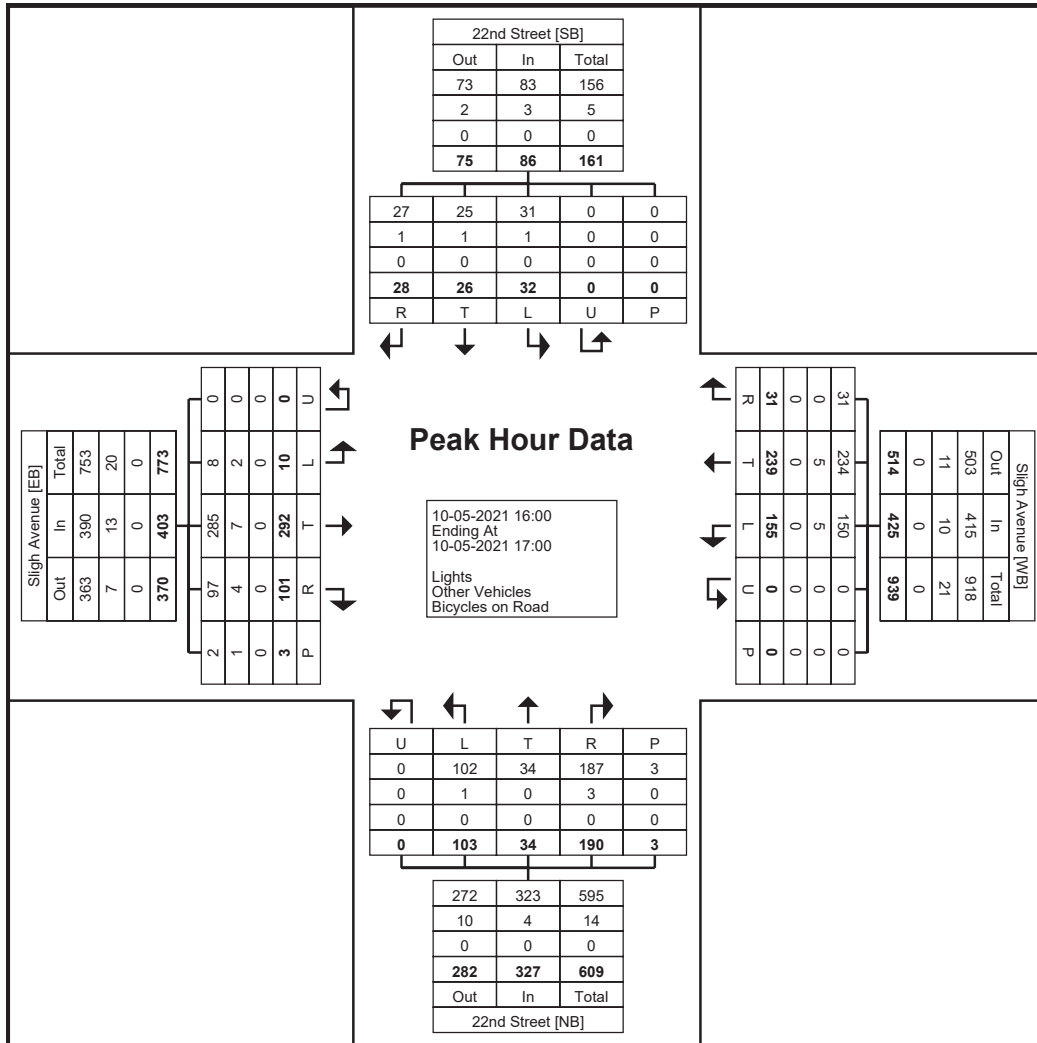
Sligh Avenue @ 22nd Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 13_Sligh Avenue
@ 22nd Street
Site Code: 13
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:00)

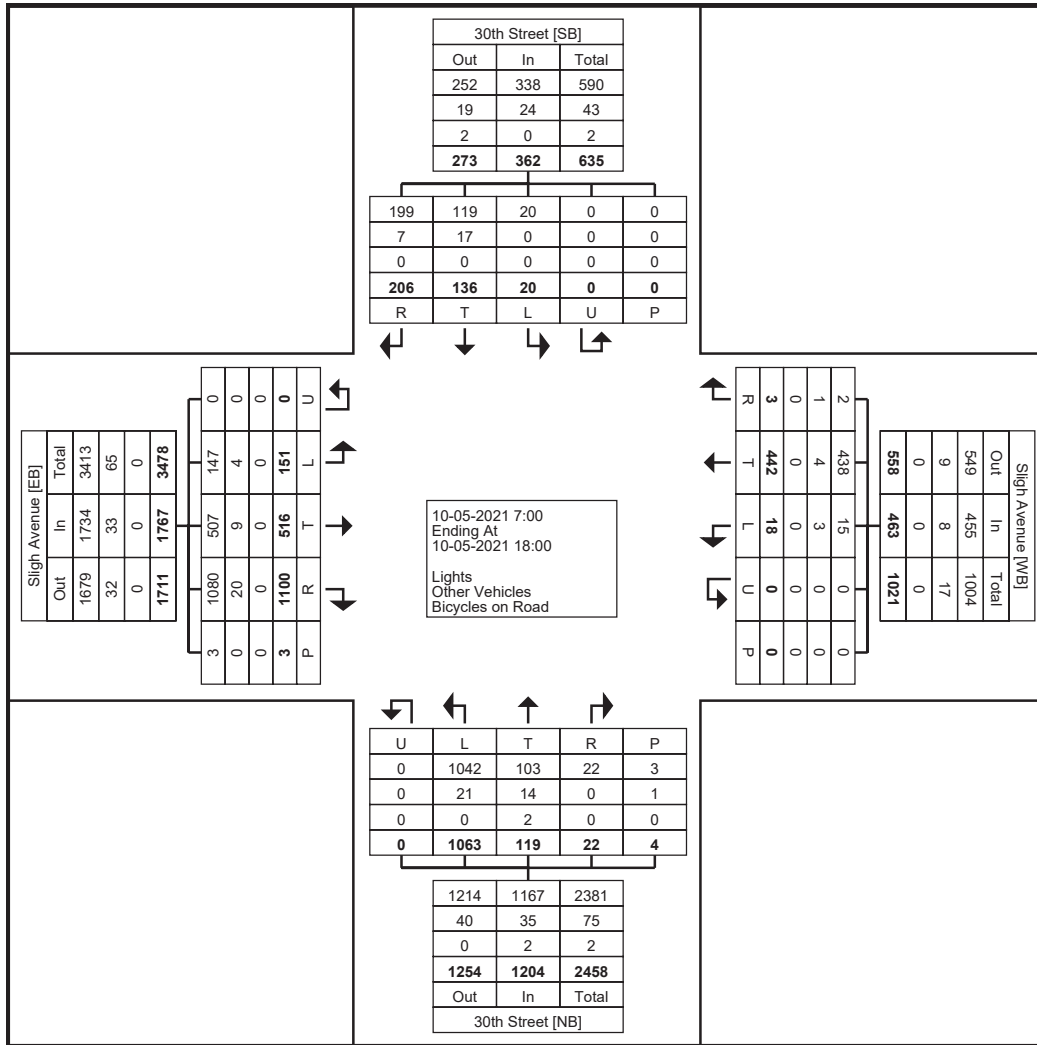
Start Time	Sligh Avenue Eastbound						Sligh Avenue Westbound						22nd Street Northbound						22nd Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:00	0	0	84	20	2	104	0	36	54	9	0	99	0	26	13	43	2	82	0	8	4	8	0	20	305
16:15	0	3	68	29	1	100	0	46	65	8	0	119	0	28	8	58	1	94	0	7	12	12	0	31	344
16:30	0	5	72	30	0	107	0	38	67	5	0	110	0	27	6	51	0	84	0	10	7	5	0	22	323
16:45	0	2	68	22	0	92	0	35	53	9	0	97	0	22	7	38	0	67	0	7	3	3	0	13	269
Total	0	10	292	101	3	403	0	155	239	31	0	425	0	103	34	190	3	327	0	32	26	28	0	86	1241
Approach %	0.0	2.5	72.5	25.1	-	-	0.0	36.5	56.2	7.3	-	-	0.0	31.5	10.4	58.1	-	-	0.0	37.2	30.2	32.6	-	-	-
Total %	0.0	0.8	23.5	8.1	-	32.5	0.0	12.5	19.3	2.5	-	34.2	0.0	8.3	2.7	15.3	-	26.3	0.0	2.6	2.1	2.3	-	6.9	-
PHF	0.000	0.500	0.869	0.842	-	0.942	0.000	0.842	0.892	0.861	-	0.893	0.000	0.920	0.654	0.819	-	0.870	0.000	0.800	0.542	0.583	-	0.694	0.902
Lights	0	8	285	97	2	390	0	150	234	31	0	415	0	102	34	187	3	323	0	31	25	27	0	83	1211
% Lights	-	80.0	97.6	96.0	66.7	96.8	-	96.8	97.9	100.0	-	97.6	-	99.0	100.0	98.4	100.0	98.8	-	96.9	96.2	96.4	-	96.5	97.6
Other Vehicles	0	2	7	4	1	13	0	5	5	0	0	10	0	1	0	3	0	4	0	1	1	1	0	3	30
% Other Vehicles	-	20.0	2.4	4.0	33.3	3.2	-	3.2	2.1	0.0	-	2.4	-	1.0	0.0	1.6	0.0	1.2	-	3.1	3.8	3.6	-	3.5	2.4
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0



Turning Movement Peak Hour Data Plot (16:00)

Turning Movement Data

Start Time	Sligh Avenue Eastbound						Sligh Avenue Westbound						30th Street Northbound						30th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	14	11	33	0	58	0	0	20	0	0	20	0	47	9	0	0	56	0	0	5	8	0	13	147
7:15	0	11	25	69	1	105	0	0	32	0	0	32	0	63	7	0	0	70	0	2	13	8	0	23	230
7:30	0	9	36	80	0	125	0	1	30	1	0	32	0	64	8	0	0	72	0	0	4	9	0	13	242
7:45	0	11	26	68	0	105	0	1	22	0	0	23	0	57	6	1	0	64	0	2	5	7	0	14	206
Hourly Total	0	45	98	250	1	393	0	2	104	1	0	107	0	231	30	1	0	262	0	4	27	32	0	63	825
8:00	0	15	34	69	0	118	0	1	34	1	0	36	0	49	7	1	1	57	0	0	10	4	0	14	225
8:15	0	11	31	81	0	123	0	0	25	0	0	25	0	56	8	2	0	66	0	0	5	7	0	12	226
8:30	0	13	26	68	1	107	0	0	28	0	0	28	0	56	14	2	2	72	0	0	7	9	0	16	223
8:45	0	12	20	49	0	81	0	1	27	0	0	28	0	52	9	0	0	61	0	2	4	10	0	16	186
Hourly Total	0	51	111	267	1	429	0	2	114	1	0	117	0	213	38	5	3	256	0	2	26	30	0	58	860
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	5	38	80	0	123	0	2	19	0	0	21	0	74	17	2	0	93	0	2	14	18	0	34	271
16:15	0	6	40	73	0	119	0	1	38	0	0	39	0	83	4	5	0	92	0	0	8	14	0	22	272
16:30	0	5	41	85	0	131	0	1	37	0	0	38	0	55	3	5	0	63	0	6	13	18	0	37	269
16:45	0	9	40	68	0	117	0	5	37	1	0	43	0	71	6	1	0	78	0	2	11	24	0	37	275
Hourly Total	0	25	159	306	0	490	0	9	131	1	0	141	0	283	30	13	0	326	0	10	46	74	0	130	1087
17:00	0	5	40	68	0	113	0	2	21	0	0	23	0	88	4	0	0	92	0	2	9	14	0	25	253
17:15	0	8	40	75	0	123	0	0	27	0	0	27	0	78	8	1	0	87	0	1	9	22	0	32	269
17:30	0	7	34	64	1	105	0	1	19	0	0	20	0	87	5	2	1	94	0	1	10	21	0	32	251
17:45	0	10	34	70	0	114	0	2	26	0	0	28	0	83	4	0	0	87	0	0	9	13	0	22	251
Hourly Total	0	30	148	277	1	455	0	5	93	0	0	98	0	336	21	3	1	360	0	4	37	70	0	111	1024
Grand Total	0	151	516	1100	3	1767	0	18	442	3	0	463	0	1063	119	22	4	1204	0	20	136	206	0	362	3796
Approach %	0.0	8.5	29.2	62.3	-	-	0.0	3.9	95.5	0.6	-	-	0.0	88.3	9.9	1.8	-	-	0.0	5.5	37.6	56.9	-	-	-
Total %	0.0	4.0	13.6	29.0	-	46.5	0.0	0.5	11.6	0.1	-	12.2	0.0	28.0	3.1	0.6	-	31.7	0.0	0.5	3.6	5.4	-	9.5	-
Lights	0	147	507	1080	3	1734	0	15	438	2	0	455	0	1042	103	22	3	1167	0	20	119	199	0	338	3694
% Lights	-	97.4	98.3	98.2	100.0	98.1	-	83.3	99.1	66.7	-	98.3	-	98.0	86.6	100.0	75.0	96.9	-	100.0	87.5	96.6	-	93.4	97.3
Other Vehicles	0	4	9	20	0	33	0	3	4	1	0	8	0	21	14	0	1	35	0	0	17	7	0	24	100
% Other Vehicles	-	2.6	1.7	1.8	0.0	1.9	-	16.7	0.9	33.3	-	1.7	-	2.0	11.8	0.0	25.0	2.9	-	0.0	12.5	3.4	-	6.6	2.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	1.7	0.0	0.0	0.2	-	0.0	0.0	0.0	-	0.0	0.1



Turning Movement Data Plot

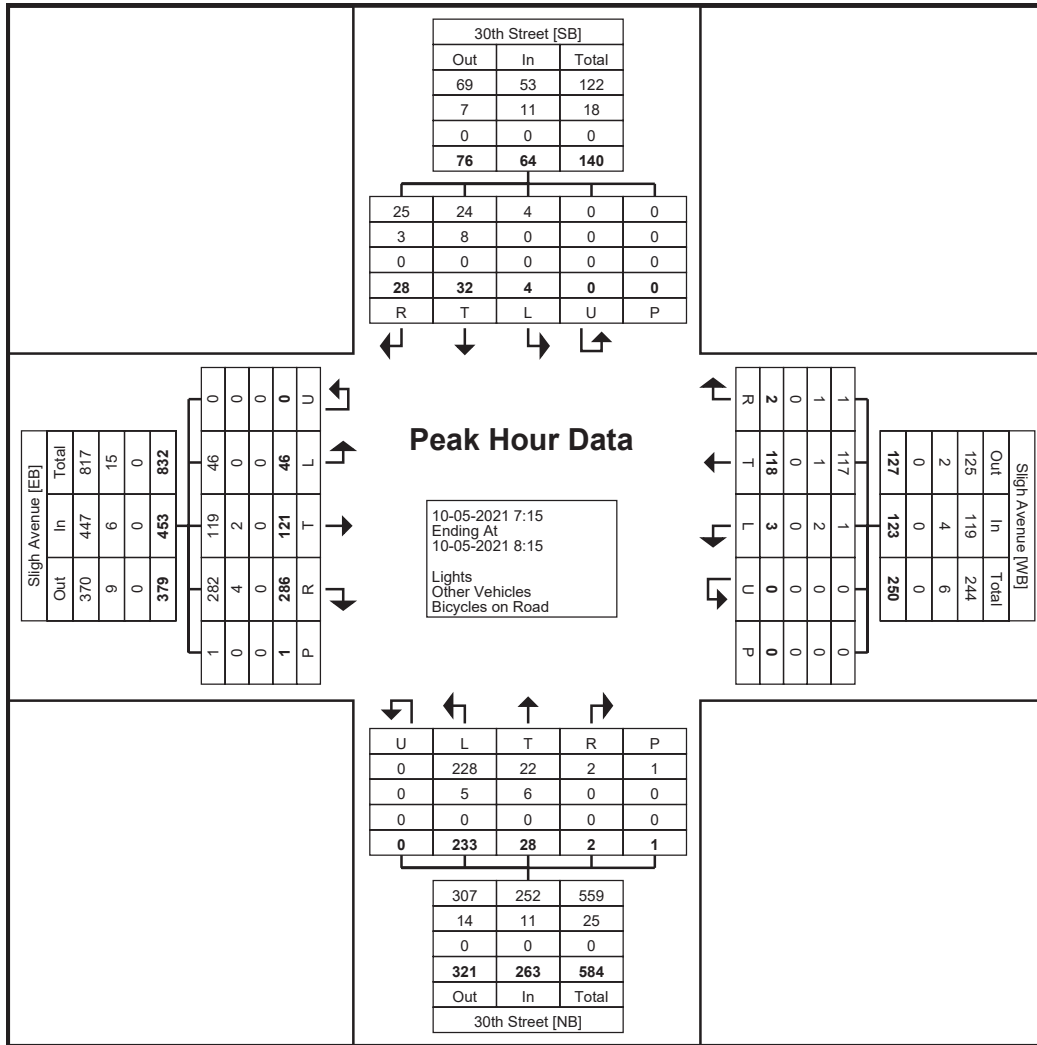
Sligh Avenue @ 30th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 14_Sligh Avenue
@ 30th Street
Site Code: 14
Start Date: 10-05-2021
Page No: 3

Turning Movement Peak Hour Data (7:15)

Start Time	Sligh Avenue Eastbound						Sligh Avenue Westbound						30th Street Northbound						30th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:15	0	11	25	69	1	105	0	0	32	0	0	32	0	63	7	0	0	70	0	2	13	8	0	23	230
7:30	0	9	36	80	0	125	0	1	30	1	0	32	0	64	8	0	0	72	0	0	4	9	0	13	242
7:45	0	11	26	68	0	105	0	1	22	0	0	23	0	57	6	1	0	64	0	2	5	7	0	14	206
8:00	0	15	34	69	0	118	0	1	34	1	0	36	0	49	7	1	1	57	0	0	10	4	0	14	225
Total	0	46	121	286	1	453	0	3	118	2	0	123	0	233	28	2	1	263	0	4	32	28	0	64	903
Approach %	0.0	10.2	26.7	63.1	-	-	0.0	2.4	95.9	1.6	-	-	0.0	88.6	10.6	0.8	-	-	0.0	6.3	50.0	43.8	-	-	-
Total %	0.0	5.1	13.4	31.7	-	50.2	0.0	0.3	13.1	0.2	-	13.6	0.0	25.8	3.1	0.2	-	29.1	0.0	0.4	3.5	3.1	-	7.1	-
PHF	0.000	0.767	0.840	0.894	-	0.906	0.000	0.750	0.868	0.500	-	0.854	0.000	0.910	0.875	0.500	-	0.913	0.000	0.500	0.615	0.778	-	0.696	0.933
Lights	0	46	119	282	1	447	0	1	117	1	0	119	0	228	22	2	1	252	0	4	24	25	0	53	871
% Lights	-	100.0	98.3	98.6	100.0	98.7	-	33.3	99.2	50.0	-	96.7	-	97.9	78.6	100.0	100.0	95.8	-	100.0	75.0	89.3	-	82.8	96.5
Other Vehicles	0	0	2	4	0	6	0	2	1	1	0	4	0	5	6	0	0	11	0	0	8	3	0	11	32
% Other Vehicles	-	0.0	1.7	1.4	0.0	1.3	-	66.7	0.8	50.0	-	3.3	-	2.1	21.4	0.0	0.0	4.2	-	0.0	25.0	10.7	-	17.2	3.5
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0



Turning Movement Peak Hour Data Plot (7:15)

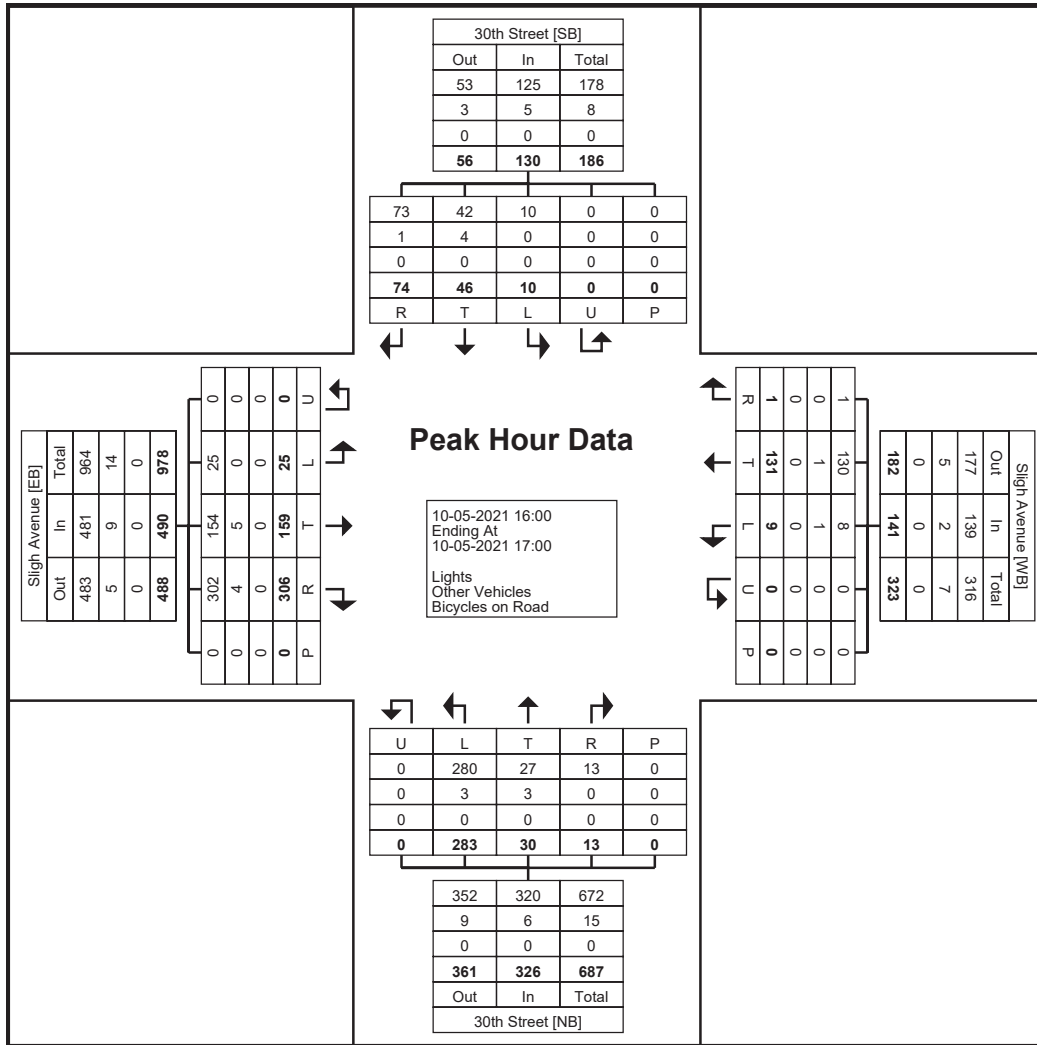
Sligh Avenue @ 30th Street
Weekday TMC

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639-4851

Count Name: 14_Sligh Avenue
@ 30th Street
Site Code: 14
Start Date: 10-05-2021
Page No: 5

Turning Movement Peak Hour Data (16:00)

Start Time	Sligh Avenue Eastbound						Sligh Avenue Westbound						30th Street Northbound						30th Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:00	0	5	38	80	0	123	0	2	19	0	0	21	0	74	17	2	0	93	0	2	14	18	0	34	271
16:15	0	6	40	73	0	119	0	1	38	0	0	39	0	83	4	5	0	92	0	0	8	14	0	22	272
16:30	0	5	41	85	0	131	0	1	37	0	0	38	0	55	3	5	0	63	0	6	13	18	0	37	269
16:45	0	9	40	68	0	117	0	5	37	1	0	43	0	71	6	1	0	78	0	2	11	24	0	37	275
Total	0	25	159	306	0	490	0	9	131	1	0	141	0	283	30	13	0	326	0	10	46	74	0	130	1087
Approach %	0.0	5.1	32.4	62.4	-	-	0.0	6.4	92.9	0.7	-	-	0.0	86.8	9.2	4.0	-	-	0.0	7.7	35.4	56.9	-	-	-
Total %	0.0	2.3	14.6	28.2	-	45.1	0.0	0.8	12.1	0.1	-	13.0	0.0	26.0	2.8	1.2	-	30.0	0.0	0.9	4.2	6.8	-	12.0	-
PHF	0.000	0.694	0.970	0.900	-	0.935	0.000	0.450	0.862	0.250	-	0.820	0.000	0.852	0.441	0.650	-	0.876	0.000	0.417	0.821	0.771	-	0.878	0.988
Lights	0	25	154	302	0	481	0	8	130	1	0	139	0	280	27	13	0	320	0	10	42	73	0	125	1065
% Lights	-	100.0	96.9	98.7	-	98.2	-	88.9	99.2	100.0	-	98.6	-	98.9	90.0	100.0	-	98.2	-	100.0	91.3	98.6	-	96.2	98.0
Other Vehicles	0	0	5	4	0	9	0	1	1	0	0	2	0	3	3	0	0	6	0	0	4	1	0	5	22
% Other Vehicles	-	0.0	3.1	1.3	-	1.8	-	11.1	0.8	0.0	-	1.4	-	1.1	10.0	0.0	-	1.8	-	0.0	8.7	1.4	-	3.8	2.0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0



Turning Movement Peak Hour Data Plot (16:00)

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 130305000000
Station ID: 101000311100
HANNA AVE W/O 22ND ST

Start Time	05-Oct-21 Tue	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		7	35			0	37				
12:15		6	39			4	32				
12:30		4	47			1	46				
12:45		2	58	19	179	2	40	7	155	26	334
01:00		6	48			2	37				
01:15		3	52			6	60				
01:30		1	41			5	45				
01:45		4	38	14	179	2	49	15	191	29	370
02:00		3	68			1	40				
02:15		4	55			4	60				
02:30		2	54			1	49				
02:45		2	51	11	228	1	44	7	193	18	421
03:00		0	50			0	56				
03:15		2	55			1	63				
03:30		3	70			3	71				
03:45		1	64	6	239	6	70	10	260	16	499
04:00		3	67			4	72				
04:15		3	73			1	69				
04:30		1	65			3	65				
04:45		4	69	11	274	3	61	11	267	22	541
05:00		4	70			5	81				
05:15		5	73			9	59				
05:30		10	57			6	60				
05:45		5	70	24	270	10	67	30	267	54	537
06:00		11	65			12	47				
06:15		14	59			17	54				
06:30		18	53			21	40				
06:45		28	44	71	221	30	36	80	177	151	398
07:00		28	44			40	35				
07:15		40	30			75	49				
07:30		71	35			71	36				
07:45		51	36	190	145	51	16	237	136	427	281
08:00		56	33			56	25				
08:15		55	27			52	15				
08:30		33	20			56	31				
08:45		35	18	179	98	64	24	228	95	407	193
09:00		36	24			43	15				
09:15		30	22			39	13				
09:30		35	12			49	16				
09:45		38	7	139	65	40	22	171	66	310	131
10:00		43	19			40	14				
10:15		30	15			38	20				
10:30		40	16			41	9				
10:45		38	10	151	60	42	7	161	50	312	110
11:00		28	14			42	10				
11:15		32	12			51	8				
11:30		40	13			31	3				
11:45		52	4	152	43	40	10	164	31	316	74
Total		967	2001			1121	1888			2088	3889
Percent		32.6%	67.4%			37.3%	62.7%			34.9%	65.1%

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 130305000000
Station ID: 101000311100
HANNA AVE W/O 22ND ST

Start Time	06-Oct-21 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	50			8	47				
12:15		6	31			3	46				
12:30		1	40			8	41				
12:45		1	49	9	170	1	37	20	171	29	341
01:00		1	53			4	53				
01:15		3	49			2	46				
01:30		1	50			1	42				
01:45		2	38	7	190	3	40	10	181	17	371
02:00		5	75			5	46				
02:15		2	49			1	54				
02:30		3	45			1	53				
02:45		0	52	10	221	3	43	10	196	20	417
03:00		2	50			1	59				
03:15		1	54			3	55				
03:30		2	61			3	70				
03:45		2	52	7	217	8	63	15	247	22	464
04:00		5	56			8	71				
04:15		3	63			3	70				
04:30		1	57			3	69				
04:45		2	72	11	248	4	62	18	272	29	520
05:00		2	64			4	50				
05:15		5	62			8	72				
05:30		6	64			6	64				
05:45		8	64	21	254	13	50	31	236	52	490
06:00		9	68			14	58				
06:15		18	55			18	42				
06:30		20	50			18	37				
06:45		29	47	76	220	27	39	77	176	153	396
07:00		29	45			36	31				
07:15		44	47			79	42				
07:30		47	26			87	45				
07:45		64	29	184	147	59	34	261	152	445	299
08:00		59	26			60	23				
08:15		47	32			45	23				
08:30		38	18			61	23				
08:45		35	15	179	91	44	21	210	90	389	181
09:00		35	30			43	14				
09:15		27	25			49	19				
09:30		37	28			42	14				
09:45		38	14	137	97	33	13	167	60	304	157
10:00		37	10			36	11				
10:15		33	8			44	11				
10:30		26	16			43	7				
10:45		34	12	130	46	40	5	163	34	293	80
11:00		21	10			46	10				
11:15		41	6			35	2				
11:30		31	10			33	6				
11:45		28	2	121	28	47	5	161	23	282	51
Total		892	1929			1143	1838			2035	3767
Percent		31.6%	68.4%			38.3%	61.7%			35.1%	64.9%
Grand Total		1859	3930			2264	3726			4123	7656
Percent		32.1%	67.9%			37.8%	62.2%			35.0%	65.0%
ADT		ADT 5,890				AADT 5,890					

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 130305000000
Station ID: 101000311100
HANNA AVE W/O 22ND ST

Start Time	05-Oct-21 Tue	EB	WB	Combined Total	
12:00 AM		19	7	26	■
01:00		14	15	29	■
02:00		11	7	18	■
03:00		6	10	16	■
04:00		11	11	22	■
05:00		24	30	54	■
06:00		71	80	151	▬
07:00		190	237	427	▬
08:00		179	228	407	▬
09:00		139	171	310	▬
10:00		151	161	312	▬
11:00		152	164	316	▬
12:00 PM		179	155	334	▬
01:00		179	191	370	▬
02:00		228	193	421	▬
03:00		239	260	499	▬
04:00		274	267	541	▬
05:00		270	267	537	▬
06:00		221	177	398	▬
07:00		145	136	281	▬
08:00		98	95	193	▬
09:00		65	66	131	▬
10:00		60	50	110	▬
11:00		43	31	74	■
Total		2968	3009		
Percent		49.7%	50.3%		

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 130305000000
Station ID: 101000311100
HANNA AVE W/O 22ND ST

Start Time	06-Oct-21 Wed	EB	WB	Combined Total	
12:00 AM		9	20	29	■
01:00		7	10	17	■
02:00		10	10	20	■
03:00		7	15	22	■
04:00		11	18	29	■
05:00		21	31	52	■
06:00		76	77	153	▬
07:00		184	261	445	▬
08:00		179	210	389	▬
09:00		137	167	304	▬
10:00		130	163	293	▬
11:00		121	161	282	▬
12:00 PM		170	171	341	▬
01:00		190	181	371	▬
02:00		221	196	417	▬
03:00		217	247	464	▬
04:00		248	272	520	▬
05:00		254	236	490	▬
06:00		220	176	396	▬
07:00		147	152	299	▬
08:00		91	90	181	▬
09:00		97	60	157	▬
10:00		46	34	80	▬
11:00		28	23	51	■
Total		2821	2981		
Percent		48.6%	51.4%		
Grand Total		5789	5990		
Percentage		49.1%	50.9%		
ADT		ADT 5,890		AAAT 5,890	

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13347B000000

Station ID: 102000311100

HANNA AVE E/O 30TH ST AND W/O 40TH ST

Start Time	05-Oct-21 Tue	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		10	57			8	58				
12:15		8	41			8	58				
12:30		4	48			8	44				
12:45		6	56	28	202	6	49	30	209	58	411
01:00		4	67			6	73				
01:15		7	64			7	62				
01:30		1	51			3	65				
01:45		6	49	18	231	4	62	20	262	38	493
02:00		6	77			5	61				
02:15		5	50			5	83				
02:30		3	70			3	66				
02:45		2	63	16	260	2	59	15	269	31	529
03:00		3	72			2	71				
03:15		7	72			3	77				
03:30		2	97			3	78				
03:45		3	73	15	314	4	86	12	312	27	626
04:00		6	87			4	80				
04:15		5	99			2	73				
04:30		3	95			6	64				
04:45		10	78	24	359	7	83	19	300	43	659
05:00		8	80			5	77				
05:15		7	85			11	80				
05:30		18	68			12	72				
05:45		14	70	47	303	13	80	41	309	88	612
06:00		20	73			18	65				
06:15		22	66			22	65				
06:30		33	70			44	48				
06:45		36	55	111	264	57	49	141	227	252	491
07:00		41	48			38	49				
07:15		63	46			88	54				
07:30		66	47			101	52				
07:45		52	38	222	179	101	30	328	185	550	364
08:00		66	34			79	36				
08:15		72	34			61	31				
08:30		47	33			92	28				
08:45		47	34	232	135	66	24	298	119	530	254
09:00		38	32			51	17				
09:15		46	26			49	20				
09:30		45	30			55	30				
09:45		36	15	165	103	54	30	209	97	374	200
10:00		53	17			40	22				
10:15		36	24			58	16				
10:30		47	13			55	10				
10:45		46	15	182	69	50	16	203	64	385	133
11:00		49	12			55	12				
11:15		50	14			50	12				
11:30		50	12			49	9				
11:45		45	10	194	48	55	7	209	40	403	88
Total		1254	2467			1525	2393			2779	4860
Percent		33.7%	66.3%			38.9%	61.1%			36.4%	63.6%

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13347B000000

Station ID: 102000311100

HANNA AVE E/O 30TH ST AND W/O 40TH ST

Start Time	06-Oct-21 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	52			8	65				
12:15		9	36			7	50				
12:30		6	55			9	53				
12:45		7	49	26	192	5	51	29	219	55	411
01:00		3	59			4	67				
01:15		6	69			4	55				
01:30		5	65			6	66				
01:45		4	64	18	257	4	66	18	254	36	511
02:00		5	90			6	62				
02:15		5	64			1	60				
02:30		3	54			0	70				
02:45		7	66	20	274	10	65	17	257	37	531
03:00		3	61			2	70				
03:15		5	81			4	67				
03:30		5	80			5	88				
03:45		3	70	16	292	6	94	17	319	33	611
04:00		4	69			5	89				
04:15		6	84			1	75				
04:30		5	84			4	80				
04:45		5	83	20	320	6	81	16	325	36	645
05:00		4	97			7	71				
05:15		6	86			6	87				
05:30		21	60			10	70				
05:45		14	80	45	323	18	62	41	290	86	613
06:00		17	68			20	77				
06:15		22	73			25	65				
06:30		24	70			42	64				
06:45		31	58	94	269	46	52	133	258	227	527
07:00		34	52			48	47				
07:15		60	50			67	58				
07:30		63	34			95	59				
07:45		56	53	213	189	119	51	329	215	542	404
08:00		69	34			79	38				
08:15		52	50			68	34				
08:30		46	43			79	30				
08:45		49	32	216	159	61	32	287	134	503	293
09:00		34	36			54	28				
09:15		37	24			55	26				
09:30		46	39			54	25				
09:45		35	19	152	118	42	23	205	102	357	220
10:00		44	17			41	22				
10:15		35	19			47	10				
10:30		44	14			55	14				
10:45		51	18	174	68	57	15	200	61	374	129
11:00		36	16			53	11				
11:15		43	9			52	8				
11:30		49	11			49	10				
11:45		38	11	166	47	54	10	208	39	374	86
Total		1160	2508			1500	2473			2660	4981
Percent		31.6%	68.4%			37.8%	62.2%			34.8%	65.2%
Grand Total		2414	4975			3025	4866			5439	9841
Percent		32.7%	67.3%			38.3%	61.7%			35.6%	64.4%
ADT		ADT 7,640				AADT 7,640					

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13347B000000

Station ID: 102000311100

HANNA AVE E/O 30TH ST AND W/O 40TH ST

Start Time	05-Oct-21 Tue	EB	WB	Combined Total	
12:00 AM		28	30	58	█
01:00		18	20	38	█
02:00		16	15	31	█
03:00		15	12	27	█
04:00		24	19	43	█
05:00		47	41	88	█
06:00		111	141	252	▬
07:00		222	328	550	▬
08:00		232	298	530	▬
09:00		165	209	374	▬
10:00		182	203	385	▬
11:00		194	209	403	▬
12:00 PM		202	209	411	▬
01:00		231	262	493	▬
02:00		260	269	529	▬
03:00		314	312	626	▬
04:00		359	300	659	▬
05:00		303	309	612	▬
06:00		264	227	491	▬
07:00		179	185	364	▬
08:00		135	119	254	▬
09:00		103	97	200	▬
10:00		69	64	133	▬
11:00		48	40	88	█
Total		3721	3918		
Percent		48.7%	51.3%		

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13347B000000

Station ID: 102000311100

HANNA AVE E/O 30TH ST AND W/O 40TH ST

Start Time	06-Oct-21 Wed	EB	WB	Combined Total	
12:00 AM		26	29	55	■
01:00		18	18	36	■
02:00		20	17	37	■
03:00		16	17	33	■
04:00		20	16	36	■
05:00		45	41	86	■
06:00		94	133	227	▬
07:00		213	329	542	▬
08:00		216	287	503	▬
09:00		152	205	357	▬
10:00		174	200	374	▬
11:00		166	208	374	▬
12:00 PM		192	219	411	▬
01:00		257	254	511	▬
02:00		274	257	531	▬
03:00		292	319	611	▬
04:00		320	325	645	▬
05:00		323	290	613	▬
06:00		269	258	527	▬
07:00		189	215	404	▬
08:00		159	134	293	▬
09:00		118	102	220	▬
10:00		68	61	129	▬
11:00		47	39	86	■
Total		3668	3973		
Percent		48.0%	52.0%		
Grand Total		7389	7891		
Percentage		48.4%	51.6%		
ADT		ADT 7,640		AAADT 7,640	

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13509B000000
Station ID: 103000311100
HILLSBOROUGH AVE W/O 22ND ST

Start Time	05-Oct-21 Tue	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		57	282			50	314				
12:15		60	296			49	368				
12:30		63	338			49	320				
12:45		65	326	245	1242	44	315	192	1317	437	2559
01:00		40	324			37	306				
01:15		41	289			40	375				
01:30		36	316			35	337				
01:45		40	308	157	1237	29	354	141	1372	298	2609
02:00		31	339			34	335				
02:15		36	300			40	339				
02:30		40	342			30	337				
02:45		34	309	141	1290	40	347	144	1358	285	2648
03:00		40	347			26	363				
03:15		47	326			34	365				
03:30		40	330			40	399				
03:45		65	317	192	1320	50	421	150	1548	342	2868
04:00		37	358			40	404				
04:15		61	320			58	401				
04:30		72	328			57	400				
04:45		60	327	230	1333	62	398	217	1603	447	2936
05:00		59	368			67	369				
05:15		105	301			71	412				
05:30		123	328			108	389				
05:45		126	280	413	1277	127	396	373	1566	786	2843
06:00		149	355			163	342				
06:15		206	314			209	356				
06:30		220	327			301	291				
06:45		220	266	795	1262	306	292	979	1281	1774	2543
07:00		272	247			331	287				
07:15		249	238			381	250				
07:30		328	245			388	234				
07:45		326	214	1175	944	441	186	1541	957	2716	1901
08:00		312	207			362	206				
08:15		256	227			369	206				
08:30		306	190			411	179				
08:45		285	157	1159	781	343	157	1485	748	2644	1529
09:00		251	169			322	168				
09:15		303	183			341	167				
09:30		246	160			360	158				
09:45		271	131	1071	643	358	118	1381	611	2452	1254
10:00		260	137			333	130				
10:15		274	112			342	116				
10:30		292	105			271	124				
10:45		280	83	1106	437	357	112	1303	482	2409	919
11:00		289	97			295	107				
11:15		281	80			319	87				
11:30		300	78			372	78				
11:45		305	72	1175	327	333	76	1319	348	2494	675
Total		7859	12093			9225	13191			17084	25284
Percent		39.4%	60.6%			41.2%	58.8%			40.3%	59.7%

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13509B000000
Station ID: 103000311100
HILLSBOROUGH AVE W/O 22ND ST

Start Time	06-Oct-21 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		50	310			70	336				
12:15		49	310			53	333				
12:30		53	332			46	341				
12:45		50	360	202	1312	40	335	209	1345	411	2657
01:00		35	316			38	342				
01:15		48	310			32	327				
01:30		32	310			36	326				
01:45		36	348	151	1284	43	334	149	1329	300	2613
02:00		30	336			26	351				
02:15		33	287			24	335				
02:30		36	330			33	336				
02:45		41	320	140	1273	37	337	120	1359	260	2632
03:00		36	356			31	343				
03:15		41	330			40	373				
03:30		43	377			40	402				
03:45		51	329	171	1392	55	403	166	1521	337	2913
04:00		46	350			21	416				
04:15		39	323			35	386				
04:30		80	351			49	366				
04:45		59	334	224	1358	61	409	166	1577	390	2935
05:00		66	340			60	408				
05:15		84	307			72	409				
05:30		107	340			126	343				
05:45		122	309	379	1296	124	394	382	1554	761	2850
06:00		148	349			139	328				
06:15		179	285			211	368				
06:30		228	290			226	340				
06:45		213	246	768	1170	347	307	923	1343	1691	2513
07:00		227	242			312	281				
07:15		266	260			361	273				
07:30		317	233			384	242				
07:45		307	216	1117	951	453	198	1510	994	2627	1945
08:00		282	191			408	220				
08:15		279	220			412	180				
08:30		340	183			458	200				
08:45		266	156	1167	750	349	173	1627	773	2794	1523
09:00		242	184			321	179				
09:15		286	150			370	149				
09:30		266	156			285	152				
09:45		300	155	1094	645	295	150	1271	630	2365	1275
10:00		248	153			297	134				
10:15		290	177			314	111				
10:30		262	121			312	102				
10:45		270	105	1070	556	319	115	1242	462	2312	1018
11:00		297	130			323	91				
11:15		303	105			304	59				
11:30		328	98			325	84				
11:45		280	65	1208	398	310	67	1262	301	2470	699
Total		7691	12385			9027	13188			16718	25573
Percent		38.3%	61.7%			40.6%	59.4%			39.5%	60.5%
Grand Total		15550	24478			18252	26379			33802	50857
Percent		38.8%	61.2%			40.9%	59.1%			39.9%	60.1%
ADT		ADT 42,330				AADT 42,330					

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13509B000000
Station ID: 103000311100
HILLSBOROUGH AVE W/O 22ND ST

Start Time	05-Oct-21 Tue	EB	WB	Combined Total	
12:00 AM		245	192	437	
01:00		157	141	298	
02:00		141	144	285	
03:00		192	150	342	
04:00		230	217	447	
05:00		413	373	786	
06:00		795	979	1774	
07:00		1175	1541	2716	
08:00		1159	1485	2644	
09:00		1071	1381	2452	
10:00		1106	1303	2409	
11:00		1175	1319	2494	
12:00 PM		1242	1317	2559	
01:00		1237	1372	2609	
02:00		1290	1358	2648	
03:00		1320	1548	2868	
04:00		1333	1603	2936	
05:00		1277	1566	2843	
06:00		1262	1281	2543	
07:00		944	957	1901	
08:00		781	748	1529	
09:00		643	611	1254	
10:00		437	482	919	
11:00		327	348	675	
Total		19952	22416		
Percent		47.1%	52.9%		

FTE

8250, Pascal Dr
 Punta Gorda, FL 33950
Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13509B000000
 Station ID: 103000311100
 HILLSBOROUGH AVE W/O 22ND ST

Start Time	06-Oct-21 Wed	EB	WB	Combined Total	
12:00 AM		202	209	411	████████
01:00		151	149	300	██████
02:00		140	120	260	██████
03:00		171	166	337	██████
04:00		224	166	390	██████
05:00		379	382	761	██████████
06:00		768	923	1691	██████████████
07:00		1117	1510	2627	██████████████████
08:00		1167	1627	2794	██████████████████
09:00		1094	1271	2365	██████████████████
10:00		1070	1242	2312	██████████████████
11:00		1208	1262	2470	██████████████████
12:00 PM		1312	1345	2657	██████████████████
01:00		1284	1329	2613	██████████████████
02:00		1273	1359	2632	██████████████████
03:00		1392	1521	2913	██████████████████
04:00		1358	1577	2935	██████████████████
05:00		1296	1554	2850	██████████████████
06:00		1170	1343	2513	██████████████████
07:00		951	994	1945	██████████████████
08:00		750	773	1523	██████████████████
09:00		645	630	1275	██████████████████
10:00		556	462	1018	██████████████████
11:00		398	301	699	██████████
Total		20076	22215		
Percent		47.5%	52.5%		
Grand Total		40028	44631		
Percentage		47.3%	52.7%		
ADT		ADT 42,330		AADT 42,330	

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 130470000000
Station ID: 104000311100
HILLSBOROUGH AVE E/O 30TH ST

Start Time	05-Oct-21 Tue	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		66	300			60	338				
12:15		53	313			49	367				
12:30		58	342			52	349				
12:45		63	352	240	1307	53	347	214	1401	454	2708
01:00		36	360			50	322				
01:15		37	330			38	355				
01:30		38	324			39	337				
01:45		32	366	143	1380	35	331	162	1345	305	2725
02:00		34	368			42	338				
02:15		39	315			46	370				
02:30		34	376			40	368				
02:45		39	338	146	1397	58	358	186	1434	332	2831
03:00		37	369			35	369				
03:15		52	358			47	392				
03:30		40	447			41	415				
03:45		66	389	195	1563	56	444	179	1620	374	3183
04:00		29	392			47	420				
04:15		56	393			58	418				
04:30		80	412			64	410				
04:45		72	365	237	1562	69	384	238	1632	475	3194
05:00		64	434			86	367				
05:15		109	370			96	411				
05:30		133	360			118	409				
05:45		126	342	432	1506	144	411	444	1598	876	3104
06:00		169	338			165	379				
06:15		220	331			231	354				
06:30		217	385			321	269				
06:45		234	275	840	1329	327	306	1044	1308	1884	2637
07:00		268	281			373	265				
07:15		271	271			447	254				
07:30		303	249			460	234				
07:45		320	239	1162	1040	463	192	1743	945	2905	1985
08:00		351	210			428	195				
08:15		290	236			435	214				
08:30		304	183			382	171				
08:45		324	180	1269	809	389	179	1634	759	2903	1568
09:00		275	171			349	165				
09:15		277	170			348	158				
09:30		274	150			393	154				
09:45		271	140	1097	631	378	140	1468	617	2565	1248
10:00		281	135			339	117				
10:15		272	105			355	112				
10:30		307	100			323	128				
10:45		316	92	1176	432	346	115	1363	472	2539	904
11:00		291	96			313	102				
11:15		306	99			350	81				
11:30		311	78			336	86				
11:45		302	54	1210	327	326	68	1325	337	2535	664
Total		8147	13283			10000	13468			18147	26751
Percent		38.0%	62.0%			42.6%	57.4%			40.4%	59.6%

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 130470000000
Station ID: 104000311100
HILLSBOROUGH AVE E/O 30TH ST

Start Time	06-Oct-21 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		50	312			67	325				
12:15		47	311			51	341				
12:30		60	355			56	320				
12:45		54	358	211	1336	49	350	223	1336	434	2672
01:00		40	338			43	318				
01:15		43	324			31	330				
01:30		25	336			41	335				
01:45		31	372	139	1370	48	324	163	1307	302	2677
02:00		37	365			33	350				
02:15		34	355			30	339				
02:30		30	376			47	365				
02:45		39	354	140	1450	41	321	151	1375	291	2825
03:00		36	357			38	383				
03:15		41	374			52	390				
03:30		40	458			46	435				
03:45		50	415	167	1604	48	420	184	1628	351	3232
04:00		43	397			27	429				
04:15		51	371			39	380				
04:30		83	412			57	406				
04:45		67	378	244	1558	69	391	192	1606	436	3164
05:00		72	426			80	408				
05:15		93	367			80	398				
05:30		123	382			125	360				
05:45		133	346	421	1521	151	438	436	1604	857	3125
06:00		167	373			165	365				
06:15		199	343			220	354				
06:30		237	305			290	334				
06:45		219	300	822	1321	340	309	1015	1362	1837	2683
07:00		251	262			344	286				
07:15		297	272			446	254				
07:30		308	247			417	241				
07:45		276	246	1132	1027	471	227	1678	1008	2810	2035
08:00		288	218			492	200				
08:15		316	233			465	186				
08:30		326	204			443	199				
08:45		272	175	1202	830	360	172	1760	757	2962	1587
09:00		279	172			345	172				
09:15		256	160			346	133				
09:30		292	155			314	157				
09:45		291	157	1118	644	285	130	1290	592	2408	1236
10:00		261	147			288	133				
10:15		269	157			294	119				
10:30		285	126			310	100				
10:45		269	104	1084	534	305	120	1197	472	2281	1006
11:00		298	119			331	81				
11:15		286	113			307	56				
11:30		331	98			335	100				
11:45		330	61	1245	391	326	83	1299	320	2544	711
Total		7925	13586			9588	13367			17513	26953
Percent		36.8%	63.2%			41.8%	58.2%			39.4%	60.6%
Grand Total		16072	26869			19588	26835			35660	53704
Percent		37.4%	62.6%			42.2%	57.8%			39.9%	60.1%
ADT		ADT 44,682				AADT 44,682					



8250, Pascal Dr
 Punta Gorda, FL 33950
Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 130470000000
 Station ID: 104000311100
 HILLSBOROUGH AVE E/O 30TH ST

Start Time	05-Oct-21 Tue	EB	WB	Combined Total	
12:00 AM		240	214	454	
01:00		143	162	305	
02:00		146	186	332	
03:00		195	179	374	
04:00		237	238	475	
05:00		432	444	876	
06:00		840	1044	1884	
07:00		1162	1743	2905	
08:00		1269	1634	2903	
09:00		1097	1468	2565	
10:00		1176	1363	2539	
11:00		1210	1325	2535	
12:00 PM		1307	1401	2708	
01:00		1380	1345	2725	
02:00		1397	1434	2831	
03:00		1563	1620	3183	
04:00		1562	1632	3194	
05:00		1506	1598	3104	
06:00		1329	1308	2637	
07:00		1040	945	1985	
08:00		809	759	1568	
09:00		631	617	1248	
10:00		432	472	904	
11:00		327	337	664	
Total		21430	23468		
Percent		47.7%	52.3%		

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 130470000000
Station ID: 104000311100
HILLSBOROUGH AVE E/O 30TH ST

Start Time	06-Oct-21 Wed	EB	WB	Combined Total	
12:00 AM		211	223	434	████████
01:00		139	163	302	██████
02:00		140	151	291	██████
03:00		167	184	351	██████
04:00		244	192	436	██████
05:00		421	436	857	██████████
06:00		822	1015	1837	██████████████
07:00		1132	1678	2810	██████████████████
08:00		1202	1760	2962	██████████████████
09:00		1118	1290	2408	██████████████████
10:00		1084	1197	2281	██████████████████
11:00		1245	1299	2544	██████████████████
12:00 PM		1336	1336	2672	██████████████████
01:00		1370	1307	2677	██████████████████
02:00		1450	1375	2825	██████████████████
03:00		1604	1628	3232	██████████████████
04:00		1558	1606	3164	██████████████████
05:00		1521	1604	3125	██████████████████
06:00		1321	1362	2683	██████████████████
07:00		1027	1008	2035	██████████████████
08:00		830	757	1587	██████████████████
09:00		644	592	1236	██████████████████
10:00		534	472	1006	██████████████████
11:00		391	320	711	██████████████████
Total		21511	22955		
Percent		48.4%	51.6%		
Grand Total		42941	46423		
Percentage		48.1%	51.9%		
ADT		ADT 44,682		AADT 44,682	

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13332B000000
Station ID: 105000311100
SLIGH AVE W/O 22ND ST

Start Time	05-Oct-21 Tue	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		12	48			6	65				
12:15		5	66			5	91				
12:30		7	75			13	56				
12:45		11	70	35	259	3	56	27	268	62	527
01:00		4	94			8	78				
01:15		7	83			3	60				
01:30		4	78			1	70				
01:45		3	90	18	345	4	68	16	276	34	621
02:00		4	93			1	84				
02:15		2	76			4	72				
02:30		2	87			3	86				
02:45		6	84	14	340	2	92	10	334	24	674
03:00		1	78			1	99				
03:15		6	79			2	100				
03:30		2	159			1	127				
03:45		6	83	15	399	1	94	5	420	20	819
04:00		2	113			3	88				
04:15		8	107			4	101				
04:30		10	107			10	99				
04:45		10	87	30	414	5	78	22	366	52	780
05:00		12	83			4	88				
05:15		19	97			7	102				
05:30		29	94			10	90				
05:45		40	111	100	385	16	66	37	346	137	731
06:00		52	77			23	69				
06:15		42	83			31	59				
06:30		84	76			45	83				
06:45		77	59	255	295	56	54	155	265	410	560
07:00		65	45			69	42				
07:15		77	54			73	37				
07:30		89	51			110	41				
07:45		115	44	346	194	118	25	370	145	716	339
08:00		142	55			138	30				
08:15		140	24			94	31				
08:30		78	43			94	30				
08:45		67	38	427	160	67	25	393	116	820	276
09:00		67	31			60	31				
09:15		78	29			50	22				
09:30		61	30			60	19				
09:45		52	23	258	113	57	26	227	98	485	211
10:00		51	24			65	14				
10:15		68	16			52	18				
10:30		63	20			55	20				
10:45		64	17	246	77	73	15	245	67	491	144
11:00		60	15			49	21				
11:15		64	16			72	9				
11:30		65	20			58	5				
11:45		68	15	257	66	68	7	247	42	504	108
Total		2001	3047			1754	2743			3755	5790
Percent		39.6%	60.4%			39.0%	61.0%			39.3%	60.7%

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13332B000000
Station ID: 105000311100
SLIGH AVE W/O 22ND ST

Start Time	06-Oct-21 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		8	79			8	80				
12:15		6	65			9	65				
12:30		10	85			9	52				
12:45		9	65	33	294	9	67	35	264	68	558
01:00		6	69			1	68				
01:15		5	74			6	60				
01:30		8	83			3	70				
01:45		6	79	25	305	3	83	13	281	38	586
02:00		7	79			3	86				
02:15		4	80			3	99				
02:30		11	95			2	90				
02:45		2	87	24	341	4	78	12	353	36	694
03:00		7	98			5	89				
03:15		1	70			1	121				
03:30		5	150			3	146				
03:45		9	79	22	397	1	92	10	448	32	845
04:00		2	76			4	88				
04:15		10	82			5	60				
04:30		10	87			5	102				
04:45		8	90	30	335	4	82	18	332	48	667
05:00		13	131			5	110				
05:15		18	105			11	99				
05:30		30	96			12	92				
05:45		42	104	103	436	16	89	44	390	147	826
06:00		43	89			18	67				
06:15		43	80			40	79				
06:30		61	68			46	67				
06:45		100	47	247	284	45	46	149	259	396	543
07:00		59	60			61	68				
07:15		72	60			84	71				
07:30		111	49			103	37				
07:45		104	56	346	225	97	30	345	206	691	431
08:00		112	44			118	36				
08:15		120	46			128	30				
08:30		86	29			75	23				
08:45		78	31	396	150	60	22	381	111	777	261
09:00		65	22			62	22				
09:15		61	36			51	23				
09:30		72	29			55	21				
09:45		63	18	261	105	63	24	231	90	492	195
10:00		45	27			44	18				
10:15		53	26			52	10				
10:30		49	14			39	12				
10:45		46	19	193	86	53	16	188	56	381	142
11:00		70	15			54	10				
11:15		64	9			68	15				
11:30		70	16			50	7				
11:45		60	13	264	53	59	7	231	39	495	92
Total		1944	3011			1657	2829			3601	5840
Percent		39.2%	60.8%			36.9%	63.1%			38.1%	61.9%
Grand Total		3945	6058			3411	5572			7356	11630
Percent		39.4%	60.6%			38.0%	62.0%			38.7%	61.3%
ADT		ADT 9,493				AADT 9,493					

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13332B000000
Station ID: 105000311100
SLIGH AVE W/O 22ND ST

Start Time	05-Oct-21 Tue	EB	WB	Combined Total	
12:00 AM		35	27	62	■
01:00		18	16	34	■
02:00		14	10	24	■
03:00		15	5	20	■
04:00		30	22	52	■
05:00		100	37	137	▬
06:00		255	155	410	▬
07:00		346	370	716	▬
08:00		427	393	820	▬
09:00		258	227	485	▬
10:00		246	245	491	▬
11:00		257	247	504	▬
12:00 PM		259	268	527	▬
01:00		345	276	621	▬
02:00		340	334	674	▬
03:00		399	420	819	▬
04:00		414	366	780	▬
05:00		385	346	731	▬
06:00		295	265	560	▬
07:00		194	145	339	▬
08:00		160	116	276	▬
09:00		113	98	211	▬
10:00		77	67	144	▬
11:00		66	42	108	■
Total		5048	4497		
Percent		52.9%	47.1%		

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13332B000000
Station ID: 105000311100
SLIGH AVE W/O 22ND ST

Start Time	06-Oct-21 Wed	EB	WB	Combined Total	
12:00 AM		33	35	68	■
01:00		25	13	38	■
02:00		24	12	36	■
03:00		22	10	32	■
04:00		30	18	48	■
05:00		103	44	147	▬
06:00		247	149	396	▬
07:00		346	345	691	▬
08:00		396	381	777	▬
09:00		261	231	492	▬
10:00		193	188	381	▬
11:00		264	231	495	▬
12:00 PM		294	264	558	▬
01:00		305	281	586	▬
02:00		341	353	694	▬
03:00		397	448	845	▬
04:00		335	332	667	▬
05:00		436	390	826	▬
06:00		284	259	543	▬
07:00		225	206	431	▬
08:00		150	111	261	▬
09:00		105	90	195	▬
10:00		86	56	142	▬
11:00		53	39	92	■
Total		4955	4486		
Percent		52.5%	47.5%		
Grand Total		10003	8983		
Percentage		52.7%	47.3%		
ADT		ADT 9,493		AADT 9,493	

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13929D000000
Station ID: 106000311100
SLIGH AVE E/O 30TH ST

Start Time	05-Oct-21 Tue	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		5	16			4	18				
12:15		4	20			5	25				
12:30		9	10			5	30				
12:45		3	11	21	57	1	15	15	88	36	145
01:00		3	17			4	18				
01:15		4	31			2	20				
01:30		2	28			0	19				
01:45		1	21	10	97	1	25	7	82	17	179
02:00		1	38			1	21				
02:15		1	21			2	32				
02:30		2	22			2	15				
02:45		0	28	4	109	0	34	5	102	9	211
03:00		0	37			0	25				
03:15		2	35			3	25				
03:30		1	41			0	40				
03:45		0	40	3	153	1	34	4	124	7	277
04:00		1	39			0	19				
04:15		2	45			0	38				
04:30		0	50			2	39				
04:45		1	41	4	175	3	39	5	135	9	310
05:00		3	43			1	20				
05:15		3	41			4	27				
05:30		3	33			2	20				
05:45		13	31	22	148	3	27	10	94	32	242
06:00		5	38			7	21				
06:15		10	35			7	31				
06:30		14	29			19	20				
06:45		13	27	42	129	21	18	54	90	96	219
07:00		11	26			18	20				
07:15		26	24			30	19				
07:30		35	27			31	14				
07:45		28	23	100	100	21	16	100	69	200	169
08:00		30	15			35	15				
08:15		32	11			22	6				
08:30		27	13			27	10				
08:45		19	13	108	52	26	10	110	41	218	93
09:00		14	11			20	10				
09:15		16	14			19	7				
09:30		23	10			26	6				
09:45		16	6	69	41	15	5	80	28	149	69
10:00		12	9			18	6				
10:15		18	7			14	10				
10:30		30	6			17	6				
10:45		32	6	92	28	20	2	69	24	161	52
11:00		18	8			15	4				
11:15		17	6			10	3				
11:30		28	3			17	3				
11:45		27	7	90	24	14	4	56	14	146	38
Total		565	1113			515	891			1080	2004
Percent		33.7%	66.3%			36.6%	63.4%			35.0%	65.0%

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13929D000000
Station ID: 106000311100
SLIGH AVE E/O 30TH ST

Start Time	06-Oct-21 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		5	25			6	22				
12:15		2	26			3	24				
12:30		5	20			0	24				
12:45		4	18	16	89	3	27	12	97	28	186
01:00		5	22			4	19				
01:15		3	26			1	29				
01:30		1	0			1	0				
01:45		5	2	14	50	2	3	8	51	22	101
02:00		2	6			0	1				
02:15		2	10			2	17				
02:30		3	34			0	22				
02:45		3	25	10	75	0	28	2	68	12	143
03:00		2	36			1	34				
03:15		1	26			1	27				
03:30		3	35			2	24				
03:45		3	35	9	132	4	25	8	110	17	242
04:00		2	29			1	31				
04:15		2	30			1	25				
04:30		2	31			3	22				
04:45		2	28	8	118	1	30	6	108	14	226
05:00		5	39			6	39				
05:15		3	42			3	35				
05:30		4	39			2	24				
05:45		9	31	21	151	9	31	20	129	41	280
06:00		6	26			6	20				
06:15		9	26			10	26				
06:30		10	40			16	19				
06:45		14	25	39	117	15	23	47	88	86	205
07:00		15	26			15	20				
07:15		17	27			29	13				
07:30		28	23			28	19				
07:45		19	16	79	92	26	18	98	70	177	162
08:00		21	30			34	17				
08:15		35	20			30	17				
08:30		23	14			22	13				
08:45		29	9	108	73	23	9	109	56	217	129
09:00		21	10			23	10				
09:15		18	14			16	4				
09:30		14	13			11	8				
09:45		14	10	67	47	18	4	68	26	135	73
10:00		13	10			19	8				
10:15		12	8			16	8				
10:30		22	5			12	7				
10:45		18	3	65	26	16	4	63	27	128	53
11:00		24	9			20	3				
11:15		16	9			19	5				
11:30		23	6			20	5				
11:45		22	5	85	29	11	1	70	14	155	43
Total		521	999			511	844			1032	1843
Percent		34.3%	65.7%			37.7%	62.3%			35.9%	64.1%
Grand Total		1086	2112			1026	1735			2112	3847
Percent		34.0%	66.0%			37.2%	62.8%			35.4%	64.6%
ADT		ADT 2,980				AADT 2,980					

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13929D000000
Station ID: 106000311100
SLIGH AVE E/O 30TH ST

Start Time	05-Oct-21 Tue	EB	WB	Combined Total	
12:00 AM		21	15	36	█
01:00		10	7	17	█
02:00		4	5	9	█
03:00		3	4	7	█
04:00		4	5	9	█
05:00		22	10	32	█
06:00		42	54	96	▬
07:00		100	100	200	▬
08:00		108	110	218	▬
09:00		69	80	149	▬
10:00		92	69	161	▬
11:00		90	56	146	▬
12:00 PM		57	88	145	▬
01:00		97	82	179	▬
02:00		109	102	211	▬
03:00		153	124	277	▬
04:00		175	135	310	▬
05:00		148	94	242	▬
06:00		129	90	219	▬
07:00		100	69	169	▬
08:00		52	41	93	▬
09:00		41	28	69	▬
10:00		28	24	52	▬
11:00		24	14	38	█
Total		1678	1406		
Percent		54.4%	45.6%		

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13929D000000
Station ID: 106000311100
SLIGH AVE E/O 30TH ST

Start Time	06-Oct-21 Wed	EB	WB	Combined Total	
12:00 AM		16	12	28	█
01:00		14	8	22	█
02:00		10	2	12	█
03:00		9	8	17	█
04:00		8	6	14	█
05:00		21	20	41	█
06:00		39	47	86	▬
07:00		79	98	177	▬
08:00		108	109	217	▬
09:00		67	68	135	▬
10:00		65	63	128	▬
11:00		85	70	155	▬
12:00 PM		89	97	186	▬
01:00		50	51	101	▬
02:00		75	68	143	▬
03:00		132	110	242	▬
04:00		118	108	226	▬
05:00		151	129	280	▬
06:00		117	88	205	▬
07:00		92	70	162	▬
08:00		73	56	129	▬
09:00		47	26	73	▬
10:00		26	27	53	▬
11:00		29	14	43	█
Total		1520	1355		
Percent		52.9%	47.1%		
Grand Total		3198	2761		
Percentage		53.7%	46.3%		
ADT		ADT 2,980		AADT 2,980	

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13936D000000

Station ID: 107000111100

22ND ST BTN SLIGH AVE AND HANNA AVE

Start Time	05-Oct-21 Tue	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	54			6	60				
12:15		11	53			5	59				
12:30		9	50			7	59				
12:45		9	54	33	211	3	49	21	227	54	438
01:00		4	47			2	65				
01:15		3	44			2	50				
01:30		2	66			4	44				
01:45		3	55	12	212	2	56	10	215	22	427
02:00		3	76			3	72				
02:15		6	75			2	49				
02:30		3	62			4	69				
02:45		2	60	14	273	4	77	13	267	27	540
03:00		2	63			3	54				
03:15		2	69			4	57				
03:30		1	64			4	105				
03:45		2	69	7	265	4	65	15	281	22	546
04:00		7	84			3	66				
04:15		4	97			4	87				
04:30		3	93			6	72				
04:45		7	70	21	344	7	63	20	288	41	632
05:00		5	77			8	58				
05:15		11	82			16	62				
05:30		4	68			13	74				
05:45		13	50	33	277	35	73	72	267	105	544
06:00		19	62			32	46				
06:15		21	69			30	57				
06:30		20	67			36	56				
06:45		23	52	83	250	44	48	142	207	225	457
07:00		40	43			32	41				
07:15		54	40			58	40				
07:30		77	37			83	29				
07:45		42	36	213	156	84	30	257	140	470	296
08:00		58	36			105	37				
08:15		44	30			84	32				
08:30		53	26			53	37				
08:45		40	25	195	117	52	22	294	128	489	245
09:00		28	28			42	25				
09:15		41	30			54	24				
09:30		32	23			53	25				
09:45		32	28	133	109	36	24	185	98	318	207
10:00		41	22			31	20				
10:15		49	11			34	20				
10:30		49	22			42	18				
10:45		44	11	183	66	48	10	155	68	338	134
11:00		33	16			37	11				
11:15		47	12			48	10				
11:30		37	6			54	9				
11:45		50	5	167	39	47	9	186	39	353	78
Total		1094	2319			1370	2225			2464	4544
Percent		32.1%	67.9%			38.1%	61.9%			35.2%	64.8%

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13936D000000
Station ID: 107000111100
22ND ST BTN SLIGH AVE AND HANNA AVE

Start Time	06-Oct-21 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		8	54			12	60				
12:15		7	49			3	54				
12:30		9	35			4	55				
12:45		7	50	31	188	7	57	26	226	57	414
01:00		5	53			4	46				
01:15		8	53			2	46				
01:30		1	64			4	52				
01:45		4	75	18	245	6	53	16	197	34	442
02:00		5	90			7	73				
02:15		4	66			1	51				
02:30		2	59			1	69				
02:45		3	59	14	274	4	65	13	258	27	532
03:00		1	58			1	69				
03:15		1	74			2	60				
03:30		2	68			1	97				
03:45		4	70	8	270	6	59	10	285	18	555
04:00		5	70			2	72				
04:15		2	75			7	62				
04:30		3	93			5	68				
04:45		7	83	17	321	10	69	24	271	41	592
05:00		8	95			9	73				
05:15		7	82			12	74				
05:30		9	75			11	66				
05:45		15	67	39	319	29	64	61	277	100	596
06:00		21	81			29	67				
06:15		20	64			36	69				
06:30		22	62			39	42				
06:45		21	52	84	259	47	47	151	225	235	484
07:00		41	56			34	52				
07:15		49	33			60	59				
07:30		70	45			73	42				
07:45		50	30	210	164	109	48	276	201	486	365
08:00		68	30			105	30				
08:15		40	32			68	26				
08:30		48	29			57	29				
08:45		39	29	195	120	52	30	282	115	477	235
09:00		27	36			40	26				
09:15		43	28			49	21				
09:30		33	12			53	20				
09:45		33	16	136	92	50	23	192	90	328	182
10:00		31	17			38	21				
10:15		28	23			42	17				
10:30		33	19			45	15				
10:45		32	21	124	80	38	20	163	73	287	153
11:00		41	16			32	13				
11:15		44	22			52	16				
11:30		34	9			50	12				
11:45		40	11	159	58	59	12	193	53	352	111
Total		1035	2390			1407	2271			2442	4661
Percent		30.2%	69.8%			38.3%	61.7%			34.4%	65.6%
Grand Total		2129	4709			2777	4496			4906	9205
Percent		31.1%	68.9%			38.2%	61.8%			34.8%	65.2%
ADT		ADT 7,056				AADT 7,056					



8250, Pascal Dr
 Punta Gorda, FL 33950
Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13936D000000
 Station ID: 107000111100
 22ND ST BTN SLIGH AVE AND HANNA AVE

Start Time	05-Oct-21 Tue	NB	SB	Combined Total	
12:00 AM		33	21	54	■
01:00		12	10	22	■
02:00		14	13	27	■
03:00		7	15	22	■
04:00		21	20	41	■
05:00		33	72	105	▬
06:00		83	142	225	▬
07:00		213	257	470	▬
08:00		195	294	489	▬
09:00		133	185	318	▬
10:00		183	155	338	▬
11:00		167	186	353	▬
12:00 PM		211	227	438	▬
01:00		212	215	427	▬
02:00		273	267	540	▬
03:00		265	281	546	▬
04:00		344	288	632	▬
05:00		277	267	544	▬
06:00		250	207	457	▬
07:00		156	140	296	▬
08:00		117	128	245	▬
09:00		109	98	207	▬
10:00		66	68	134	▬
11:00		39	39	78	■
Total		3413	3595		
Percent		48.7%	51.3%		

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13936D000000

Station ID: 107000111100

22ND ST BTN SLIGH AVE AND HANNA AVE

Start Time	06-Oct-21 Wed	NB	SB	Combined Total	
12:00 AM		31	26	57	■
01:00		18	16	34	■
02:00		14	13	27	■
03:00		8	10	18	■
04:00		17	24	41	■
05:00		39	61	100	▬
06:00		84	151	235	▬
07:00		210	276	486	▬
08:00		195	282	477	▬
09:00		136	192	328	▬
10:00		124	163	287	▬
11:00		159	193	352	▬
12:00 PM		188	226	414	▬
01:00		245	197	442	▬
02:00		274	258	532	▬
03:00		270	285	555	▬
04:00		321	271	592	▬
05:00		319	277	596	▬
06:00		259	225	484	▬
07:00		164	201	365	▬
08:00		120	115	235	▬
09:00		92	90	182	▬
10:00		80	73	153	▬
11:00		58	53	111	▬
Total		3425	3678		
Percent		48.2%	51.8%		
Grand Total		6838	7273		
Percentage		48.5%	51.5%		
ADT		ADT 7,056		AAAT 7,056	

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13587B000000
Station ID: 108000111100

22 ST BTN HANNA AVE AND HILLSBOROUGH AVE

Start Time	05-Oct-21 Tue	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		5	56			7	67				
12:15		11	48			8	67				
12:30		10	51			8	70				
12:45		10	51	36	206	7	60	30	264	66	470
01:00		2	45			1	71				
01:15		4	51			1	57				
01:30		4	76			3	51				
01:45		8	56	18	228	5	62	10	241	28	469
02:00		2	84			4	80				
02:15		5	79			3	56				
02:30		3	73			5	81				
02:45		3	73	13	309	3	80	15	297	28	606
03:00		4	66			4	63				
03:15		2	67			4	80				
03:30		1	58			5	90				
03:45		2	78	9	269	4	73	17	306	26	575
04:00		7	94			0	73				
04:15		4	96			5	89				
04:30		1	106			5	74				
04:45		4	70	16	366	4	63	14	299	30	665
05:00		6	88			10	73				
05:15		10	79			16	64				
05:30		8	80			16	77				
05:45		11	56	35	303	30	72	72	286	107	589
06:00		18	66			30	62				
06:15		21	77			25	59				
06:30		21	60			44	58				
06:45		26	50	86	253	50	51	149	230	235	483
07:00		30	50			45	44				
07:15		49	42			75	37				
07:30		55	47			88	43				
07:45		42	36	176	175	117	36	325	160	501	335
08:00		55	35			110	42				
08:15		43	35			91	30				
08:30		65	31			65	42				
08:45		44	34	207	135	54	22	320	136	527	271
09:00		33	36			59	25				
09:15		49	33			51	26				
09:30		34	27			62	26				
09:45		37	34	153	130	40	23	212	100	365	230
10:00		50	22			36	24				
10:15		52	18			36	20				
10:30		48	21			45	18				
10:45		43	16	193	77	47	18	164	80	357	157
11:00		38	15			45	11				
11:15		53	16			58	12				
11:30		33	11			55	10				
11:45		54	7	178	49	59	9	217	42	395	91
Total		1120	2500			1545	2441			2665	4941
Percent		30.9%	69.1%			38.8%	61.2%			35.0%	65.0%

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13587B000000

Station ID: 108000111100

22 ST BTN HANNA AVE AND HILLSBOROUGH AVE

Start Time	06-Oct-21 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		11	56			15	58				
12:15		7	54			5	58				
12:30		10	44			2	55				
12:45		8	54	36	208	4	52	26	223	62	431
01:00		6	55			3	54				
01:15		9	60			5	49				
01:30		1	65			2	59				
01:45		5	71	21	251	5	60	15	222	36	473
02:00		3	91			9	75				
02:15		5	63			1	61				
02:30		3	66			2	76				
02:45		2	64	13	284	4	77	16	289	29	573
03:00		3	59			1	63				
03:15		5	77			3	74				
03:30		3	70			2	82				
03:45		5	82	16	288	6	73	12	292	28	580
04:00		6	86			4	78				
04:15		4	84			7	67				
04:30		5	102			3	73				
04:45		6	90	21	362	10	63	24	281	45	643
05:00		8	110			8	80				
05:15		9	90			11	82				
05:30		8	85			10	70				
05:45		14	76	39	361	27	65	56	297	95	658
06:00		23	81			31	70				
06:15		20	71			28	67				
06:30		23	63			48	44				
06:45		24	52	90	267	45	57	152	238	242	505
07:00		37	63			50	52				
07:15		55	37			66	65				
07:30		66	44			83	49				
07:45		49	34	207	178	140	38	339	204	546	382
08:00		63	29			123	29				
08:15		50	33			94	31				
08:30		58	40			67	29				
08:45		39	31	210	133	63	33	347	122	557	255
09:00		31	39			51	30				
09:15		45	22			51	21				
09:30		30	18			57	18				
09:45		28	22	134	101	55	26	214	95	348	196
10:00		34	23			48	23				
10:15		34	23			45	17				
10:30		30	23			54	17				
10:45		39	26	137	95	41	18	188	75	325	170
11:00		51	18			46	13				
11:15		51	22			53	15				
11:30		34	13			57	14				
11:45		44	8	180	61	60	10	216	52	396	113
Total		1104	2589			1605	2390			2709	4979
Percent		29.9%	70.1%			40.2%	59.8%			35.2%	64.8%
Grand Total		2224	5089			3150	4831			5374	9920
Percent		30.4%	69.6%			39.5%	60.5%			35.1%	64.9%
ADT		ADT 7,647				AADT 7,647					



8250, Pascal Dr
 Punta Gorda, FL 33950
Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13587B000000
 Station ID: 108000111100
 22 ST BTN HANNA AVE AND HILLSBOROUGH AVE

Start Time	05-Oct-21 Tue	NB	SB	Combined Total	
12:00 AM		36	30	66	█
01:00		18	10	28	█
02:00		13	15	28	█
03:00		9	17	26	█
04:00		16	14	30	█
05:00		35	72	107	▬
06:00		86	149	235	▬
07:00		176	325	501	▬
08:00		207	320	527	▬
09:00		153	212	365	▬
10:00		193	164	357	▬
11:00		178	217	395	▬
12:00 PM		206	264	470	▬
01:00		228	241	469	▬
02:00		309	297	606	▬
03:00		269	306	575	▬
04:00		366	299	665	▬
05:00		303	286	589	▬
06:00		253	230	483	▬
07:00		175	160	335	▬
08:00		135	136	271	▬
09:00		130	100	230	▬
10:00		77	80	157	▬
11:00		49	42	91	█
Total		3620	3986		
Percent		47.6%	52.4%		

FTE

8250, Pascal Dr
Punta Gorda, FL 33950

Ph# (941) 639 2818, Fax# (941) 209 5331

Site Code: 13587B000000
Station ID: 108000111100

22 ST BTN HANNA AVE AND HILLSBOROUGH AVE

Start Time	06-Oct-21 Wed	NB	SB	Combined Total	
12:00 AM		36	26	62	■
01:00		21	15	36	■
02:00		13	16	29	■
03:00		16	12	28	■
04:00		21	24	45	■
05:00		39	56	95	▬
06:00		90	152	242	▬
07:00		207	339	546	▬
08:00		210	347	557	▬
09:00		134	214	348	▬
10:00		137	188	325	▬
11:00		180	216	396	▬
12:00 PM		208	223	431	▬
01:00		251	222	473	▬
02:00		284	289	573	▬
03:00		288	292	580	▬
04:00		362	281	643	▬
05:00		361	297	658	▬
06:00		267	238	505	▬
07:00		178	204	382	▬
08:00		133	122	255	▬
09:00		101	95	196	▬
10:00		95	75	170	▬
11:00		61	52	113	▬
Total		3693	3995		
Percent		48.0%	52.0%		
Grand Total		7313	7981		
Percentage		47.8%	52.2%		
ADT		ADT 7,647		AAAT 7,647	

2020 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 1000 HILLSBOROUGH COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.91 PSCF
* 1	01/01/2020 - 01/04/2020	0.98	1.08
* 2	01/05/2020 - 01/11/2020	0.93	1.02
* 3	01/12/2020 - 01/18/2020	0.88	0.97
* 4	01/19/2020 - 01/25/2020	0.87	0.96
* 5	01/26/2020 - 02/01/2020	0.86	0.95
* 6	02/02/2020 - 02/08/2020	0.84	0.92
* 7	02/09/2020 - 02/15/2020	0.83	0.91
* 8	02/16/2020 - 02/22/2020	0.86	0.95
* 9	02/23/2020 - 02/29/2020	0.89	0.98
*10	03/01/2020 - 03/07/2020	0.92	1.01
*11	03/08/2020 - 03/14/2020	0.95	1.04
*12	03/15/2020 - 03/21/2020	0.99	1.09
*13	03/22/2020 - 03/28/2020	1.09	1.20
14	03/29/2020 - 04/04/2020	1.20	1.32
15	04/05/2020 - 04/11/2020	1.30	1.43
16	04/12/2020 - 04/18/2020	1.41	1.55
17	04/19/2020 - 04/25/2020	1.34	1.47
18	04/26/2020 - 05/02/2020	1.27	1.40
19	05/03/2020 - 05/09/2020	1.19	1.31
20	05/10/2020 - 05/16/2020	1.12	1.23
21	05/17/2020 - 05/23/2020	1.10	1.21
22	05/24/2020 - 05/30/2020	1.09	1.20
23	05/31/2020 - 06/06/2020	1.07	1.18
24	06/07/2020 - 06/13/2020	1.05	1.15
25	06/14/2020 - 06/20/2020	1.03	1.13
26	06/21/2020 - 06/27/2020	1.04	1.14
27	06/28/2020 - 07/04/2020	1.04	1.14
28	07/05/2020 - 07/11/2020	1.05	1.15
29	07/12/2020 - 07/18/2020	1.06	1.16
30	07/19/2020 - 07/25/2020	1.04	1.14
31	07/26/2020 - 08/01/2020	1.03	1.13
32	08/02/2020 - 08/08/2020	1.02	1.12
33	08/09/2020 - 08/15/2020	1.01	1.11
34	08/16/2020 - 08/22/2020	1.01	1.11
35	08/23/2020 - 08/29/2020	1.01	1.11
36	08/30/2020 - 09/05/2020	1.00	1.10
37	09/06/2020 - 09/12/2020	1.00	1.10
38	09/13/2020 - 09/19/2020	0.99	1.09
39	09/20/2020 - 09/26/2020	0.98	1.08
40	09/27/2020 - 10/03/2020	0.97	1.07
41	10/04/2020 - 10/10/2020	0.96	1.05
42	10/11/2020 - 10/17/2020	0.95	1.04
43	10/18/2020 - 10/24/2020	0.96	1.05
44	10/25/2020 - 10/31/2020	0.97	1.07
45	11/01/2020 - 11/07/2020	0.98	1.08
46	11/08/2020 - 11/14/2020	0.98	1.08
47	11/15/2020 - 11/21/2020	0.99	1.09
48	11/22/2020 - 11/28/2020	0.99	1.09
49	11/29/2020 - 12/05/2020	0.98	1.08
50	12/06/2020 - 12/12/2020	0.98	1.08
51	12/13/2020 - 12/19/2020	0.98	1.08
52	12/20/2020 - 12/26/2020	0.93	1.02
53	12/27/2020 - 12/31/2020	0.88	0.97

* PEAK SEASON

27-FEB-2021 10:30:07

830UPD

7_1000_PKSEASON.TXT

APPENDIX C

Signal Timings

Submitted By: _____

Approved By: _____

Location Details			
Signal ID:	0702	Date:	May 21, 2021
Major Street:	Hillsborough Ave	Orientation:	E-W
Minor Street:	15th St	Orientation:	N-S

Controller Timings (seconds)

Movement # (Controller Phase Ø)	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Notes
Direction	EBLT	WB		NB	WBLT	EB		SB									
Turn Type	Prot Perm				Prot Perm												
Min Green	5	10		10	5	10		10									
Ext	2.0	3.0		3.0	2.0	3.0		3.0									
Yellow	4.4	4.4		3.7	4.4	4.4		3.7									
All Red	2.0	2.0		2.0	2.0	2.0		2.0									
Max I	20	120		30	20	120		30									
Max II	20	145		50	20	145		50									
Walk		7		7		7		7									
Flashing Don't Walk		12		28		14		29									
Detector Memory	ON			ON	ON			ON									
Det. Switching to:																	
Recall		MIN PED				MIN PED											
CNA																	

Coordination Timings (seconds)

Pattern	C-S-O	Cycle Length	Splits																Offset	Seq	Coord Ø
			Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16			
1	1-1-1	170	18	96		56	18	96		56								159	1	2, 6	
2	2-1-1	150	18	90		42	22	86		42								123	1	2, 6	
3	2-2-2	150	18	90		42	22	86		42								123	1	2, 6	
4	3-1-1	150	18	90		42	22	86		42								123	1	2, 6	
5	4-1-1	180	23	107		50	27	103		50								60	1	2, 6	
6	5-1-1	150	18	90		42	21	87		42								123	1	2, 6	
7	6-1-1	100	15	50		35	15	50		35								34	1	2, 6	
8	6-2-2	150	23	85		42	24	84		42								17	1	2, 6	
9	6-3-3	150	20	90		40	28	82		40								30	1	2, 6	
10	6-4-4	150	19	93		38	25	87		38								112	1	2, 6	

Offset Reference Point	Phase Mode
Beginning of First Green	---

SEQ 1

Ring - 1	1	2	4
Ring - 2	5	6	8

Notes:
1) Use 'Max I' during FREE Operation.

Submitted By: _____

Approved By: _____

Location Details			
Signal ID:	0703	Date:	May 21, 2021
Major Street:	Hillsborough Ave	Orientation:	E-W
Minor Street:	22nd St	Orientation:	N-S

Controller Timings (seconds)

Movement # (Controller Phase Ø)	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Notes
Direction	EBLT	WB	SBLT	NB	WBLT	EB	NBLT	SB									
Turn Type	FYA		FYA		FYA		FYA										
Min Green	5	10	5	10	5	10	5	10									
Ext	3.0	3.0	3.0	4.0	3.0	3.0	3.0	4.0									
Yellow	4.4	4.4	4.0	4.0	4.4	4.4	4.0	4.0									
All Red	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0									
Max I	20	60	20	40	20	60	20	40									
Max II	30	90	25	55	30	90	25	55									
Walk		7		7		7		7									
Flashing Don't Walk		11		25		13		24									
Detector Memory																	
Det. Switching to:																	
Recall		MIN PED				MIN PED											
CNA		ON				ON											

Coordination Timings (seconds)

Pattern	C-S-O	Cycle Length	Splits																Offset	Seq	Coord Ø
			Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16			
1		170	22	75 MxP	31	42	27	70 MxP	25	48								158	2	2, 6	
2		150	20	74 MxP	21	35	32	62 MxP	23	33								122	2	2, 6	
3		150	20	74 MxP	21	35	32	62 MxP	23	33								122	2	2, 6	
4		150	20	74 MxP	21	35	32	62 MxP	23	33								122	2	2, 6	
5		180	21	82 MxP	26	51	33	70 MxP	28	49								55	2	2, 6	
6		150	16	72 MxP	18	44	29	59 MxP	24	38								53	5	2, 6	
7		100	14	45 MxP	13	28	14	45 MxP	13	28								80	1	2, 6	
8		150	16	70 MxP	24	40	24	62 MxP	23	41								88	5	2, 6	
9		150	19	67 MxP	21	43	33	53 MxP	28	36								112	5	2, 6	
10		150	17	76 MxP	20	37	25	68 MxP	25	32								34	5	2, 6	

Offset Reference Point	Phase Mode
Beginning of First Green	---

Notes:

- 1) Use 'Max I' during FREE Operation.
- 2) Max recall Ø2 and Ø6 during coordination.
- 3) Detector Red Lock enabled for left turn detectors.
- 4) All FYA omitted by Time of Day.
- 5) All left turn Ø's omitted overnight (Pattern 7).

	SEQ 1				SEQ 2				
Ring - 1	1	2	3	4	Ring - 1	2	1	3	4
Ring - 2	5	6	7	8	Ring - 2	5	6	7	8
	SEQ 5								
Ring - 1	1	2	3	4					
Ring - 2	6	5	7	8					

Submitted By: _____

Approved By: _____

Location Details			
Signal ID:	0704	Date:	May 21, 2021
Major Street:	Hillsborough Ave	Orientation:	E-W
Minor Street:	30th St	Orientation:	N-S

Controller Timings (seconds)

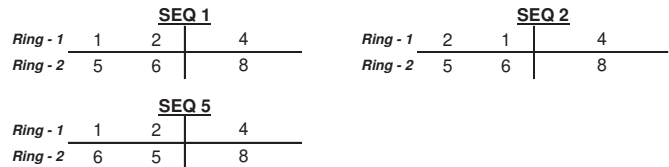
Movement # (Controller Phase Ø)	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Notes
Direction	EBLT	WB		NB	WBLT	EB		SB									
Turn Type	Prot				Prot												
Min Green	5	10		10	5	10		10									
Ext	2.0	3.0		3.0	2.0	3.0		3.0									
Yellow	4.4	4.4		3.8	4.4	4.4		3.8									
All Red	2.0	2.0		2.3	2.0	2.0		2.3									
Max I	15	70		35	15	70		35									
Max II	25	130		60	25	130		60									
Walk		7		7		7		7									
Flashing Don't Walk		13		27		10		29									
Detector Memory	ON				ON												
Det. Switching to:																	
Recall		MIN				MIN											
CNA																	

Coordination Timings (seconds)

Pattern	C-S-O	Cycle Length	Splits																Offset	Seq	Coord Ø
			Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16			
1	1-1-1	170	24	99		47	15	108		47								53	1	2,6	
2	2-1-1	150	22	92		36	19	95		36								26	5	2,6	
3	2-2-2	150	22	92		36	19	95		36								26	5	2,6	
4	3-1-1	150	25	77		48	25	77		48								26	5	2,6	
5	4-1-1	180	25	95		60	20	100		60								125	5	2,6	
6	5-1-1	150	22	93		35	18	97		35								108	5	2,6	
7	6-1-1	100	15	60		25	15	60		25								22	1	2,6	
8	6-2-2	150	22	91		37	23	90		37								79	2	2,6	
9	6-3-3	150	23	87		40	18	92		40								100	2	2,6	
10	6-4-4	150	20	97		33	20	97		33								95	5	2,6	

Offset Reference Point	Phase Mode
Beginning of First Green	---

Notes:
1) Use 'Max I' during FREE Operation.



Submitted By: _____

Approved By: _____

Location Details			
Signal ID:	0706	Date:	May 21, 2021
Major Street:	Hillsborough Ave	Orientation:	E-W
Minor Street:	34th St	Orientation:	N-S

Controller Timings (seconds)

Movement # (Controller Phase Ø)	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Notes
Direction	EBLT	WB		NB	WBLT	EB		SB									
Turn Type	FYA				FYA												
Min Green	5	10		10	5	10		10									
Ext	3.0	3.0		3.0	3.0	3.0		3.0									
Yellow	4.5	4.5		3.7	4.5	4.5		3.7									
All Red	2.0	2.0		2.5	2.0	2.0		2.5									
Max I	27	90		55	27	90		55									
Max II	30	125		65	30	125		65									
Walk		7		7		7		7									
Flashing Don't Walk		14		24		12		24									
Detector Memory																	
Det. Switching to:																	
Recall		MIN PED				MIN PED											
CNA		ON				ON											

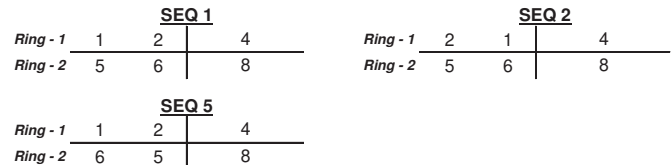
Coordination Timings (seconds)

Pattern	C-S-O	Cycle Length	Splits																Offset	Seq	Coord Ø
			Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16			
1		170	16	116 MAX		38	23	109 MAX		38								51	1	2, 6	
2		150	18	100 MAX		32	23	95 MAX		32								19	2	2, 6	
3		150	18	100 MAX		32	23	95 MAX		32								19	2	2, 6	
4		150	18	100 MAX		32	23	95 MAX		32								19	2	2, 6	
5		180	22	106 MAX		52	24	104 MAX		52								117	2	2, 6	
6		150	18	90 MAX		42	22	86 MAX		42								114	5	2, 6	
7		100	19	56 MAX		25	19	56 MAX		25								24	1	2, 6	
8		150	21	93 MAX		36	25	89 MAX		36								149	5	2, 6	
9		150	20	90 MAX		40	23	87 MAX		40								20	5	2, 6	
10		150	17	89 MAX		44	21	85 MAX		44								96	5	2, 6	

Offset Reference Point	Phase Mode
Beginning of First Green	---

Notes:

- 1) Use 'Max I' during FREE Operation.
- 2) Max recall Ø2 and Ø6 during coordination.
- 3) Detector Red Lock enabled for left turn detectors.
- 4) Mainstreet FYA omitted by Time of Day.



Submitted By: _____

Approved By: _____

Location Details			
Signal ID:	0707	Date:	May 21, 2021
Major Street:	Hillsborough Ave	Orientation:	E-W
Minor Street:	40th St (US 41)	Orientation:	N-S

Controller Timings (seconds)

Movement # (Controller Phase Ø)	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Notes
Direction	EBLT	WB	SBLT	NB	WBLT	EB	NBLT	SB									
Turn Type	Prot		Prot		Prot		Prot										
Min Green	5	10	5	15	5	10	5	10									
Ext	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0									
Yellow	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8									
All Red	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0									
Max I	25	80	20	50	15	85	20	50									
Max II	25	85	25	55	25	85	25	55									
Walk		7		7		7		7									
Flashing Don't Walk		38		37		39		36									
Detector Memory	ON		ON		ON		ON										
Det. Switching to:																	
Recall		MAX PED				MAX PED											
CNA		ON				ON											

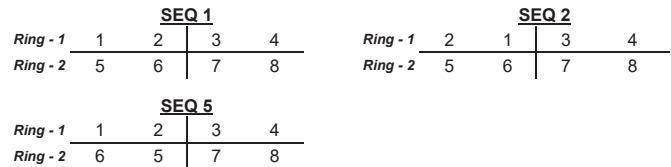
Coordination Timings (seconds)

Pattern	C-S-O	Cycle Length	Splits																Offset	Seq	Coord Ø
			Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16			
1		170	21	76 MAX	22	51	19	78 MAX	23	50								1	5	2, 6	
2		150	25	70 MAX	20	35	22	73 MAX	20	35								113	5	2, 6	
3		150	25	70 MAX	20	35	22	73 MAX	20	35								113	5	2, 6	
4		150	25	70 MAX	20	35	22	73 MAX	20	35								113	5	2, 6	
5		180	27	74 MAX	24	55	19	82 MAX	26	53								62	5	2, 6	
6		150	28	63 MAX	19	40	20	71 MAX	19	40								117	2	2, 6	
7		110	14	55 MAX	15	26	14	55 MAX	15	26								1	1	2, 6	
8		150	20	85 MAX	20	25	18	87 MAX	20	25								8	2	2, 6	
9		150	27	62 MAX	22	39	22	67 MAX	22	39								38	2	2, 6	
10		150	25	70 MAX	22	33	19	76 MAX	20	35								63	5	2, 6	

Offset Reference Point	Phase Mode
Beginning of First Green	---

Notes:

- 1) Use 'Max I' during FREE Operation.
- 2) Max recall Ø2 and Ø6 during coordination.



Submitted By: _____

Approved By: _____

Location Details			
Signal ID:	0709	Date:	May 21, 2021
Major Street:	Hillsborough Ave	Orientation:	E-W
Minor Street:	19th St	Orientation:	N-S

Controller Timings (seconds)

Movement # (Controller Phase Ø)	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Notes
Direction	EBLT	WB		NB	WBLT	EB		SB									
Turn Type	FYA				FYA												
Min Green	5	10		10	5	10		10									
Ext	2.0	3.0		3.0	2.0	3.0		3.0									
Yellow	4.4	4.4		3.4	4.4	4.4		3.4									
All Red	2.0	2.0		2.8	2.0	2.0		2.8									
Max I	25	90		30	25	90		30									
Max II	25	90		30	25	90		30									
Walk		7		7		7		7									
Flashing Don't Walk		11		23		8		28									
Detector Memory																	
Det. Switching to:																	
Recall		MAX PED				MAX PED											
CNA		ON				ON											

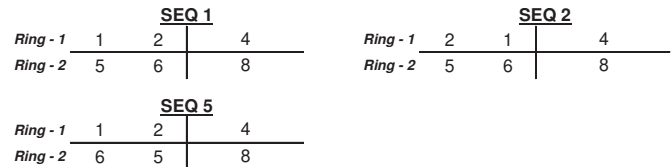
Coordination Timings (seconds)

Pattern	C-S-O	Cycle Length	Splits																Offset	Seq	Coord Ø
			Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16			
1		170	21	107 MxP		42	16	112 MxP		42								146	1	2, 6	
2		150	29	79 MxP		42	20	88 MxP		42								120	1	2, 6	
3		150	29	79 MxP		42	20	88 MxP		42								120	1	2, 6	
4		150	29	79 MxP		42	20	88 MxP		42								120	1	2, 6	
5		180	28	97 MxP		55	23	102 MxP		55								59	1	2, 6	
6		150	27	81 MxP		42	23	85 MxP		42								42	5	2, 6	
7		100	22	53 MxP		25	22	53 MxP		25								31	1	2, 6	
8		150	20	98 MxP		32	20	98 MxP		32								76	5	2, 6	
9		150	29	79 MxP		42	21	87 MxP		42								11	2	2, 6	
10		150	24	93 MxP		33	19	98 MxP		33								12	5	2, 6	

Offset Reference Point	Phase Mode
Beginning of First Green	---

Notes:

- 1) Use 'Max I' during FREE Operation.
- 2) Max recall Ø2 and Ø6 during coordination.



City of Tampa Signal Timing Sheet

Form Ver : 10/19/2016

Section ID: 715 Computer: M CCU: 53 Drop: 1 Facilities ID: Shop ID: 1657

Timing Date: 2/8/2017 Phase Date: 5/26/2011 Controller: Cobalt

Intersection: 22ND ST / HANNA

Phase Numbers	2	4	6	8
Direction	SB	WB	NB	EB
Minimum Green	10	10	10	10
Walk	7	7	7	7
Walk - XGuard				
FDW	9	8	9	10
FDW - XGuard				
Vehicle Extension	3.0	3.0	3.0	3.0
Max. Green I	30	30	30	30
Max. Green II	40	30	40	30
Yellow Clearance	3.7	3.7	3.7	3.7
All Red Clearance	2.0	2.0	2.0	2.0
Phase Recall	MAX	---	MAX	---
Detector Memory	---	---	---	---
Ped. Recall	ON	---	ON	---
Flash Operation	YEL	RED	YEL	RED

Special Modes and Times of Operation:

Surveillance Time: _____ Surveillance Other Time: _____
 Crossing Guard Times A: _____ Railroad Preempt: No Fire Preempt: No Bridge Preempt: No
 Crossing Guard Times P: _____
 Flash Source: C = Computer T = TOD/Controller Flash Time Primary: _____
 Special Functions: 0 Flash Time Secondary: _____
 0 FDOT SOP: 1 MOD
 0 Backup Protection (Y/N): N
 FDOT FDW (Y/N): Y

Comments:

Please Implement Signal Timings Within : 1 Week 1 Month

Submitted By: [Signature] Reviewed By: [Signature] Approved By: [Signature] Implemented By: [Signature]
 Date: 2-8-17 Date: 2-8-17 Date: 2-8-17 Date: 5-9-17

Implemented as sent: [] With the following revisions below: [] Returned, not implemented: []

CITY OF TAMPA COMPUTER PATTERN SHEET

715 - 22ND ST & HANNA

COBALT

Timing Date: 02/08/2017	MIN	10	10
MSX: M CCU: 53 Drop: 1	YEL	3.7	3.7
Structures: 1	RED	2	2
Lead / Lag:	WLK	7	7
	FDW	9	10
	Min - 38	22	16
Pat	CYC	OS	NS EW
1 AM 0630 - 0930	65	56	30 35
2 AM OFF 0930 - 1115	55	52	30 25
3 NOON 1115 - 1330	70	68	38 32
4 PM OFF 1330 - 1515	55	52	30 25
5 PM 1515 - 1900	75	66	45 30
6 EVENING 1900 - 2200	55	52	30 25
7 LATE 2200 - 0630	50	41	26 24
8 BUCS - IN	55	52	30 25
9 BUCS - OUT	55	52	30 25
10	55	52	30 25
11	60	0	30 30
12	55	52	30 25
13	55	52	30 25
14	55	52	30 25
15	55	52	30 25
16 Hurricane	55	52	30 25

T.B.C. Day Plan 1: M-Fr patt 1-7 Day Plan 2: S-S patt 7 late nite
 Pattern 2 all other times

City of Tampa - Phasing Diagram

DWG: 5/26/2011
Vers: 5/20/2011



Pg: 1 of 1
Prepared by PRC
Reviewed by

Sect. I.D.# 715
Location: 22ND ST / HANNA

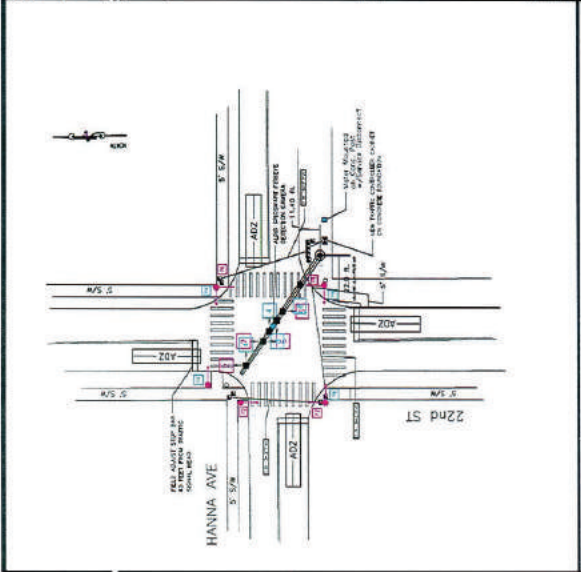
Phasing Date: 1/19/2011
Signal Head Numbers: Overlaps
Controller: ECONOMIC ASC2S

Flashing Operation	Interval	Phase	2	4	6	8
Ø2 & Ø6	RW Clear Ped Clear to All Other	Ø2 & Ø6	Y	R	Y	R
Ø4 & Ø8	RW Clear Ped Clear to All Other	Ø4 & Ø8				

Vehicle Movements

Phase	Interval	2	4	6	8	W	DW	W	DW
Ø2 & Ø6	RW Clear Ped Clear to All Other	Y	R	Y	R				
Ø4 & Ø8	RW Clear Ped Clear to All Other								

Signal Head #	Economite Overlaps	Load Switch #	Peek Overlaps
2	LS2	LS4	LS8



P2, P4, P6, P8
2, 4, 6, 8

CNA phases are Ø2 & Ø6. Ped Heads and Buttons All Around.

FDOT SOP 1

City of Tampa Signal Timing Sheet

Section ID: 716 Computer: M CCU: 54 Drop: 2 Shop ID: 1606
 Timing Date: 4/1/2015 Phase Date: 1/12/2001 Controller: ASC2S
 Intersection: 30TH ST / HANNA

Phase Numbers	2	4
Direction	NS	EW
Minimum Green	10	10
Walk	7	7
Flash Don't Walk	14	11
Vehicle Extension	3.0	3.0
Max. Green I	40	35
Max. Green II	40	35
Yellow Clearance	3.7	3.7
All Red Clearance	2.0	2.0
Phase Recall	MIN	---
Detector Memory	---	ON
Ped. Recall	---	---
Flash Operation	YEL	RED

Special Modes and Times of Operation:

Surveillance Times: 24 Hrs.
 Flash Source: Flash Times:
 C = Computer Flash T = Time Clock/Controller
 Special Functions: 0
 0
 0

FDOT SOP: 1 MOD
 Backup Protection (Y/N): N
 FDOT FDW (Y/N): Y

Please Implement Within : 1 Week 1 Month

Comments:

UPDATED FDOT CLEARANCES.

Submitted By: [Signature]
 Date: 4/6/15

Reviewed By: [Signature]
 Date: 4-17-15

Approved By: [Signature]
 Date: 4-27-15

Signal Timing Implemented: As sent With the following revisions

Date: 5/20/15 By: [Signature]

Signal Timing Not Implemented: Reasons: _____

Date: _____ By: _____

716
CITY OF TAMPA COMPUTER PATTERN SHEET

716

716 - 30TH ST & HANNA

ECONOLITE

Timing Date: 11/01/2016			MIN	10	10
MSX: M CCU: 54 Drop: 2			YEL	3.7	3.7
Structures: 1			RED	2	2
Lead / Lag:			WLK	7	7
			FDW	14	11
			Min - 43	27	16
Pat	CYC	OS	NS	EW	
1 AM 0630 - 0930	65	37	35	30	
2 AM OFF 0930 - 1115	55	49	30	25	
3 NOON 1115 - 1330	70	38	40	30	
4 PM OFF 1330 - 1515	55	49	30	25	
5 PM 1515 - 1900	75	36	45	30	
6 EVENING 1900 - 2200	55	49	30	25	
7 LATE 2200 - 0630	45	5	25	20	
8 BUCS - IN	55	49	30	25	
9 BUCS - OUT	55	49	30	25	
10	55	52	30	25	
11	55	52	30	25	
12	55	52	30	25	
13	55	52	30	25	
14	55	52	30	25	
15	55	52	30	25	
16 Hurricane	55	49	30	25	

24hrs Surv.

T.B.C. Day Plan 1: M-Fr patt 1-7 Day Plan 2: S-S patt 7 late nite
Pattern 2 all other times

City of Tampa Signal Timing Sheet

Section ID 717 Computer: M CCU: 55 DROP 2 MYLAR: 271 SHOP ID 3959

Timing Date: 10/6/2004 Phase Date: 7/20/2004 Controller: ECONOLITE

Intersection: 40TH ST and HANNA

Phase Numbers	2	4
Direction	NS	EW
Minimum Green	10	10
Walk	4	4
Flash Don't Walk	8	11
Vehicle Extension	3.0	3.0
Max. Green I	60	40
Max. Green II	60	40
Yellow Clearance	3.6	3.2
All Red Clearance	1.0	1.0
Phase Recall	MAX	---
Detector Memory	---	---
Ped. Recall	ON	---
Flash Operation	YEL	RED

Special Modes and Times of Operations:

Surveillance Times:

Flash Source: Times:

C = Computer Flash T = Time Clock/Controller

Special Functions

Please Implement Within: 1 Week 1 Month

Comments:

UPDATED TIMINGS & PHASING DIAGRAM WITH ECONOLITE SHEETS E.O.C. RESISTOR TO BE PLACED ON RECEIVE

Submitted By: SK
Date: 10-6-04

Reviewed By: RS
Date: 10-12-04

Approved By: [Signature]
Date: 10/13/04

Signal Timing Implemented: As Sent With Following Revisions

_____ Date: 1-26-05

Signal Timing Not Implemented Reason:

_____ Date: _____ By: E Abbott



717
CITY OF TAMPA COMPUTER PATTERN SHEET

717

717 - 40TH ST & HANNA

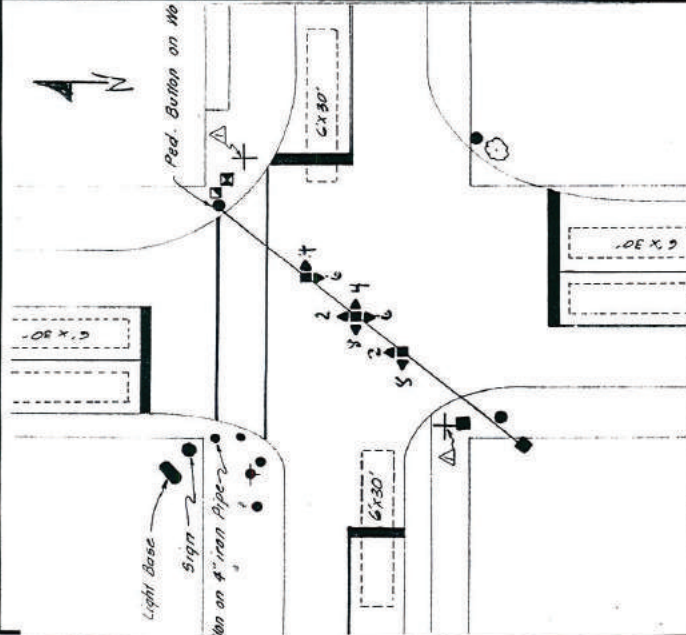
ECONOLITE

Timing Date: 11/01/2016	MIN	10	10
MSX: M CCU: 55 Drop: 2	YEL	3.6	3.2
Structures: 1 Lead / Lag:	RED	1	1
	WLK	4	4
	FDW	8	11
	Min - 32	17	15
Pat	CYC	OS	NS EW
1 AM 0630 - 0930	130	46	91 39
2 AM OFF 0930 - 1115	55	8	32 23
3 NOON 1115 - 1330	70	4	40 30
4 PM OFF 1330 - 1515	55	8	32 23
5 PM 1515 - 1900	150	13	105 45
6 EVENING 1900 - 2200	55	8	32 23
7 LATE 2200 - 0630	45	44	25 20
8 BUCS - IN	55	8	32 23
9 BUCS - OUT	55	8	32 23
10	55	52	30 25
11	55	52	30 25
12	55	52	30 25
13	55	8	30 25
14	55	8	30 25
15	55	8	30 25
16 Hurricane	55	8	32 23

T.B.C. Day Plan 1: M-Fr patt 1-7 Day Plan 2: S-S patt 7 late nite
Pattern 2 all other times

CITY OF TAMPA - Phasing Diagram

Sect. I.D.#: 717	Mylar #.: 1	Pg: 1	of 1	Rev. 1	P 1	
Controller: Econolite	40th St. & Hanna	Prep: SK	P 2	P 4	P 6	
Date: 7/20/2004	Signal Head Numbers	2	4	6	8	
Vehicle Movements	Phase	Flashing Operation				Display Sequence
		Y	R	Y	R	
	Ø 2*	RW				G R Y R R R
		CLR TO ALL OTHER				
	Ø 4	RW				G R Y R R R
		CLR TO ALL OTHER				



Notes: 8 phase fully actuated controller with 2 phase operation.
 Concurrent ped phase E/W on north side with ped buttons, no heads.
 *CNA & Flash Exit Phase

City of Tampa Signal Timing Sheet

Section ID: 812 Computer: M CCU: 53 Drop: 6 Shop ID: 1183
 Timing Date: 3/20/2015 Phase Date: 1/12/2001 Controller: ASC2S
 Intersection: SLIGH / 15TH ST

Phase Numbers	2	4
Direction	E/W	N/S
Minimum Green	10	10
Walk	7	7
Flash Don't Walk	13	10
Vehicle Extension	3.0	3.0
Max. Green I	40	20
Max. Green II	40	20
Yellow Clearance	4.0	3.7
All Red Clearance	2.0	2.0
Phase Recall	MAX	---
Detector Memory	---	---
Ped. Recall	ON	---
Flash Operation	YEL	RED

Special Modes and Times of Operation:

Surveillance Times:

Flash Source: Flash Times:

C = Computer Flash T = Time Clock/Controller

Special Functions: 0
 0
 0

FDOT SOP: 1
 Backup Protection (Y/N): N
 FDOT FDW (Y/N): Y

Please Implement Within : [] 1 Week [] 1 Month

Comments:

UPDATED FDOT CLEARANCES.

Submitted By: JS
 Date: 3/20/15

Reviewed By: JS
 Date: 5-19-15

Approved By: RL
 Date: 5.20.15

Signal Timing Implemented: As sent [] With the following revisions

Date: 6/3/2015 By: MJF

Signal Timing Not Implemented: [] Reasons: _____

Date: _____ By: _____

CITY OF TAMPA COMPUTER PATTERN SHEET

812

812 - SLIGH & 15TH ST

ECONOLITE

Timing Date: 05/18/2015 MSX: M CCU: 53 Drop: 6 Structures: 1 Lead / Lag:	MIN	10	10		
	YEL	4	3.7		
	RED	2	2		
	WLK	7	7		
	FDW	13	10		
	Min - 43	27	16		
Pat	CYC	OS	EW	NS	
1 Am 0615 - 0900	70	49	44	26	
2 Am off 0900 - 1115	70	49	44	26	
3 Noon 1115 - 1330	70	49	44	26	
4 Pm off 1330 - 1515	70	49	44	26	
5 Pm 1515 - 1830	70	49	44	26	
6 Evening 1830 - 2200	70	49	44	26	
7 Late 2200 - 0615	55	22	31	24	
8 Bucs - In					
9 Bucs - Out					
10					
11 NB Progression					
12					
13 WB Detour MLK (AM)					
14					
15					
16 Hurricane	70	49	44	26	

T.B.C. Day Plan 1: M-Th patt 1-7 Day Plan 2: Fri patt 1-7 w/5 @ 14:45
 Day Plan 3: Sat 7 - 2 AOT Day Plan 4: Sun 7 - 2 AOT (All Other Times)

City of Tampa Signal Timing Sheet

Section ID: 813 Computer: M CCU: 53 Drop: 7 Shop ID: 1439
 Timing Date: 3/20/2015 Phase Date: 1/19/2001 Controller: ASC2S
 Intersection: SLIGH / 22ND ST

Phase Numbers	2	3	4	6	8
Direction	WB	PED	NB	EB	SB
Minimum Green	10	24	10	10	10
Walk	9	7	---	9	---
Flash Don't Walk	1	17	---	1	---
Vehicle Extension	3.0	---	3.0	3.0	3.0
Max. Green I	50	<u>24</u>	30	50	30
Max. Green II	50	<u>24</u>	30	50	30
Yellow Clearance	4.0	3.0	3.7	4.0	<u>3.7</u>
All Red Clearance	2.0	---	2.2	2.0	<u>2.2</u>
Phase Recall	MIN	---	---	MIN	---
Detector Memory	---	---	ON	---	ON
Ped. Recall	---	---	---	---	---
Flash Operation	YEL	---	RED	YEL	RED

Special Modes and Times of Operation:

Surveillance Times: 24 Hrs.

Flash Source: Flash Times:

C = Computer Flash T = Time Clock/Controller

Special Functions: 0
 0
 0

FDOT SOP: 1

Backup Protection (Y/N): N

FDOT FDW (Y/N): Y

Please Implement Within : 1 Week 1 Month

Comments:

UPDATED FDOT CLEARANCES.
 ** E.O.C. RESISTOR TO BE INSTALLED ON RECEIVE **

Submitted By: JB Reviewed By: JK Approved By: BJ
 Date: 3/20/15 Date: 5-19-15 Date: 5-20-15

Signal Timing Implemented: As sent With the following revisions

Date: 6/3/2015 By: [Signature]

Signal Timing Not Implemented: Reasons: _____

Date: _____ By: _____

CITY OF TAMPA COMPUTER PATTERN SHEET

813

813 - SLIGH & 22ND ST

ECONOLITE

Timing Date: 05/18/2015 MSX: M CCU: 53 Drop: 7 Structures: 1 Lead / Lag:	MIN	10	24	10	
	YEL	4	3	3.7	
	RED	2		2.2	
	WLK	9	7		
	FDW	1	17		
	Min - 61	17	28	16	
Pat	CYC	OS	EW	PED	NS
1 Am 0615 - 0900	105	18	41	34	30
2 Am off 0900 - 1115	105	18	41	34	30
3 Noon 1115 - 1330	105	18	41	34	30
4 Pm off 1330 - 1515	105	18	41	34	30
5 Pm 1515 - 1830	105	18	41	34	30
6 Evening 1830 - 2200	90	22	26	34	30
7 Late 2200 - 0615	70	17	16	34	20
8 Bucs - In					
9 Bucs - Out					
10					
11 NB Progression					
12					
13 WB Detour MLK (AM)					
14					
15					
16 Hurricane	70	22	19	34	17

24hrs. Surv.

T.B.C. Day Plan 1: M-Th patt 1-7 Day Plan 2: Fri patt 1-7 w/5 @ 14:45
Day Plan 3: Sat 7 - 2 AOT Day Plan 4: Sun 7 - 2 AOT (All Other Times)

INTERSECTION DRAWING

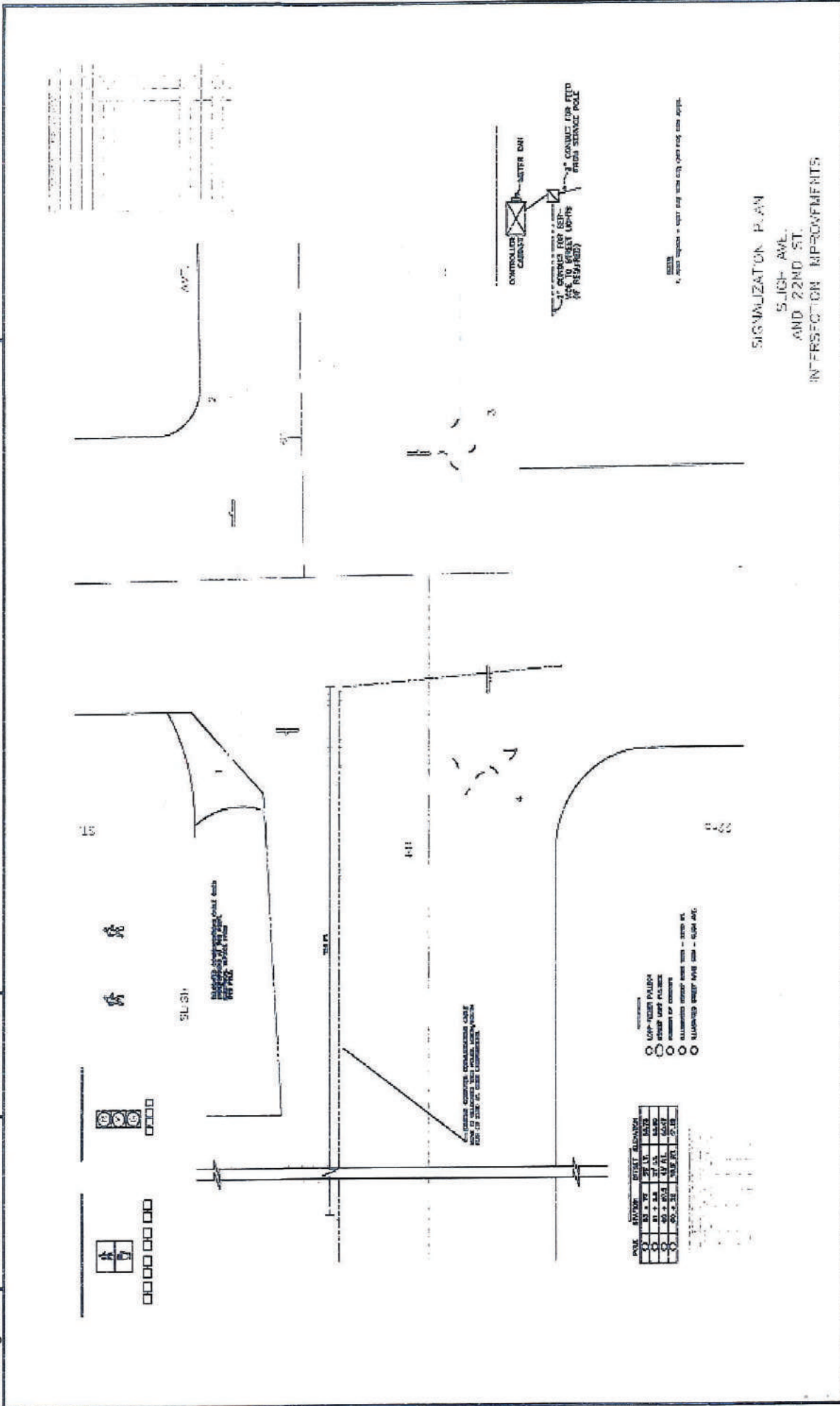
FDOT SOP# 1 MOD

Sect. I.D.# 813

Phasing Date: 1/19/2001

SLIGH / 22ND ST

Location:



SIGNALIZATION PLAN
 SLIGH- AVE.
 AND 22ND ST.
 INTERSECTION IMPROVEMENTS

City of Tampa Signal Timing Sheet

Section ID: 862 Computer: M CCU: 54 Drop: 1 Shop ID: 1452
 Timing Date: 3/20/2015 Phase Date: 1/28/2010 Controller: ASC2S
 Intersection: SLIGH / ROWLETTE PARK

Phase Numbers	2	3	4	5	6	7	8
Direction	E/W	EBLT	LT-FLU	EB-FLU	PRMPT	PRMPT	SB
Minimum Green	10	5	3	3	5	5	10
Walk	7	---	---	---	---	---	7
Flash Don't Walk	8	---	---	---	---	---	13
Vehicle Extension	3.0	3.0	---	---	---	---	3.0
Max. Green I	35	35	3	3	---	---	30
Max. Green II	35	35	3	3	---	---	30
Yellow Clearance	4.0	4.0	4.0	4.0	4.0	4.3	4.8
All Red Clearance	2.3	2.0	2.0	2.0	2.0	2.0	2.0
Phase Recall	MIN	---	MAX	MAX	---	---	---
Detector Memory	---	---	---	---	---	---	ON
Ped. Recall	ON	---	---	---	---	---	---
Flash Operation	YEL	---	---	---	---	---	RED

Special Modes and Times of Operation:

Surveillance Times: 24 Hrs.

Flash Source: Flash Times:

C = Computer Flash T = Time Clock/Controller

Special Functions: 0

0

0

FDOT SOP: POP 2

Backup Protection (Y/N): N

FDOT FDW (Y/N): Y

Please Implement Within : [] 1 Week [] 1 Month

Comments:

- *UPDATED FDOT CLR TIMINGS. Ø2 IS CNA PHASE*
- *SEQUENCE - Ø2(Ø2, OL5, OL6, P2), Ø3(OL1, OL3, OL5, OL6), Ø4(OL1, OL3, OL6), Ø5(OL3, OL6),*
- *Ø6(OL1, OL6), Ø7(OL8), Ø8(OL3, OL8, P8). Ø6 & Ø7 Unomitted during Preemption.*
- *Preemption - Ø6 is Track CLR and Ø7 is Dwell. E.O.C. Resistor to be placed on Receive.*
- * Ø3 'Next' & 'On' unomits Ø4, Ø3 & Ø4 'On' & 'Next' omits Ø5. Seq 1- 2,3,4,8. Seq 2- 2,5,8*

Submitted By: JS
 Date: 3/20/15

Reviewed By: JS
 Date: 5-19-15

Approved By: BJ
 Date: 5-20-15

Signal Timing Implemented: [] As sent [] With the following revisions

Date: 5/29/2015 By: MJA

Signal Timing Not Implemented: [] Reasons: _____

Date: _____ By: _____

CITY OF TAMPA COMPUTER PATTERN SHEET

862

862 - SLIGH & ROWLETTE PARK

ECONOLITE

Timing Date: 05/18/2015 MSX: M CCU: 54 Drop: 1 Structures: 1 Lead / Lag:	MIN	10	5	3	10	
	YEL	4	4	4	4.8	
	RED	2.3	2	2	2	
	WLK	7			7	
	FDW	8			13	
	Min - 61	22	12	10	17	
Pat	CYC	OS	EW	EBLT	FLUS	SB
1 Am 0615 - 0900	80	50	29	12	10	29
2 Am off 0900 - 1115	80	50	29	12	10	29
3 Noon 1115 - 1330	80	50	29	12	10	29
4 Pm off 1330 - 1515	80	50	29	12	10	29
5 Pm 1515 - 1830	90	47	32	20	10	28
6 Evening 1830 - 2200	80	50	29	12	10	29
7 Late 2200 - 0615	80	50	29	12	10	29
8 Bucs - In						
9 Bucs - Out						
10						
11 NB Progression						
12						
13 WB Detour MLK (AM)						
14						
15						
16 Hurricane	70	54	19	12	10	29

24HRS SURV.

T.B.C. Day Plan 1: M-Th patt 1-7 Day Plan 2: Fri patt 1-7 w/5 @ 14:45
Day Plan 3: Sat 7 - 2 AOT Day Plan 4: Sun 7 - 2 AOT (All Other Times)

Vers. 12/21/2006
Pg. 1 of 2

Prepared by GT
Reviewed by *AS*

862
Date: 1/28/2010
Controller:

OL1 OL6 Ø2 OL8 OL3 OL6 OL5 6 6A
1/6 2 4 4R R R→ Y Y Y R

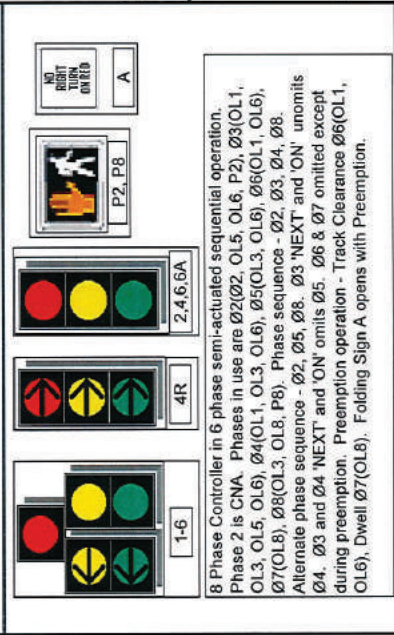
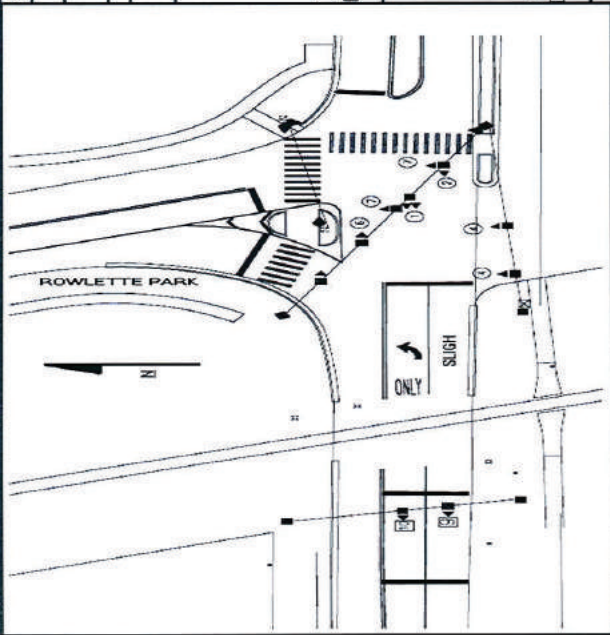
Location:	SLIGH / ROWLETTE PARK
Signal Head Numbers	OL1 OL6 Ø2 OL8 OL3 OL6 OL5 6 6A
Overlaps	Ø2 & OL5
Economite	Ø3
Flashing Operation	P2
Phase	Ø2 & OL5
Interval	Ø6
RW	
Clear Ped	
Clear to	
Clear to	
Clear to	
Clear to	
Preempt Ø6	
RW	
Clear to	
Clear to	
Clear to	
Preempt Ø6	

OL1	OL6	Ø2	OL8	OL3	OL6	OL5	6	6A	Display Sequence	
←-G	G	G	R	R	G	G	G	G	CLOSED	W
←-Y	G	G	R	R	G	G	G	G	CLOSED	FDW
←-Y	G	Y	R	R	G	G	G	G	CLOSED	DW
←-Y	G	Y	R	R	G	G	G	G	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW

Ø4										
←-G	G	R	R	R	G	G	G	G	CLOSED	DW
←-Y	Y	R	R	R	G	Y	Y	Y	CLOSED	DW
←-Y	R	R	R	R	G	R	R	R	CLOSED	DW
←-Y	R	R	R	R	G	R	R	R	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW
←-G	G	R	R	R	G	Y	Y	Y	CLOSED	DW

Ø5										
G	R	R	R	R	G	R	G	R	CLOSED	DW
Y	R	R	R	R	R	Y	Y	Y	CLOSED	DW
G	R	R	R	R	G	R	R	R	CLOSED	DW
G	R	R	R	R	G	R	R	R	CLOSED	DW
G	R	R	R	R	G	R	R	R	CLOSED	DW
G	R	R	R	R	G	R	R	R	CLOSED	DW
G	R	R	R	R	G	R	R	R	CLOSED	DW
G	R	R	R	R	G	R	R	R	CLOSED	DW
G	R	R	R	R	G	R	R	R	CLOSED	DW

1	6	2	4	4R	6	6A		
OL1	OL6		OL8	OL3	OL6	OL5		
LS1	LS6	LS2	LS8	LS3	LS6	LS5		
OLE	OLJ		OLL	OLG	OLL	OLI		
Signal Head #	1	6	2	4	4R	6	6A	
Economite Overlaps	OL1	OL6		OL8	OL3	OL6	OL5	
Load Switch #	LS1	LS6	LS2	LS8	LS3	LS6	LS5	
Peek Overlaps	OLE	OLJ		OLL	OLG	OLL	OLI	



City of Tampa - Phasing Diagram



Prepared by GT
Reviewed by JS

SLIGH / ROWLETTE PARK

Sect. I.D.# 862

Location:
Date: 1/28/2010

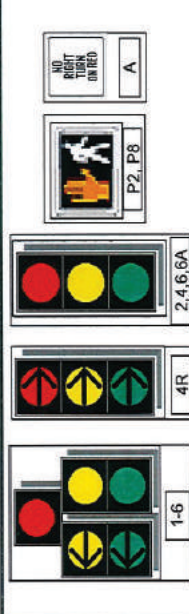
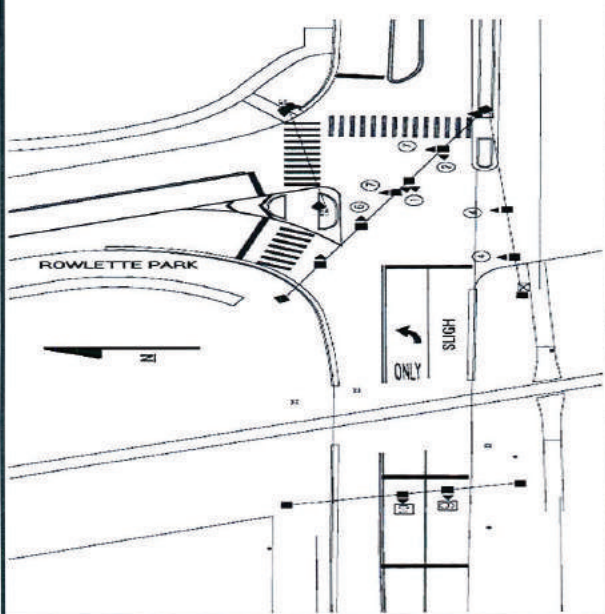
Controller:
Vehicle Movements

Phase:
Ø6 & Ø7
Ø1, Ø6

Interval:
RW
Clear to Dwell Ø7

Overlaps:
Signal Head Numbers
Econolite

Flashing Operation:
Phase



8 Phase Controller in 6 phase semi-actuated sequential operation.
Phase 2 is CNA. Phases in use are Ø2(Ø2, OL5, OL6, P2), Ø3(OL1, OL3, OL5, OL6) Ø4(OL1, OL3, OL6) Ø5(OL3, OL6) Ø6(OL1, OL6), Ø7(OL8), Ø8(OL3, OL8, P8). Phase sequence - Ø2, Ø3, Ø4, Ø8. Alternate phase sequence - Ø2, Ø5, Ø8. Ø3 'NEXT' and 'ON' unomits Ø4, Ø3 and Ø4 'NEXT' and 'ON' omits Ø5. Ø6 & Ø7 omitted except during preemption. Preemption operation - Track Clearance Ø6(OL1, OL6), Dwell Ø7(OL8). Folding Sign A opens with Preemption.

Signal Head #	Ø1		Ø2		Ø3		Ø4		Ø5		Ø6		Ø7		Ø8	
	OL1	OL6	Ø2	Ø2	OL3	OL3	Ø4	Ø4	Ø5	Ø5	Ø6	Ø6	Ø7	Ø7	Ø8	Ø8
1																
6																
2																
4																
4R																
6A																
P2																
P4																
P6																
P8																
N/A																
N/A																

Signal Head #
Econolite Overlaps
Load Switch #
Peak Overlaps

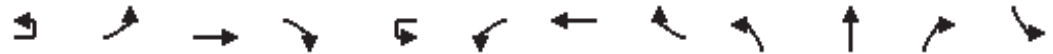
APPENDIX D

Existing (2021)

SYNCHRO Reports

HCM Signalized Intersection Capacity Analysis
 1: N 15th Street & Hillsborough Ave

Existing - AM.syn
 12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑		↔
Traffic Volume (vph)	4	42	1343	51	4	97	1761	21	83	87	44	72
Future Volume (vph)	4	42	1343	51	4	97	1761	21	83	87	44	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.95		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5008			1752	5027		1752	1752		1752
Flt Permitted		0.09	1.00			0.14	1.00		0.26	1.00		0.52
Satd. Flow (perm)		160	5008			263	5027		474	1752		956
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	44	1414	54	4	102	1854	22	87	92	46	76
RTOR Reduction (vph)	0	0	2	0	0	0	0	0	0	13	0	0
Lane Group Flow (vph)	0	48	1466	0	0	106	1876	0	87	125	0	76
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		122.5	117.0			125.9	118.7		27.3	27.3		27.3
Effective Green, g (s)		122.5	117.0			125.9	118.7		27.3	27.3		27.3
Actuated g/C Ratio		0.72	0.69			0.74	0.70		0.16	0.16		0.16
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		166	3446			257	3510		76	281		153
v/s Ratio Prot		0.01	0.29			c0.02	c0.37			0.07		
v/s Ratio Perm		0.20				0.29			c0.18			0.08
v/c Ratio		0.29	0.43			0.41	0.53		1.14	0.45		0.50
Uniform Delay, d1		9.0	11.7			7.5	12.3		71.3	64.5		65.1
Progression Factor		1.00	1.00			1.92	1.62		1.00	1.00		1.00
Incremental Delay, d2		0.4	0.4			0.3	0.5		147.7	1.1		2.5
Delay (s)		9.3	12.1			14.8	20.5		219.1	65.6		67.6
Level of Service		A	B			B	C		F	E		E
Approach Delay (s)			12.0				20.2			125.0		
Approach LOS			B				C			F		

Intersection Summary		
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.64	C
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	79.4%	18.5
Analysis Period (min)	15	ICU Level of Service
		D

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: N 15th Street & Hillsborough Ave

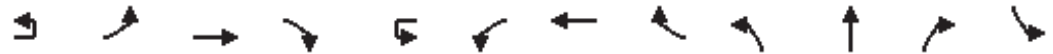
Existing - AM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	173	51
Future Volume (vph)	173	51
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	1781	
Flt Permitted	1.00	
Satd. Flow (perm)	1781	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	182	54
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	228	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	27.3	
Effective Green, g (s)	27.3	
Actuated g/C Ratio	0.16	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	286	
v/s Ratio Prot	0.13	
v/s Ratio Perm		
v/c Ratio	0.80	
Uniform Delay, d1	68.7	
Progression Factor	1.00	
Incremental Delay, d2	14.4	
Delay (s)	83.1	
Level of Service	F	
Approach Delay (s)	79.3	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

Existing - AM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	13	59	1350	41	4	72	1781	21	28	56	24	74
Future Volume (vph)	13	59	1350	41	4	72	1781	21	28	56	24	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	1.00			1.00	1.00			0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.99		0.95
Satd. Flow (prot)		1752	5014			1752	5027			1767		1752
Flt Permitted		0.09	1.00			0.15	1.00			0.52		0.49
Satd. Flow (perm)		163	5014			283	5027			934		913
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	62	1421	43	4	76	1875	22	29	59	25	78
RTOR Reduction (vph)	0	0	1	0	0	0	1	0	0	7	0	0
Lane Group Flow (vph)	0	76	1463	0	0	80	1896	0	0	106	0	78
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		133.9	127.4			133.1	127.0			17.5		17.5
Effective Green, g (s)		133.9	127.4			133.1	127.0			17.5		17.5
Actuated g/C Ratio		0.79	0.75			0.78	0.75			0.10		0.10
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		189	3757			274	3755			96		93
v/s Ratio Prot		c0.02	0.29			0.01	c0.38					
v/s Ratio Perm		0.30				0.22				c0.11		0.09
v/c Ratio		0.40	0.39			0.29	0.51			1.10		0.84
Uniform Delay, d1		6.1	7.5			4.7	8.7			76.2		74.9
Progression Factor		3.45	0.52			2.32	1.60			1.00		1.00
Incremental Delay, d2		0.5	0.3			0.1	0.2			122.2		45.2
Delay (s)		21.7	4.2			11.0	14.2			198.4		120.0
Level of Service		C	A			B	B			F		F
Approach Delay (s)			5.0				14.1			198.4		
Approach LOS			A				B			F		

Intersection Summary

HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 2: N 19th street & Hillsborough Ave

Existing - AM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations	PT	
Traffic Volume (vph)	75	61
Future Volume (vph)	75	61
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1721	
Flt Permitted	1.00	
Satd. Flow (perm)	1721	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	79	64
RTOR Reduction (vph)	20	0
Lane Group Flow (vph)	123	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	17.5	
Effective Green, g (s)	17.5	
Actuated g/C Ratio	0.10	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	177	
v/s Ratio Prot	0.07	
v/s Ratio Perm		
v/c Ratio	0.70	
Uniform Delay, d1	73.7	
Progression Factor	1.00	
Incremental Delay, d2	11.3	
Delay (s)	85.0	
Level of Service	F	
Approach Delay (s)	97.3	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
 3: N 22nd Street & Hillsborough Ave

Existing - AM.syn
 12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	2	82	1220	148	4	158	1714	141	114	133	91	115
Future Volume (vph)	2	82	1220	148	4	158	1714	141	114	133	91	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.98			1.00	0.99		1.00	0.94		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4954			1752	4979		1752	1732		1752
Flt Permitted		0.07	1.00			0.07	1.00		0.15	1.00		0.41
Satd. Flow (perm)		123	4954			123	4979		285	1732		759
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	86	1284	156	4	166	1804	148	120	140	96	121
RTOR Reduction (vph)	0	0	8	0	0	0	5	0	0	14	0	0
Lane Group Flow (vph)	0	88	1432	0	0	170	1947	0	120	222	0	121
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6			5	2		7	4		3
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		75.7	75.7			76.2	76.2		54.3	39.8		52.5
Effective Green, g (s)		75.7	75.7			76.2	76.2		54.3	39.8		52.5
Actuated g/C Ratio		0.45	0.45			0.45	0.45		0.32	0.23		0.31
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		204	2205			209	2231		216	405		313
v/s Ratio Prot		0.04	c0.29			0.08	c0.39		c0.05	0.13		0.03
v/s Ratio Perm		0.15				0.29			0.13			0.09
v/c Ratio		0.43	0.65			0.81	0.87		0.56	0.55		0.39
Uniform Delay, d1		58.6	36.8			46.9	42.5		45.0	57.2		44.2
Progression Factor		1.05	1.09			0.93	1.41		1.00	1.00		1.00
Incremental Delay, d2		1.4	1.4			13.5	3.2		3.1	1.9		0.8
Delay (s)		63.2	41.4			57.3	63.2		48.1	59.1		44.9
Level of Service		E	D			E	E		D	E		D
Approach Delay (s)			42.6				62.7			55.4		
Approach LOS			D				E			E		

Intersection Summary		
HCM 2000 Control Delay	56.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.83	E
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	86.6%	24.8
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 3: N 22nd Street & Hillsborough Ave

Existing - AM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations	PT	
Traffic Volume (vph)	300	48
Future Volume (vph)	300	48
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	1.00	
Satd. Flow (prot)	1806	
Flt Permitted	1.00	
Satd. Flow (perm)	1806	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	316	51
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	363	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	38.9	
Effective Green, g (s)	38.9	
Actuated g/C Ratio	0.23	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	413	
v/s Ratio Prot	c0.20	
v/s Ratio Perm		
v/c Ratio	0.88	
Uniform Delay, d1	63.3	
Progression Factor	1.00	
Incremental Delay, d2	19.2	
Delay (s)	82.5	
Level of Service	F	
Approach Delay (s)	73.2	
Approach LOS	E	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
4: N 30th Street & Hillsborough Ave

Existing - AM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑		↔
Traffic Volume (vph)	4	76	1291	59	1	50	1859	185	50	98	18	179
Future Volume (vph)	4	76	1291	59	1	50	1859	185	50	98	18	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5003			1752	4967		1752	1802		1752
Flt Permitted		0.14	1.00			0.25	1.00		0.23	1.00		0.60
Satd. Flow (perm)		260	5003			458	4967		419	1802		1104
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	80	1359	62	1	53	1957	195	53	103	19	188
RTOR Reduction (vph)	0	0	3	0	0	0	7	0	0	4	0	0
Lane Group Flow (vph)	0	84	1418	0	0	54	2145	0	53	118	0	188
Turn Type	custom	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1				5				4			8
Actuated Green, G (s)		28.4	102.2			16.1	89.9		32.8	32.8		32.8
Effective Green, g (s)		28.4	102.2			16.1	89.9		32.8	32.8		32.8
Actuated g/C Ratio		0.17	0.60			0.09	0.53		0.19	0.19		0.19
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		43	3007			43	2626		80	347		213
v/s Ratio Prot			0.28				c0.43			0.07		
v/s Ratio Perm		c0.32				0.12			0.13			c0.17
v/c Ratio		1.95	0.47			1.26	0.82		0.66	0.34		0.88
Uniform Delay, d1		70.8	18.9			77.0	33.2		63.5	59.3		66.7
Progression Factor		1.34	0.36			1.08	0.83		1.00	1.00		1.00
Incremental Delay, d2		488.6	0.4			207.4	2.4		18.7	0.6		32.0
Delay (s)		583.2	7.3			290.3	29.9		82.2	59.8		98.7
Level of Service		F	A			F	C		F	E		F
Approach Delay (s)			39.4				36.3			66.6		
Approach LOS			D				D			E		

Intersection Summary

HCM 2000 Control Delay	44.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 4: N 30th Street & Hillsborough Ave

Existing - AM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations	↓	↘
Traffic Volume (vph)	170	104
Future Volume (vph)	170	104
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.94	
Flt Protected	1.00	
Satd. Flow (prot)	1740	
Flt Permitted	1.00	
Satd. Flow (perm)	1740	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	179	109
RTOR Reduction (vph)	14	0
Lane Group Flow (vph)	274	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	32.8	
Effective Green, g (s)	32.8	
Actuated g/C Ratio	0.19	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	335	
v/s Ratio Prot	0.16	
v/s Ratio Perm		
v/c Ratio	0.82	
Uniform Delay, d1	65.8	
Progression Factor	1.00	
Incremental Delay, d2	14.4	
Delay (s)	80.1	
Level of Service	F	
Approach Delay (s)	87.5	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
5: N 34th Street & Hillsborough Ave

Existing - AM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	
Traffic Volume (vph)	2	15	1425	47	13	58	1940	30	99	81	36	49
Future Volume (vph)	2	15	1425	47	13	58	1940	30	99	81	36	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	1.00			1.00	1.00		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	5012			1752	5024		1752	1759		
Flt Permitted		0.07	1.00			0.12	1.00		0.40	1.00		
Satd. Flow (perm)		123	5012			230	5024		736	1759		
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	16	1500	49	14	61	2042	32	104	85	38	52
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	10	0	0
Lane Group Flow (vph)	0	18	1547	0	0	75	2073	0	104	113	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		118.7	115.0			126.1	118.7		28.4	28.4		
Effective Green, g (s)		118.7	115.0			126.1	118.7		28.4	28.4		
Actuated g/C Ratio		0.70	0.68			0.74	0.70		0.17	0.17		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		121	3390			236	3507		122	293		
v/s Ratio Prot		0.00	0.31			c0.01	c0.41			0.06		
v/s Ratio Perm		0.10				0.22			0.14			
v/c Ratio		0.15	0.46			0.32	0.59		0.85	0.39		
Uniform Delay, d1		10.3	12.9			7.9	13.2		68.8	63.0		
Progression Factor		1.24	0.76			1.00	0.65		1.00	1.00		
Incremental Delay, d2		0.5	0.4			0.5	0.5		40.3	0.8		
Delay (s)		13.2	10.1			8.4	9.1		109.1	63.9		
Level of Service		B	B			A	A		F	E		
Approach Delay (s)			10.1				9.0			84.6		
Approach LOS			B				A			F		

Intersection Summary

HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 5: N 34th Street & Hillsborough Ave

Existing - AM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	102	54
Future Volume (vph)	102	54
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1758	
Flt Permitted	0.75	
Satd. Flow (perm)	1338	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	107	57
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	209	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	28.4	
Effective Green, g (s)	28.4	
Actuated g/C Ratio	0.17	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	223	
v/s Ratio Prot		
v/s Ratio Perm	c0.16	
v/c Ratio	0.93	
Uniform Delay, d1	69.9	
Progression Factor	1.00	
Incremental Delay, d2	42.2	
Delay (s)	112.1	
Level of Service	F	
Approach Delay (s)	112.1	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
6: N 40th Street & Hillsborough Ave

Existing - AM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔↔		↔↔	↔↔↔		↔↔	↔↔	↔	↔↔	↔↔
Traffic Volume (vph)	31	174	1088	230	197	1398	68	261	567	243	236	846
Future Volume (vph)	31	174	1088	230	197	1398	68	261	567	243	236	846
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91		0.97	0.91		0.97	0.95	1.00	0.97	0.95
Frt		1.00	0.97		1.00	0.99		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)		3400	4904		3400	5001		3400	3505	1568	3400	3505
Flt Permitted		0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)		3400	4904		3400	5001		3400	3505	1568	3400	3505
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)	33	183	1145	242	207	1472	72	275	597	256	248	891
RTOR Reduction (vph)	0	0	19	0	0	3	0	0	0	124	0	0
Lane Group Flow (vph)	0	216	1368	0	207	1541	0	275	597	132	248	891
Turn Type	Prot	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	1	1	6		5	2		7	4		3	8
Permitted Phases										4		
Actuated Green, G (s)		13.8	71.2		12.2	69.6		15.9	44.5	44.5	14.9	43.5
Effective Green, g (s)		13.8	71.2		12.2	69.6		15.9	44.5	44.5	14.9	43.5
Actuated g/C Ratio		0.08	0.42		0.07	0.41		0.09	0.26	0.26	0.09	0.26
Clearance Time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		276	2053		244	2047		318	917	410	298	896
v/s Ratio Prot		0.06	c0.28		0.06	c0.31		c0.08	0.17		0.07	c0.25
v/s Ratio Perm										0.08		
v/c Ratio		0.78	0.67		0.85	0.75		0.86	0.65	0.32	0.83	0.99
Uniform Delay, d1		76.6	39.8		78.0	42.9		76.0	55.8	50.6	76.3	63.1
Progression Factor		0.84	1.17		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		12.3	1.6		23.0	2.6		20.9	1.7	0.5	17.7	28.5
Delay (s)		77.0	48.0		101.0	45.5		96.9	57.5	51.0	94.0	91.6
Level of Service		E	D		F	D		F	E	D	F	F
Approach Delay (s)			51.9			52.0			65.6			84.1
Approach LOS			D			D			E			F

Intersection Summary		
HCM 2000 Control Delay	62.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.85	E
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	87.9%	27.2
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	351
Future Volume (vph)	351
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.8
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	369
RTOR Reduction (vph)	115
Lane Group Flow (vph)	254
Turn Type	Perm
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	43.5
Effective Green, g (s)	43.5
Actuated g/C Ratio	0.26
Clearance Time (s)	6.8
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	401
v/s Ratio Prot	
v/s Ratio Perm	0.16
v/c Ratio	0.63
Uniform Delay, d1	56.2
Progression Factor	1.00
Incremental Delay, d2	3.2
Delay (s)	59.4
Level of Service	E
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
8: N 22nd Street & Hanna Ave

Existing - AM.syn
12/01/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	13	211	25	107	268	65	13	174	42	44	331	9
Future Volume (vph)	13	211	25	107	268	65	13	174	42	44	331	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1815			1786			1794			1829	
Flt Permitted		0.97			0.84			0.97			0.94	
Satd. Flow (perm)		1759			1513			1746			1731	
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	222	26	113	282	68	14	183	44	46	348	9
RTOR Reduction (vph)	0	7	0	0	11	0	0	11	0	0	1	0
Lane Group Flow (vph)	0	255	0	0	452	0	0	230	0	0	402	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		23.7			23.7			29.9			29.9	
Effective Green, g (s)		23.7			23.7			29.9			29.9	
Actuated g/C Ratio		0.36			0.36			0.46			0.46	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		641			551			803			796	
v/s Ratio Prot												
v/s Ratio Perm		0.14			c0.30			0.13			c0.23	
v/c Ratio		0.40			0.82			0.29			0.50	
Uniform Delay, d1		15.3			18.7			10.9			12.3	
Progression Factor		1.00			1.46			1.00			1.00	
Incremental Delay, d2		0.4			8.9			0.9			2.3	
Delay (s)		15.8			36.2			11.8			14.6	
Level of Service		B			D			B			B	
Approach Delay (s)		15.8			36.2			11.8			14.6	
Approach LOS		B			D			B			B	





















Intersection Summary

HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N 30th Street & Hanna Ave

Existing - AM.syn
 12/01/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	245	44	110	302	69	61	262	36	67	299	55
Future Volume (vph)	26	245	44	110	302	69	61	262	36	67	299	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1803		1752	1793		1752	1811		1752	1802	
Flt Permitted	0.35	1.00		0.47	1.00		0.50	1.00		0.55	1.00	
Satd. Flow (perm)	641	1803		874	1793		923	1811		1023	1802	
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)	27	258	46	116	318	73	64	276	38	71	315	58
RTOR Reduction (vph)	0	11	0	0	14	0	0	7	0	0	9	0
Lane Group Flow (vph)	27	293	0	116	377	0	64	307	0	71	364	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	19.8	19.8		19.8	19.8		33.8	33.8		33.8	33.8	
Effective Green, g (s)	19.8	19.8		19.8	19.8		33.8	33.8		33.8	33.8	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.52	0.52		0.52	0.52	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	195	549		266	546		479	941		531	937	
v/s Ratio Prot		0.16			c0.21			0.17			c0.20	
v/s Ratio Perm	0.04			0.13			0.07			0.07		
v/c Ratio	0.14	0.53		0.44	0.69		0.13	0.33		0.13	0.39	
Uniform Delay, d1	16.4	18.8		18.1	19.9		8.0	9.0		8.0	9.4	
Progression Factor	1.05	1.11		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.0		1.1	3.8		0.6	0.9		0.5	1.2	
Delay (s)	17.5	21.8		19.3	23.7		8.6	9.9		8.6	10.6	
Level of Service	B	C		B	C		A	A		A	B	
Approach Delay (s)		21.4			22.7			9.7			10.3	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			16.2				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			65.0				Sum of lost time (s)			11.4		
Intersection Capacity Utilization			74.8%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 12: N 15th Street & Sligh Ave

Existing - AM.syn
 12/01/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	369	111	89	394	3	55	15	50	9	31	9
Future Volume (vph)	1	369	111	89	394	3	55	15	50	9	31	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.94			0.98	
Flt Protected		1.00			0.99			0.98			0.99	
Satd. Flow (prot)		1787			1826			1702			1785	
Flt Permitted		1.00			0.84			0.83			0.94	
Satd. Flow (perm)		1786			1543			1443			1693	
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)	1	388	117	94	415	3	58	16	53	9	33	9
RTOR Reduction (vph)	0	10	0	0	0	0	0	45	0	0	8	0
Lane Group Flow (vph)	0	496	0	0	512	0	0	82	0	0	43	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		49.3			49.3			9.0			9.0	
Effective Green, g (s)		49.3			49.3			9.0			9.0	
Actuated g/C Ratio		0.70			0.70			0.13			0.13	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1257			1086			185			217	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.33			c0.06			0.03	
v/c Ratio		0.39			0.47			0.44			0.20	
Uniform Delay, d1		4.2			4.6			28.2			27.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			1.5			1.7			0.5	
Delay (s)		5.2			6.0			29.9			27.7	
Level of Service		A			A			C			C	
Approach Delay (s)		5.2			6.0			29.9			27.7	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

Existing - AM.syn
 12/01/2021



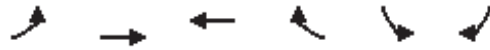
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	275	141	187	341	18	104	41	107	32	56	41
Future Volume (vph)	12	275	141	187	341	18	104	41	107	32	56	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	0.89		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1751		1752	1831		1752	1644		1752	1728	
Flt Permitted	0.53	1.00		0.49	1.00		0.69	1.00		0.54	1.00	
Satd. Flow (perm)	977	1751		908	1831		1275	1644		993	1728	
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	289	148	197	359	19	109	43	113	34	59	43
RTOR Reduction (vph)	0	7	0	0	1	0	0	97	0	0	28	0
Lane Group Flow (vph)	13	430	0	197	377	0	109	59	0	34	74	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	78.4	78.4		78.4	78.4		14.7	14.7		14.7	14.7	
Effective Green, g (s)	78.4	78.4		78.4	78.4		14.7	14.7		14.7	14.7	
Actuated g/C Ratio	0.75	0.75		0.75	0.75		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	729	1307		677	1367		178	230		139	241	
v/s Ratio Prot		c0.25			0.21			0.04			0.04	
v/s Ratio Perm	0.01			0.22			c0.09			0.03		
v/c Ratio	0.02	0.33		0.29	0.28		0.61	0.26		0.24	0.31	
Uniform Delay, d1	3.4	4.5		4.3	4.2		42.5	40.3		40.2	40.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.7		1.1	0.5		6.1	0.6		0.9	0.7	
Delay (s)	3.5	5.1		5.4	4.7		48.6	40.9		41.1	41.3	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		5.1			5.0			44.0			41.3	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 15: Sligh Ave & Rowlett Park Dr

Existing - AM.syn
 12/01/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	145	248	262	193	295	303
Future Volume (vph)	145	248	262	193	295	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1739		1752	1568
Flt Permitted	0.35	1.00	1.00		0.95	1.00
Satd. Flow (perm)	647	1845	1739		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	153	261	276	203	311	319
RTOR Reduction (vph)	0	0	31	0	0	237
Lane Group Flow (vph)	153	261	448	0	311	82
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	38.6	32.3	32.3		17.9	17.9
Effective Green, g (s)	38.6	32.3	32.3		17.9	17.9
Actuated g/C Ratio	0.55	0.46	0.46		0.26	0.26
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	456	851	802		448	400
v/s Ratio Prot	c0.03	0.14	c0.26		c0.18	0.05
v/s Ratio Perm	0.15					
v/c Ratio	0.34	0.31	0.56		0.69	0.20
Uniform Delay, d1	14.2	11.8	13.7		23.6	20.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.9	2.8		4.6	0.3
Delay (s)	14.6	12.8	16.5		28.2	20.7
Level of Service	B	B	B		C	C
Approach Delay (s)		13.4	16.5		24.4	
Approach LOS		B	B		C	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: N 15th Street & Hillsborough Ave

Existing - PM.syn
 12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	8	84	1435	60	32	108	1791	33	83	205	59	73
Future Volume (vph)	8	84	1435	60	32	108	1791	33	83	205	59	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5006			1752	5022		1752	1783		1752
Flt Permitted		0.07	1.00			0.12	1.00		0.35	1.00		0.21
Satd. Flow (perm)		136	5006			226	5022		650	1783		385
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)	8	88	1511	63	34	114	1885	35	87	216	62	77
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	7	0	0
Lane Group Flow (vph)	0	96	1572	0	0	148	1919	0	87	271	0	77
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		129.5	118.8			127.9	118.0		32.8	32.8		32.8
Effective Green, g (s)		129.5	118.8			127.9	118.0		32.8	32.8		32.8
Actuated g/C Ratio		0.72	0.66			0.71	0.66		0.18	0.18		0.18
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		193	3303			244	3292		118	324		70
v/s Ratio Prot		0.03	0.31			c0.03	0.38			0.15		
v/s Ratio Perm		0.33				c0.40			0.13			c0.20
v/c Ratio		0.50	0.48			0.61	0.58		0.74	0.84		1.10
Uniform Delay, d1		14.0	15.2			11.0	17.3		69.5	71.0		73.6
Progression Factor		1.00	1.00			2.56	2.02		1.00	1.00		1.00
Incremental Delay, d2		0.7	0.5			2.5	0.6		21.1	17.0		137.5
Delay (s)		14.8	15.7			30.8	35.6		90.7	88.0		211.1
Level of Service		B	B			C	D		F	F		F
Approach Delay (s)			15.6				35.2			88.6		
Approach LOS			B				D			F		

Intersection Summary			
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: N 15th Street & Hillsborough Ave

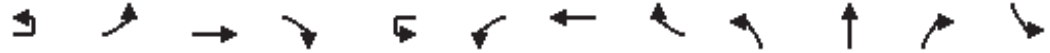
Existing - PM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations	PT	
Traffic Volume (vph)	158	47
Future Volume (vph)	158	47
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	1782	
Flt Permitted	1.00	
Satd. Flow (perm)	1782	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	166	49
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	208	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	32.8	
Effective Green, g (s)	32.8	
Actuated g/C Ratio	0.18	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	324	
v/s Ratio Prot	0.12	
v/s Ratio Perm		
v/c Ratio	0.64	
Uniform Delay, d1	68.2	
Progression Factor	1.00	
Incremental Delay, d2	4.3	
Delay (s)	72.5	
Level of Service	E	
Approach Delay (s)	109.1	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

Existing - PM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	36	61	1440	62	19	42	1808	37	49	89	23	106
Future Volume (vph)	36	61	1440	62	19	42	1808	37	49	89	23	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	0.99			1.00	1.00			0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.98		0.95
Satd. Flow (prot)		1752	5005			1752	5021			1782		1752
Flt Permitted		0.07	1.00			0.13	1.00			0.58		0.46
Satd. Flow (perm)		137	5005			246	5021			1042		841
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)	38	64	1516	65	20	44	1903	39	52	94	24	112
RTOR Reduction (vph)	0	0	1	0	0	0	1	0	0	4	0	0
Lane Group Flow (vph)	0	102	1580	0	0	64	1941	0	0	166	0	112
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		140.2	129.4			130.8	124.7			25.5		25.5
Effective Green, g (s)		140.2	129.4			130.8	124.7			25.5		25.5
Actuated g/C Ratio		0.78	0.72			0.73	0.69			0.14		0.14
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		203	3598			229	3478			147		119
v/s Ratio Prot		c0.03	c0.32			0.01	c0.39					
v/s Ratio Perm		0.36				0.19				c0.16		0.13
v/c Ratio		0.50	0.44			0.28	0.56			1.13		0.94
Uniform Delay, d1		12.0	10.4			7.6	13.9			77.2		76.5
Progression Factor		3.48	0.68			0.91	0.51			1.00		1.00
Incremental Delay, d2		0.6	0.3			0.1	0.4			112.5		64.0
Delay (s)		42.3	7.5			7.0	7.5			189.7		140.5
Level of Service		D	A			A	A			F		F
Approach Delay (s)			9.6				7.5			189.7		
Approach LOS			A				A			F		

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 2: N 19th street & Hillsborough Ave

Existing - PM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	73	71
Future Volume (vph)	73	71
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1708	
Flt Permitted	1.00	
Satd. Flow (perm)	1708	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	77	75
RTOR Reduction (vph)	23	0
Lane Group Flow (vph)	129	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	25.5	
Effective Green, g (s)	25.5	
Actuated g/C Ratio	0.14	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	241	
v/s Ratio Prot	0.08	
v/s Ratio Perm		
v/c Ratio	0.53	
Uniform Delay, d1	71.7	
Progression Factor	1.00	
Incremental Delay, d2	2.3	
Delay (s)	74.0	
Level of Service	E	
Approach Delay (s)	102.2	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
3: N 22nd Street & Hillsborough Ave

Existing - PM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	90	1391	103	12	145	1678	108	151	244	102	129
Future Volume (vph)	4	90	1391	103	12	145	1678	108	151	244	102	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.96		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4984			1752	4990		1752	1763		1752
Flt Permitted		0.06	1.00			0.06	1.00		0.16	1.00		0.17
Satd. Flow (perm)		111	4984			110	4990		292	1763		305
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	95	1464	108	13	153	1766	114	159	257	107	136
RTOR Reduction (vph)	0	0	4	0	0	0	4	0	0	8	0	0
Lane Group Flow (vph)	0	99	1568	0	0	166	1876	0	159	356	0	136
Turn Type	custom	pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6		5	5	2		7	4		3
Permitted Phases	1	6			2	2			4			8
Actuated Green, G (s)		81.8	81.8			84.1	84.1		58.2	41.2		54.8
Effective Green, g (s)		81.8	81.8			84.1	84.1		58.2	41.2		54.8
Actuated g/C Ratio		0.45	0.45			0.47	0.47		0.32	0.23		0.30
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		183	2264			205	2331		232	403		215
v/s Ratio Prot		0.04	c0.31			0.08	c0.38		c0.06	c0.20		0.05
v/s Ratio Perm		0.20				c0.30			0.16			0.14
v/c Ratio		0.54	0.69			0.81	0.80		0.69	0.88		0.63
Uniform Delay, d1		60.2	39.1			51.7	40.9		48.2	67.1		49.6
Progression Factor		0.91	0.88			0.63	1.08		1.00	1.00		1.00
Incremental Delay, d2		3.0	1.6			16.5	2.4		8.1	20.2		6.0
Delay (s)		57.7	36.1			48.8	46.5		56.3	87.2		55.6
Level of Service		E	D			D	D		E	F		E
Approach Delay (s)			37.4				46.7			77.8		
Approach LOS			D				D			E		

Intersection Summary			
HCM 2000 Control Delay	50.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 3: N 22nd Street & Hillsborough Ave

Existing - PM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations	PT	
Traffic Volume (vph)	257	73
Future Volume (vph)	257	73
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	1783	
Flt Permitted	1.00	
Satd. Flow (perm)	1783	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	271	77
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	343	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	39.5	
Effective Green, g (s)	39.5	
Actuated g/C Ratio	0.22	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	391	
v/s Ratio Prot	0.19	
v/s Ratio Perm		
v/c Ratio	0.88	
Uniform Delay, d1	67.9	
Progression Factor	1.00	
Incremental Delay, d2	19.7	
Delay (s)	87.6	
Level of Service	F	
Approach Delay (s)	78.6	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
4: N 30th Street & Hillsborough Ave

Existing - PM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	98	1547	88	2	47	1666	197	61	152	40	192
Future Volume (vph)	4	98	1547	88	2	47	1666	197	61	152	40	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.98		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4995			1752	4956		1752	1787		1752
Flt Permitted		0.95	1.00			0.14	1.00		0.33	1.00		0.47
Satd. Flow (perm)		1752	4995			263	4956		608	1787		860
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	103	1628	93	2	49	1754	207	64	160	42	202
RTOR Reduction (vph)	0	0	4	0	0	0	7	0	0	5	0	0
Lane Group Flow (vph)	0	107	1718	0	0	51	1954	0	64	197	0	202
Turn Type	Prot	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases	1	1	6			5	2			4		
Permitted Phases					5				4			8
Actuated Green, G (s)		14.8	90.0			28.1	103.3		43.0	43.0		43.0
Effective Green, g (s)		14.8	90.0			28.1	103.3		43.0	43.0		43.0
Actuated g/C Ratio		0.08	0.50			0.16	0.57		0.24	0.24		0.24
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		144	2497			41	2844		145	426		205
v/s Ratio Prot		0.06	c0.34				c0.39			0.11		
v/s Ratio Perm						c0.19			0.11			c0.23
v/c Ratio		0.74	0.69			1.24	0.69		0.44	0.46		0.99
Uniform Delay, d1		80.7	34.3			76.0	27.0		58.3	58.6		68.2
Progression Factor		1.44	0.33			0.64	0.36		1.00	1.00		1.00
Incremental Delay, d2		12.9	1.2			206.9	1.1		2.1	0.8		58.2
Delay (s)		129.1	12.7			255.4	10.8		60.4	59.4		126.4
Level of Service		F	B			F	B		E	E		F
Approach Delay (s)			19.5				17.0			59.6		
Approach LOS			B				B			E		

Intersection Summary

HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 4: N 30th Street & Hillsborough Ave

Existing - PM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	145	119
Future Volume (vph)	145	119
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1720	
Flt Permitted	1.00	
Satd. Flow (perm)	1720	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	153	125
RTOR Reduction (vph)	18	0
Lane Group Flow (vph)	260	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	43.0	
Effective Green, g (s)	43.0	
Actuated g/C Ratio	0.24	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	410	
v/s Ratio Prot	0.15	
v/s Ratio Perm		
v/c Ratio	0.64	
Uniform Delay, d1	61.5	
Progression Factor	1.00	
Incremental Delay, d2	3.2	
Delay (s)	64.7	
Level of Service	E	
Approach Delay (s)	90.6	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
5: N 34th Street & Hillsborough Ave

Existing - PM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	9	28	1655	89	29	93	1769	68	106	131	59	45
Future Volume (vph)	9	28	1655	89	29	93	1769	68	106	131	59	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	0.99			1.00	0.99		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	4997			1752	5008		1752	1759		
Flt Permitted		0.09	1.00			0.07	1.00		0.43	1.00		
Satd. Flow (perm)		162	4997			133	5008		797	1759		
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)	9	29	1742	94	31	98	1862	72	112	138	62	47
RTOR Reduction (vph)	0	0	2	0	0	0	2	0	0	10	0	0
Lane Group Flow (vph)	0	38	1834	0	0	129	1932	0	112	190	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		116.7	116.7			117.7	117.7		30.7	30.7		
Effective Green, g (s)		116.7	116.7			117.7	117.7		30.7	30.7		
Actuated g/C Ratio		0.65	0.65			0.65	0.65		0.17	0.17		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		214	3239			207	3274		135	300		
v/s Ratio Prot		0.01	c0.37			0.05	c0.39			0.11		
v/s Ratio Perm		0.10				c0.36			0.14			
v/c Ratio		0.18	0.57			0.62	0.59		0.83	0.63		
Uniform Delay, d1		20.8	17.6			22.0	17.6		72.1	69.4		
Progression Factor		0.19	0.22			2.27	0.73		1.00	1.00		
Incremental Delay, d2		0.3	0.5			3.1	0.4		32.5	4.3		
Delay (s)		4.3	4.4			53.1	13.2		104.6	73.7		
Level of Service		A	A			D	B		F	E		
Approach Delay (s)			4.4				15.7			84.8		
Approach LOS			A				B			F		

Intersection Summary

HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 5: N 34th Street & Hillsborough Ave

Existing - PM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	114	28
Future Volume (vph)	114	28
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.99	
Satd. Flow (prot)	1786	
Flt Permitted	0.54	
Satd. Flow (perm)	970	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	120	29
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	192	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	30.7	
Effective Green, g (s)	30.7	
Actuated g/C Ratio	0.17	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	165	
v/s Ratio Prot		
v/s Ratio Perm	c0.20	
v/c Ratio	1.16	
Uniform Delay, d1	74.7	
Progression Factor	1.00	
Incremental Delay, d2	120.6	
Delay (s)	195.2	
Level of Service	F	
Approach Delay (s)	195.2	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
6: N 40th Street & Hillsborough Ave

Existing - PM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↔↔↔			↔↔	↔↔↔		↔↔	↔↔	↔	↔↔
Traffic Volume (vph)	26	296	1256	210	12	147	1358	166	328	881	272	222
Future Volume (vph)	26	296	1256	210	12	147	1358	166	328	881	272	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91			0.97	0.91		0.97	0.95	1.00	0.97
Frt		1.00	0.98			1.00	0.98		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)		3400	4928			3400	4954		3400	3505	1568	3400
Flt Permitted		0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)		3400	4928			3400	4954		3400	3505	1568	3400
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)	27	312	1322	221	13	155	1429	175	345	927	286	234
RTOR Reduction (vph)	0	0	13	0	0	0	9	0	0	0	107	0
Lane Group Flow (vph)	0	339	1530	0	0	168	1595	0	345	927	179	234
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases												4
Actuated Green, G (s)		19.9	75.2			12.2	67.5		19.2	49.3	49.3	16.1
Effective Green, g (s)		19.9	75.2			12.2	67.5		19.2	49.3	49.3	16.1
Actuated g/C Ratio		0.11	0.42			0.07	0.38		0.11	0.27	0.27	0.09
Clearance Time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		375	2058			230	1857		362	959	429	304
v/s Ratio Prot		0.10	c0.31			0.05	c0.32		c0.10	c0.26		0.07
v/s Ratio Perm												0.11
v/c Ratio		0.90	0.74			0.73	0.86		0.95	0.97	0.42	0.77
Uniform Delay, d1		79.1	44.3			82.3	51.9		80.0	64.5	53.6	80.1
Progression Factor		0.81	1.51			1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		21.2	2.1			11.3	5.4		35.0	21.1	0.7	11.2
Delay (s)		85.2	69.1			93.6	57.3		114.9	85.7	54.2	91.3
Level of Service		F	E			F	E		F	F	D	F
Approach Delay (s)			72.0				60.7			86.4		
Approach LOS			E				E			F		
Intersection Summary												
HCM 2000 Control Delay			73.3			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			180.0			Sum of lost time (s)				27.2		
Intersection Capacity Utilization			92.9%			ICU Level of Service				F		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 6: N 40th Street & Hillsborough Ave

Existing - PM.syn
 12/01/2021



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	787	247
Future Volume (vph)	787	247
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.8	6.8
Lane Util. Factor	0.95	1.00
Fr _t	1.00	0.85
Fl _t Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Fl _t Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	828	260
RTOR Reduction (vph)	0	127
Lane Group Flow (vph)	828	133
Turn Type	NA	Perm
Protected Phases	8	
Permitted Phases		8
Actuated Green, G (s)	46.2	46.2
Effective Green, g (s)	46.2	46.2
Actuated g/C Ratio	0.26	0.26
Clearance Time (s)	6.8	6.8
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	899	402
v/s Ratio Prot	0.24	
v/s Ratio Perm		0.08
v/c Ratio	0.92	0.33
Uniform Delay, d ₁	65.1	54.3
Progression Factor	1.00	1.00
Incremental Delay, d ₂	14.5	0.5
Delay (s)	79.6	54.8
Level of Service	E	D
Approach Delay (s)	76.8	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
8: N 22nd Street & Hanna Ave

Existing - PM.syn
12/01/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	21	268	26	33	306	38	30	338	74	39	276	7
Future Volume (vph)	21	268	26	33	306	38	30	338	74	39	276	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		1818			1812			1797			1828	
Flt Permitted		0.95			0.93			0.96			0.91	
Satd. Flow (perm)		1733			1699			1734			1680	
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)	22	282	27	35	322	40	32	356	78	41	291	7
RTOR Reduction (vph)	0	4	0	0	6	0	0	9	0	0	1	0
Lane Group Flow (vph)	0	327	0	0	391	0	0	457	0	0	338	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		20.9			20.9			42.7			42.7	
Effective Green, g (s)		20.9			20.9			42.7			42.7	
Actuated g/C Ratio		0.28			0.28			0.57			0.57	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		482			473			987			956	
v/s Ratio Prot												
v/s Ratio Perm		0.19			0.23			0.26			0.20	
v/c Ratio		0.68			0.83			0.46			0.35	
Uniform Delay, d1		24.1			25.4			9.4			8.7	
Progression Factor		1.00			0.97			1.00			1.00	
Incremental Delay, d2		3.8			10.6			1.6			1.0	
Delay (s)		27.8			35.2			11.0			9.7	
Level of Service		C			D			B			A	
Approach Delay (s)		27.8			35.2			11.0			9.7	
Approach LOS		C			D			B			A	

Intersection Summary

HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N 30th Street & Hanna Ave

Existing - PM.syn
 12/01/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	266	47	54	239	77	60	306	81	62	355	74
Future Volume (vph)	70	266	47	54	239	77	60	306	81	62	355	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1803		1752	1777		1752	1787		1752	1797	
Flt Permitted	0.36	1.00		0.37	1.00		0.45	1.00		0.48	1.00	
Satd. Flow (perm)	670	1803		683	1777		827	1787		891	1797	
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)	74	280	49	57	252	81	63	322	85	65	374	78
RTOR Reduction (vph)	0	9	0	0	17	0	0	11	0	0	9	0
Lane Group Flow (vph)	74	320	0	57	316	0	63	396	0	65	443	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	19.6	19.6		19.6	19.6		44.0	44.0		44.0	44.0	
Effective Green, g (s)	19.6	19.6		19.6	19.6		44.0	44.0		44.0	44.0	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.59	0.59		0.59	0.59	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	175	471		178	464		485	1048		522	1054	
v/s Ratio Prot		0.18			c0.18			0.22			c0.25	
v/s Ratio Perm	0.11			0.08			0.08			0.07		
v/c Ratio	0.42	0.68		0.32	0.68		0.13	0.38		0.12	0.42	
Uniform Delay, d1	23.0	24.9		22.3	24.9		6.9	8.2		6.9	8.5	
Progression Factor	1.33	1.27		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	3.4		1.0	4.1		0.6	1.0		0.5	1.2	
Delay (s)	32.1	35.1		23.4	29.0		7.5	9.3		7.4	9.7	
Level of Service	C	D		C	C		A	A		A	A	
Approach Delay (s)		34.6			28.2			9.0			9.4	
Approach LOS		C			C			A			A	

Intersection Summary		
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.50	B
Actuated Cycle Length (s)	75.0	Sum of lost time (s)
Intersection Capacity Utilization	76.1%	11.4
Analysis Period (min)	15	ICU Level of Service
		D

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 12: N 15th Street & Sligh Ave

Existing - PM.syn
 12/01/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	13	399	72	40	380	13	86	46	60	13	34	2
Future Volume (vph)	13	399	72	40	380	13	86	46	60	13	34	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			1.00			0.96			0.99	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		1805			1829			1728			1811	
Flt Permitted		0.99			0.93			0.83			0.91	
Satd. Flow (perm)		1782			1704			1467			1666	
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	420	76	42	400	14	91	48	63	14	36	2
RTOR Reduction (vph)	0	7	0	0	1	0	0	26	0	0	2	0
Lane Group Flow (vph)	0	503	0	0	455	0	0	176	0	0	50	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		44.3			44.3			14.0			14.0	
Effective Green, g (s)		44.3			44.3			14.0			14.0	
Actuated g/C Ratio		0.63			0.63			0.20			0.20	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1127			1078			293			333	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.27			c0.12			0.03	
v/c Ratio		0.45			0.42			0.60			0.15	
Uniform Delay, d1		6.6			6.4			25.5			23.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.3			1.2			3.3			0.2	
Delay (s)		7.9			7.6			28.7			23.3	
Level of Service		A			A			C			C	
Approach Delay (s)		7.9			7.6			28.7			23.3	
Approach LOS		A			A			C			C	

Intersection Summary		
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.48	B
Actuated Cycle Length (s)	70.0	Sum of lost time (s)
Intersection Capacity Utilization	67.3%	11.7
Analysis Period (min)	15	ICU Level of Service
		C

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

Existing - PM.syn
 12/01/2021



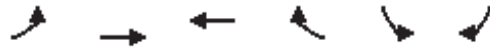
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	342	119	174	278	41	124	51	222	35	29	31
Future Volume (vph)	11	342	119	174	278	41	124	51	222	35	29	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.88		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1773		1752	1809		1752	1620		1752	1702	
Flt Permitted	0.56	1.00		0.46	1.00		0.72	1.00		0.25	1.00	
Satd. Flow (perm)	1024	1773		847	1809		1319	1620		455	1702	
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	360	125	183	293	43	131	54	234	37	31	33
RTOR Reduction (vph)	0	5	0	0	2	0	0	163	0	0	28	0
Lane Group Flow (vph)	12	480	0	183	334	0	131	125	0	37	36	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	76.9	76.9		76.9	76.9		16.2	16.2		16.2	16.2	
Effective Green, g (s)	76.9	76.9		76.9	76.9		16.2	16.2		16.2	16.2	
Actuated g/C Ratio	0.73	0.73		0.73	0.73		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	749	1298		620	1324		203	249		70	262	
v/s Ratio Prot		c0.27			0.18			0.08			0.02	
v/s Ratio Perm	0.01			0.22			c0.10			0.08		
v/c Ratio	0.02	0.37		0.30	0.25		0.65	0.50		0.53	0.14	
Uniform Delay, d1	3.8	5.2		4.8	4.6		41.7	40.7		40.9	38.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.8		1.2	0.5		6.9	1.6		7.0	0.2	
Delay (s)	3.8	6.0		6.0	5.1		48.6	42.3		47.9	38.6	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		5.9			5.4			44.2			42.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 15: Sligh Ave & Rowlett Park Dr

Existing - PM.syn
 12/01/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	291	282	329	250	321	144
Future Volume (vph)	291	282	329	250	321	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1737		1752	1568
Flt Permitted	0.18	1.00	1.00		0.95	1.00
Satd. Flow (perm)	337	1845	1737		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	306	297	346	263	338	152
RTOR Reduction (vph)	0	0	30	0	0	115
Lane Group Flow (vph)	306	297	579	0	338	37
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	46.8	33.4	33.4		19.7	19.7
Effective Green, g (s)	46.8	33.4	33.4		19.7	19.7
Actuated g/C Ratio	0.58	0.42	0.42		0.25	0.25
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	434	770	725		431	386
v/s Ratio Prot	c0.12	0.16	c0.33		c0.19	0.02
v/s Ratio Perm	0.29					
v/c Ratio	0.71	0.39	0.80		0.78	0.10
Uniform Delay, d1	23.1	16.2	20.4		28.2	23.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.2	1.5	8.9		9.1	0.1
Delay (s)	28.3	17.6	29.3		37.2	23.4
Level of Service	C	B	C		D	C
Approach Delay (s)		23.0	29.3		32.9	
Approach LOS		C	C		C	

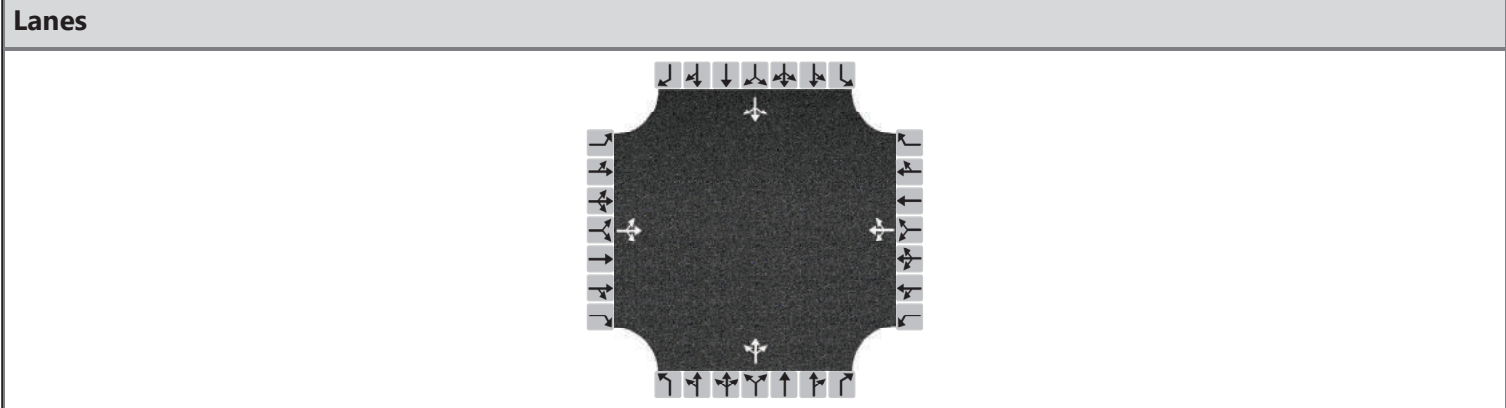
Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX E
Existing (2021)
HCS Reports

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2021	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Existing AM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	13	197	49	39	237	14	33	93	24	28	177	26
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	273			305			158			243		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.242			0.271			0.140			0.216		
Final Departure Headway, hd (s)	5.63			5.67			6.06			5.89		
Final Degree of Utilization, x	0.426			0.480			0.266			0.398		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.63			3.67			4.06			3.89		

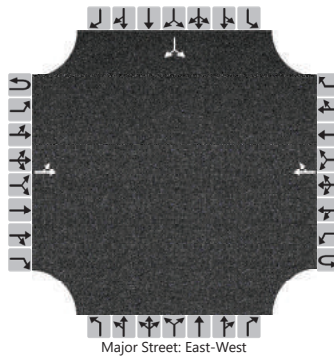
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	273			305			158			243		
Capacity	640			635			594			612		
95% Queue Length, Q ₉₅ (veh)	2.2			2.7			1.1			2.0		
Control Delay (s/veh)	12.8			13.9			11.3			12.8		
Level of Service, LOS	B			B			B			B		
Approach Delay (s/veh)	12.8			13.9			11.3			12.8		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh LOS	12.9						B					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Existing AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		27	270				370	48						45		70
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

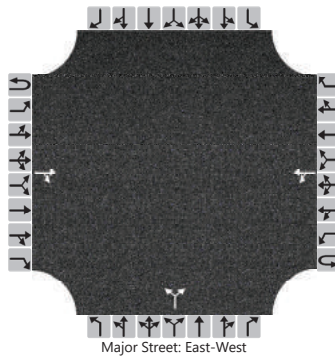
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		28														121
Capacity, c (veh/h)		1073														468
v/c Ratio		0.03														0.26
95% Queue Length, Q ₉₅ (veh)		0.1														1.0
Control Delay (s/veh)		8.4														15.4
Level of Service (LOS)		A														C
Approach Delay (s/veh)		1.0												15.4		
Approach LOS														C		

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Existing AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			364	50		65	500			46		29				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

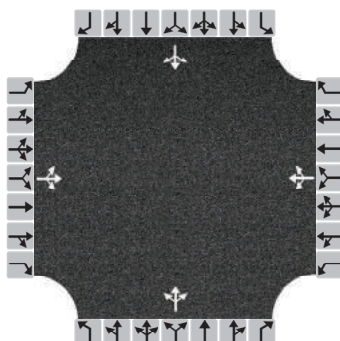
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					68						79					
Capacity, c (veh/h)					1119						297					
v/c Ratio					0.06						0.27					
95% Queue Length, Q ₉₅ (veh)					0.2						1.1					
Control Delay (s/veh)					8.4						21.5					
Level of Service (LOS)					A						C					
Approach Delay (s/veh)						1.6					21.5					
Approach LOS											C					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2021	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Existing AM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	51	134	358	3	130	2	294	61	2	4	60	31
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	572			142			376			100		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

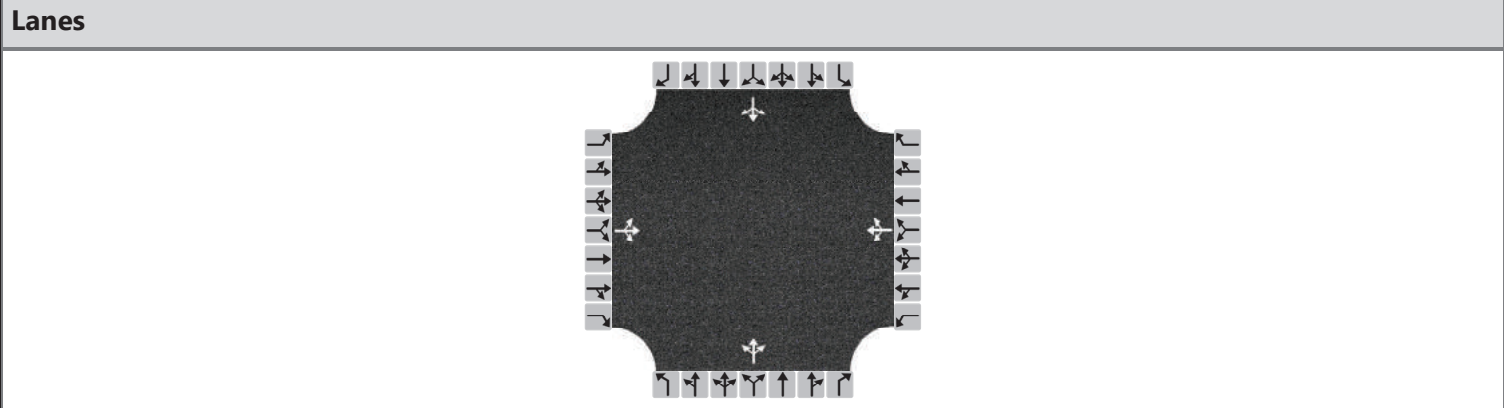
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.508			0.126			0.334			0.089		
Final Departure Headway, hd (s)	5.50			6.69			6.45			6.85		
Final Degree of Utilization, x	0.873			0.264			0.673			0.190		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.50			4.69			4.45			4.85		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	572			142			376			100		
Capacity	655			538			558			526		
95% Queue Length, Q ₉₅ (veh)	15.1			1.1			5.8			0.7		
Control Delay (s/veh)	41.5			12.1			22.5			11.5		
Level of Service, LOS	E			B			C			B		
Approach Delay (s/veh)	41.5			12.1			22.5			11.5		
Approach LOS	E			B			C			B		
Intersection Delay, s/veh LOS	29.5						D					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2021	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Existing PM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	15	215	47	33	252	25	44	152	46	15	119	12
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	292			326			255			154		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.259			0.290			0.226			0.137		
Final Departure Headway, hd (s)	5.75			5.74			6.00			6.28		
Final Degree of Utilization, x	0.465			0.521			0.424			0.268		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.75			3.74			4.00			4.28		

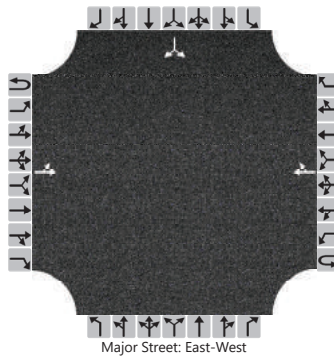
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	292			326			255			154		
Capacity	627			627			600			574		
95% Queue Length, Q ₉₅ (veh)	2.6			3.2			2.2			1.1		
Control Delay (s/veh)	13.7			14.9			13.4			11.6		
Level of Service, LOS	B			B			B			B		
Approach Delay (s/veh)	13.7			14.9			13.4			11.6		
Approach LOS	B			B			B			B		
Intersection Delay, s/veh LOS	13.7						B					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Existing PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		31	350				338	35						33		39
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

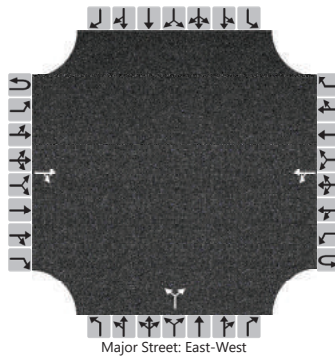
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		33														76	
Capacity, c (veh/h)		1131														446	
v/c Ratio		0.03														0.17	
95% Queue Length, Q ₉₅ (veh)		0.1														0.6	
Control Delay (s/veh)		8.3														14.7	
Level of Service (LOS)		A														B	
Approach Delay (s/veh)		0.9												14.7			
Approach LOS														B			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Existing PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			548	51		21	452			41		25				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

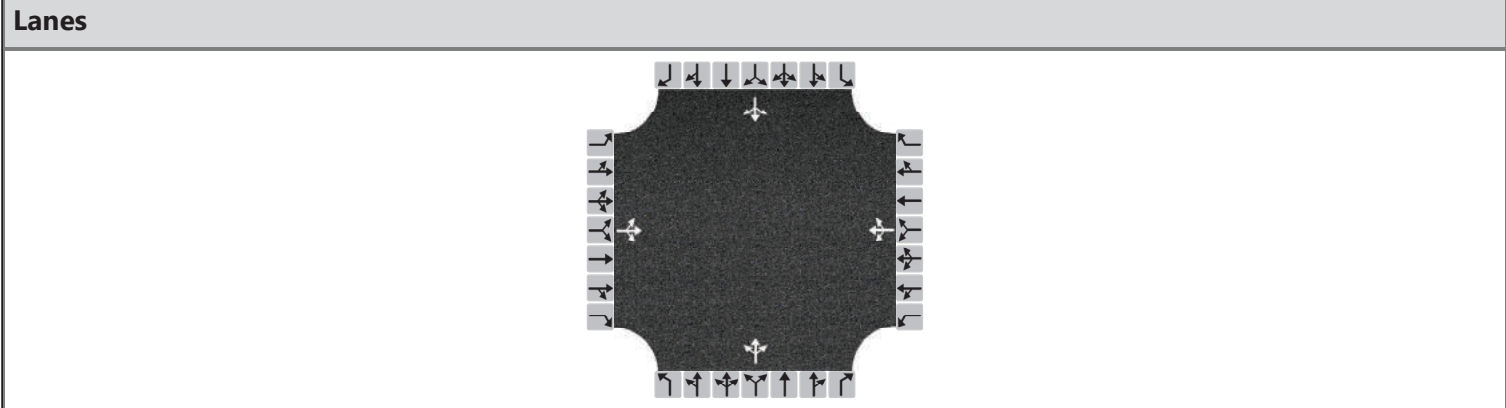
Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						22					69					
Capacity, c (veh/h)						947					278					
v/c Ratio						0.02					0.25					
95% Queue Length, Q ₉₅ (veh)						0.1					1.0					
Control Delay (s/veh)						8.9					22.3					
Level of Service (LOS)						A					C					
Approach Delay (s/veh)					0.7				22.3							
Approach LOS									C							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2021	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Existing PM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	28	176	399	20	145	1	352	53	48	11	72	82
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	635			175			477			174		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.564			0.155			0.424			0.154		
Final Departure Headway, hd (s)	6.49			7.85			7.00			7.61		
Final Degree of Utilization, x	1.145			0.381			0.928			0.367		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.49			5.85			5.00			5.61		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	635			175			477			174		
Capacity	554			459			514			473		
95% Queue Length, Q ₉₅ (veh)	56.9			1.8			19.0			1.7		
Control Delay (s/veh)	314.3			15.7			71.1			15.0		
Level of Service, LOS	F			C			F			B		
Approach Delay (s/veh)	314.3			15.7			71.1			15.0		
Approach LOS	F			C			F			B		
Intersection Delay, s/veh LOS	163.5						F					

APPENDIX F

Crash Summary

Tables

CRASH ANALYSIS

Crash Information @Hanna Ave/Nebraska Ave		Crash Year					5 Year	Mean Crashes	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	3	3	2	0	6	14	2.8	24%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	1	0	0	0	1	0.2	2%
	Left Turn	1	0	3	1	0	5	1	8%
	Off Road	0	0	0	0	0	0	0	0%
	Other	2	1	0	3	1	7	1.4	12%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	1	1	2	0.4	3%
	Rear End	4	1	5	7	4	21	4.2	36%
	Right Turn	0	1	0	0	0	1	0.2	2%
	Sideswipe	1	1	4	1	0	7	1.4	12%
	Unknown	0	1	0	0	0	1	0.2	2%
	Total	11	9	14	13	12	59	11.8	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	4	3	2	2	6	17	3.4	29%
	Property Damage Only	7	6	12	11	6	42	8.4	71%
	Total	11	9	14	13	12	59	11.8	100%
Lighting Condition	Dark - Lighted	1	2	1	0	2	6	1.2	10%
	Dark - Not Lighted	0	0	0	0	1	1	0.2	2%
	Dawn	0	0	1	0	0	1	0.2	2%
	Daylight	9	7	12	11	8	47	9.4	80%
	Dusk	1	0	0	1	1	3	0.6	5%
	Unknown	0	0	0	1	0	1	0.2	2%
	Total	11	9	14	13	12	59	11.8	100%
Surface Conditions	Dry	11	9	12	11	10	53	10.6	90%
	Unknown	0	0	0	1	0	1	0.2	2%
	Wet	0	0	2	1	2	5	1	8%
	Total	11	9	14	13	12	59	11.8	100%
Contributing Cause	None	9	9	14	12	12	56	11.2	95%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	1	0	1	0.2	2%
	Rut, Holes, Bumps	1	0	0	0	0	1	0.2	2%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	1	0	0	0	0	1	0.2	2%
	Grand Total	11	9	14	13	12	59	11.8	100%

CRASH ANALYSIS

Crash Information @Hanna Ave/13th St		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	0	1	0	0	0	1	0.2	25%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	0	0	0	0	0	0%
	Left Turn	0	0	0	0	0	0	0	0%
	Off Road	0	0	0	1	0	1	0.2	25%
	Other	1	0	0	0	0	1	0.2	25%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	0	0	0	0	0	0	0	0%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	0	0	0	0	0	0	0	0%
	Unknown	0	0	1	0	0	1	0.2	25%
	Total	1	1	1	1	0	4	0.8	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	1	1	0	0	2	4	0.8	50%
	Property Damage Only	0	0	1	1	2	4	0.8	50%
	Grand Total	1	1	1	1	4	8	1.6	200%
Lighting Condition	Dark - Lighted	0	0	1	0	0	1	0.2	25%
	Daylight	0	1	0	0	0	1	0.2	25%
	Dusk	1	0	0	1	0	2	0.4	50%
	Grand Total	1	1	1	1	0	4	0.8	100%
Surface Conditions	Clear	1	1	0	1	0	3	0.6	75%
	Cloudy	0	0	1	0	0	1	0.2	25%
	Grand Total	1	1	1	1	0	4	0.8	100%
Contributing Cause	None	1	1	1	1	0	4	0.8	100%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	0	0	0	0	0	0	0	0%
Grand Total	1	1	1	1	0	4	0.8	100%	

CRASH ANALYSIS

Crash Information @Hanna Ave/15th St		Crash Year					5 Year Mean Crash		%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	2	2	2	6	3	15	3	60%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	1	1	0.2	4%
	Head On	0	0	1	0	0	1	0.2	4%
	Left Turn	0	0	0	0	0	0	0	0%
	Off Road	0	0	0	0	0	0	0	0%
	Other	1	0	0	0	1	2	0.4	8%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	1	0	0	0	2	3	0.6	12%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	1	0	0	0	1	2	0.4	8%
	Unknown	0	1	0	0	0	1	0.2	4%
	Total	5	3	3	6	8	25	5	96%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	4	1		2	1	8	1.6	32%
	Property Damage Only	1	2	3	4	7	17	3.4	68%
	Total	5	3	3	6	8	25	5	100%
Lighting Condition	Dark - Lighted	2	0	1	2	0	5	1	20%
	Dark - Not Lighted	1	0	0	0	1	2	0.4	8%
	Daylight	2	3	2	3	6	16	3.2	64%
	Dusk				1	1	2	0.4	8%
	Total	5	3	3	6	8	25	5	100%
Surface Conditions	Clear	4	2	2	4	7	19	3.8	76%
	Cloudy	1	0	1	2	1	5	1	20%
	Rain	0	1	0	0	0	1	0.2	4%
	Total	5	3	3	6	8	25	5	100%
Contributing Cause	None	5	3	3	6	7	24	4.8	96%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	0	0	0	0	1	1	0.2	4%
	Total	5	3	3	6	8	25	5	100%

CRASH ANALYSIS

Crash Information @Hanna Ave/22nd St		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	0	2	4	3	2	11	2.2	21%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	1	0	0	0	1	0.2	2%
	Head On	1	0	0	1	0	2	0.4	4%
	Left Turn	2	1	5	2	1	11	2.2	21%
	Off Road	0	0	2	2	0	4	0.8	8%
	Other	0	0	2	3	0	5	1	10%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	0	4	3	2	5	14	2.8	27%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	0	0	1	0	0	1	0.2	2%
	Unknown	1	0	1	1	0	3	0.6	6%
	Total	4	8	18	14	8	52	10.4	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	1	4	4	5	3	17	3.4	33%
	Property Damage Only	3	4	14	9	5	35	7	67%
	Total	4	8	18	14	8	52	10.4	100%
Lighting Condition	Dark - Lighted	1	0	3	3	1	8	1.6	15%
	Dark - Unknown Lighting	0	0	0	1	0	1	0.2	2%
	Dawn	0	0	2	0	0	2	0.4	4%
	Daylight	3	8	13	10	7	41	8.2	79%
	Total	4	8	18	14	8	52	10.4	100%
Surface Conditions	Clear	3	7	18	11	4	43	8.6	83%
	Cloudy	0	1	0	1	3	5	1	10%
	Rain	1	0	0	2	1	4	0.8	8%
	Total	4	8	18	14	8	52	10.4	100%
Contributing Cause	None	4	8	17	14	6	49	9.8	94%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	2	2	0.4	4%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	1	0	0	1	0.2	2%
	Work Zone	0	0	0	0	0	0	0	0%
Total	4	8	18	14	8	52	10.4	100%	

CRASH ANALYSIS

Crash Information @Hanna Ave/24th St		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	0	0	0	0	2	2	0.4	25%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	0	0	0	0	0	0%
	Left Turn	0	0	0	1	0	1	0.2	13%
	Off Road	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	0	1	2	2	0	5	1	63%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Grand Total	0	1	2	3	2	8	1.6	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	0	0	2	1	0	3	0.6	38%
	Property Damage Only	0	1	0	2	2	5	1	63%
	Grand Total	0	1	2	3	2	8	1.6	100%
Lighting Condition	Daylight	0	1	2	2	2	7	1.4	88%
	Dusk	0	0	0	1	0	1	0.2	13%
	Grand Total	0	1	2	3	2	8	1.6	100%
Surface Conditions	Clear	0	1	2	3	2	8	1.6	100%
	Grand Total	0	1	2	3	2	8	1.6	100%
Contributing Cause	None	0	1	2	3	2	8	1.6	100%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	0	0	0	0	0	0	0	0%
Grand Total	0	1	2	3	2	8	1.6	100%	

CRASH ANALYSIS

Crash Information @ 30th St/Hanna Ave.		Crash Year					5 Year	Mean Crashes	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	1	0	0	1	3	5	1	15%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	1	0	0	0	0	1	0.2	3%
	Left Turn	0	1	1	2	1	5	1	15%
	Off Road	0	0	0	0	0	0	0	0%
	Other	1	3	0	0	0	4	0.8	12%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	1	0	0	1	0.2	3%
	Rear End	3	2	3	3	2	13	2.6	39%
	Right Turn	0	0	0	0	0	0	0	0%
	Rollover	0	1	0	0	0	1	0.2	3%
	Sideswipe	1	0	0	0	0	1	0.2	3%
	Unknown	0	1	1	0	0	2	0.4	6%
Total	7	8	6	6	6	33	6.6	100%	
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	1	3	1	1	1	7	1.4	21%
	Property Damage Only	6	5	5	5	5	26	5.2	79%
	Total	7	8	6	6	6	33	6.6	100%
Lighting Condition	Dark - Lighted	1	0	1	1	1	4	0.8	12%
	Dark - Not Lighted	0	1	1	0	0	2	0.4	6%
	Dawn	1	0	0	0	0	1	0.2	3%
	Daylight	5	7	4	4	5	25	5	76%
	Dusk	0	0	0	1	0	1	0.2	3%
	Total	7	8	6	6	6	33	6.6	100%
Surface Conditions	Dry	6	7	6	4	5	28	5.6	85%
	Wet	1	1	0	2	1	5	1	15%
	Total	7	8	6	6	6	33	6.6	100%
Contributing Cause	None	6	8	6	5	5	30	6	91%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	1	0	0	1	1	3	0.6	9%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	0	0	0	0	0	0	0	0%
	Total	7	8	6	6	6	33	6.6	100%

CRASH ANALYSIS

Crash Information @Hanna Ave/40th St		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	0	1	0	2	3	6	1.2	14%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	1	0	0	1	0.2	2%
	Left Turn	0	0	0	1	0	1	0.2	2%
	Off Road	0	0	0	1	2	3	0.6	7%
	Other	3	0	0	2	4	9	1.8	21%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	1	0	0	0	0	1	0.2	2%
	Rear End	0	1	3	2	4	10	2	23%
	Right Turn	0	0	0	0	0	0	0	0%
	Rollover	0	0	0	1	0	1	0.2	2%
	Sideswipe	0	0	0	5	1	6	1.2	14%
	Unknown	0	0	0	3	2	5	1	12%
	Total	4	2	4	17	16	43	8.6	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	2	0	1	2	3	8	1.6	19%
	Property Damage Only	2	2	3	15	13	35	7	81%
	Total	4	2	4	17	16	43	8.6	100%
Lighting Condition	Dark - Lighted	0	0	1	4	9	14	2.8	33%
	Dark - Not Lighted	0	0	0	0	1	1	0.2	2%
	Daylight	4	2	3	13	6	28	5.6	65%
	Total	4	2	4	17	16	43	8.6	100%
Surface Conditions	Dry	4	2	3	15	13	37	7.4	86%
	Wet	0	0	1	2	3	6	1.2	14%
	Total	4	2	4	17	16	43	8.6	100%
Contributing Cause	None	4	2	4	16	16	42	8.4	98%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	1	0	1	0.2	2%
	Work Zone	0	0	0	0	0	0	0	0%
Total	4	2	4	17	16	43	8.6	100%	

CRASH ANALYSIS

Crash Information @Diana St/24th St		Crash Year					5 Year	Mean Crashes	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	0	0	0	0	0	0	0	0%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	0	0	0	0	0	0%
	Left Turn	0	0	0	0	0	0	0	0%
	Off Road	0	0	0	0	0	0	0	0%
	Other	1	0	0	0	0	1	0.2	100%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	0	0	0	0	0	0	0	0%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
Total	1	0	0	0	0	1	0.2	100%	
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	1	0	0	0	0	1	0.2	100%
	Property Damage Only	0	0	0	0	0	0	0	0%
	Total	1	0	0	0	0	1	0.2	100%
Lighting Condition	Dawn	1	0	0	0	0	1	0.2	100%
	Total	1	0	0	0	0	1	0.2	100%
Surface Conditions	Clear	1	0	0	0	0	1	0.2	100%
	Total	1	0	0	0	0	1	0.2	100%
Contributing Cause	None	1	0	0	0	0	0	1	100%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	0	0	0	0	0	0	0	0%
	Total	1	0	0	0	0	0	1	100%

CRASH ANALYSIS

Crash Information @Diana St/River Grove Dr		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	1	0	0	2	0	3	0.6	5%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	0	0	1	1	0.2	2%
	Left Turn	2	1	1	2	6	12	2.4	22%
	Off Road	0	0	0	2	0	2	0.4	4%
	Other	1	3	1	0	1	6	1.2	11%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	1	0	0	1	0.2	2%
	Rear End	3	2	1	9	3	18	3.6	33%
	Right Turn	0	1	0	0	0	1	0.2	2%
	Sideswipe	3	3	1	1	3	11	2.2	20%
	Unknown	0	0	0	0	0	0	0	0%
	Total	10	10	5	16	14	55	11	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	6	5	2	3	7	23	4.6	42%
	Property Damage Only	4	5	3	13	7	32	6.4	58%
	Total	10	10	5	16	14	55	11	100%
Lighting Condition	Dark - Lighted	4	4	0	0	2	10	2	18%
	Daylight	4	5	5	16	11	41	8.2	75%
	Dusk	2	1	0	0	1	4	0.8	7%
	Total	10	10	5	16	14	55	11	100%
Surface Conditions	Dry	8	6	2	11	12	39	7.8	71%
	Wet	2	4	3	5	2	16	3.2	29%
	Total	10	10	5	16	14	55	11	100%
Contributing Cause	None	10	8	5	13	14	50	10	91%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	2	0	2	0	4	0.8	7%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	1	0	1	0.2	2%
	Work Zone	0	0	0	0	0	0	0	0%
	Total	10	10	5	16	14	55	11	100%

CRASH ANALYSIS

Crash Information @Minnehaha St/24th St		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	0	0	0	0	0	0	0	0%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	0	0	0	0	0	0%
	Left Turn	0	0	0	0	0	0	0	0%
	Off Road	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	0	0	0	0	0	0	0	0%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	0	0	0	0	1	1	0.2	100%
	Unknown	0	0	0	0	0	0	0	0%
	Total	0	0	0	0	1	1	0.2	0%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	0	0	0	0	0	0	0	0%
	Property Damage Only	0	0	0	0	1	1	0.2	100%
	Total	0	0	0	0	1	1	0.2	100%
Lighting Condition	Daylight	0	0	0	0	1	1	0.2	100%
	Total	0	0	0	0	1	1	0.2	100%
Surface Conditions	Clear	0	0	0	0	1	1	0.2	100%
	Total	0	0	0	0	1	1	0.2	100%
Contributing Cause	None	0	0	0	0	1	1	0.2	100%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	0	0	0	0	0	0	0	0%
Total	0	0	0	0	1	1	0.2	100%	

CRASH ANALYSIS

Crash Information @Henry Ave/22nd St		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	1	0	1	0	2	4	0.8	27%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	1	1	0	2	0.4	13%
	Left Turn	0	2	0	0	0	2	0.4	13%
	Off Road	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	1	1	0.2	7%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	1	0	0	1	0.2	7%
	Rear End	0	1	0	1	0	2	0.4	13%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	0	0	0	1	0	1	0.2	7%
	Unknown	0	0	0	1	1	2	0.4	13%
	Grand Total	1	3	3	4	4	15	3	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	1	2	2	2	1	8	1.6	53%
	Property Damage Only	0	1	1	2	3	7	1.4	47%
	Grand Total	1	3	3	4	4	15	3	100%
Lighting Condition	Dark - Lighted	0	0	0	0	2	2	0.4	13%
	Daylight	1	2	3	4	2	12	2.4	80%
	Dusk	0	1	0	0	0	1	0.2	7%
	Grand Total	1	3	3	4	4	15	3	100%
Surface Conditions	Clear	1	3	3	3	3	13	2.6	87%
	Cloudy	0	0	0	1	1	2	0.4	13%
	Grand Total	1	3	3	4	4	15	3	100%
Contributing Cause	None	1	3	3	4	4	15	3	100%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	0	0	0	0	0	0	0	0%
	Grand Total	1	3	3	4	4	15	3	0%

CRASH ANALYSIS

Crash Information @Henry Ave/30th St		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	0	1	2	0	2	5	1	29%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	0	0	1	1	0.2	6%
	Left Turn	0	0	0	0	1	1	0.2	6%
	Off Road	0	0	0	0	1	1	0.2	6%
	Other	0	1	0	1	0	2	0.4	12%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	0	1	2	2	1	6	1.2	35%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	1	1	0.2	6%
	Total	0	3	4	3	7	17	3.4	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	0	2	0	1	3	6	1.2	35%
	Property Dam	0	1	4	2	4	11	2.2	65%
	Grand Total	0	3	4	3	7	17	3.4	100%
Lighting Condition	Dark - Lighted	0	0	0	1	1	2	0.4	12%
	Dark - Not Lighted	0	0	0	0	1	1	0.2	6%
	Daylight	0	3	4	2	5	14	2.8	82%
	Grand Total	0	3	4	3	7	17	3.4	100%
Surface Conditions	Clear	0	1	3	3	6	13	2.6	76%
	Cloudy	0	2	0	0	1	3	0.6	18%
	Rain	0	0	1	0	0	1	0.2	6%
	Grand Total	0	3	4	3	7	17	3.4	100%
Contributing Cause	None	0	2	4	3	7	16	3.2	94%
	Non-Highway	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface	0	1	0	0	0	1	0.2	6%
	Rat, Holes, Potholes	0	0	0	0	0	0	0	0%
	Control Device	0	0	0	0	0	0	0	0%
	Improperly Installed	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	0	0	0	0	0	0	0	0%
Grand Total	0	3	4	3	7	17	3.4	100%	

CRASH ANALYSIS

Crash Information @ Nebraska Ave/Sligh Ave		Crash Year					5 Year	Mean Crashes	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	1	1	2	3	4	11	2.2	8%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	1	1	1	0	1	4	0.8	3%
	Left Turn	3	4	5	7	6	25	5	18%
	Off Road	2	1	0	1	4	8	1.6	6%
	Other	9	5	0	1	2	17	3.4	12%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	1	0	3	0	1	5	1	4%
	Rear End	6	12	8	17	7	50	10	35%
	Right Turn	0	0	0	1	0	1	0.2	1%
	Sideswipe	1	3	3	3	3	13	2.6	9%
	Unknown	0	1	3	1	2	7	1.4	5%
	Grand Total	24	28	25	34	30	141	28.2	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	7	7	8	7	9	38	7.6	27%
	Property Damage Only	17	21	17	27	21	103	20.6	73%
	Grand Total	24	28	25	34	30	141	28.2	100%
Lighting Condition	Dark - Lighted	5	8	3	11	5	32	6.4	23%
	Dark - Not Lighted	1	0	0	0	1	2	0.4	1%
	Dawn	1	0	1	2	0	4	0.8	3%
	Daylight	16	20	19	21	24	100	20	71%
	Dusk	1	0	2	0	0	3	0.6	2%
	Grand Total	24	28	25	34	30	141	28.2	100%
Surface Conditions	Clear	21	25	22	29	27	124	24.8	88%
	Cloudy	0	2	2	3	1	8	1.6	6%
	Rain	3	1	1	2	2	9	1.8	6%
	Grand Total	24	28	25	34	30	141	28.2	100%
Contributing Cause	None	22	28	25	33	29	137	27.4	97%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	1	0	1	0.2	1%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	2	0	0	0	1	3	0.6	2%
	Work Zone	0	0	0	0	0	0	0	0%
	Grand Total	24	28	25	34	30	141	28.2	100%

CRASH ANALYSIS

Crash Information @Sligh Ave/15th St		Crash Year					5 Year	ean Crash	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	1	0	0	1	1	3	0.6	18%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	0	0	0	0	0	0%
	Left Turn	1	0	0	1	0	2	0.4	12%
	Off Road	0	0	0	1	0	1	0.2	6%
	Other	0	0	0	0	0	0	0	0%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	0	3	2	2	1	8	1.6	47%
	Right Turn	0	0	0	1	0	1	0.2	6%
	Sideswipe	0	0	0	0	0	0	0	0%
	Unknown	1	0	1	0	0	2	0.4	12%
	Total	3	3	3	6	2	17	3.4	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	2	2	2	1	1	8	1.6	47%
	Property Damage Only	1	1	1	5	1	9	1.8	53%
	Total	3	3	3	6	2	17	3.4	100%
Lighting Condition	Dark - Lighted	1	1	1	2	0	5	1	29%
	Daylight	2	2	2	4	2	12	2.4	71%
	Total	3	3	3	6	2	17	3.4	100%
Surface Conditions	Dry	3	1	2	6	1	13	2.6	76%
	Wet	0	2	1	0	1	4	0.8	24%
	Total	3	3	3	6	2	17	3.4	100%
Contributing Cause	None	3	2	3	6	2	16	3.2	94%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	1	0	0	0	1	0.2	6%
	Work Zone	0	0	0	0	0	0	0	0%
	Total	3	3	3	6	2	17	3.4	100%

CRASH ANALYSIS

Crash Information @Sligh Ave/22nd St		Crash Year					5 Year	Mean Crashes	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	1	0	0	0	0	1	0.2	3%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	1	0	0	0	1	0.2	3%
	Left Turn	2	2	2	2	1	9	1.8	30%
	Off Road	0	0	0	0	0	0	0	0%
	Other	1	0	0	1	0	2	0.4	7%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	2	2	0	2	4	10	2	33%
	Right Turn	0	1	0	0	0	1	0.2	3%
	Sideswipe	0	0	1	1	2	4	0.8	13%
	Unknown	0	0	1	1	0	2	0.4	7%
	Total	6	6	4	7	7	30	6	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	4	2	1	2	1	10	2	33%
	Property Damage Only	2	4	3	5	6	20	4	67%
	Total	6	6	4	7	7	30	6	100%
Lighting Condition	Dark - Lighted	0	1	2	3	2	8	1.6	27%
	Dark - Not Lighted	1	0	0	0	0	1	0.2	3%
	Dawn	0	0	1	0	0	1	0.2	3%
	Daylight	5	5	1	4	4	19	3.8	63%
	Dusk	0	0	0	0	1	1	0.2	3%
	Total	6	6	4	7	7	30	6	100%
Surface Conditions	Dry	3	6	3	5	5	22	4.4	73%
	Wet	3	0	1	2	2	8	1.6	27%
	Total	6	6	4	7	7	30	6	100%
Contributing Cause	None	5	5	3	6	7	26	5.2	87%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	1	0	0	1	0	2	0.4	7%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	1	1	0	0	2	0.4	7%
	Work Zone	0	0	0	0	0	0	0	0%
	Total	6	6	4	7	7	30	6	100%

CRASH ANALYSIS

Crash Information @Sligh Ave/24th St		Crash Year					5 Year	Mean Crash	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	0	0	0	0	0	0	0	0%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	0	0	0	0	0	0%
	Left Turn	2	1	1	2	0	6	1.2	29%
	Off Road	0	0	0	1	0	1	0.2	5%
	Other	0	0	0	0	0	0	0	0%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	0	4	2	0	4	10	2	48%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	1	0	0	1	1	3	0.6	14%
	Unknown	1	0	0	0	0	1	0.2	5%
	Total	4	5	3	4	5	21	4.2	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	1	4	0	1	0	6	1.2	29%
	Property Damage Only	3	1	3	3	5	15	3	71%
	Total	4	5	3	4	5	21	4.2	100%
Lighting Condition	Dark - Lighted	1	1	0	0	0	2	0.4	10%
	Dawn	0	0	0	0	1	1	0.2	5%
	Daylight	3	4	3	4	4	18	3.6	86%
	Total	4	5	3	4	5	21	4.2	100%
Surface Conditions	Dry	4	5	3	3	4	19	3.8	90%
	Wet	0	0	0	1	1	2	0.4	10%
	Total	4	5	3	4	5	21	4.2	100%
Contributing Cause	None	4	5	3	4	5	21	4.2	100%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	0	0	0	0	0	0	0	0%
	Total	4	5	3	4	5	21	4.2	100%

CRASH ANALYSIS

Crash Information @Rowlett Park Dr/Sligh Ave		Crash Year					5 Year	Mean Crash	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	0	0	0	0	1	1	0.2	1%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	1	0	3	0	4	0.8	5%
	Left Turn	0	0	0	5	0	5	1	6%
	Off Road	1	1	3	0	1	6	1.2	7%
	Other	4	6	1	0	0	11	2.2	14%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	2	11	5	7	6	31	6.2	38%
	Right Turn	0	0	1	0	0	1	0.2	1%
	Sideswipe	2	1	3	5	4	15	3	19%
	Unknown	2	2		1	2	7	1.4	9%
	Total	11	22	13	21	14	81	16.2	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	5	8	1	6	1	21	4.2	26%
	Property Damage Only	6	14	12	15	13	60	12	74%
	Total	11	22	13	21	14	81	16.2	100%
Lighting Condition	Dark - Lighted	3	5	1	5	1	15	3	19%
	Dark - Not Lighted	1	2	1	0	0	4	0.8	5%
	Daylight	5	15	9	15	12	56	11.2	69%
	Dusk	1	0	1	1	1	4	0.8	5%
	Unknown	1	0	1	0	0	2	0.4	2%
	Total	11	22	13	21	14	81	16.2	100%
Surface Conditions	Dry	10	19	11	16	12	68	13.6	84%
	Unknown	1	0	1	0	0	2	0.4	2%
	Wet	0	3	1	5	2	11	2.2	14%
	Total	11	22	13	21	14	81	16.2	100%
Contributing Cause	None	10	20	12	20	13	75	15	93%
	Non-Highway Work	0	1	0	0	0	1	0.2	1%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	1	1	1	3	0.6	4%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	1	1	0	0	0	2	0.4	2%
	Work Zone	0	0	0	0	0	0	0	0%
	Total	11	22	13	21	14	81	16.2	100%

CRASH ANALYSIS

Crash Information @Sligh Ave/30th St		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	2	0	1	0	2	5	1	28%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	0	0	0	0	0	0%
	Left Turn	0	0	0	0	1	1	0.2	6%
	Off Road	0	0	0	0	0	0	0	0%
	Other	0	1	0	0	0	1	0.2	6%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	1	2	1	4	3	11	2.2	61%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Total	3	3	2	4	6	18	3.6	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	3	1	1	3	2	10	2	56%
	Property Damage Only	0	2	1	1	4	8	1.6	44%
		Total	3	3	2	4	6	18	3.6
Lighting Condition	Dark - Lighted	2	0	0	2	2	6	1.2	33%
	Dark - Not Lighted	0	0	0	1	0	1	0.2	6%
	Daylight	1	1	2	1	4	9	1.8	50%
	Dusk	0	2	0	0	0	2	0.4	11%
		Total	3	3	2	4	6	18	3.6
Surface Conditions	Dry	3	3	2	4	6	18	3.6	100%
		Total	3	3	2	4	6	18	3.6
Contributing Cause	None	3	3	2	3	6	17	3.4	94%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	1	0	1	0.2	6%
	Work Zone	0	0	0	0	0	0	0	0%
		Total	3	3	2	4	6	18	3.6

CRASH ANALYSIS

Crash Information @Hillsborough Ave/Nebraska Ave		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	2	8	8	6	10	34	6.8	6%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	2	0	0	0	0	2	0.4	0%
	Left Turn	2	14	14	18	16	64	12.8	12%
	Off Road	2	0	4	4	4	14	2.8	3%
	Other	2	4	12	8	18	44	8.8	8%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	2	2	4	0	6	14	2.8	3%
	Rear End	20	44	80	46	30	220	44	41%
	Right Turn	0	0	0	2	0	2	0.4	0%
	Sideswipe	14	24	34	28	22	122	24.4	23%
	Unknown	2	4	4	6	6	22	4.4	4%
	Total	48	100	160	118	112	538	107.6	100%
Injury Severity	Fatality	2	2	0	2	0	6	1.2	1%
	Injury	16	34	42	24	26	142	28.4	26%
	Property Damage Only	30	64	118	92	86	390	78	72%
	Total	48	100	160	118	112	538	107.6	100%
Lighting Condition	Dark - Lighted	12	18	38	24	40	132	26.4	25%
	Dark - Not Lighted	2	0	0	2	0	4	0.8	1%
	Dark - Unknown Lighting	0	0	2	0	0	2	0.4	0%
	Dawn	2	8	2	0	4	16	3.2	3%
	Daylight	32	74	114	88	64	372	74.4	69%
	Dusk	0	0	4	2	4	10	2	2%
	Unknown	0	0	0	2	0	2	0.4	0%
	Total	48	100	160	118	112	538	107.6	100%
Surface Conditions	Dry	44	92	154	106	108	504	100.8	94%
	Wet	4	8	6	12	4	34	6.8	6%
	Total	48	100	160	118	112	538	107.6	100%
Contributing Cause	None	42	94	156	112	108	512	102.4	95%
	Non-Highway Work	0	0	2	0	0	2	0.4	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	4	0	0	0	0	4	0.8	1%
	Road Surface Condition	0	4	2	6	0	12	2.4	2%
	Rut, Holes, Bumps	0	0	0	0	2	2	0.4	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	2	2	0	0	0	4	0.8	1%
	Work Zone	0	0	0	0	2	2	0.4	0%
Total	48	100	160	118	112	538	107.6	100%	

CRASH ANALYSIS

Crash Information @Hillsborough Ave/11th St		Crash Year					5 Year Total	Mean Crashes per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	1	2	1	1	1	6	1.2	6%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	0	0	0	0	0	0%
	Left Turn	4	2	3	1	1	11	2.2	12%
	Off Road	2	1	0	1	4	8	1.6	9%
	Other	2	0	2	0	0	4	0.8	4%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	10	8	2	13	11	44	8.8	47%
	Right Turn	0	1	0	1	0	2	0.4	2%
	Sideswipe	2	2	3	8	1	16	3.2	17%
	Unknown	0	0	1	2	0	3	0.6	3%
	Total	21	16	12	27	18	94	18.8	100%
Injury Severity	Fatality	2	0	0	0	0	2	0.4	2%
	Injury	9	5	5	7	6	32	6.4	34%
	Property Damage Only	10	11	7	20	12	60	12	64%
	Total	21	16	12	27	18	94	18.8	100%
Lighting Condition	Dark - Lighted	2	1	0	3	2	8	1.6	9%
	Dark - Not Lighted	0	0	3	1	1	5	1	5%
	Dawn	0	0	1	0	2	3	0.6	3%
	Daylight	17	14	8	23	12	74	14.8	79%
	Dusk	2	1	0	0	1	4	0.8	4%
	Total	21	16	12	27	18	94	18.8	100%
Surface Conditions	Dry	20	15	10	24	17	86	17.2	91%
	Wet	1	1	2	3	1	8	1.6	9%
	Total	21	16	12	27	18	94	18.8	100%
Contributing Cause	None	20	15	11	26	17	89	17.8	95%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	1	1	1	0	0	3	0.6	3%
	Rut, Holes, Bumps	0	0	0	0	1	1	0.2	1%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	0	0	0	0%
	Work Zone	0	0	0	1	0	1	0.2	1%
	Total	21	16	12	27	18	94	18.8	100%

CRASH ANALYSIS

Crash Information @Hillsborough Ave/15th St		Crash Year					5 Year Total	Average Crash per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	5	2	7	6	2	22	4.4	11%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	1	2	4	7	1.4	4%
	Left Turn	1	2	9	3	3	18	3.6	9%
	Off Road	1	0	1	0	1	3	0.6	2%
	Other	3	7	5	7	3	25	5	13%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	1	1	4	3	9	1.8	5%
	Rear End	8	11	17	17	22	75	15	38%
	Right Turn	1	0	0	0	0	1	0.2	1%
	Sideswipe	1	2	7	6	4	20	4	10%
	Unknown	3	1	6	3	2	15	3	8%
	Total	23	26	54	48	44	195	39	100%
Injury Severity	Fatality	0	1	0	1	0	2	0.4	1%
	Injury	15	9	13	16	10	63	12.6	32%
	Property Damage Only	8	16	41	31	34	130	26	67%
	Total	23	26	54	48	44	195	39	100%
Lighting Condition	Dark - Lighted	6	5	5	5	11	32	6.4	16%
	Dark - Not Lighted	0	0	0	1	0	1	0.2	1%
	Dark - Unknown Lighting	0	1	0	0	0	1	0.2	1%
	Dawn	0	0	0	0	1	1	0.2	1%
	Daylight	16	18	48	42	29	153	30.6	78%
	Dusk	0	2	1	0	3	6	1.2	3%
	Other	1	0	0	0	0	1	0.2	1%
	Total	23	26	54	48	44	195	39	100%
Surface Conditions	Dry	20	23	47	40	41	171	34.2	88%
	Wet	3	3	7	8	3	24	4.8	12%
	Total	23	26	54	48	44	195	39	100%
Contributing Cause	None	20	22	53	47	41	183	36.6	94%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	1	1	0.2	1%
	Other	1	1	0	0	1	3	0.6	2%
	Road Surface Condition	0	0	0	0	0	0	0	0%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	1	0	0	0	0	1	0.2	1%
	Unknown	1	3	1	1	1	7	1.4	4%
	Work Zone	0	0	0	0	0	0	0	0%
	Total	23	26	54	48	44	195	39	100%

CRASH ANALYSIS

Crash Information @Hillsborough Ave/19th St		Crash Year					5 Year	Mean Crashes	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	0	1	1	4	5	11	2.2	7%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	1	1	2	0.4	1%
	Head On	1	0	0	1	1	3	0.6	2%
	Left Turn	1	6	4	6	8	25	5	16%
	Off Road	0	3	5	2	5	15	3	9%
	Other	3	11	5	6	2	27	5.4	17%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	2	2	0.4	1%
	Rear End	4	6	10	10	12	42	8.4	27%
	Right Turn	1	0	0	1	0	2	0.4	1%
	Rollover	0	1	0	0	0	1	0.2	1%
	Sideswipe	1	4	5	8	2	20	4	13%
	Unknown	2	1	2	1	2	8	1.6	5%
	Total	13	33	32	40	40	158	31.6	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	2	15	4	7	15	43	8.6	27%
	Property Damage Only	11	18	28	33	25	115	23	73%
	Total	13	33	32	40	40	158	31.6	100%
Lighting Condition	Dark - Lighted	4	8	9	8	6	35	7	22%
	Dark - Not Lighted	0	2	0	0	0	2	0.4	1%
	Dawn	0	1	0	0	0	1	0.2	1%
	Daylight	8	21	23	31	33	116	23.2	73%
	Dusk	1	1	0	1	1	4	0.8	3%
	Total	13	33	32	40	40	158	31.6	100%
Surface Conditions	Clear	11	24	27	36	35	133	26.6	84%
	Cloudy	1	5	1	4	3	14	2.8	9%
	Fog, Smog, Smoke	0	0	1	0	0	1	0.2	1%
	Rain	1	4	3	0	2	10	2	6%
	Total	13	33	32	40	40	158	31.6	100%
Contributing Cause	None	10	31	31	40	39	151	30.2	96%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	1	1	1	0	0	3	0.6	2%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	2	1	0	0	1	4	0.8	3%
	Work Zone	0	0	0	0	0	0	0	0%
	Total	13	33	32	40	40	158	31.6	100%

CRASH ANALYSIS

Crash Information @Hillsborough Ave/22nd St		Crash Year					5 Year Total	Mean Crash per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	1	0	5	5	3	14	2.8	5%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	2	2	0.4	1%
	Head On	3	0	1	2	1	7	1.4	2%
	Left Turn	3	6	4	8	6	27	5.4	9%
	Off Road	0	0	1	2	1	4	0.8	1%
	Other	9	6	1	12	8	36	7.2	12%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	6	1	3	10	2	3%
	Rear End	17	28	27	30	21	123	24.6	42%
	Right Turn	0	1	1	0	0	2	0.4	1%
	Sideswipe	4	10	15	13	8	50	10	17%
	Unknown	2	2	3	7	2	16	3.2	5%
	Total	39	53	64	80	55	291	58.2	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	12	17	19	24	12	84	16.8	29%
	Property Damage Only	27	36	45	56	43	207	41.4	71%
	Total	39	53	64	80	55	291	58.2	100%
Lighting Condition	Dark - Lighted	9	13	14	14	10	60	12	21%
	Dark - Not Lighted	0	1	0	0	1	2	0.4	1%
	Dawn	2	0	0	0	1	3	0.6	1%
	Daylight	27	36	49	63	41	216	43.2	74%
	Dusk	1	3	1	3	1	9	1.8	3%
	Unknown	0	0	0	0	1	1	0.2	0%
	Total	39	53	64	80	55	291	58.2	100%
Surface Conditions	Clear	33	46	53	61	49	242	48.4	83%
	Cloudy	3	2	8	10	4	27	5.4	9%
	Rain	3	5	3	9	2	22	4.4	8%
	Total	39	53	64	80	55	291	58.2	100%
Contributing Cause	None	38	52	61	77	53	281	56.2	97%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	1	0	0	0	1	0.2	0%
	Road Surface Condition	1	0	3	3	1	8	1.6	3%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	1	1	0.2	0%
	Work Zone	0	0	0	0	0	0	0	0%
Total	39	53	64	80	55	291	58.2	100%	

CRASH ANALYSIS

Crash Information @Hillsborough Ave/30th St		Crash Year					5 Year Total	Average Crash per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	2	3	4	3	4	16	3.2	10%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	0	0	0	0%
	Head On	0	0	1	0	0	1	0.2	1%
	Left Turn	2	3	4	7	3	19	3.8	12%
	Off Road	0	0	3	2	0	5	1	3%
	Other	3	3	2	8	2	18	3.6	11%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	1	0	0	1	0.2	1%
	Rear End	6	17	13	21	7	64	12.8	39%
	Right Turn	0	0	1	1	1	3	0.6	2%
	Sideswipe	5	6	7	7	2	27	5.4	17%
	Unknown	1	3	1	3	1	9	1.8	6%
	Total	19	35	37	52	20	163	32.6	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	12	16	11	11	4	54	10.8	33%
	Property Damage Only	7	19	26	41	16	109	21.8	67%
	Total	19	35	37	52	20	163	32.6	100%
Lighting Condition	Dark - Lighted	4	10	3	15	2	34	6.8	21%
	Dark - Not Lighted	0	0	1	0	0	1	0.2	1%
	Dawn	0	0	0	1	0	1	0.2	1%
	Daylight	14	24	32	35	18	123	24.6	75%
	Dusk	1	1	1	1	0	4	0.8	2%
	Total	19	35	37	52	20	163	32.6	100%
Surface Conditions	Dry	18	29	30	46	20	143	28.6	88%
	Wet	1	6	7	6	0	20	4	12%
	Total	19	35	37	52	20	163	32.6	100%
Contributing Cause	None	18	32	32	45	20	147	29.4	90%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	1	0	2	0	3	0.6	2%
	Road Surface Condition	1	1	3	3	0	8	1.6	5%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	1	0	0	1	0.2	1%
	Unknown	0	1	1	2	0	4	0.8	2%
	Work Zone	0	0	0	0	0	0	0	0%
Total	19	35	37	52	20	163	32.6	100%	

CRASH ANALYSIS

Crash Information @Hillsborough Ave/34th St		Crash Year					5 Year	Mean Crashes	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	0	0	6	2	3	11	2.2	7%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	1	0	3	0	4	0.8	3%
	Head On	0	1	0	0	1	2	0.4	1%
	Left Turn	2	2	2	1	4	11	2.2	7%
	Off Road	2	0	0	1	1	4	0.8	3%
	Other	6	2	1	4	4	17	3.4	11%
	Overturned	0	0	0	0	0	0	0	0%
	Pedestrian	0	1	0	0	5	6	1.2	4%
	Rear End	8	9	15	15	18	65	13	42%
	Right Turn	1	0	0	1	0	2	0.4	1%
	Sideswipe	2	2	6	7	8	25	5	16%
	Unknown	0	0	1	2	3	6	1.2	4%
	Total	21	18	31	36	47	153	30.6	100%
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	8	5	10	7	13	43	8.6	28%
	Property Damage Only	13	13	21	29	34	110	22	72%
	Total	21	18	31	36	47	153	30.6	100%
Lighting Condition	Dark - Lighted	4	3	5	7	13	32	6.4	21%
	Dark - Not Lighted	1	1	0	2	1	5	1	3%
	Dark - Unknown Lighting	0	1	1	0	0	2	0.4	1%
	Dawn	2	0	2	0	0	4	0.8	3%
	Daylight	12	13	22	26	31	104	20.8	68%
	Dusk	2	0	1	1	2	6	1.2	4%
	Total	21	18	31	36	47	153	30.6	100%
Surface Conditions	Dry	15	16	27	32	42	132	26.4	86%
	Wet	6	2	4	4	5	21	4.2	14%
	Total	21	18	31	36	47	153	30.6	100%
Contributing Cause	None	20	17	30	34	45	146	29.2	95%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	1	0	1	1	2	5	1	3%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	1	0	1	0	2	0.4	1%
	Work Zone	0	0	0	0	0	0	0	0%
	Total	21	18	31	36	47	153	30.6	100%

CRASH ANALYSIS

Crash Information @Hillsborough Ave/37th St		Crash Year					5 Year Total	Mean Crash per Year	%
		2016	2017	2018	2019	2020			
Crash Type	Angle	0	0	0	1	1	2	0.4	3%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	0	0	1	1	0.2	2%
	Head On	0	1	0	0	0	1	0.2	2%
	Left Turn	1	1	0	0	3	5	1	8%
	Off Road	0	1	2	0	1	4	0.8	6%
	Other	2	1	3	6	0	12	2.4	19%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	0	0	0	0	0	0	0%
	Rear End	1	3	9	3	9	25	5	40%
	Right Turn	0	0	0	0	0	0	0	0%
	Sideswipe	0	1	3	3	2	9	1.8	14%
	Unknown	1	0	0	0	3	4	0.8	6%
Total	5	8	17	13	20	63	12.6	100%	
Injury Severity	Fatal	0	0	0	0	0	0	0	0%
	Injury	1	2	4	3	9	19	3.8	30%
	Property Damage Only	4	6	13	10	11	44	8.8	70%
	Total	5	8	17	13	20	63	12.6	100%
Lighting Condition	Dark - Lighted	1	2	0	1	4	8	1.6	13%
	Daylight	3	5	17	12	15	52	10.4	83%
	Dusk	1	1	0	0	1	3	0.6	5%
	Total	5	8	17	13	20	63	12.6	100%
Surface Conditions	Dry	4	5	14	12	17	52	10.4	83%
	Wet	1	3	3	1	3	11	2.2	17%
	Total	5	8	17	13	20	63	12.6	100%
Contributing Cause	None	5	8	15	13	16	57	11.4	90%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	0	0	2	0	1	3	0.6	5%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	0	0	0	0	2	2	0.4	3%
	Work Zone	0	0	0	0	1	1	0.2	2%
Total	5	8	17	13	20	63	12.6	100%	

CRASH ANALYSIS

Crash Information @Hillsborough Ave/40th St		Crash Year					5 Year	Yearly Mean Crash	%
		2016	2017	2018	2019	2020	Total	per Year	
Crash Type	Angle	1	3	3	3	1	11	2.2	4%
	Backed Into	0	0	0	0	0	0	0	0%
	Bicycle	0	0	1	0	0	1	0.2	0%
	Head On	0	1	2	0	1	4	0.8	1%
	Left Turn	1	1	1	5	0	8	1.6	3%
	Off Road	1	0	0	2	1	4	0.8	1%
	Other	2	2	6	8	6	24	4.8	8%
	Overtuned	0	0	0	0	0	0	0	0%
	Pedestrian	0	2	0	1	0	3	0.6	1%
	Rear End	24	36	50	52	35	197	39.4	65%
	Right Turn	1	1	0	0	0	2	0.4	1%
	Sideswipe	5	6	10	6	10	37	7.4	12%
	Unknown	2	0	4	2	3	11	2.2	4%
	Total	37	52	77	79	57	302	60.4	100%
Injury Severity	Fatality	1	1	0	1	0	3	0.6	1%
	Injury	12	22	16	23	12	85	17	28%
	Property Damage Only	24	29	61	55	45	214	42.8	71%
	Total	37	52	77	79	57	302	60.4	100%
Lighting Condition	Dark - Lighted	8	17	16	25	14	80	16	26%
	Dawn	0	2	3	0	0	5	1	2%
	Daylight	28	33	56	50	40	207	41.4	69%
	Dusk	1	0	2	4	3	10	2	3%
	Total	37	52	77	79	57	302	60.4	100%
Surface Conditions	Clear	31	46	63	64	52	256	51.2	85%
	Cloudy	4	3	6	6	1	20	4	7%
	Fog, Smog, Smoke	0	1	0	0	0	1	0.2	0%
	Rain	2	2	8	9	4	25	5	8%
	Total	37	52	77	79	57	302	60.4	100%
Contributing Cause	None	35	49	76	73	55	288	57.6	95%
	Non-Highway Work	0	0	0	0	0	0	0	0%
	Obstruction in Roadway	0	0	0	0	0	0	0	0%
	Other	0	0	0	0	0	0	0	0%
	Road Surface Condition	1	2	1	4	2	10	2	3%
	Rut, Holes, Bumps	0	0	0	0	0	0	0	0%
	Traffic Control Device Inoperative, Missing or Obscured	0	0	0	0	0	0	0	0%
	Unknown	1	1	0	1	0	3	0.6	1%
	Work Zone	0	0	0	1	0	1	0.2	0%
	Total	37	52	77	79	57	302	60.4	100%

APPENDIX G

School Safety

Evaluation

SCHOOL SAFETY FOSTER ELEMENTARY SCHOOL

Install School
Zone Markings.

E Minnet

N 22nd St

Consider
installing a
"Stop" pavement
marking in
advance of the
intersection.

Install a sidewalk
on Diana Street
from 22nd Street
to 24th Street.

Trim hedge bush.

Re-stripe
crosswalk to be
perpendicular to
the adjoining
sidewalk.

Repair the
depressed Verizon
box located on the
sidewalk.

Consider striping
this stall to prohibit
parking and adding
yellow contrasting
paint to the
concrete curb at
the drop-off area.

Consider parking
prohibition
measures to
prevent blocking
the sidewalk

Consider
performing a
route study to
determine the
impacts of
implementing a
no-left turn
condition.

Consider installing
Speed Feedback signs
along E Diana St.

Install School
Zone Markings.

E Diana St

N 20th St

E Diana St

N 21st St

E Diana St

30 MPH

Foster
Elementary

0.05 Miles

0.03

SCHOOL SAFETY SLIGH MIDDLE SCHOOL

Install School
Zone Markings
and school
zone flashers.

Consider
including this
sidewalk gap
for
construction..

Replace existing
"Do Not Enter"
and "Stop"
signs to
increase
retro-reflectivity
and repair
broken curb.

Sligh Middle

Consider
repairing the
depressed
sidewalk.

Trim palm tree
blocking the
sidewalk walking
path.

Install School
Zone Markings
and school
zone flashers.

0.05 Miles

0.01

0.03



APPENDIX H

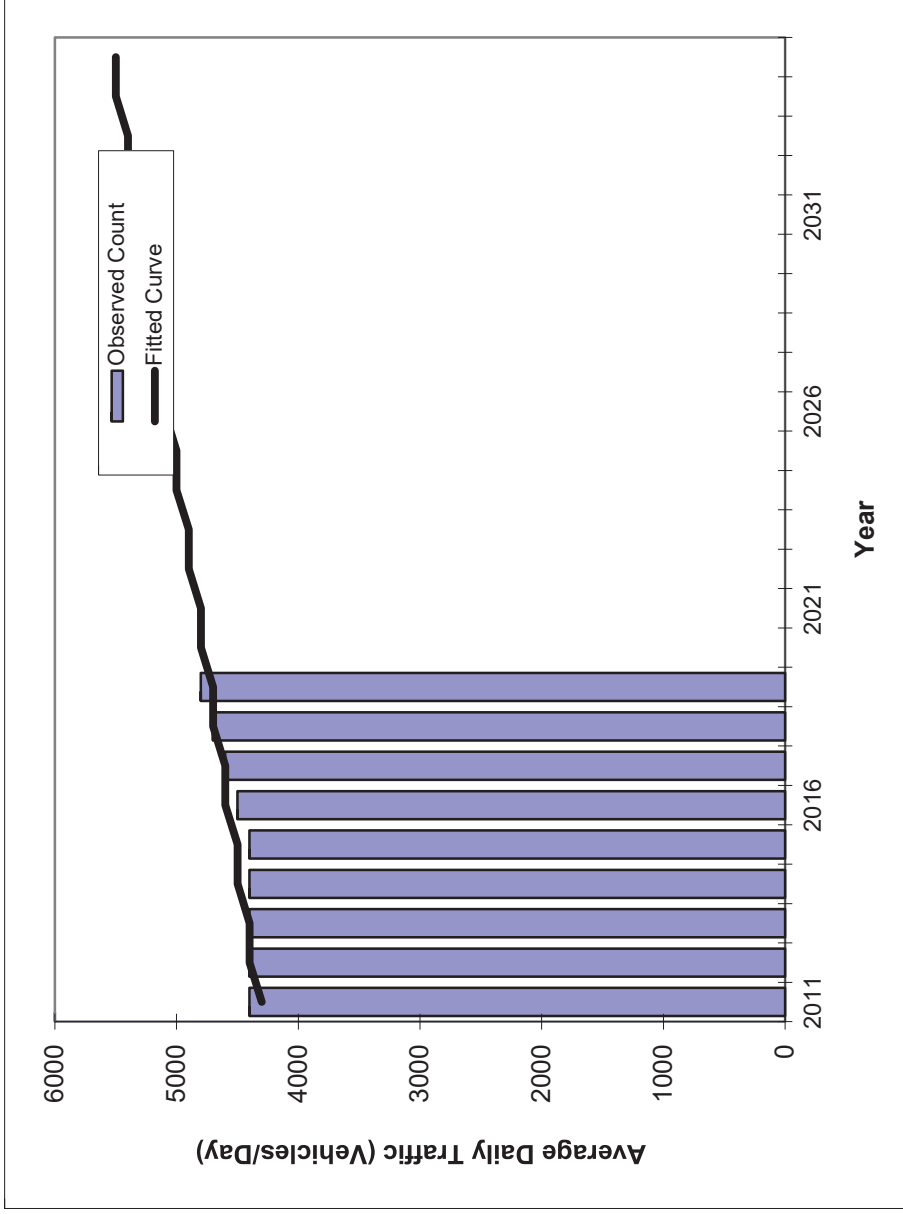
Historic Growth Trends

Traffic Trends - V03.a

15TH ST -- 15TH STREET, N OF E HILLSBOROUGH AVE

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9054
Highway:	15TH ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	4400	4300
2012	4400	4400
2013	4400	4400
2014	4400	4500
2015	4400	4500
2016	4500	4600
2017	4600	4600
2018	4700	4700
2019	4800	4700
2023 Opening Year Trend		
2023	N/A	4900
2028 Mid-Year Trend		
2028	N/A	5200
2033 Design Year Trend		
2033	N/A	5400
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	50
Trend R-squared:	79.41%
Trend Annual Historic Growth Rate:	1.16%
Trend Growth Rate (2019 to Design Year):	1.06%
Printed:	9-Nov-21

Straight Line Growth Option

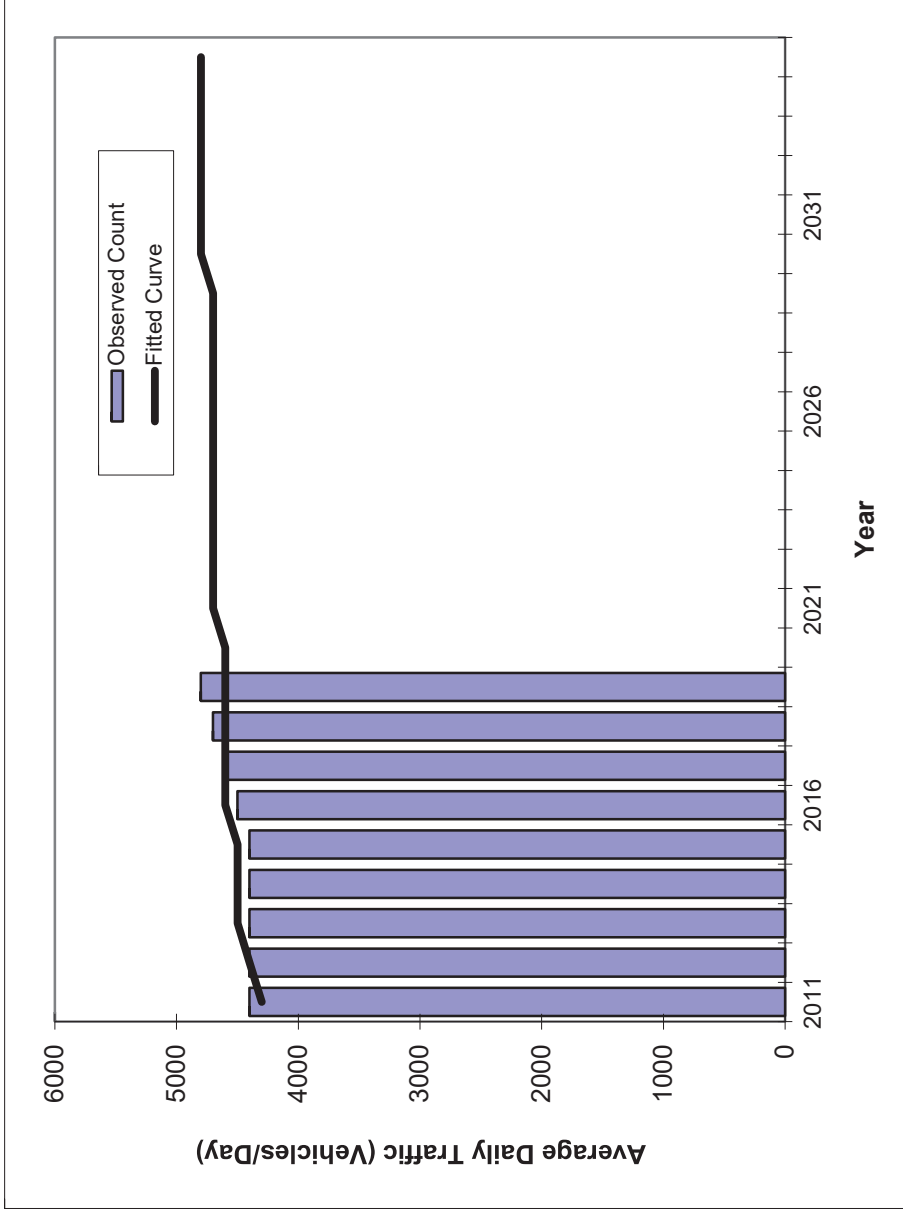
*Axle-Adjusted

Traffic Trends - V03.a

15TH ST -- 15TH STREET, N OF E HILLSBOROUGH AVE

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9054
Highway:	15TH ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	4400	4300
2012	4400	4400
2013	4400	4500
2014	4400	4500
2015	4400	4500
2016	4500	4600
2017	4600	4600
2018	4700	4600
2019	4800	4600
2023 Opening Year Trend		
2023	N/A	4700
2028 Mid-Year Trend		
2028	N/A	4700
2033 Design Year Trend		
2033	N/A	4800
TRANPLAN Forecasts/Trends		

Trend R-squared:	53.82%
Compounded Annual Historic Growth Rate:	0.85%
Compounded Growth Rate (2019 to Design Year):	0.30%
Printed:	9-Nov-21
Decaying Exponential Growth Option	

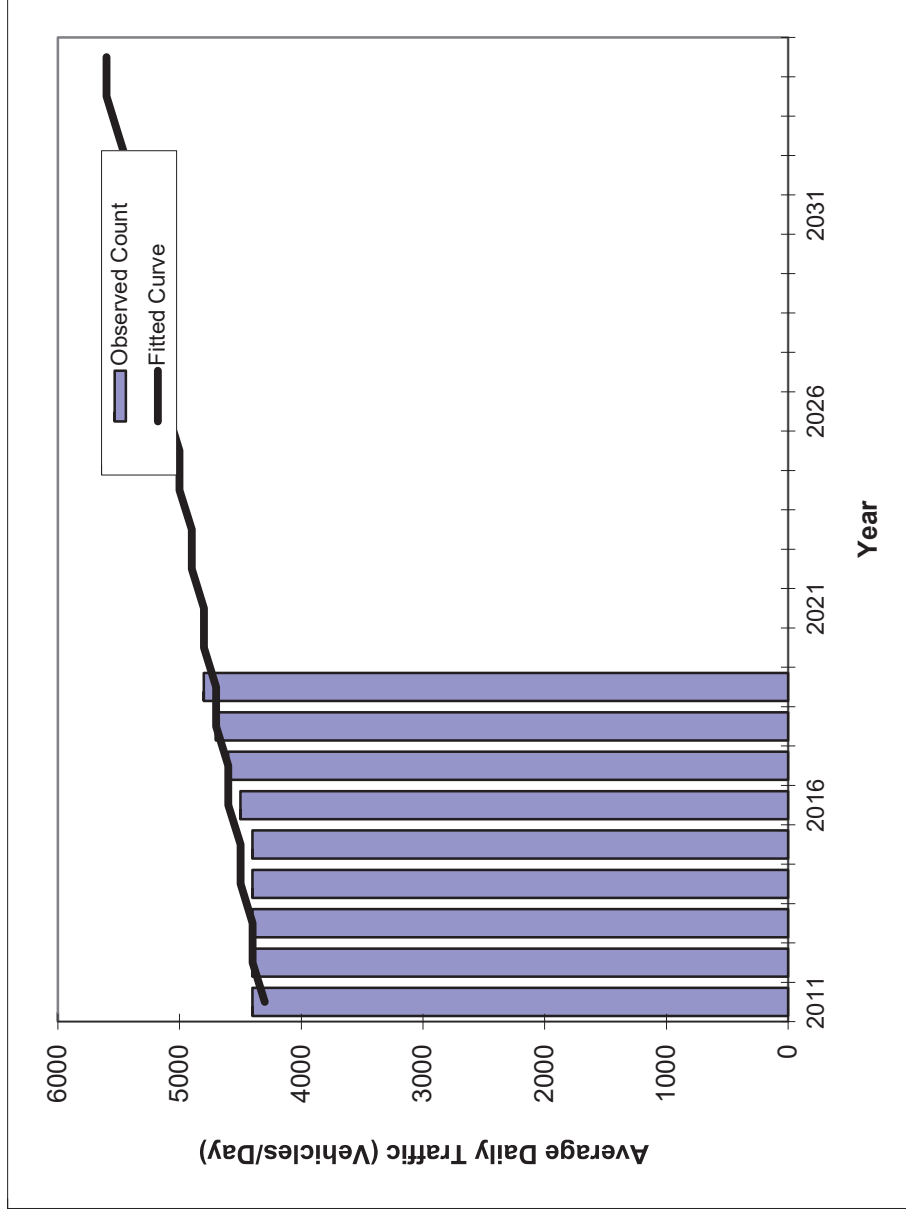
*Axle-Adjusted

Traffic Trends - V03.a

15TH ST -- 15TH STREET, N OF E HILLSBOROUGH AVE

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9054
Highway:	15TH ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	4400	4300
2012	4400	4400
2013	4400	4400
2014	4400	4400
2015	4400	4500
2016	4500	4500
2017	4600	4600
2018	4700	4600
2019	4800	4700
2023 Opening Year Trend		
2023	N/A	4900
2028 Mid-Year Trend		
2028	N/A	5200
2033 Design Year Trend		
2033	N/A	5500
TRANPLAN Forecasts/Trends		

Trend R-squared:	79.74%
Compounded Annual Historic Growth Rate:	1.12%
Compounded Growth Rate (2019 to Design Year):	1.13%
Printed:	9-Nov-21
Exponential Growth Option	

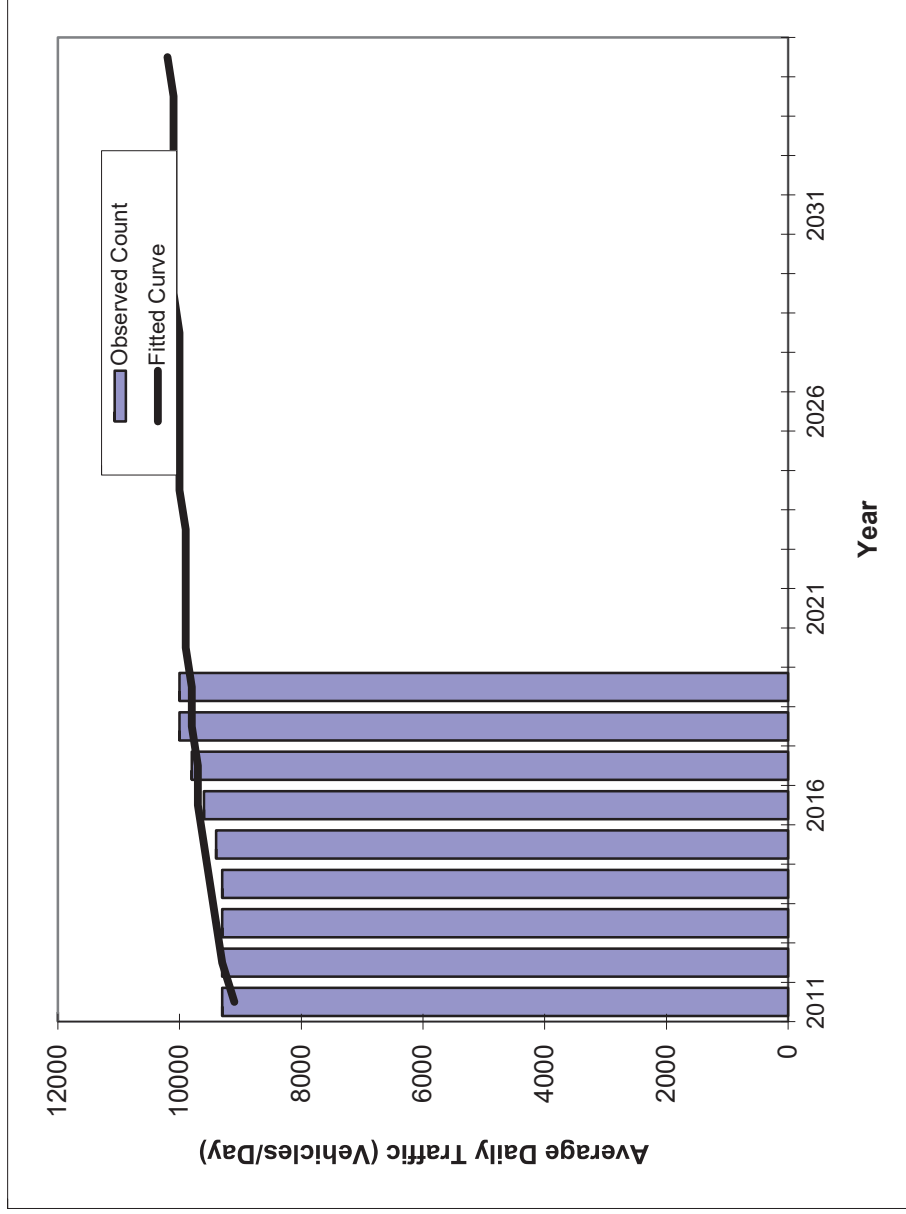
*Axle-Adjusted

Traffic Trends - V03.a

22ND ST -- N 22ND STREET, N OF E HILLSBOROUGH AVE

FIN# 1234	Location 1
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County: Station #: Highway:	Hillsborough (10) 9055 22ND ST
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Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	9300	9100
2012	9300	9300
2013	9300	9400
2014	9300	9500
2015	9400	9600
2016	9600	9700
2017	9800	9700
2018	10000	9800
2019	10000	9800
2023 Opening Year Trend		
2023	N/A	9900
2028 Mid-Year Trend		
2028	N/A	10000
2033 Design Year Trend		
2033	N/A	10100
TRANPLAN Forecasts/Trends		

Trend R-squared:	63.22%
Compounded Annual Historic Growth Rate:	0.93%
Compounded Growth Rate (2019 to Design Year):	0.22%
Printed:	9-Nov-21
Decaying Exponential Growth Option	

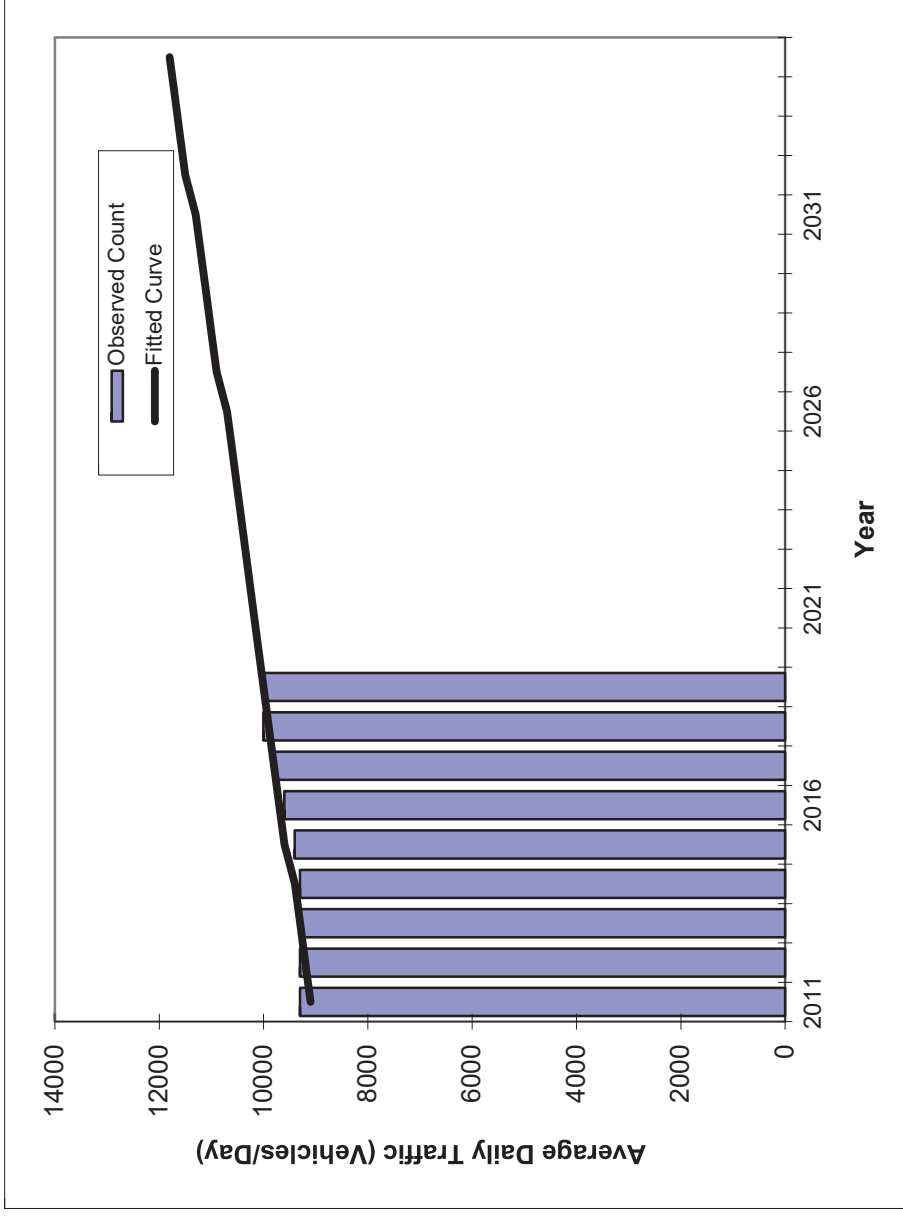
*Axle-Adjusted

Traffic Trends - V03.a

22ND ST -- N 22ND STREET, N OF E HILLSBOROUGH AVE

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9055
Highway:	22ND ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	9300	9100
2012	9300	9200
2013	9300	9300
2014	9300	9400
2015	9400	9600
2016	9600	9700
2017	9800	9800
2018	10000	9900
2019	10000	10000
2023 Opening Year Trend		
2023	N/A	10400
2028 Mid-Year Trend		
2028	N/A	11000
2033 Design Year Trend		
2033	N/A	11600
TRANPLAN Forecasts/Trends		

Trend R-squared:	86.53%
Compounded Annual Historic Growth Rate:	1.19%
Compounded Growth Rate (2019 to Design Year):	1.07%
Printed:	9-Nov-21
Exponential Growth Option	

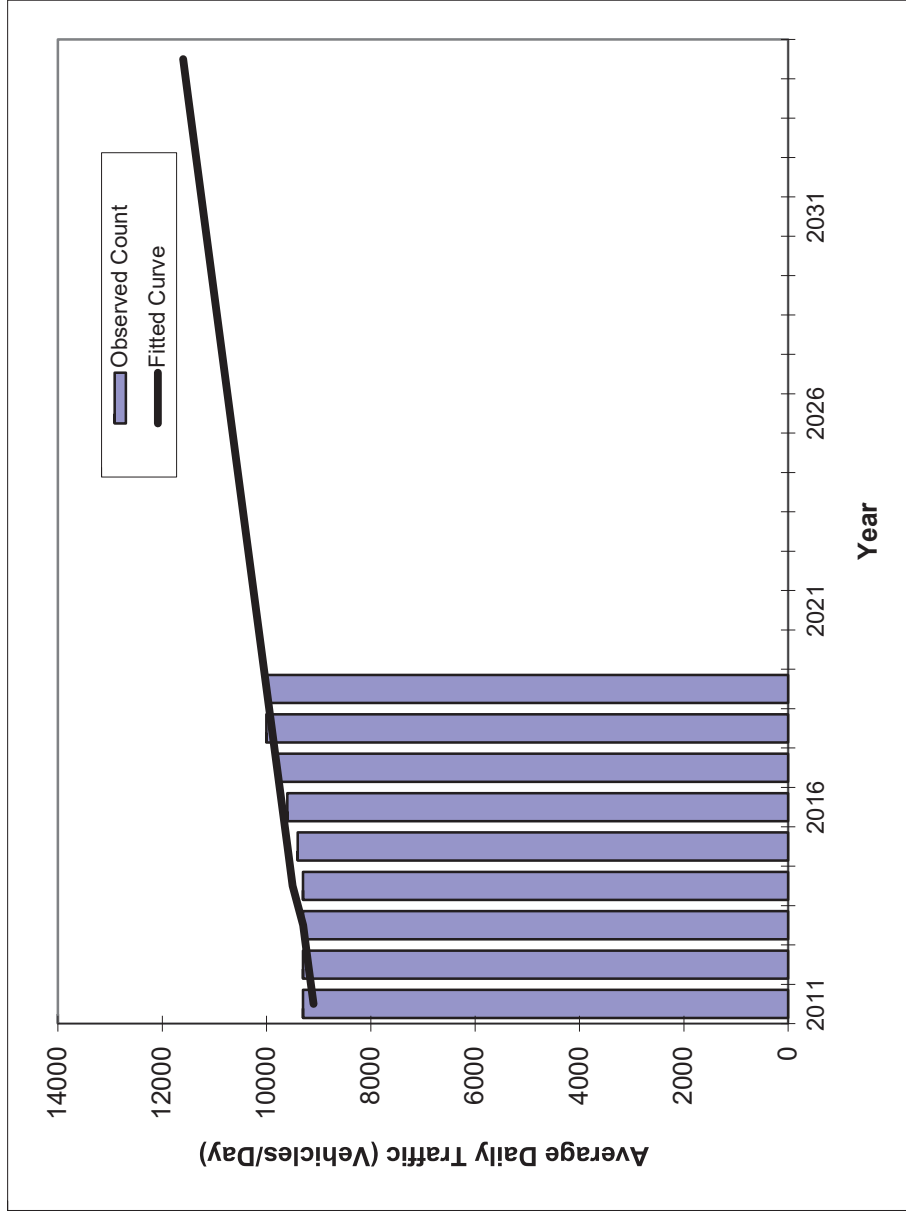
*Axle-Adjusted

Traffic Trends - V03.a

22ND ST -- N 22ND STREET, N OF E HILLSBOROUGH AVE

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9055
Highway:	22ND ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	9300	9100
2012	9300	9200
2013	9300	9300
2014	9300	9500
2015	9400	9600
2016	9600	9700
2017	9800	9800
2018	10000	9900
2019	10000	10000
2023 Opening Year Trend		
2023	N/A	10400
2028 Mid-Year Trend		
2028	N/A	10900
2033 Design Year Trend		
2033	N/A	11400
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	103
Trend R-squared:	86.32%
Trend Annual Historic Growth Rate:	1.24%
Trend Growth Rate (2019 to Design Year):	1.00%
Printed:	9-Nov-21
Straight Line Growth Option	

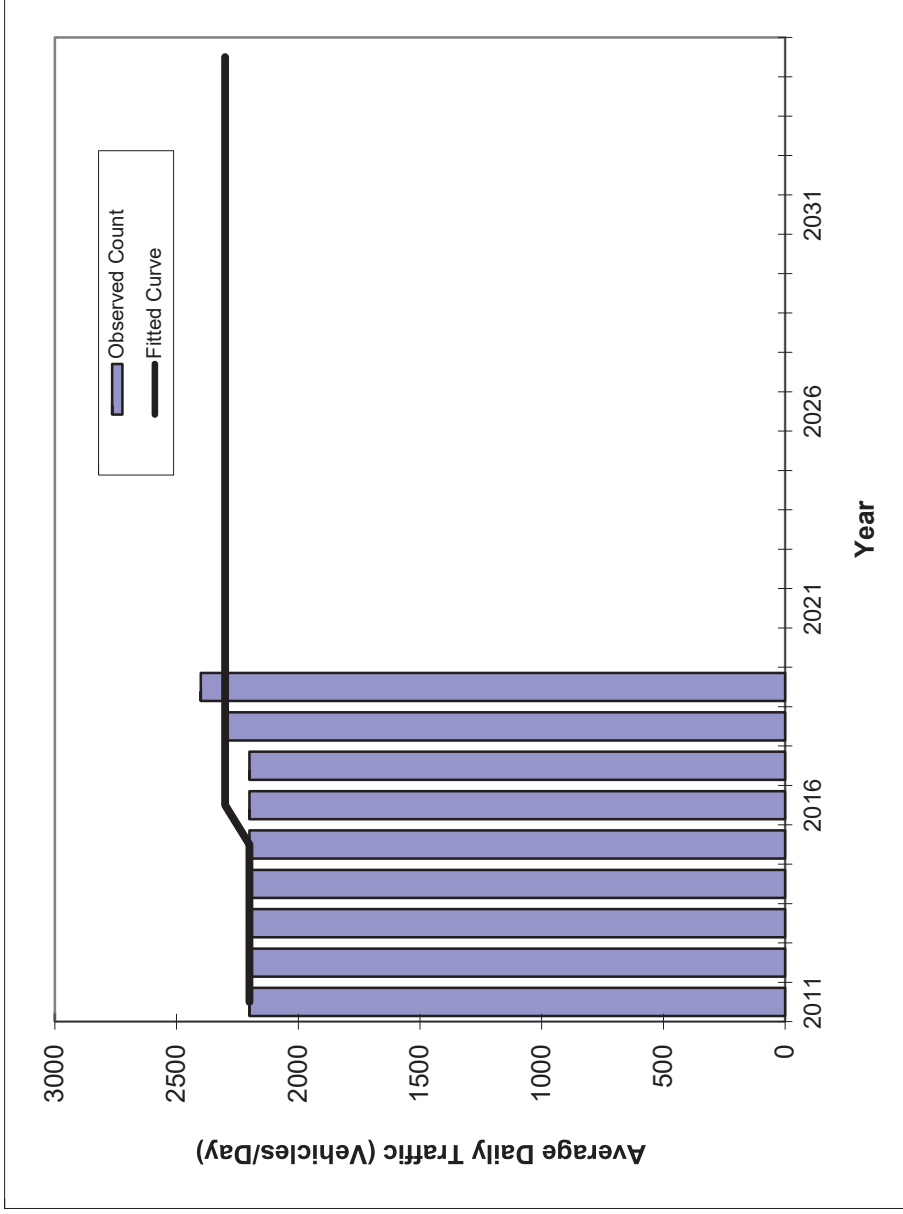
*Axle-Adjusted

Traffic Trends - V03.a

30TH ST -- N 30TH ST, S OF HILLSBOROUGH AVE

FIN# 1234
Location 1

County: Hillsborough (10)
Station #: 9056
Highway: 30TH ST



Trend R-squared: 29.41%
 Compounded Annual Historic Growth Rate: 0.56%
 Compounded Growth Rate (2019 to Design Year): 0.00%
 Printed: 9-Nov-21
Decaying Exponential Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	2200	2200
2012	2200	2200
2013	2200	2200
2014	2200	2200
2015	2200	2200
2016	2200	2300
2017	2200	2300
2018	2300	2300
2019	2400	2300
2023 Opening Year Trend		
2023	N/A	2300
2028 Mid-Year Trend		
2028	N/A	2300
2033 Design Year Trend		
2033	N/A	2300
TRANPLAN Forecasts/Trends		

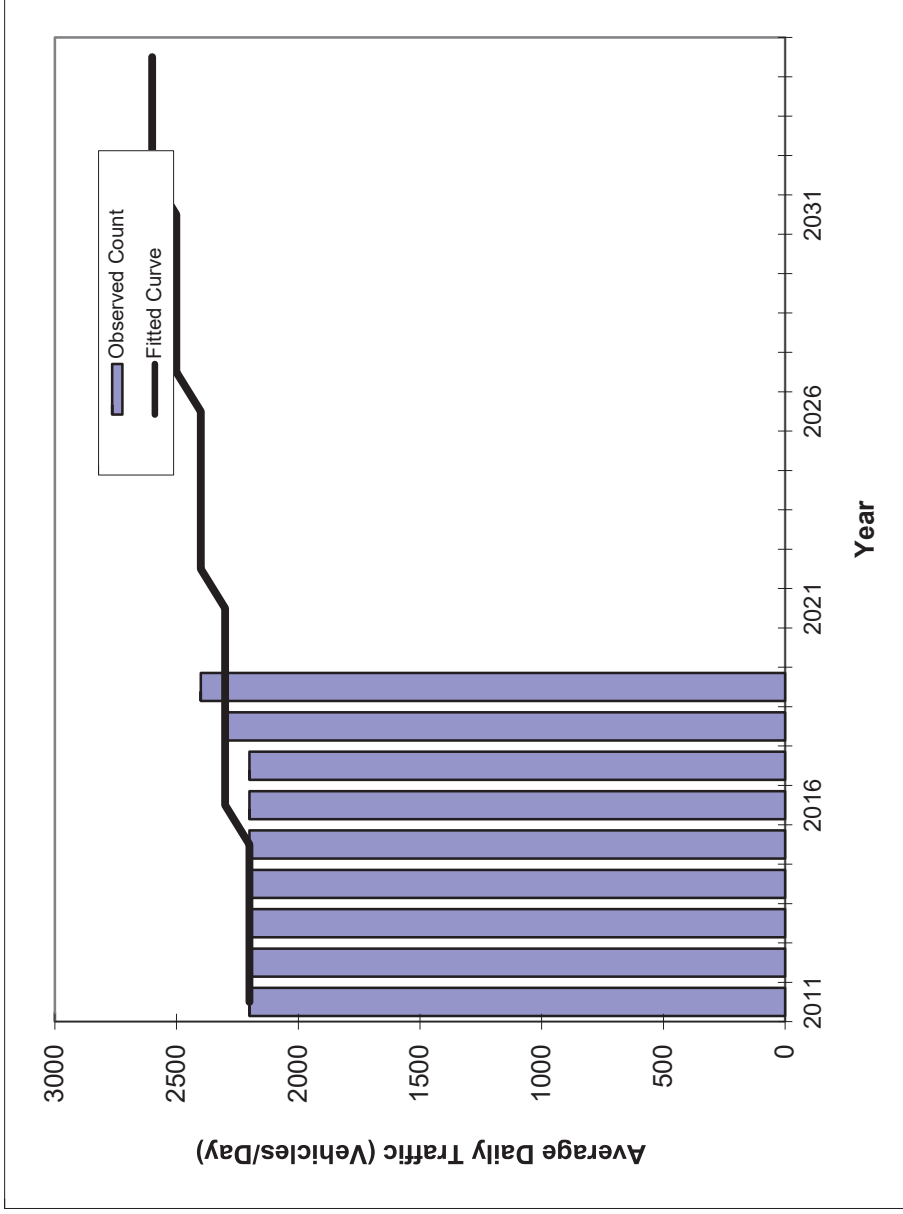
*Axle-Adjusted

Traffic Trends - V03.a

30TH ST -- N 30TH ST, S OF HILLSBOROUGH AVE

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9056
Highway:	30TH ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	2200	2200
2012	2200	2200
2013	2200	2200
2014	2200	2200
2015	2200	2200
2016	2200	2300
2017	2200	2300
2018	2300	2300
2019	2400	2300
2023 Opening Year Trend		
2023	N/A	2400
2028 Mid-Year Trend		
2028	N/A	2500
2033 Design Year Trend		
2033	N/A	2600
TRANPLAN Forecasts/Trends		

Trend R-squared:	50.64%
Compounded Annual Historic Growth Rate:	0.56%
Compounded Growth Rate (2019 to Design Year):	0.88%
Printed:	9-Nov-21
Exponential Growth Option	

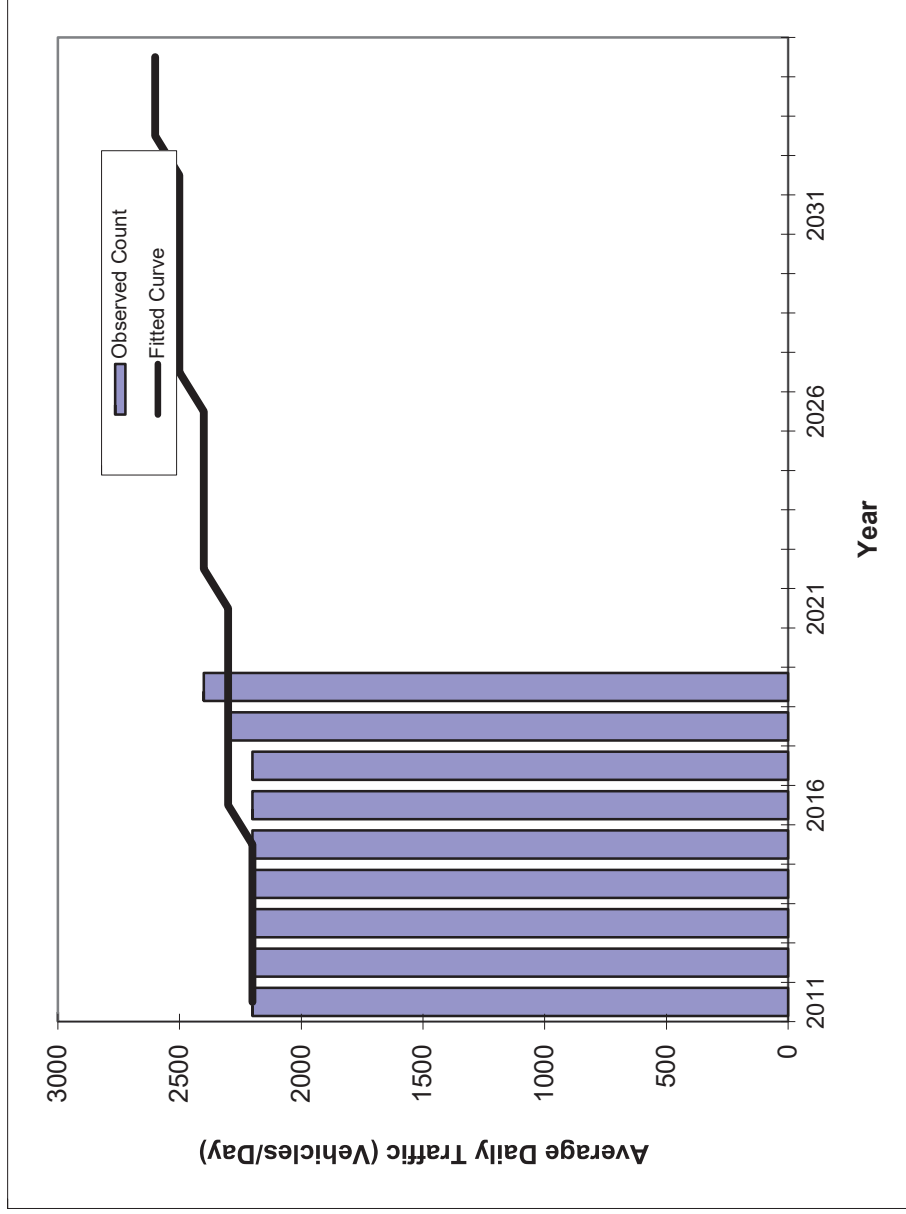
*Axle-Adjusted

Traffic Trends - V03.a

30TH ST -- N 30TH ST, S OF HILLSBOROUGH AVE

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9056
Highway:	30TH ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	2200	2200
2012	2200	2200
2013	2200	2200
2014	2200	2200
2015	2200	2200
2016	2200	2300
2017	2200	2300
2018	2300	2300
2019	2400	2300
2023 Opening Year Trend		
2023	N/A	2400
2028 Mid-Year Trend		
2028	N/A	2500
2033 Design Year Trend		
2033	N/A	2600
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	18
Trend R-squared:	50.42%
Trend Annual Historic Growth Rate:	0.57%
Trend Growth Rate (2019 to Design Year):	0.93%
Printed:	9-Nov-21
Straight Line Growth Option	

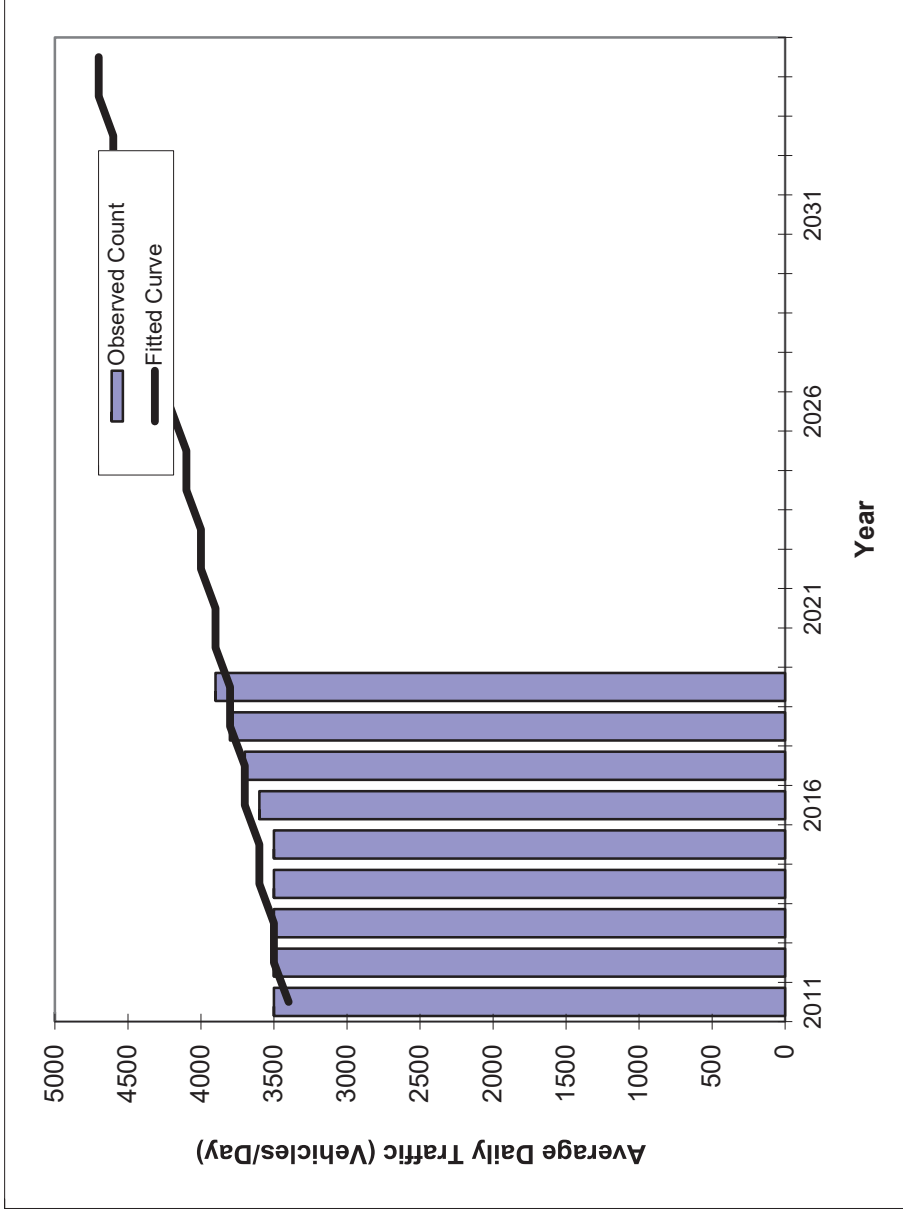
*Axle-Adjusted

Traffic Trends - V03.a

HANNA AVE -- HANNA AVE, E OF N FLORIDA AVE

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9059
Highway:	HANNA AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	3500	3400
2012	3500	3500
2013	3500	3500
2014	3500	3600
2015	3500	3600
2016	3600	3700
2017	3700	3700
2018	3800	3800
2019	3900	3800
2023 Opening Year Trend		
2023	N/A	4000
2028 Mid-Year Trend		
2028	N/A	4300
2033 Design Year Trend		
2033	N/A	4600
TRANPLAN Forecasts/Trends		

Trend R-squared:	79.82%
Compounded Annual Historic Growth Rate:	1.40%
Compounded Growth Rate (2019 to Design Year):	1.37%
Printed:	9-Nov-21
Exponential Growth Option	

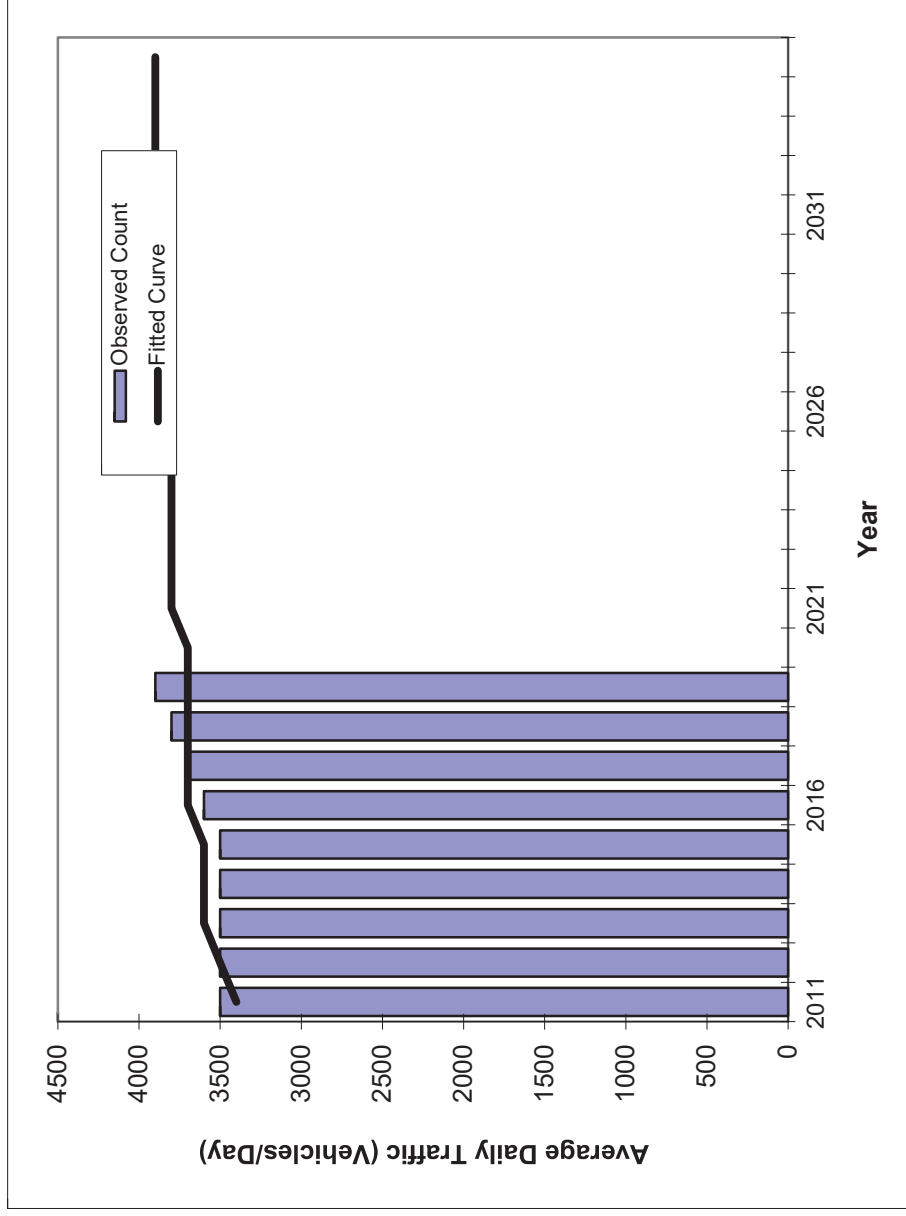
*Axle-Adjusted

Traffic Trends - V03.a

HANNA AVE -- HANNA AVE, E OF N FLORIDA AVE

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9059
Highway:	HANNA AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	3500	3400
2012	3500	3500
2013	3500	3600
2014	3500	3600
2015	3500	3600
2016	3600	3700
2017	3700	3700
2018	3800	3700
2019	3900	3700
2023 Opening Year Trend		
2023	N/A	3800
2028 Mid-Year Trend		
2028	N/A	3800
2033 Design Year Trend		
2033	N/A	3900
TRANPLAN Forecasts/Trends		

Trend R-squared:	53.82%
Compounded Annual Historic Growth Rate:	1.06%
Compounded Growth Rate (2019 to Design Year):	0.38%
Printed:	9-Nov-21
Decaying Exponential Growth Option	

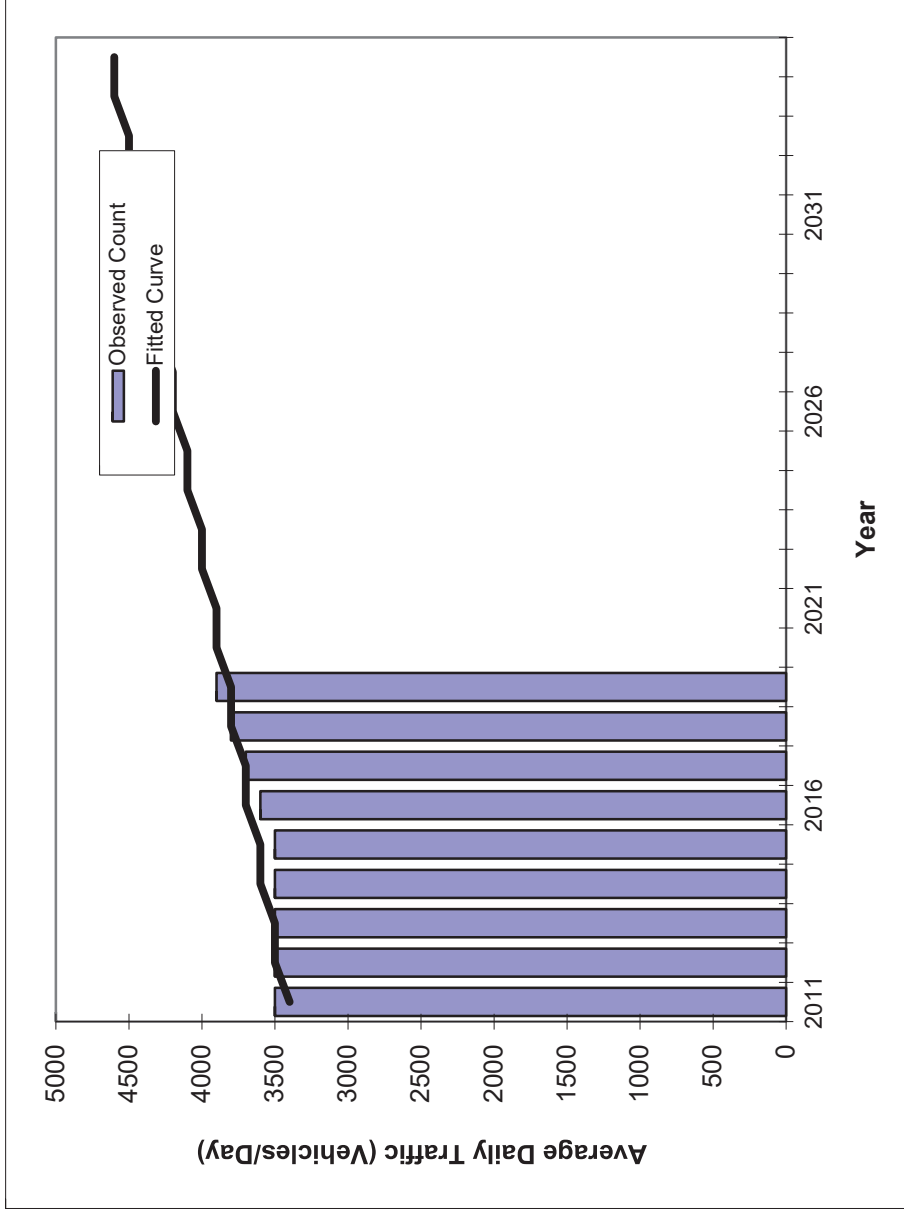
*Axle-Adjusted

Traffic Trends - V03.a

HANNA AVE -- HANNA AVE, E OF N FLORIDA AVE

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9059
Highway:	HANNA AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	3500	3400
2012	3500	3500
2013	3500	3500
2014	3500	3600
2015	3500	3600
2016	3600	3700
2017	3700	3700
2018	3800	3800
2019	3900	3800
2023 Opening Year Trend		
2023	N/A	4000
2028 Mid-Year Trend		
2028	N/A	4300
2033 Design Year Trend		
2033	N/A	4500
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	50
Trend R-squared:	79.41%
Trend Annual Historic Growth Rate:	1.47%
Trend Growth Rate (2019 to Design Year):	1.32%
Printed:	9-Nov-21
Straight Line Growth Option	

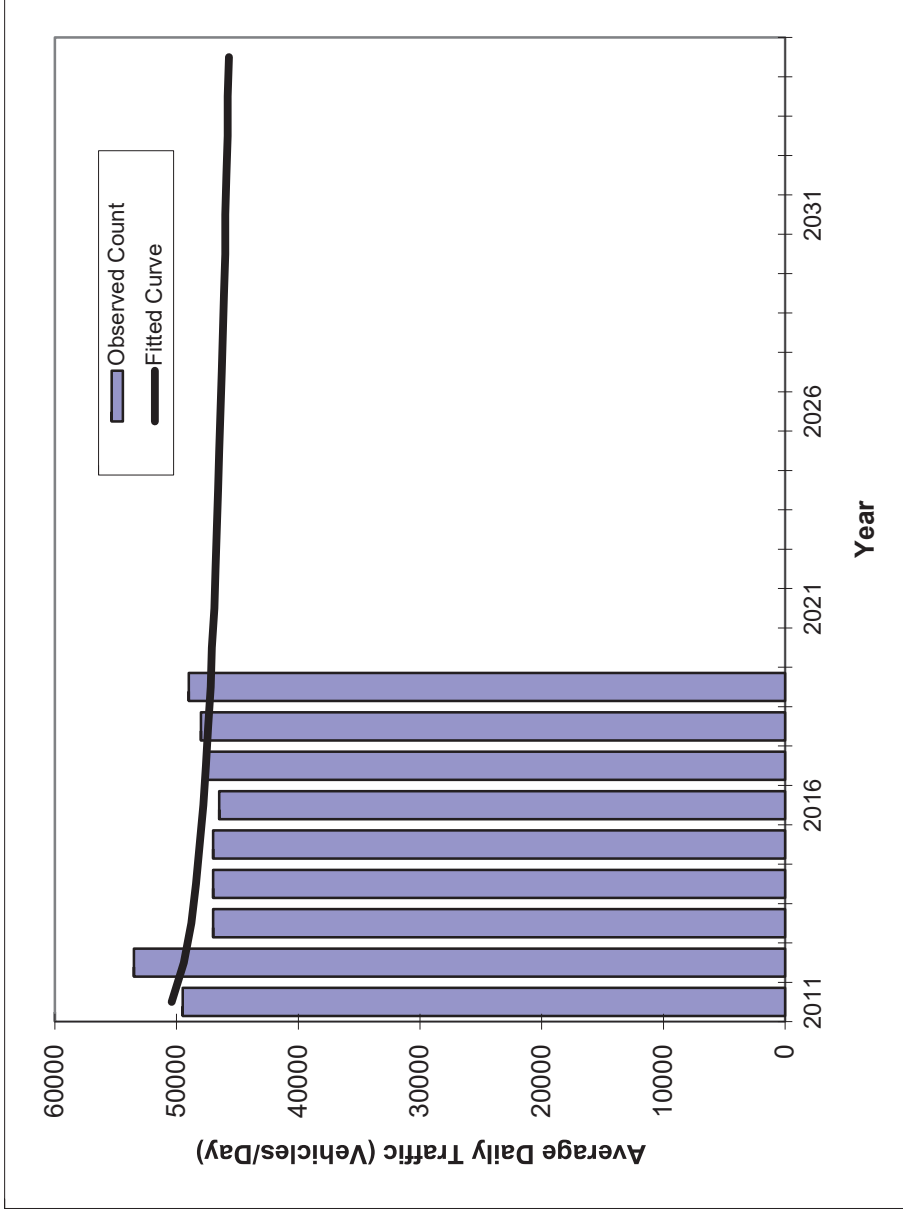
*Axle-Adjusted

Traffic Trends - V03.a

E HILLSBOROUGH AVE -- Hillsborough Ave E of 22nd St

FIN# 1234
Location 1

County: Hillsborough (10)
Station #: 5167
Highway: E HILLSBOROUGH AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	49500	50400
2012	53500	49400
2013	47000	48800
2014	47000	48400
2015	47000	48100
2016	46500	47800
2017	47500	47600
2018	48000	47400
2019	49000	47200
2023 Opening Year Trend		
2023	N/A	46700
2028 Mid-Year Trend		
2028	N/A	46200
2033 Design Year Trend		
2033	N/A	45800
TRANPLAN Forecasts/Trends		

Trend R-squared: 22.99%
 Compounded Annual Historic Growth Rate: -0.82%
 Compounded Growth Rate (2019 to Design Year): -0.21%
 Printed: 9-Nov-21

Decaying Exponential Growth Option

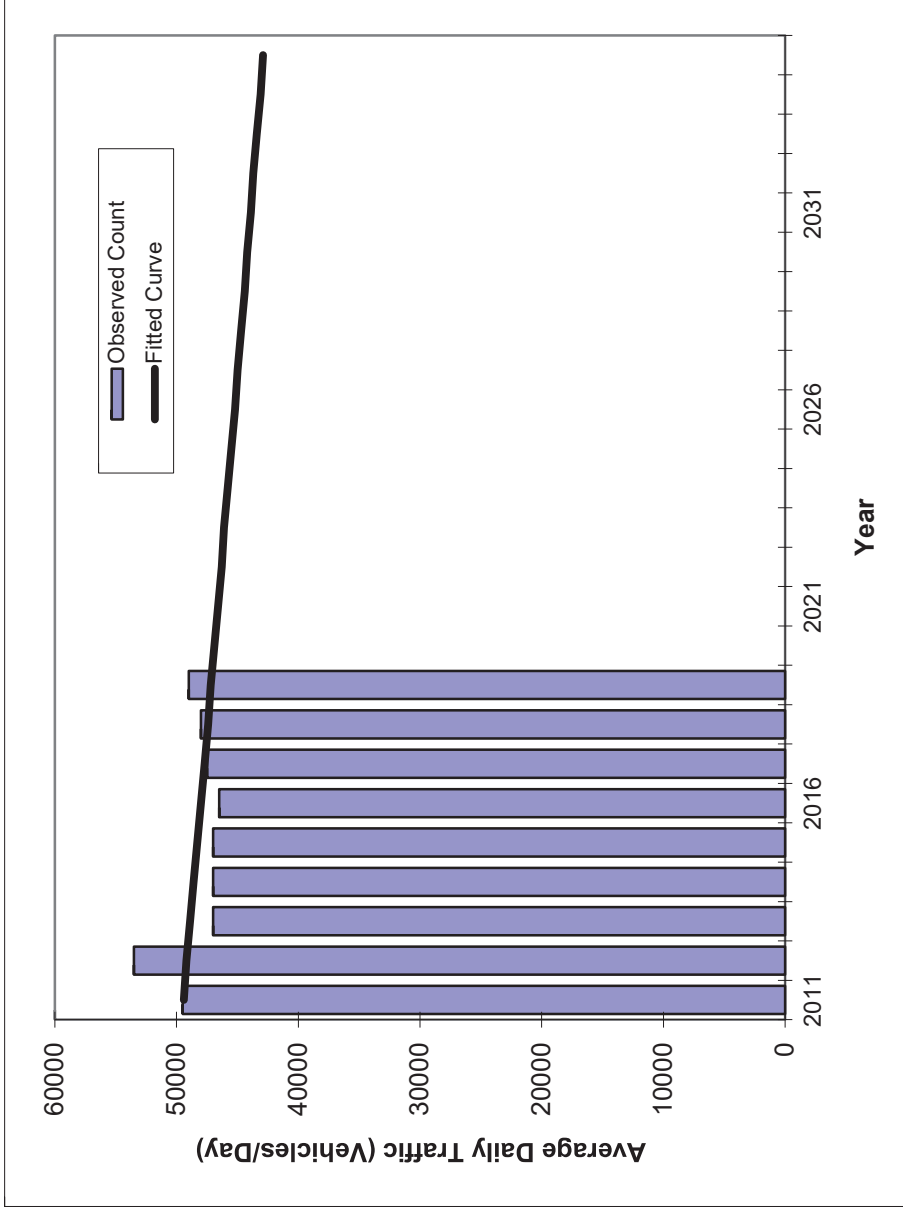
*Axle-Adjusted

Traffic Trends - V03.a

E HILLSBOROUGH AVE -- Hillsborough Ave E of 22nd St

FIN# 1234	Location 1
--------------	---------------

County: Hillsborough (10)	Station #: 5167
Highway: E HILLSBOROUGH AVE	



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	49500	49400
2012	53500	49200
2013	47000	48900
2014	47000	48600
2015	47000	48300
2016	46500	48000
2017	47500	47700
2018	48000	47400
2019	49000	47200
2023 Opening Year Trend		
2023	N/A	46100
2028 Mid-Year Trend		
2028	N/A	44700
2033 Design Year Trend		
2033	N/A	43400
TRANPLAN Forecasts/Trends		

Trend R-squared: 13.81%	Compounded Annual Historic Growth Rate: -0.57%
Compounded Growth Rate (2019 to Design Year): -0.60%	Printed: 9-Nov-21
Exponential Growth Option	

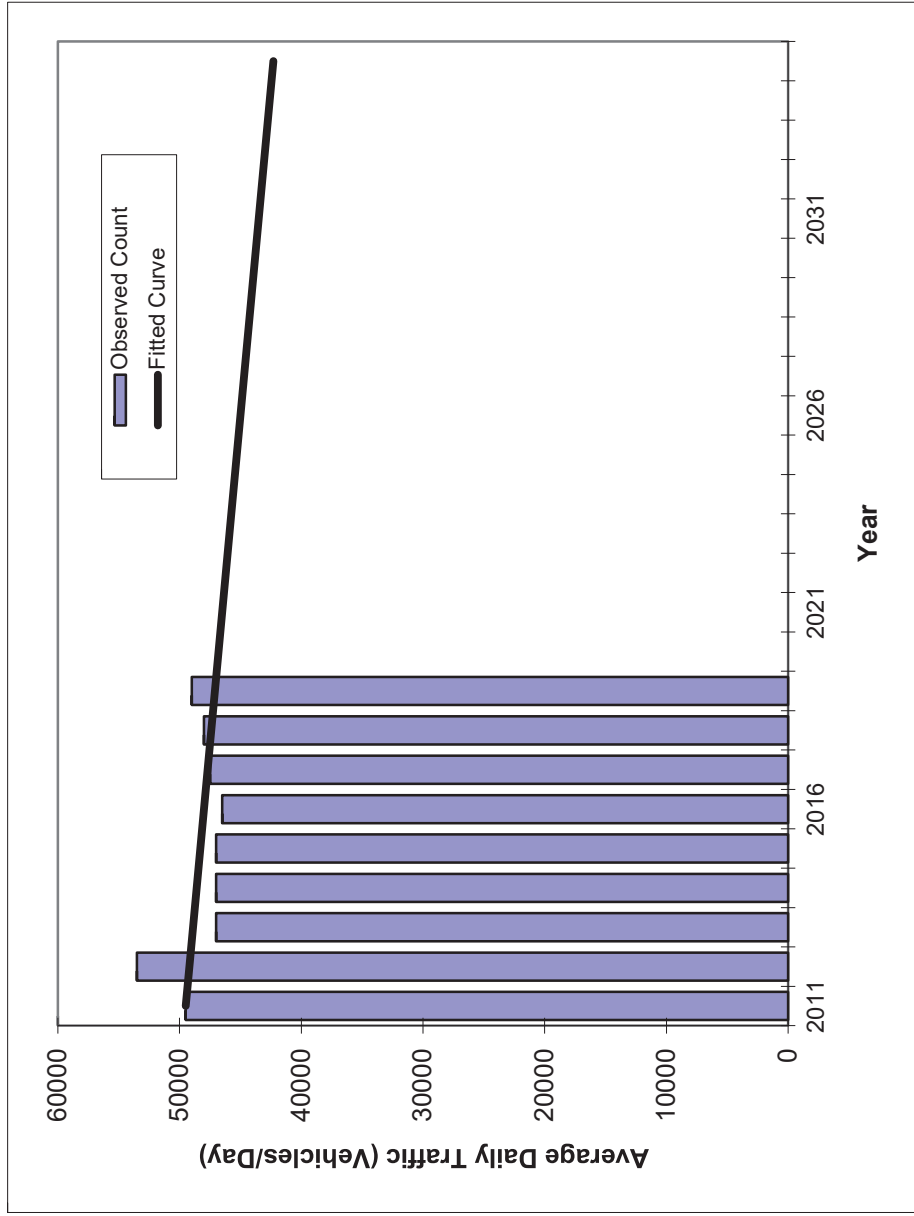
*Axle-Adjusted

Traffic Trends - V03.a

E HILLSBOROUGH AVE -- Hillsborough Ave E of 22nd St

FIN# 1234	Location 1
--------------	---------------

County: Hillsborough (10)	Station #: 5167
Highway: E HILLSBOROUGH AVE	



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	49500	49500
2012	53500	49200
2013	47000	48900
2014	47000	48600
2015	47000	48300
2016	46500	48000
2017	47500	47700
2018	48000	47400
2019	49000	47100
2023 Opening Year Trend		
2023	N/A	45900
2028 Mid-Year Trend		
2028	N/A	44400
2033 Design Year Trend		
2033	N/A	42900
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-300
Trend R-squared:	14.21%
Trend Annual Historic Growth Rate:	-0.61%
Trend Growth Rate (2019 to Design Year):	-0.64%
Printed:	9-Nov-21

Straight Line Growth Option

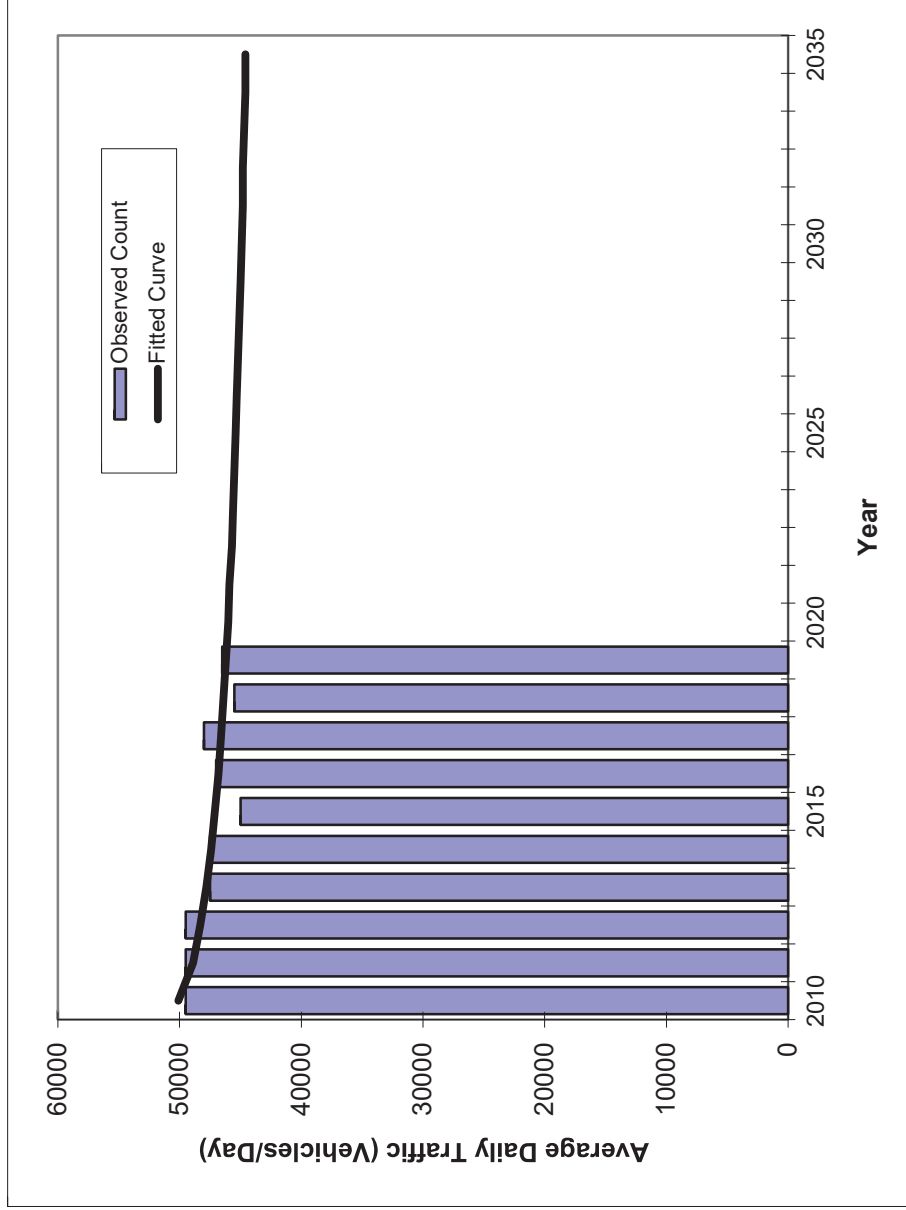
*Axle-Adjusted

Traffic Trends - V03.a

HILLSBOROUGH AVE -- Hillsborough Ave E of Nebraska Ave

FIN# 1234	Location 1
--------------	---------------

County: Hillsborough (10)	5165
Station #: HILLSBOROUGH AVE	HILLSBOROUGH AVE
Highway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	49500	50100
2011	49500	48900
2012	49500	48300
2013	47500	47800
2014	47500	47400
2015	45000	47100
2016	47000	46800
2017	48000	46600
2018	45500	46400
2019	46500	46200
2023 Opening Year Trend		
2023	N/A	45600
2028 Mid-Year Trend		
2028	N/A	45100
2033 Design Year Trend		
2033	N/A	44700
TRANPLAN Forecasts/Trends		

Trend R-squared:	59.77%
Compounded Annual Historic Growth Rate:	-0.90%
Compounded Growth Rate (2019 to Design Year):	-0.24%
Printed:	9-Nov-21
Decaying Exponential Growth Option	

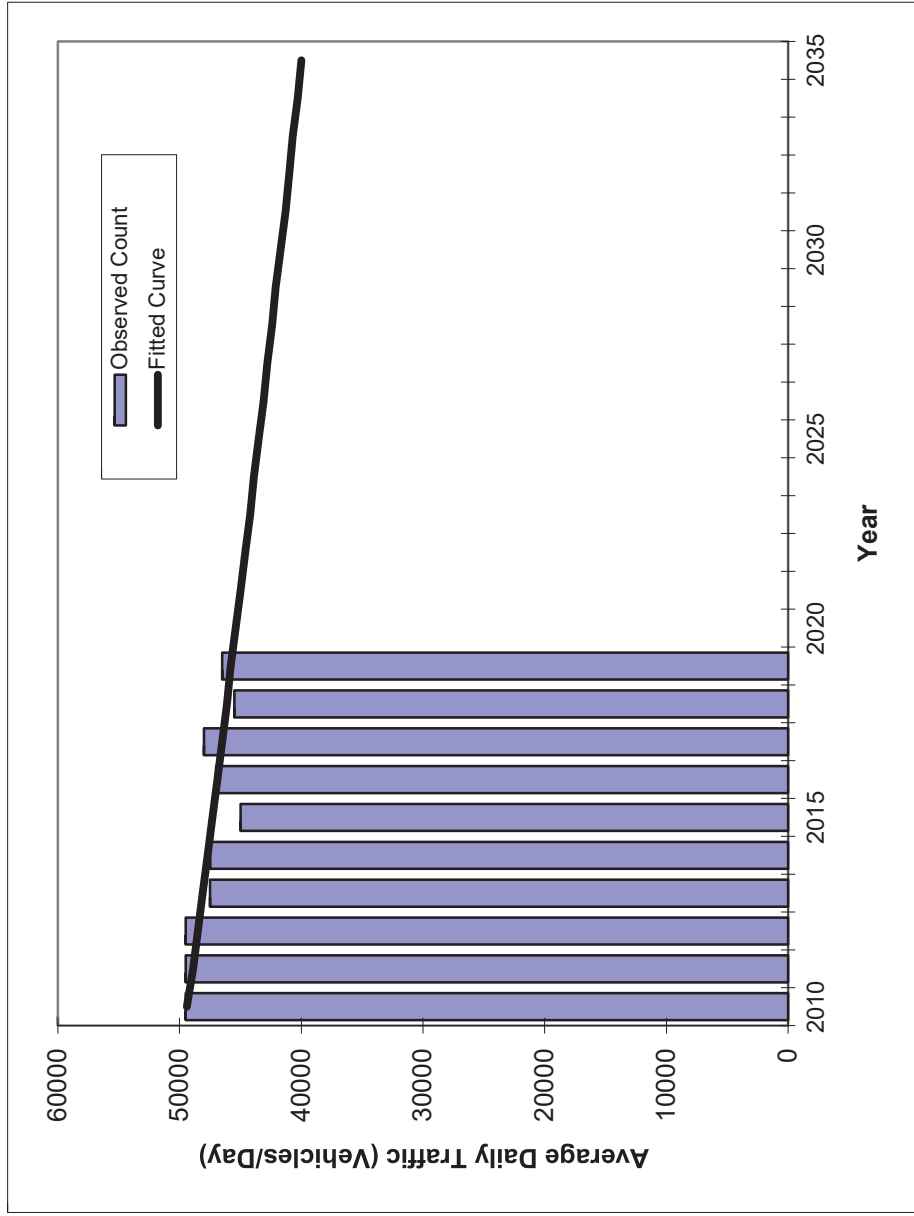
*Axle-Adjusted

Traffic Trends - V03.a

HILLSBOROUGH AVE -- Hillsborough Ave E of Nebraska Ave

FIN# 1234
 Location 1

County: Hillsborough (10)
 Station #: 5165
 Highway: HILLSBOROUGH AVE



Trend R-squared: 55.68%
 Compounded Annual Historic Growth Rate: -0.84%
 Compounded Growth Rate (2019 to Design Year): -0.84%
 Printed: 9-Nov-21

Exponential Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	49500	49400
2011	49500	48900
2012	49500	48500
2013	47500	48100
2014	47500	47700
2015	45000	47300
2016	47000	46900
2017	48000	46500
2018	45500	46100
2019	46500	45800
2023 Opening Year Trend		
2023	N/A	44200
2028 Mid-Year Trend		
2028	N/A	42400
2033 Design Year Trend		
2033	N/A	40700
TRANPLAN Forecasts/Trends		

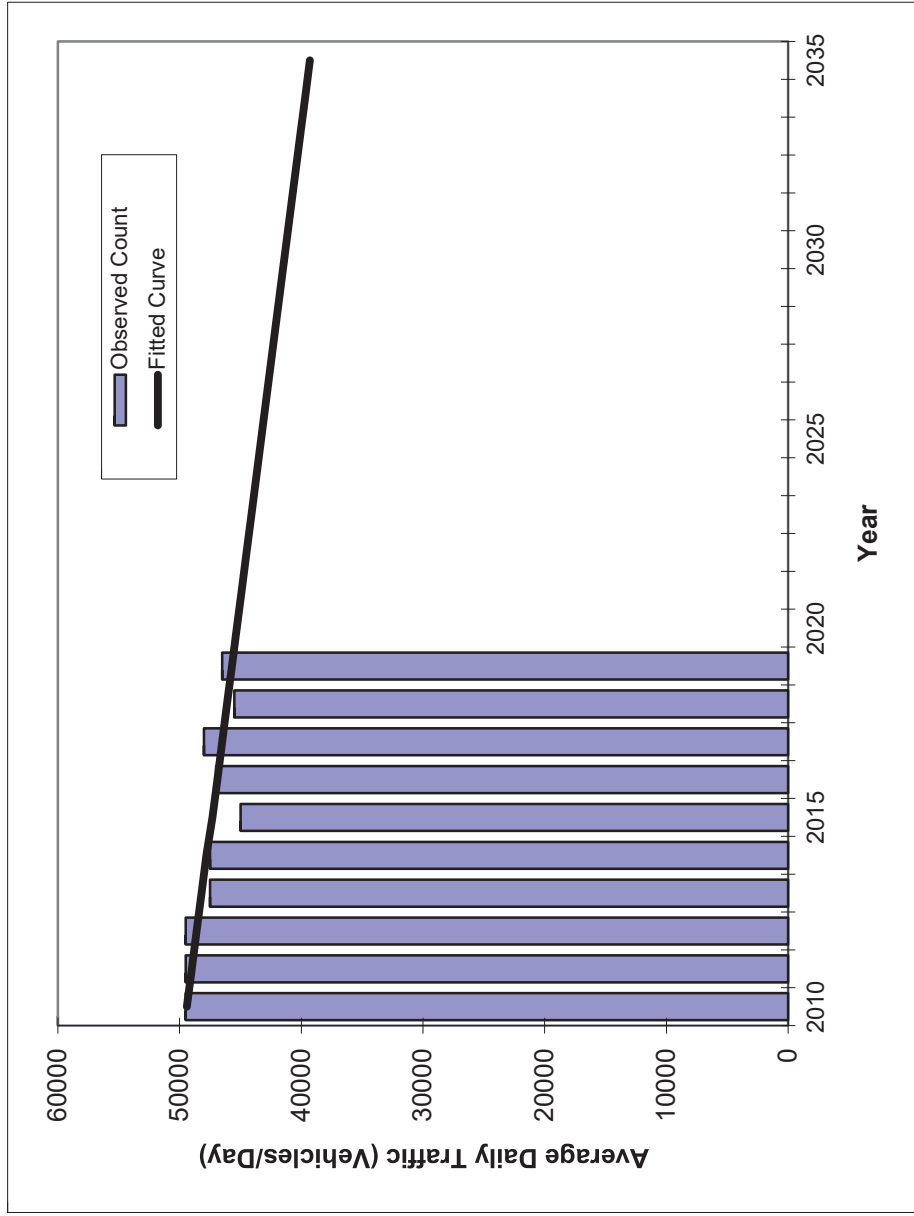
*Axle-Adjusted

Traffic Trends - V03.a

HILLSBOROUGH AVE -- Hillsborough Ave E of Nebraska Ave

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	5165
Highway:	HILLSBOROUGH AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	49500	49400
2011	49500	49000
2012	49500	48600
2013	47500	48200
2014	47500	47800
2015	45000	47300
2016	47000	46900
2017	48000	46500
2018	45500	46100
2019	46500	45700
2023 Opening Year Trend		
2023	N/A	44100
2028 Mid-Year Trend		
2028	N/A	42100
2033 Design Year Trend		
2033	N/A	40100
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-403
Trend R-squared:	56.48%
Trend Annual Historic Growth Rate:	-0.83%
Trend Growth Rate (2019 to Design Year):	-0.88%
Printed:	9-Nov-21

Straight Line Growth Option

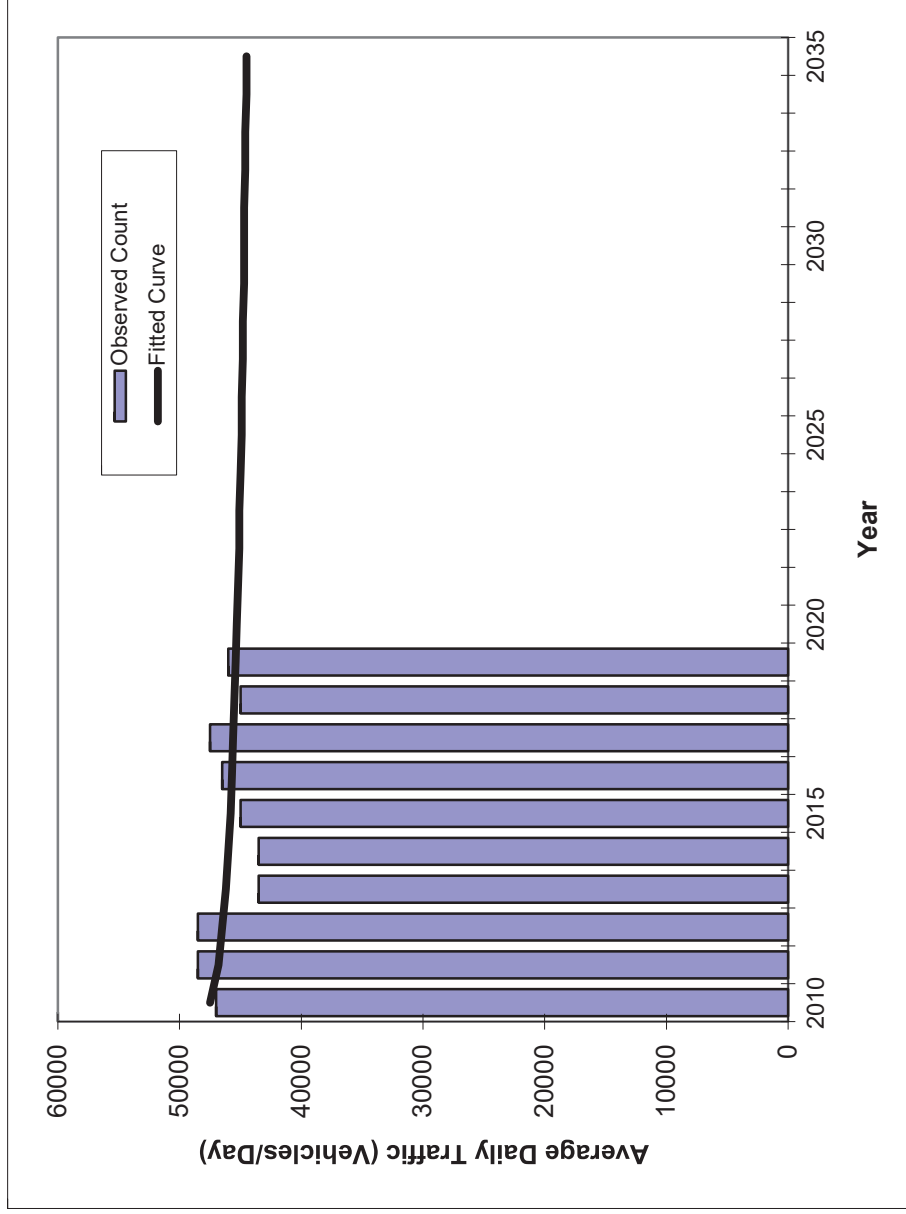
*Axle-Adjusted

Traffic Trends - V03.a

HILLSBOROUGH AVE -- Hillsborough Avenue W of Nebraska Ave

FIN# 1234	Location 1
--------------	---------------

County: Hillsborough (10)	Station #: 5164
Highway: HILLSBOROUGH AVE	



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	47000	47500
2011	48500	46800
2012	48500	46500
2013	43500	46200
2014	43500	46000
2015	45000	45800
2016	46500	45700
2017	47500	45600
2018	45000	45500
2019	46000	45400
2023 Opening Year Trend		
2023	N/A	45100
2028 Mid-Year Trend		
2028	N/A	44800
2033 Design Year Trend		
2033	N/A	44600
TRANPLAN Forecasts/Trends		

Trend R-squared:	13.27%
Compounded Annual Historic Growth Rate:	-0.50%
Compounded Growth Rate (2019 to Design Year):	-0.13%
Printed:	9-Nov-21
Decaying Exponential Growth Option	

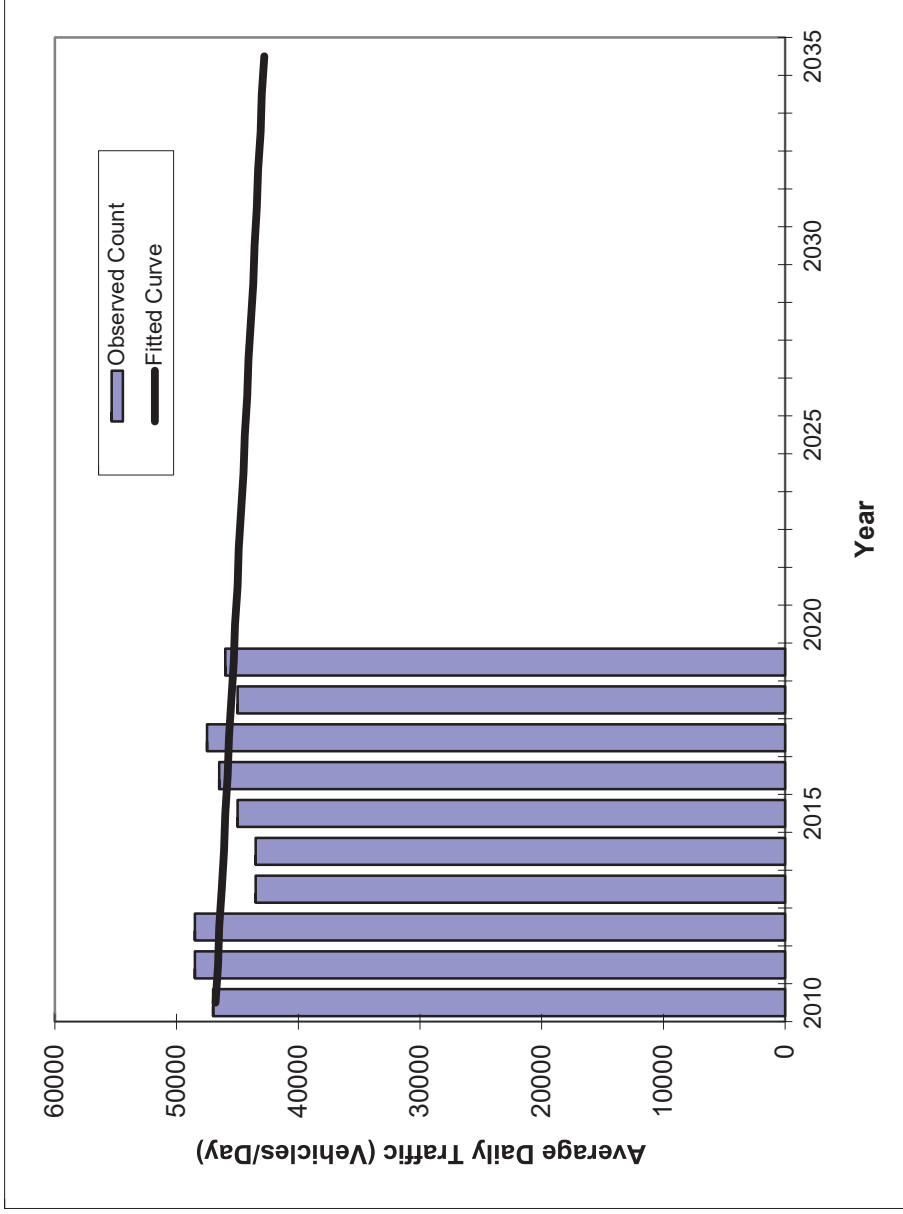
*Axle-Adjusted

Traffic Trends - V03.a

HILLSBOROUGH AVE -- Hillsborough Avenue W of Nebraska Ave

FIN# 1234	Location 1
--------------	---------------

County: Hillsborough (10)	Station #: 5164
Highway: HILLSBOROUGH AVE	



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	47000	46800
2011	48500	46600
2012	48500	46500
2013	43500	46300
2014	43500	46100
2015	45000	46000
2016	46500	45800
2017	47500	45700
2018	45000	45500
2019	46000	45300
2023 Opening Year Trend		
2023	N/A	44700
2028 Mid-Year Trend		
2028	N/A	43900
2033 Design Year Trend		
2033	N/A	43100
TRANPLAN Forecasts/Trends		

Trend R-squared:	7.28%
Compounded Annual Historic Growth Rate:	-0.36%
Compounded Growth Rate (2019 to Design Year):	-0.35%
Printed:	9-Nov-21
Exponential Growth Option	

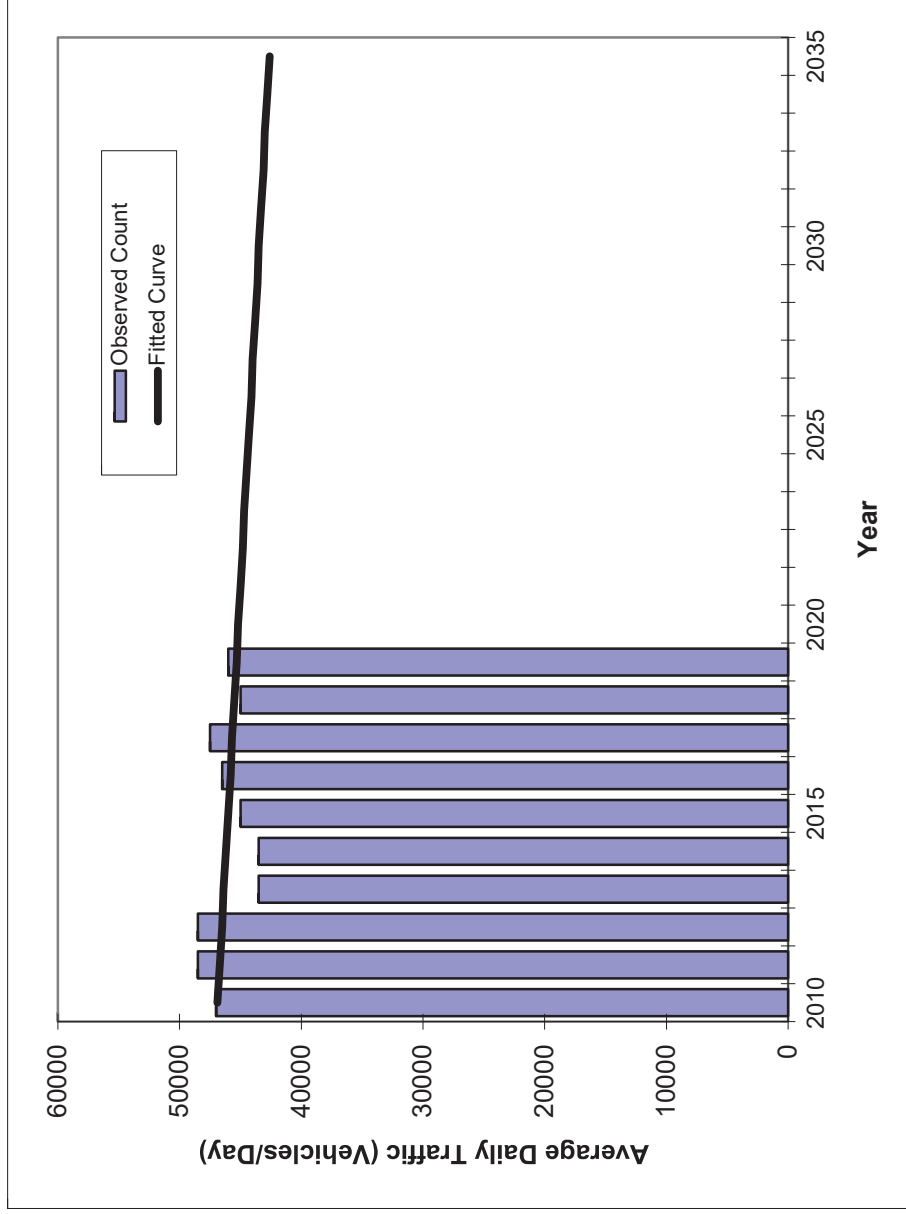
*Axle-Adjusted

Traffic Trends - V03.a

HILLSBOROUGH AVE -- Hillsborough Avenue W of Nebraska Ave

FIN# 1234	Location 1
--------------	---------------

County: Hillsborough (10)	Station #: 5164
Highway: HILLSBOROUGH AVE	



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	47000	46900
2011	48500	46700
2012	48500	46500
2013	43500	46400
2014	43500	46200
2015	45000	46000
2016	46500	45800
2017	47500	45700
2018	45000	45500
2019	46000	45300
2023 Opening Year Trend		
2023	N/A	44700
2028 Mid-Year Trend		
2028	N/A	43800
2033 Design Year Trend		
2033	N/A	43000
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-170
Trend R-squared:	7.81%
Trend Annual Historic Growth Rate:	-0.38%
Trend Growth Rate (2019 to Design Year):	-0.36%
Printed:	9-Nov-21
Straight Line Growth Option	

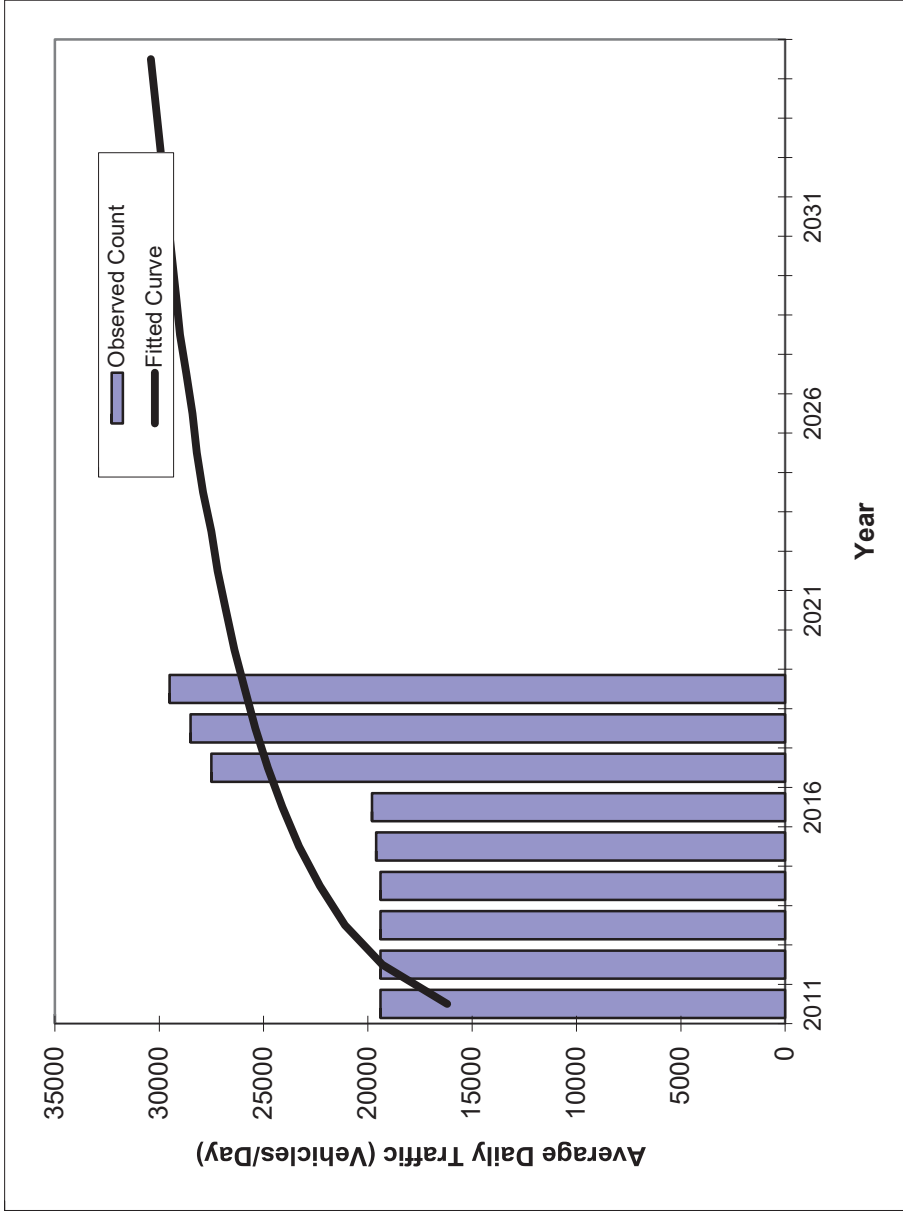
*Axle-Adjusted

Traffic Trends - V03.a

40TH ST -- 40th Street N of Hillsborough Ave

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9161
Highway:	40TH ST



Trend R-squared:	48.92%
Compounded Annual Historic Growth Rate:	6.04%
Compounded Growth Rate (2019 to Design Year):	1.06%
Printed:	9-Nov-21
Decaying Exponential Growth Option	

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	19400	16200
2012	19400	19300
2013	19400	21100
2014	19400	22300
2015	19600	23300
2016	19800	24100
2017	27500	24800
2018	28500	25400
2019	29500	25900
2023 Opening Year Trend		
2023	N/A	27500
2028 Mid-Year Trend		
2028	N/A	29000
2033 Design Year Trend		
2033	N/A	30000
TRANPLAN Forecasts/Trends		

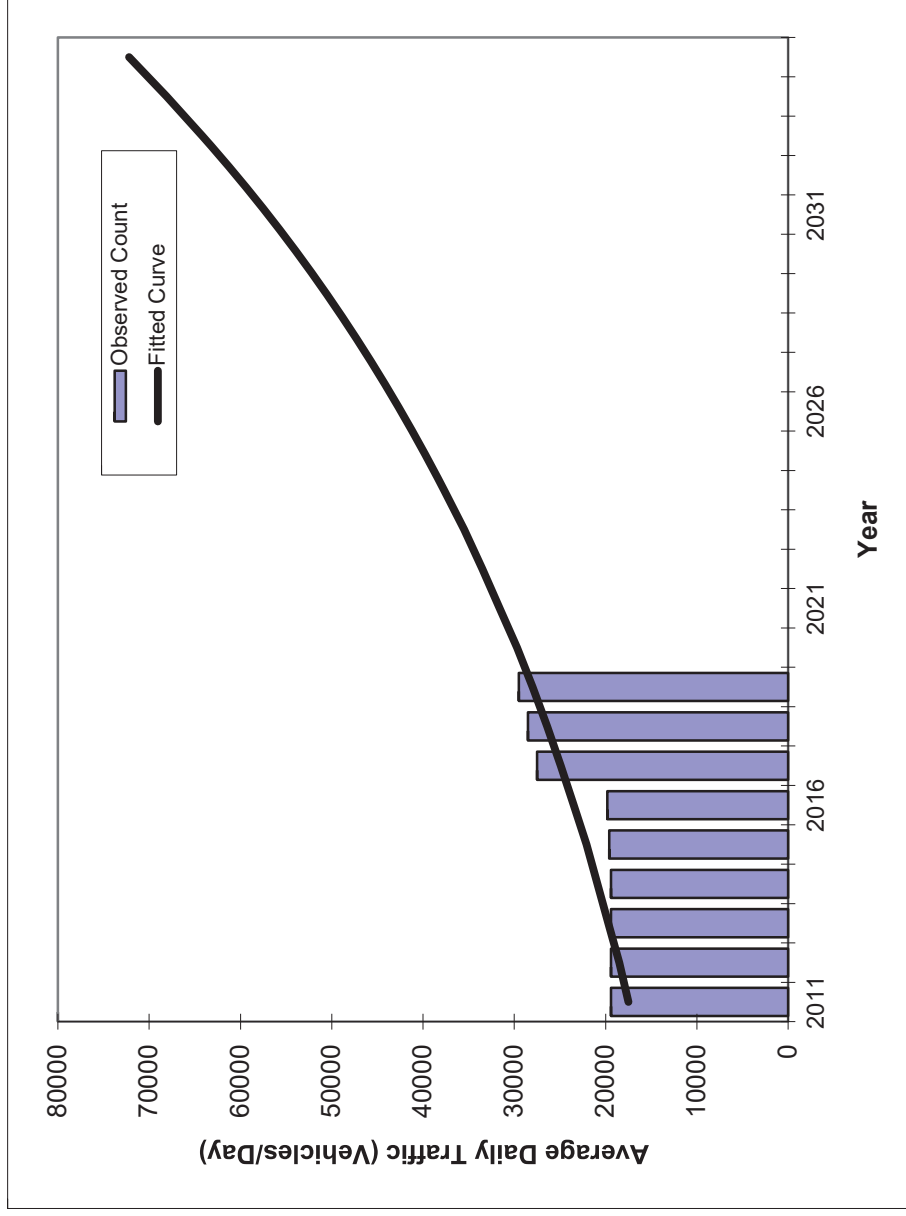
*Axle-Adjusted

Traffic Trends - V03.a

40TH ST -- 40th Street N of Hillsborough Ave

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9161
Highway:	40TH ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	19400	17500
2012	19400	18500
2013	19400	19700
2014	19400	20900
2015	19600	22100
2016	19800	23500
2017	27500	24900
2018	28500	26400
2019	29500	28000
2023 Opening Year Trend		
2023	N/A	35500
2028 Mid-Year Trend		
2028	N/A	47700
2033 Design Year Trend		
2033	N/A	64200
TRANPLAN Forecasts/Trends		

Trend R-squared:	72.30%
Compounded Annual Historic Growth Rate:	6.05%
Compounded Growth Rate (2019 to Design Year):	6.11%
Printed:	9-Nov-21
Exponential Growth Option	

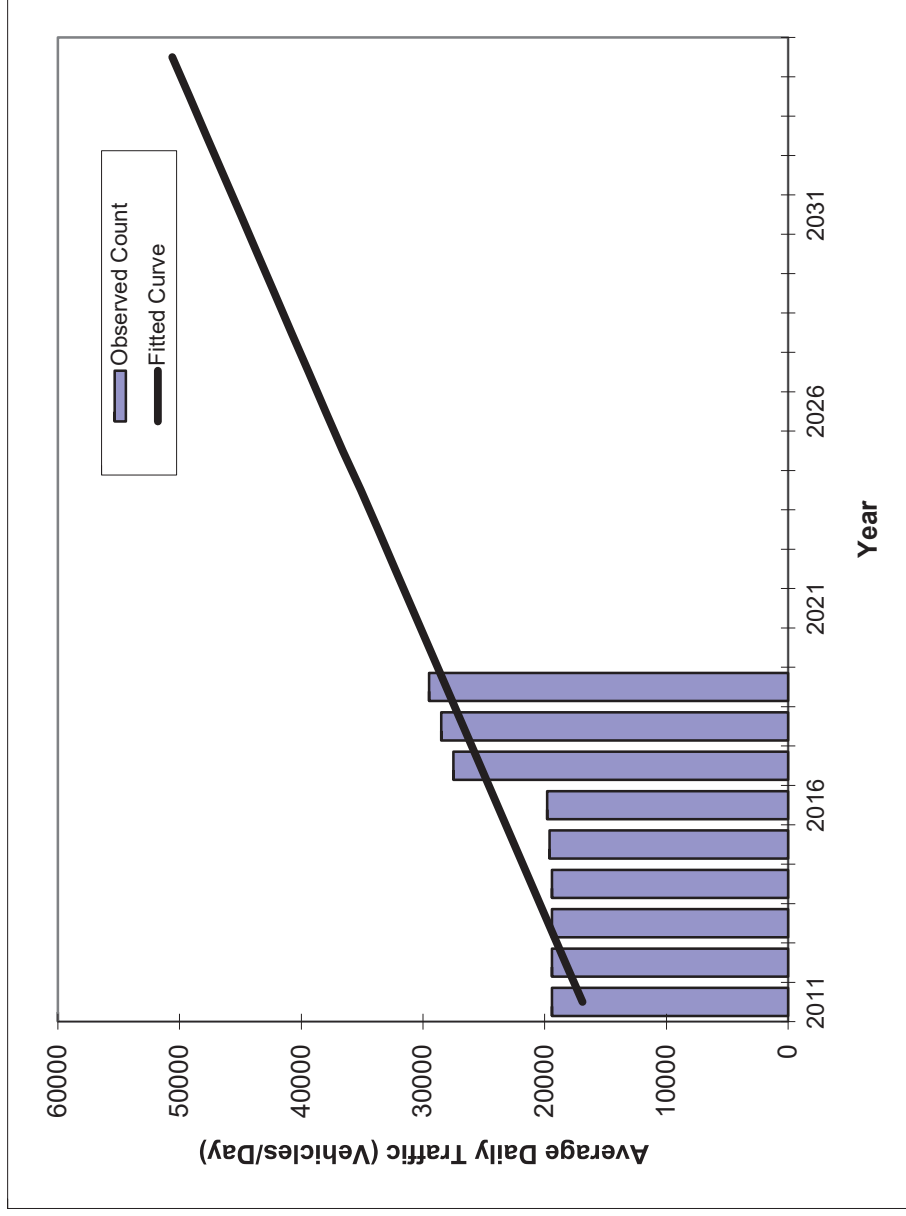
*Axle-Adjusted

Traffic Trends - V03.a

40TH ST -- 40th Street N of Hillsborough Ave

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9161
Highway:	40TH ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	19400	16900
2012	19400	18300
2013	19400	19700
2014	19400	21100
2015	19600	22500
2016	19800	23900
2017	27500	25300
2018	28500	26700
2019	29500	28100
2023 Opening Year Trend		
2023	N/A	33700
2028 Mid-Year Trend		
2028	N/A	40800
2033 Design Year Trend		
2033	N/A	47800
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	1,405
Trend R-squared:	72.16%
Trend Annual Historic Growth Rate:	8.28%
Trend Growth Rate (2019 to Design Year):	5.01%
Printed:	9-Nov-21
Straight Line Growth Option	

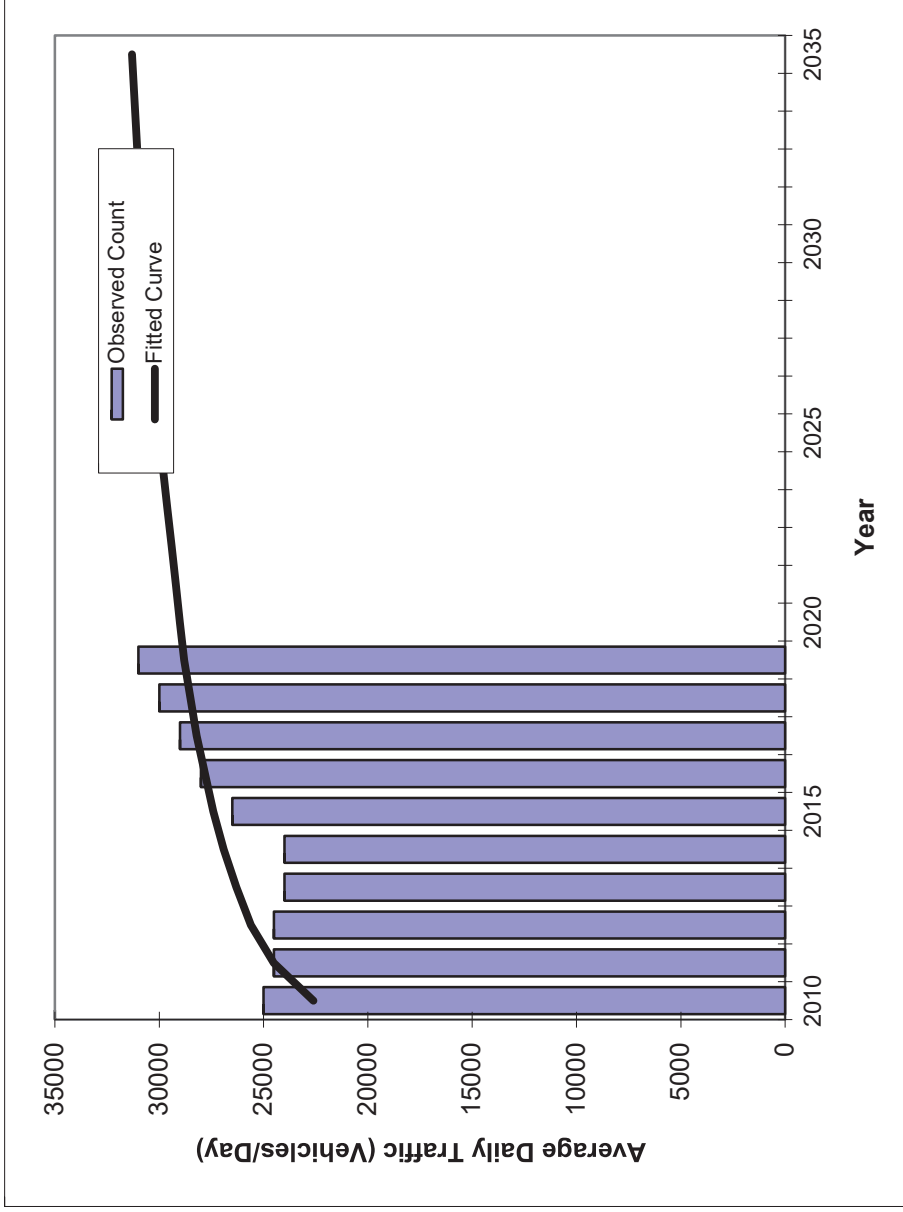
*Axle-Adjusted

Traffic Trends - V03.a

40TH ST -- N 40th St Sof Hillsborough Ave

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	5099
Highway:	40TH ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	25000	22600
2011	24500	24500
2012	24500	25600
2013	24000	26300
2014	24000	26900
2015	26500	27400
2016	28000	27800
2017	29000	28200
2018	30000	28500
2019	31000	28800
2023 Opening Year Trend		
2023	N/A	29600
2028 Mid-Year Trend		
2028	N/A	30500
2033 Design Year Trend		
2033	N/A	31100
TRANPLAN Forecasts/Trends		

Trend R-squared:	53.59%
Compounded Annual Historic Growth Rate:	2.73%
Compounded Growth Rate (2019 to Design Year):	0.55%
Printed:	9-Nov-21
Decaying Exponential Growth Option	

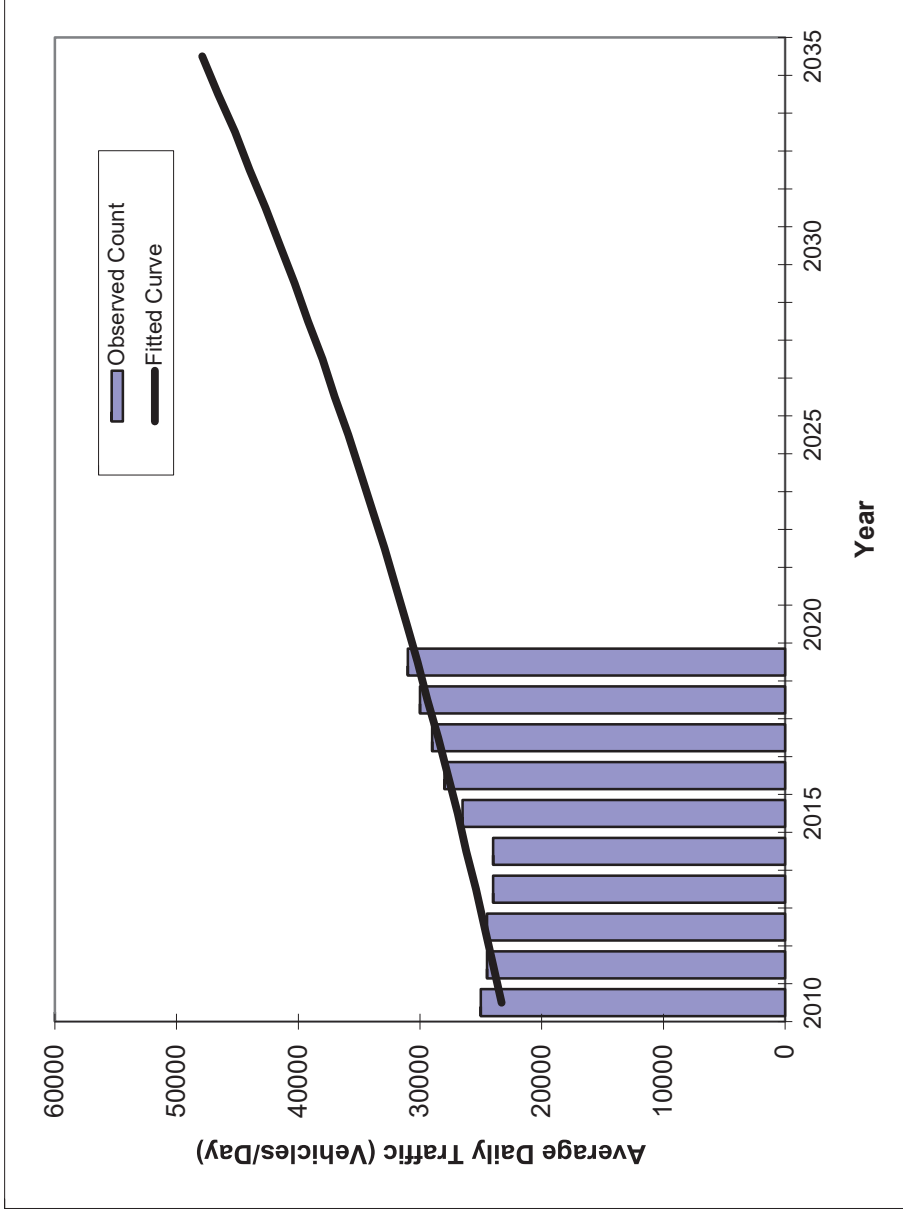
*Axle-Adjusted

Traffic Trends - V03.a

40TH ST -- N 40th St Sof Hillsborough Ave

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	5099
Highway:	40TH ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	25000	23300
2011	24500	24000
2012	24500	24700
2013	24000	25400
2014	24000	26200
2015	26500	26900
2016	28000	27700
2017	29000	28500
2018	30000	29400
2019	31000	30200
2023 Opening Year Trend		
2023	N/A	33900
2028 Mid-Year Trend		
2028	N/A	39200
2033 Design Year Trend		
2033	N/A	45200
TRANPLAN Forecasts/Trends		

Trend R-squared:	79.34%
Compounded Annual Historic Growth Rate:	2.92%
Compounded Growth Rate (2019 to Design Year):	2.92%
Printed:	9-Nov-21
Exponential Growth Option	

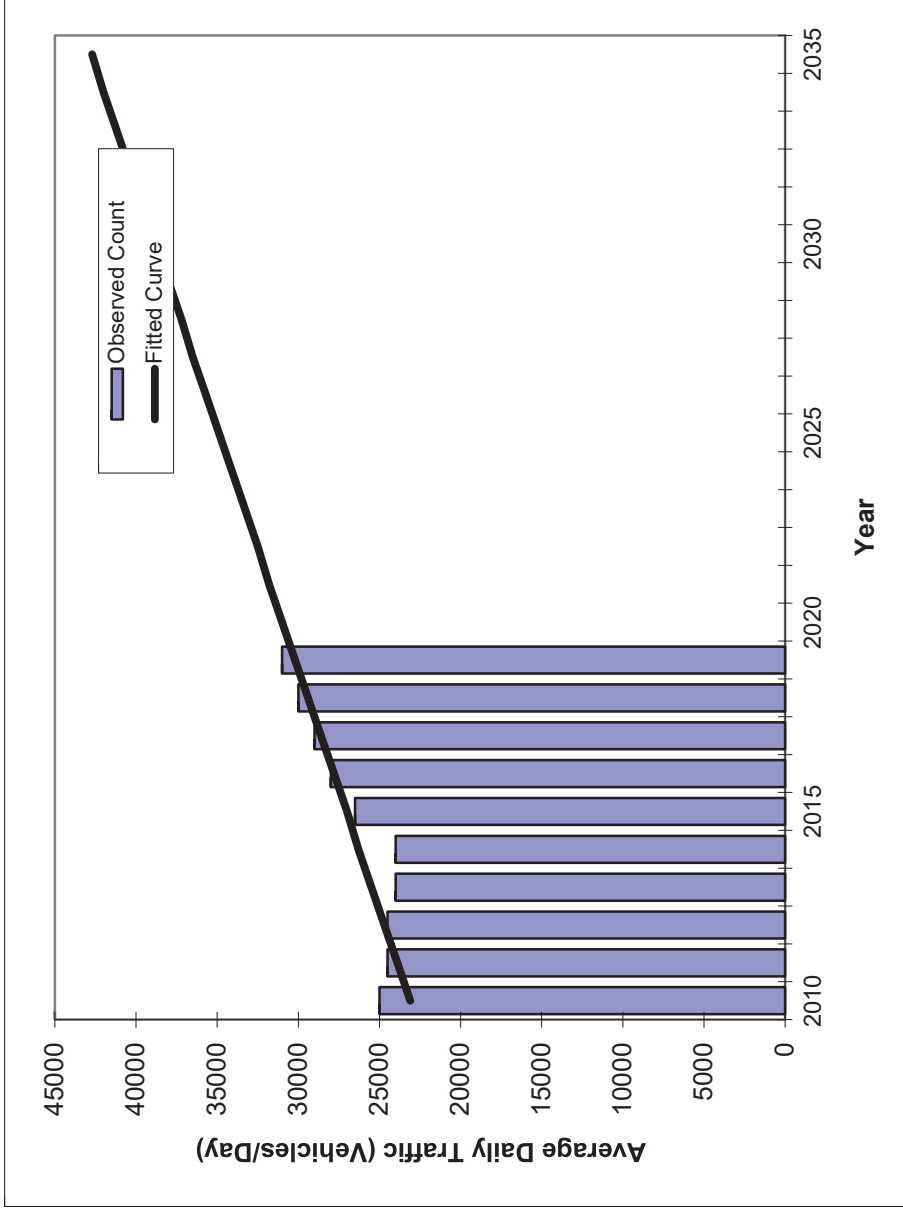
*Axle-Adjusted

Traffic Trends - V03.a

40TH ST -- N 40th St Sof Hillsborough Ave

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	5099
Highway:	40TH ST



** Annual Trend Increase:	785
Trend R-squared:	80.00%
Trend Annual Historic Growth Rate:	3.42%
Trend Growth Rate (2019 to Design Year):	2.60%
Printed:	9-Nov-21

Straight Line Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	25000	23100
2011	24500	23900
2012	24500	24700
2013	24000	25500
2014	24000	26300
2015	26500	27000
2016	28000	27800
2017	29000	28600
2018	30000	29400
2019	31000	30200
2023 Opening Year Trend		
2023	N/A	33300
2028 Mid-Year Trend		
2028	N/A	37200
2033 Design Year Trend		
2033	N/A	41200
TRANPLAN Forecasts/Trends		

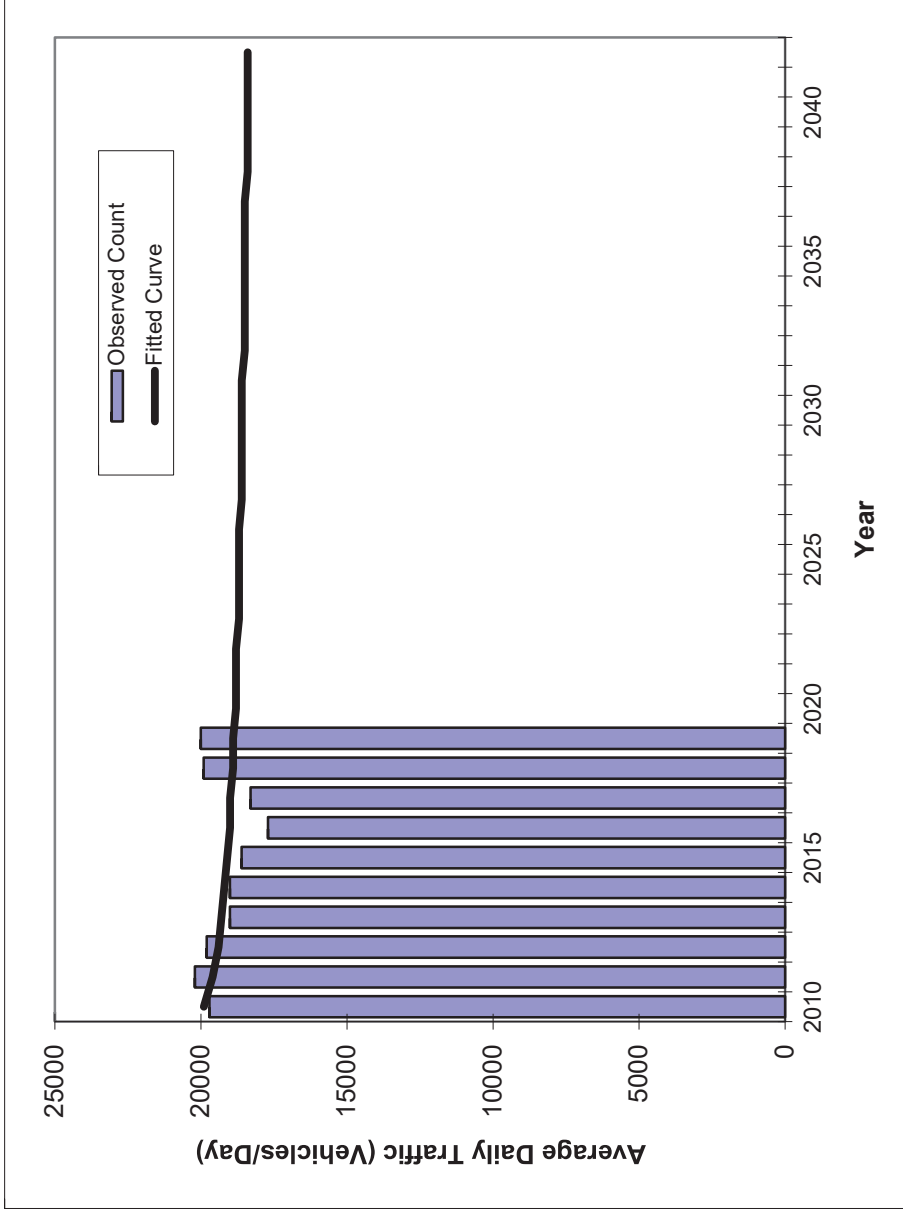
*Axle-Adjusted

Traffic Trends - V03.a

NEBRASKA AVE (1W-NB) -- Nebraska Ave N of Hillsborough Ave

FIN# 1234	Location 1
--------------	---------------

County: Hillsborough (10)	Station #: 5081
Highway: NEBRASKA AVE (1W-NB)	



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	19700	19900
2011	20200	19600
2012	19800	19400
2013	19000	19300
2014	19000	19200
2015	18600	19100
2016	17700	19000
2017	18300	19000
2018	19900	18900
2019	20000	18900
2022 Opening Year Trend		
2022	N/A	18800
2032 Mid-Year Trend		
2032	N/A	18500
2042 Design Year Trend		
2042	N/A	18400
TRANPLAN Forecasts/Trends		

Trend R-squared:	13.72%
Compounded Annual Historic Growth Rate:	-0.57%
Compounded Growth Rate (2019 to Design Year):	-0.12%
Printed:	1-Nov-21
Decaying Exponential Growth Option	

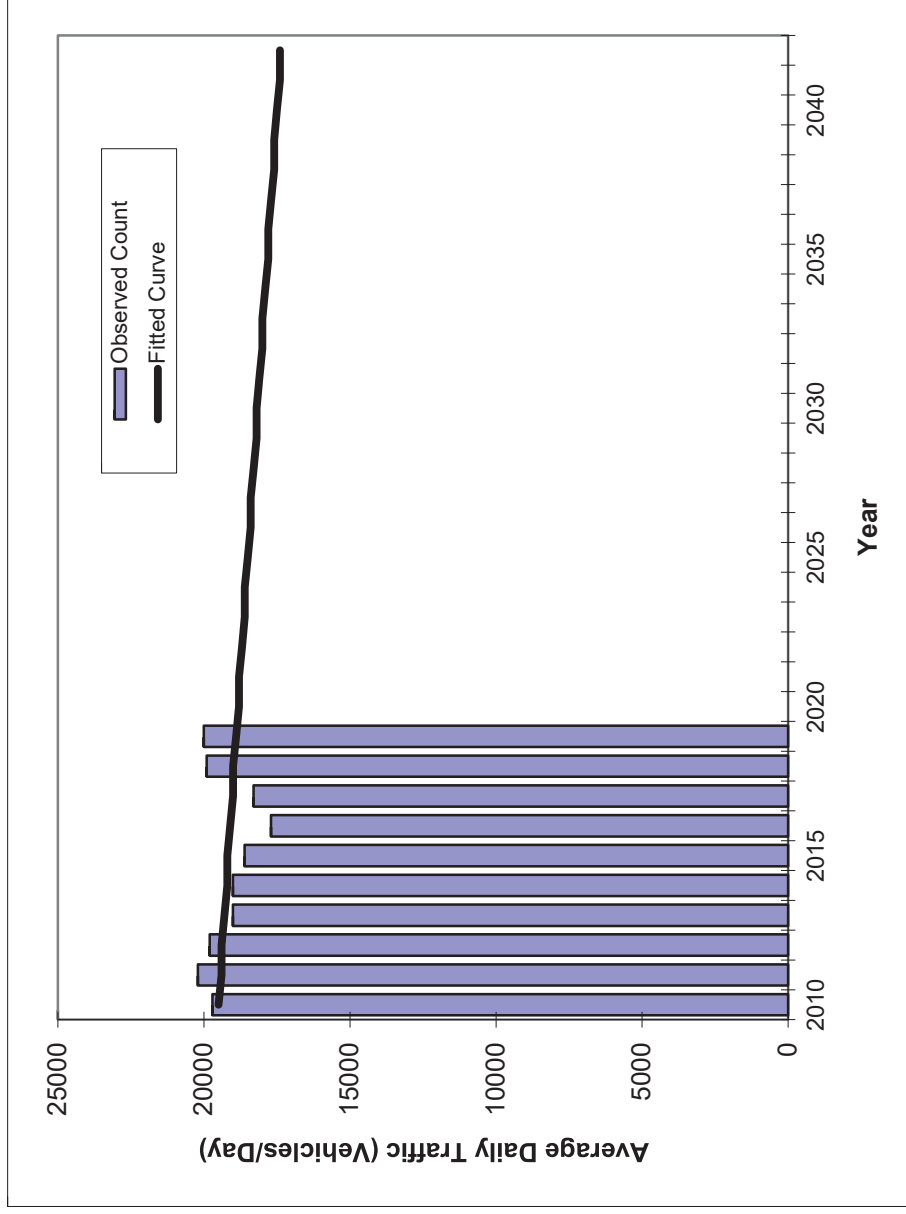
*Axle-Adjusted

Traffic Trends - V03.a

NEBRASKA AVE (1W-NB) -- Nebraska Ave N of Hillsborough Ave

FIN# 1234
Location 1

County: Hillsborough (10)
Station #: 5081
Highway: NEBRASKA AVE (1W-NB)



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	19700	19500
2011	20200	19400
2012	19800	19400
2013	19000	19300
2014	19000	19200
2015	18600	19200
2016	17700	19100
2017	18300	19000
2018	19900	19000
2019	20000	18900
2022 Opening Year Trend		
2022	N/A	18700
2032 Mid-Year Trend		
2032	N/A	18000
2042 Design Year Trend		
2042	N/A	17400
TRANPLAN Forecasts/Trends		

Trend R-squared: 6.24%
 Compounded Annual Historic Growth Rate: -0.35%
 Compounded Growth Rate (2019 to Design Year): -0.36%
 Printed: 1-Nov-21

Exponential Growth Option

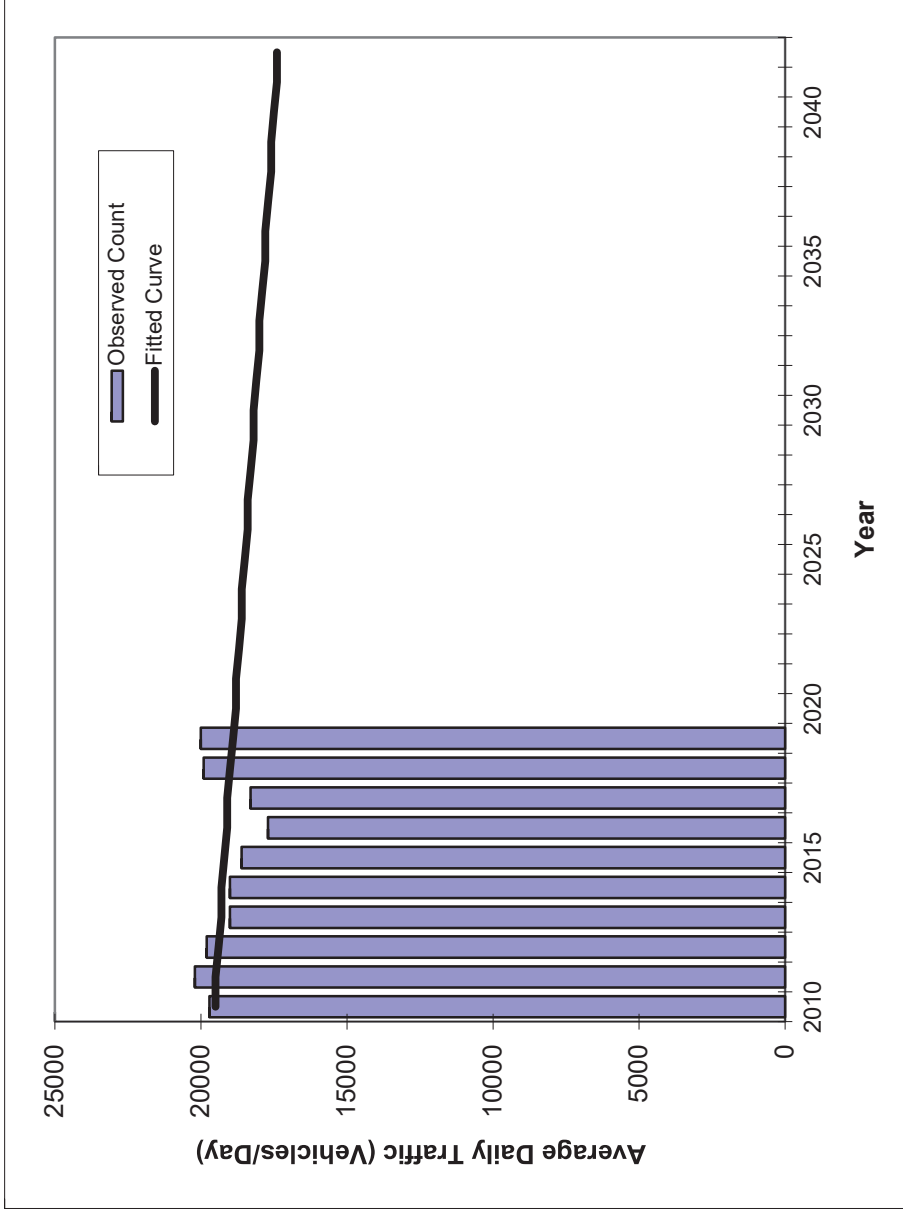
*Axle-Adjusted

Traffic Trends - V03.a

NEBRASKA AVE (1W-NB) -- Nebraska Ave N of Hillsborough Ave

FIN# 1234
Location 1

County: Hillsborough (10)
Station #: 5081
Highway: NEBRASKA AVE (1W-NB)



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	19700	19500
2011	20200	19500
2012	19800	19400
2013	19000	19300
2014	19000	19300
2015	18600	19200
2016	17700	19100
2017	18300	19100
2018	19900	19000
2019	20000	18900
2022 Opening Year Trend		
2022	N/A	18700
2032 Mid-Year Trend		
2032	N/A	18000
2042 Design Year Trend		
2042	N/A	17400
TRANPLAN Forecasts/Trends		

** Annual Trend Increase: -68
Trend R-squared: 6.10%
Trend Annual Historic Growth Rate: -0.34%
Trend Growth Rate (2019 to Design Year): -0.35%
Printed: 1-Nov-21

Straight Line Growth Option

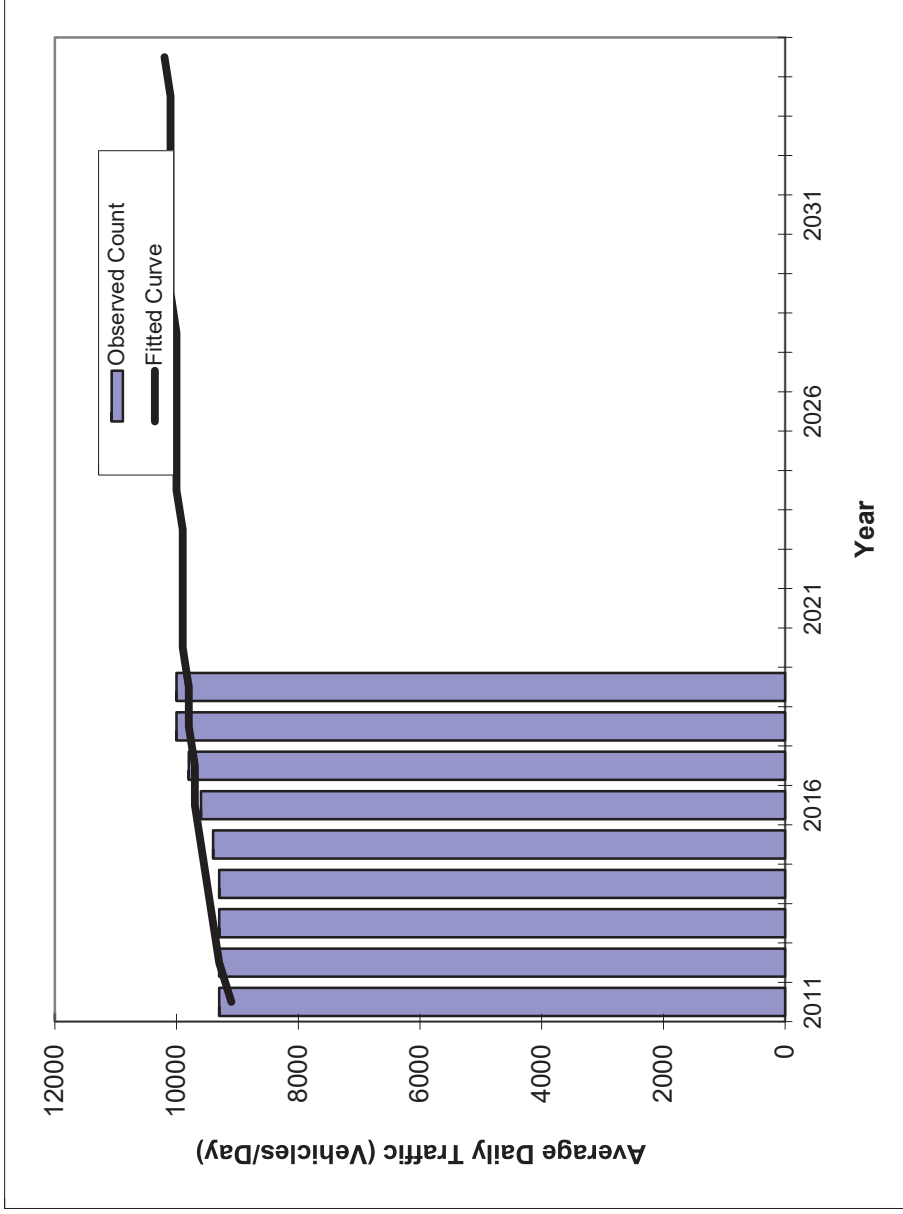
*Axle-Adjusted

Traffic Trends - V03.a

SLIGH AVE -- Sligh Ave E of Rowlett Park

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9154
Highway:	SLIGH AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	9300	9100
2012	9300	9300
2013	9300	9400
2014	9300	9500
2015	9400	9600
2016	9600	9700
2017	9800	9700
2018	10000	9800
2019	10000	9800
2023 Opening Year Trend		
2023	N/A	9900
2028 Mid-Year Trend		
2028	N/A	10000
2033 Design Year Trend		
2033	N/A	10100
TRANPLAN Forecasts/Trends		

Trend R-squared:	63.22%
Compounded Annual Historic Growth Rate:	0.93%
Compounded Growth Rate (2019 to Design Year):	0.22%
Printed:	9-Nov-21
Decaying Exponential Growth Option	

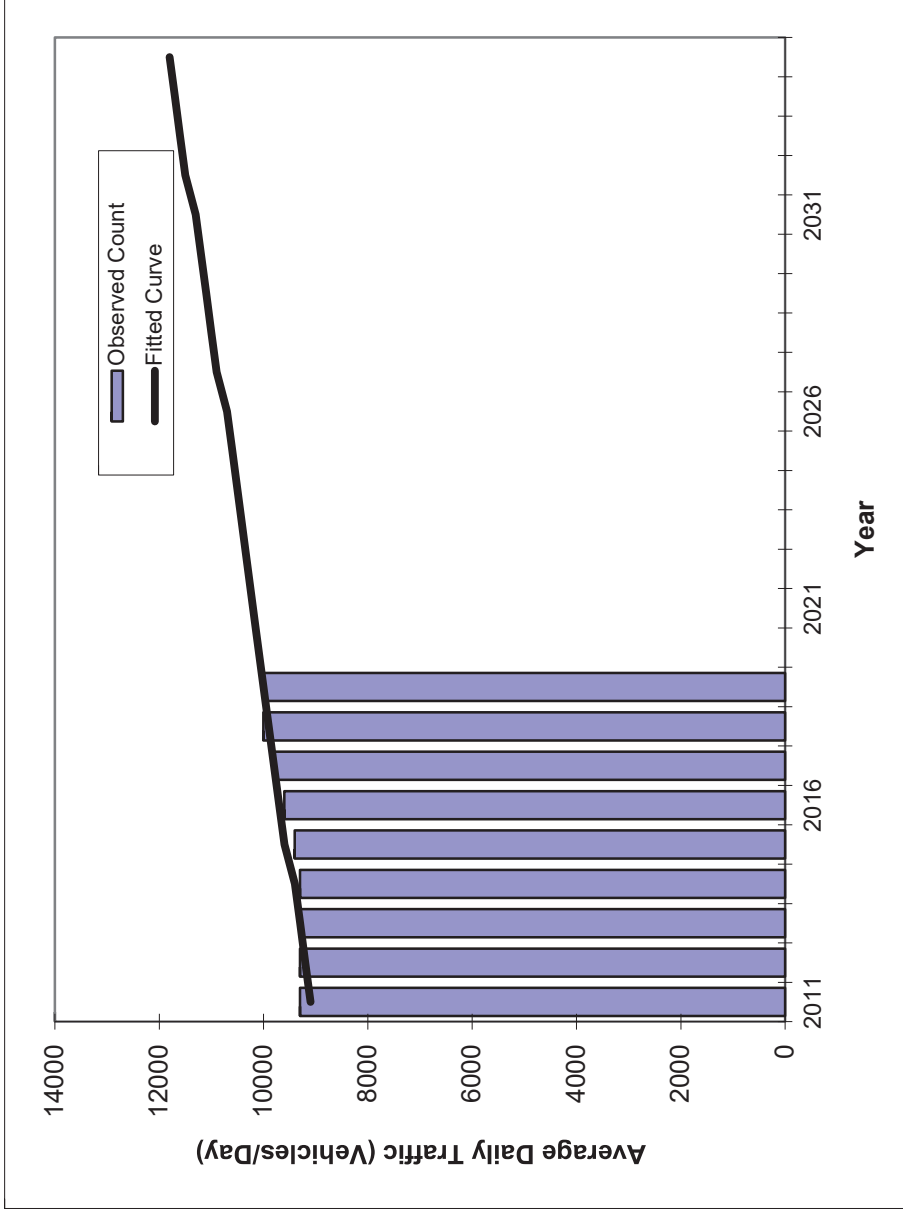
*Axle-Adjusted

Traffic Trends - V03.a

SLIGH AVE -- Sligh Ave E of Rowlett Park

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9154
Highway:	SLIGH AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	9300	9100
2012	9300	9200
2013	9300	9300
2014	9300	9400
2015	9400	9600
2016	9600	9700
2017	9800	9800
2018	10000	9900
2019	10000	10000
2023 Opening Year Trend		
2023	N/A	10400
2028 Mid-Year Trend		
2028	N/A	11000
2033 Design Year Trend		
2033	N/A	11600
TRANPLAN Forecasts/Trends		

Trend R-squared:	86.53%
Compounded Annual Historic Growth Rate:	1.19%
Compounded Growth Rate (2019 to Design Year):	1.07%
Printed:	9-Nov-21
Exponential Growth Option	

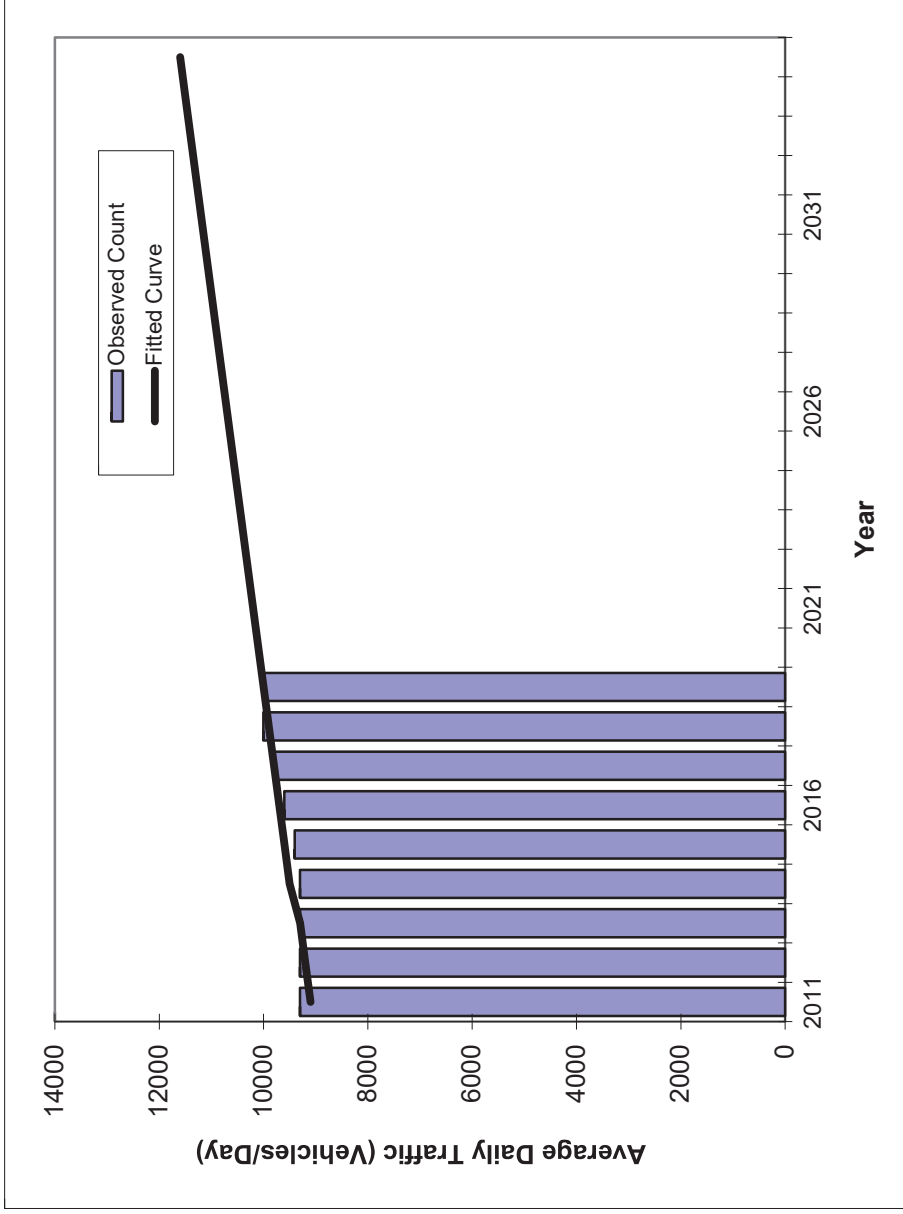
*Axle-Adjusted

Traffic Trends - V03.a

SLIGH AVE -- Sligh Ave E of Rowlett Park

FIN#	1234
Location	1

County:	Hillsborough (10)
Station #:	9154
Highway:	SLIGH AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	9300	9100
2012	9300	9200
2013	9300	9300
2014	9300	9500
2015	9400	9600
2016	9600	9700
2017	9800	9800
2018	10000	9900
2019	10000	10000
2023 Opening Year Trend		
2023	N/A	10400
2028 Mid-Year Trend		
2028	N/A	10900
2033 Design Year Trend		
2033	N/A	11400
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	103
Trend R-squared:	86.32%
Trend Annual Historic Growth Rate:	1.24%
Trend Growth Rate (2019 to Design Year):	1.00%
Printed:	9-Nov-21
Straight Line Growth Option	

*Axle-Adjusted

APPENDIX I

Committed

Developments

October 20, 2021

Mr. Jonathan Scott
City of Tampa
1400 N. Boulevard
Tampa, FL 33602

RE: Hillsborough Avenue and 22nd Street Multi-Family
Palm Traffic Project No. T21093

Dear Mr. Scott:

The purpose of this letter is to establish the methodology to be utilized in the Transportation Analysis for the project located north of Hillsborough Avenue and east of 22nd Street, as shown in Figure 1. The site is currently occupied by a former drive-in theater, that is currently being used as a flea market. The proposed project is to develop the property to allow for 324 multi-family dwelling units.

The access to the project is proposed to be as follows:

- One (1) right-in/right-out access to Hillsborough Avenue
- One (1) full access to 22nd Street, aligning with Comanche Avenue.

The following summarizes the parameters to be utilized in the Transportation Analysis:

Trip Generation

The trip rates to be utilized in the report will be obtained from the latest computerized version of "OTISS" which utilizes the Institute of Transportation Engineers' (ITE) Trip Generation, 10th Edition, 2017, as its database.

Table 1 summarizes the estimated trip generation for the proposed development.

Internal Capture

No internal capture will be assumed in the Transportation Analysis.

Passerby Capture

No passerby capture will be assumed in the Transportation Analysis.

Distribution

The distribution will be based on existing travel patterns and development in the area. The distribution of new trip ends was estimated to be as follows:

- 10% to and from the north (via 22nd Street)
- 30% to and from the south (via 22nd Street)
- 20% to and from the east (via Hillsborough Avenue)
- 40% to and from the west (via Hillsborough Avenue).

Study Network

The analysis will include those roadway segments in which the project traffic exceeds 2% of the adopted level of service for a critical roadway and 5% for a non-critical roadway. The determination as to which roadway segment is critical or non-critical shall be based on the latest City of Tampa Roadway Inventory.

As shown in Table 4, there are no segments that exceed the minimum. Therefore, the study network will include the only first accessed regulated segment:

- Hillsborough Avenue from 22nd Street to 30th Street
- 22nd Street from Hillsborough Avenue to Hanna Avenue

The following intersections will be included in the analysis:

- Hillsborough Avenue and 19th Street
- Hillsborough Avenue and 22nd Street
- Hillsborough Avenue and Meridian Pointe Apartments.

Background Traffic

The background traffic to be utilized in this analysis will be calculated as follows:

1. Palm Traffic will obtain AM (7:00-9:00) and PM peak hour (4:00 PM to 6:00 PM) turning movement counts at the study intersections.
2. These counts will be adjusted to peak season based on the Peak Season Correction Factor (PSCF) from the FDOT Peak Season Factor Category Report for Hillsborough County.
3. According to the FDOT historical counts in the vicinity of the project, there has been no growth over the last 5 years. To be conservative, the peak season traffic will be increased by an annual growth rate of 2.0% per year to the buildout year of 2023.
4. The vested City Building on Hanna Avenue will be included as background traffic. The studies for the vested project to be included will be provided by the City.

Signal Timing

The existing signal timing will be utilized for the intersection analysis for existing and future conditions.

Analysis Scenario

Intersection analysis shall be conducted based on Synchro methodology for the following scenarios:

1. Background traffic plus project traffic with existing geometry and signal timings. If the intersection and all movements within the intersection operate at or above the adopted level of service, then no additional analysis is required for the background traffic.
2. Background traffic plus project traffic with the improvements required to allow all movements within the intersections to operate at the adopted level of service.

Proportionate Share


The project's proportionate share cost of the improvements identified in the analysis will be determined.

Please indicate your concurrence with this methodology in the space provided below. If you have any questions or would like to discuss in more detail, please do not hesitate to contact me.

Sincerely,

PALM TRAFFIC

I concur with the above methodology.

SIGNED: 
PRINT NAME: Michael Yates
TITLE: Principal
DATE: October 20, 2021

SIGNED: _____
PRINT NAME: _____
TITLE: _____
DATE: _____

Enclosures

Figure 1. Location Map

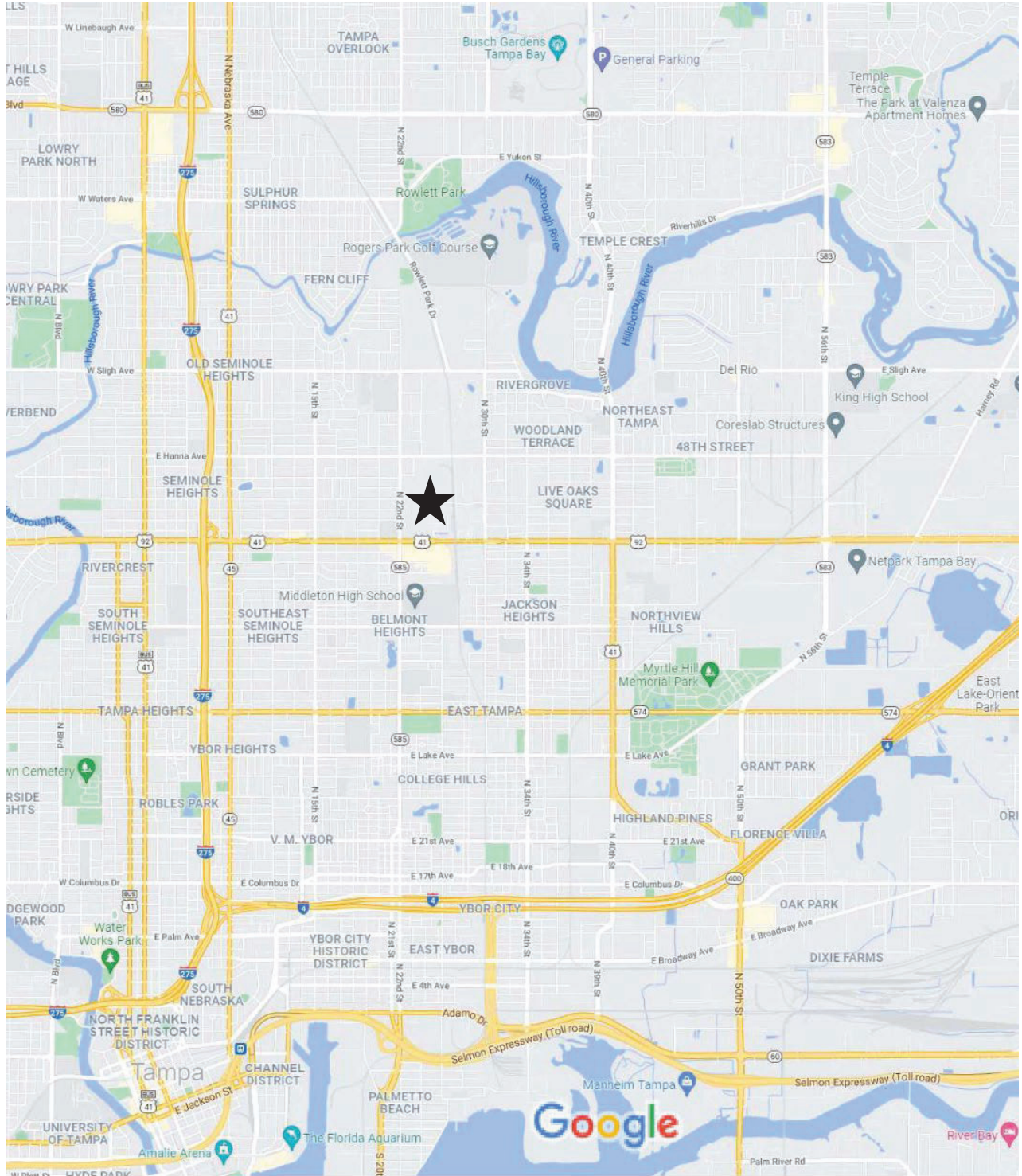


Table 1. Estimated Project Trip Ends

<u>Land Use</u>	ITE <u>LUC</u>	<u>Size</u>	Daily <u>Trip Ends (1)</u>	AM Peak Hour <u>Trip Ends (1)</u>			PM Peak Hour <u>Trip Ends (1)</u>		
				<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
Multi-Family	221	324 DU's	1,764	28	80	108	84	53	137

(1) Source: ITE Trip Generation, 10th Edition, 2017.

Table 2. Study Area Determination

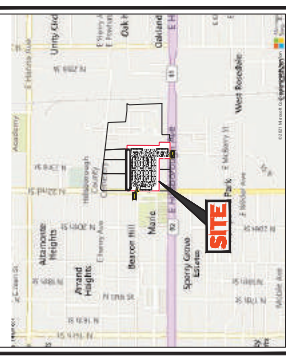
<u>Roadway</u>	<u>From</u>	<u>To</u>	<u>Lanes</u>	LOS "D" Daily <u>Capacity (1)</u>	<u>Link</u> <u>Status</u>	<u>Percent</u> <u>Project</u> <u>Distribution</u>	Net Daily <u>Project</u> <u>Traffic</u>	<u>Percent</u> <u>Consumed</u>	<u>Study</u> <u>Network?</u>
Hillsborough Ave	15th St	22nd St	6LD	50,300	Non-critical	40%	706	1.40%	No
	22nd St	30th St	6LD	50,300	Non-critical	20%	353	0.70%	No
22nd St	Hanna Ave	Project	2LU	10,725	Non-critical	10%	176	1.64%	No
	Project	Hillsborough Ave	2LU	10,725	Non-critical	30%	529	4.93%	No

(1) Source: City of Tampa Roadway Inventory

APPENDIX

APPENDIX
CONCEPTUAL SITE PLAN

VICINITY MAP

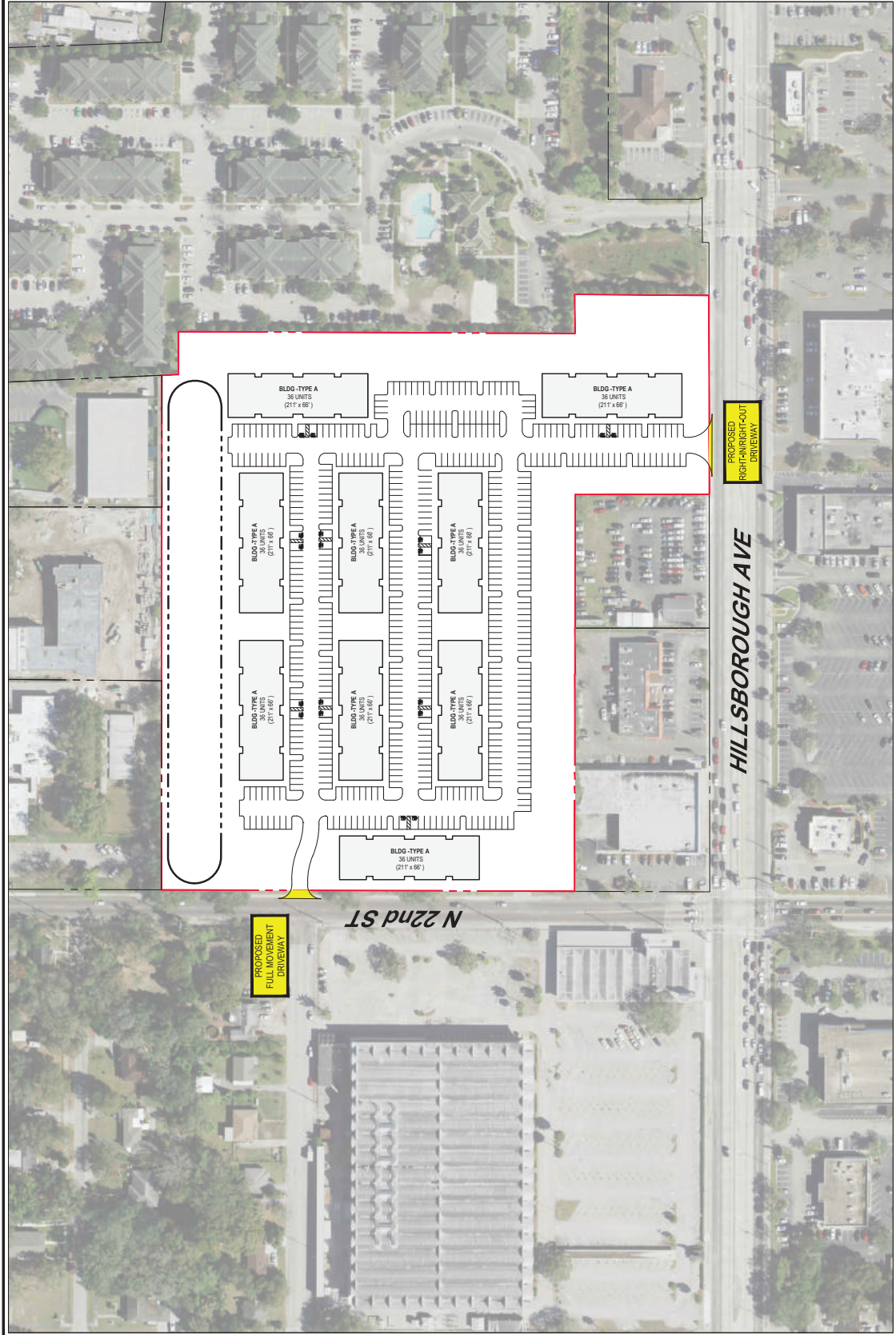


SITE DATA TABLE

SITE AREA	13.42 AC
TOTAL UNITS	324 UNITS
TOTAL PARKING REQUIRED	587 SPACES
-1.50 UNIT	486 SPACES
-VISITOR (0.25/UNIT)	81 SPACES
TOTAL PARKING PROVIDED	486 SPACES

NOTES:

1. THE CONCEPT REPRESENTED HEREIN IDENTIFIES A DESIGN CONCEPT RESULTING FROM LAYOUT PREFERENCES IDENTIFIED BY OWNER COUPLED WITH A PRELIMINARY REVIEW OF LOCAL ZONING REGULATIONS AND LOCAL REQUIREMENTS AND ISSUES. THE FEASIBILITY WITH RESPECT TO OBTAINING LOCAL, COUNTY, STATE, AND FEDERAL APPROVALS FOR THIS CONCEPT CAN ONLY BE ASSESSED AFTER FURTHER EXAMINATION AND VERIFICATION OF SAME REQUIREMENTS AND PROCEDURE OF JURISDICTIONAL APPROVALS.
2. THE CONCEPT PLAN IS PREPARED FOR CONCEPTUAL PRESENTATION PURPOSES ONLY AND IS NOT INTENDED FOR UTILIZATION AS A ZONING AND/OR CONSTRUCTION PERMIT APPLICATION. THE INFORMATION PRESENTED HEREON IS BASED UPON INFORMATION THAT WAS SUPPLIED TO BOHLER ENGINEERING AT THE TIME OF PLAN PREPARATION AND MAY BE SUBJECT TO CHANGE UPON AVAILABILITY OF ADDITIONAL INFORMATION.



CONCEPT PLAN 'A'
HILLSBOROUGH AVE & 22nd ST
TAMPA, FL 33610
CITY OF TAMPA

BOHLER
3820 NORTHDALE BLVD., SUITE 300B
TAMPA, FLORIDA 33624
Phone: (813) 812-4100
Fax: (813) 812-4101
FLORIDA BUSINESS CERT. OF AUTH. NO. 30780

APPENDIX
TRIP GENERATION

PERIOD SETTING

✓ DATA PROVIDED BY ITE

Specify the Independent Variable, Time Period, and Calculation Method to be used in the calculation of the number of Trips generated in the analysis. To record any notes, click Add Notes above.

PROJECT NAME: HILLSBOROUGH AVE AND 22ND ST

ANALYSIS NAME:

LAND USE	INDEPENDENT VARIABLE	SIZE	LOCATION	TIME PERIOD	METHOD	ENTRY	EXIT	TOTAL
221 - Multifamily Housing (Mid-Rise)	<input type="text" value="Dwelling Units"/>	<input type="text" value="324"/>	General Urban/Suburban	Weekday	Best Fit (LIN) $T = 5.45(X) + -1.75$	<input checked="" type="checkbox"/> 882	882	1764

TRAFFIC REDUCTIONS

Specify a percentage by which the Entry Trip and Exit Trip will be reduced for each Land Use. This reduction is applied to the Entry Trip and Exit Trip from the previous section. To record any notes, click Add Notes above.

LAND USE	ENTRY REDUCTION	ADJUSTED ENTRY	EXIT REDUCTION	ADJUSTED EXIT
221 - Multifamily Housing (Mid-Rise)	<input type="text" value="0"/> %	882	<input type="text" value="0"/> %	882

EXTERNAL TRIPS

Specify the percentage of Pass-by Trips for each Land Use. The percentage will be reduced from the total number of External Trips from the previous section. To record any notes, click Add Notes above.

The icon preceding the Pass-by-% value indicates data provided by ITE. Clicking the icon changes a custom Pass-by-% value to data provided by ITE.

LAND USE	EXTERNAL TRIPS	PASS-BY-%	PASS-BY TRIPS	NON-PASS-BY TRIPS
221 - Multifamily Housing (Mid-Rise)	1764	<input type="text" value="0"/> %	0	1764

Print Report

Save Analysis

PERIOD SETTING

DATA PROVIDED BY ITE

Specify the Independent Variable, Time Period, and Calculation Method to be used in the calculation of the number of Trips generated in the analysis. To record any notes, click Add Notes above.

PROJECT NAME: HILLSBOROUGH AVE AND 22ND ST

ANALYSIS NAME:

LAND USE	INDEPENDENT VARIABLE	SIZE	LOCATION	TIME PERIOD	METHOD	ENTRY	EXIT	TOTAL
221 - Multifamily Housing (Mid-Rise)	<input type="text" value="Dwelling Units"/>	<input type="text" value="324"/>	General Urban/Suburban	Weekday, Peak Hou	Best Fit (LOG) $\ln(T) = 0.98\ln(X) + -0.98$	<input checked="" type="checkbox"/> 28	80	108

TRAFFIC REDUCTIONS

Specify a percentage by which the Entry Trip and Exit Trip will be reduced for each Land Use. This reduction is applied to the Entry Trip and Exit Trip from the previous section. To record any notes, click Add Notes above.

LAND USE	ENTRY REDUCTION	ADJUSTED ENTRY	EXIT REDUCTION	ADJUSTED EXIT
221 - Multifamily Housing (Mid-Rise)	<input type="text" value="0"/> %	28	<input type="text" value="0"/> %	80

EXTERNAL TRIPS

Specify the percentage of Pass-by Trips for each Land Use. The percentage will be reduced from the total number of External Trips from the previous section. To record any notes, click Add Notes above.

The icon preceding the Pass-by-% value indicates data provided by ITE. Clicking the icon changes a custom Pass-by-% value to data provided by ITE.

LAND USE	EXTERNAL TRIPS	PASS-BY-%	PASS-BY TRIPS	NON-PASS-BY TRIPS
221 - Multifamily Housing (Mid-Rise)	108	<input type="text" value="0"/> %	0	108

Print Report

Save Analysis

PERIOD SETTING

✓ DATA PROVIDED BY ITE

Specify the Independent Variable, Time Period, and Calculation Method to be used in the calculation of the number of Trips generated in the analysis. To record any notes, click Add Notes above.

PROJECT NAME: HILLSBOROUGH AVE AND 22ND ST

ANALYSIS NAME:

LAND USE	INDEPENDENT VARIABLE	SIZE	LOCATION	TIME PERIOD	METHOD	ENTRY	EXIT	TOTAL
221 - Multifamily Housing (Mid-Rise)	<input type="text" value="Dwelling Units"/>	<input type="text" value="324"/>	General Urban/Suburban	Weekday, Peak Hou	Best Fit (LOG) $\ln(T) = 0.96\ln(X) + -0.63$	<input checked="" type="checkbox"/> 84	53	137

TRAFFIC REDUCTIONS

Specify a percentage by which the Entry Trip and Exit Trip will be reduced for each Land Use. This reduction is applied to the Entry Trip and Exit Trip from the previous section. To record any notes, click Add Notes above.

LAND USE	ENTRY REDUCTION	ADJUSTED ENTRY	EXIT REDUCTION	ADJUSTED EXIT
221 - Multifamily Housing (Mid-Rise)	<input type="text" value="0"/> %	84	<input type="text" value="0"/> %	53

EXTERNAL TRIPS

Specify the percentage of Pass-by Trips for each Land Use. The percentage will be reduced from the total number of External Trips from the previous section. To record any notes, click Add Notes above.

The icon preceding the Pass-by-% value indicates data provided by ITE. Clicking the icon changes a custom Pass-by-% value to data provided by ITE.

LAND USE	EXTERNAL TRIPS	PASS-BY-%	PASS-BY TRIPS	NON-PASS-BY TRIPS
221 - Multifamily Housing (Mid-Rise)	137	<input type="text" value="0"/> %	0	137

Print Report

Save Analysis

APPENDIX
CITY OF TAMPA ROADWAY INVENTORY

Traffic Counts

#	ON	From - To (S to N or W to E)	Impact Fee District	Maint. Respons.	Exist Road Type	Func Class*	Date of Count	Existing Daily Volume	Average Annual Daily Traffic	Existing LOS D Capacity	Existing v/c (vol/los D cap)	Existing LOS	Link Status
47	22nd St	Durham St to 21st St	CET	CITY	3LU	M	01/01/00	0	0	15592	0.00	A	NON-CRITICAL
48	22nd St	21st St to Adamo Dr	CET	STATE	3LU	OM	10/12/10	33242	33242	17032	1.95	F	CRITICAL
49	22nd St	Adamo(4th) Dr to 7th Ave	CET	STATE	3LO	OM	10/27/09	13980	13980	17032	0.82	D	NON-CRITICAL
50	22nd St	7th Ave to 14th Ave	CET	STATE	3LO	OM	10/12/10	17063	17063	17032	1.00	E	CRITICAL
51	22nd St	14th Ave to Columbus Dr	CET	STATE	3LO	OM	10/13/09	16533	16533	17032	0.97	D	CRITICAL
52	22nd St	Columbus Dr to 23rd Ave	CET	STATE	2LO	OM	10/29/09	4140	4140	8208	0.50	B	NON-CRITICAL
53	22nd St	23rd Ave to 26th Ave	CET	STATE	2LU	M	10/29/09	4140	4140	14850	0.28	A	NON-CRITICAL
54	22nd St	26th Ave to Lake Ave	CET	STATE	2LU	M	10/29/09	9782	9782	14850	0.66	C	NON-CRITICAL
55	22nd St	Lake Ave to M.L.K.Jr Blvd	CET	STATE	2LU	M	10/27/09	10041	10142	10725	0.95	D	NON-CRITICAL
56	22nd St	M.L.K.Jr Blvd to Osborne Ave	CET	STATE	2LU	M	11/02/10	12290	12290	10725	1.15	E	CRITICAL
57	22nd St	Osborne Ave to Hillsborough Ave	CET	STATE	2LU	M	11/02/10	12290	12290	10725	1.15	E	CRITICAL
58	22nd St	Hillsborough Ave to Hanna Ave	CET	CITY	2LU	C	02/17/08	5698	5935	10725	0.55	B	NON-CRITICAL
59	22nd St	Hanna Ave to Sligh Ave	CET	CITY	2LU	C	02/17/08	4698	4894	10725	0.46	B	NON-CRITICAL
60	22nd St	Rowlett Park Dr to Waters Ave	CET	CITY	2LU	C	04/09/08	4489	4676	10725	0.44	B	NON-CRITICAL
61	22nd St	Waters Ave to Busch Blvd	CET	CITY	2LU	C	04/09/08	2136	2225	10725	0.21	A	NON-CRITICAL
62	22nd St	Busch Blvd to Linebaugh Ave	NCT	CITY	2LU	C	02/25/08	5209	5541	10725	0.52	B	NON-CRITICAL
63	22nd St	Linebaugh Ave to Bougainvillea Ave	NCT	CITY	2LU	C	02/25/08	3583	3812	10725	0.36	A	NON-CRITICAL
64	22nd St	Bougainvillea Ave to 109th Ave	NCT	CITY	2LU	C	03/12/08	4320	4547	10725	0.42	B	NON-CRITICAL
65	22nd St	109th Ave to Fowler Ave	NCT	CITY	2LU	C	02/25/08	7546	8028	10725	0.75	C	NON-CRITICAL
66	30th St	Hillsborough Ave to Hanna Ave	CET	CITY	2LU	C	01/27/08	10385	10385	10725	0.97	D	CRITICAL
67	30th St	Hanna Ave to Sligh Ave	CET	CITY	2LU	C	01/27/08	4487	4487	10725	0.42	B	NON-CRITICAL
68	30th St	Yukon St to Busch Blvd	CET	CITY	2LU	C	01/27/08	6862	6862	10725	0.64	C	NON-CRITICAL
69	30th St	Busch Blvd to Bougainvillea Ave	NCT	CITY	5LU	M	01/27/08	24722	24722	33200	0.74	C	NON-CRITICAL
70	30th St	Bougainvillea Ave to Fowler Ave	NCT	CITY	5LU	M	11/02/11	47167	47167	33200	1.42	F	CRITICAL
71	34th St	Adamo Dr to 7th Ave	CET	CITY	4LU	C	01/29/08	6519	6652	17891	0.37	A	NON-CRITICAL
72	34th St	7th Ave to Columbus Dr	CET	CITY	4LU	C	01/29/08	5906	6027	17891	0.34	A	NON-CRITICAL
73	34th St	Columbus Dr to Lake Ave	CET	CITY	2LU	C	02/12/08	5801	6043	10725	0.56	B	NON-CRITICAL
74	34th St	Lake Ave to M.L.K.Jr Blvd	CET	CITY	2LU	C	01/29/08	8524	8698	10725	0.81	D	NON-CRITICAL
75	34th St	M.L.K.Jr Blvd to Osborne Ave	CET	CITY	2LU	C	02/14/08	510	531	10725	0.05	A	NON-CRITICAL
76	34th St	Osborne Ave to Hillsborough Ave	CET	CITY	2LU	C	01/29/08	4461	4552	10725	0.42	B	NON-CRITICAL
77	39th St	Adamo Dr to 7th Ave	CET	STATE	5LU	P	10/12/10	9982	9982	33030	0.30	A	NON-CRITICAL
78	39th St	7th Ave to 12th Av	CET	STATE	5LU	P	10/12/10	9534	9534	33030	0.29	A	NON-CRITICAL
79	40th St	12th Av to Columbus Dr	CET	STATE	6LD	P	10/13/10	12484	12484	50300	0.25	A	NON-CRITICAL
80	40th St	Columbus Dr(19th Ave) to Melburne Blvd	CET	STATE	6LD	P	10/13/10	15733	15733	50300	0.31	A	NON-CRITICAL
81	40th St	Melburne Blvd to Lake Ave	CET	STATE	6LD	P	10/13/10	19485	19485	50300	0.39	A	NON-CRITICAL
82	40th St	Lake Ave to M.L.K.Jr Blvd	CET	STATE	6LD	P	10/26/09	25506	25764	50300	0.51	B	NON-CRITICAL
83	40th St	M.L.K.Jr Blvd to Osborne Ave	CET	STATE	6LD	P	10/26/09	25506	25764	50300	0.51	B	NON-CRITICAL
84	40th St	Osborne Ave to Hillsborough Ave	CET	STATE	6LD	P	10/26/09	25506	25764	50300	0.51	B	NON-CRITICAL
85	40th St	Hillsborough Ave to Hanna Ave	CET	COUNTY	5LU	M	11/02/11	18922	18922	31540	0.60	B	NON-CRITICAL
86	40th St	Hanna Ave(Yukon St) to Busch Blvd	CET	COUNTY	5LU	M	11/02/11	15646	15646	31540	0.50	B	NON-CRITICAL
87	43rd St	Hanna Ave to Sligh Ave	CET	CITY	2LU	NC	02/24/08	4558	4849	10725	0.45	B	NON-CRITICAL
88	46th St	River Hills Dr to Busch Blvd	CET	CITY	2LU	C	02/24/08	2977	3167	10725	0.30	A	NON-CRITICAL
89	46th St	Busch Blvd(Bougainvillea Ave) to Fowler Ave	NCT	CITY	2LU	C	07/20/08	4113	3880	10725	0.36	A	NON-CRITICAL
90	50th St	City Limits to Crosstown Exp	CET	STATE	5LU	P	10/26/10	29458	29756	33200	0.90	D	NON-CRITICAL
91	50th St	Crosstown Exp to Adamo Dr	CET	STATE	5LU	P	10/26/10	29458	29756	33200	0.90	D	NON-CRITICAL
92	50th St	Adamo Dr to Broadway Ave	CET	STATE	6LD	P	10/26/10	40519	40928	50300	0.81	C	NON-CRITICAL

Traffic Counts

#	ON	From - To (S to N or W to E)	Impact Fee	Maint. District	Exist Road Type	Func Class*	Date of Count	Existing Daily Volume	Average Annual Daily Traffic	Existing LOS D	Existing Capacity	Existing v/c (vol/ los D cap)	Existing LOS	Link Status
369	Hanna Ave	40th St to 43rd St	CET	COUNTY	2LU	C	01/10/08	5170	5019	10725	10725	0.47	B	NON-CRITICAL
370	Harrison St	Franklin St to Jefferson/Orange	CBD	CITY	2LU	C	04/20/08	1381	1424	10725	10725	0.13	A	NON-CRITICAL
371	Henderson Blvd	Bay to Bay Blvd to Manhattan Ave	INB	COUNTY	4LU	NC	11/09/11	1981	1981	17891	17891	0.11	A	NON-CRITICAL
372	Henderson Blvd	Manhattan Ave(Church) to Dale Mabry Hwy	INB	COUNTY	4LU	M	12/17/07	18332	17627	17891	17891	0.99	D	CRITICAL
373	Henderson Blvd	Dale Mabry Hwy to Swann Ave	INB	STATE	4LU	M	10/26/10	18813	19003	31540	31540	0.60	B	NON-CRITICAL
374	Henderson Blvd	Swann Ave to Azeele St	INB	STATE	4LU	M	10/26/10	18813	19003	31540	31540	0.60	B	NON-CRITICAL
375	Henderson Blvd	Azeele St to Kennedy Blvd	INB	STATE	4LU	M	10/26/10	9310	9404	31540	31540	0.30	A	NON-CRITICAL
376	Highland Ave	M.L.K.Jr Blvd to Osborne Ave	CET	STATE	3LO	OM	10/12/10	7419	7419	18924	18924	0.39	A	NON-CRITICAL
377	Highland Ave	Osborne Ave to Violet St	CET	STATE	3LO	OM	10/12/10	7419	7419	18924	18924	0.39	B	NON-CRITICAL
378	Highland Ave	Violet St to Hillsborough Ave	CET	CITY	2LU	NC	12/10/07	6533	6343	14850	14850	0.43	B	NON-CRITICAL
379	Highwood Preserve Blvd.	CR 581 to New Tampa Blvd.	UN	CITY	2LU	C	11/02/10	7833	7833	14850	14850	0.53	B	NON-CRITICAL
380	Hillsborough Ave	Eisenhower Blvd to Westshore Blvd	WS	STATE	6LD	P	09/15/10	69986	65035	50300	50300	1.29	F	CRITICAL
381	Hillsborough Ave	Westshore Blvd to Lois Ave	WS	STATE	6LD	P	09/15/10	73807	71657	50300	50300	1.42	F	CRITICAL
382	Hillsborough Ave	Lois Ave to Dale Mabry Hwy	WS	STATE	6LD	P	09/15/10	70888	68823	50300	50300	1.42	F	CRITICAL
383	Hillsborough Ave	Dale Mabry Hwy to Himes Ave	WS	STATE	6LD	P	09/15/10	70888	68823	50300	50300	1.37	F	CRITICAL
384	Hillsborough Ave	Himes Ave to Armenia Ave	CET	STATE	6LD	P	09/14/10	70888	68823	50300	50300	1.37	F	CRITICAL
385	Hillsborough Ave	Armenia Ave to Rome Ave	CET	STATE	6LD	P	09/14/10	51050	49563	50300	50300	0.99	D	CRITICAL
386	Hillsborough Ave	Rome Ave to Hillsborough River	CET	STATE	6LD	P	09/14/10	51050	49563	50300	50300	0.99	D	CRITICAL
387	Hillsborough Ave	Hillsborough River to Florida Ave	CET	STATE	6LD	P	09/14/10	51050	49563	50300	50300	0.99	D	CRITICAL
388	Hillsborough Ave	Florida Ave to I-275	CET	STATE	6LD	P	09/15/10	56454	54810	50300	50300	1.09	E	CRITICAL
389	Hillsborough Ave	I-275 to Nebraska Ave	CET	STATE	6LD	P	09/21/10	45789	44455	50300	50300	0.88	D	NON-CRITICAL
390	Hillsborough Ave	Nebraska Ave to 15th St	CET	STATE	6LD	P	09/21/10	48270	46864	50300	50300	0.93	D	NON-CRITICAL
391	Hillsborough Ave	15th St to 22nd St	CET	STATE	6LD	P	09/21/10	48270	46864	50300	50300	0.93	D	NON-CRITICAL
392	Hillsborough Ave	22nd St to 30th St	CET	STATE	6LD	P	09/21/10	52142	50623	50300	50300	1.01	E	CRITICAL
393	Hillsborough Ave	30th St to 40th St	CET	STATE	6LD	P	09/21/10	52142	50623	50300	50300	1.01	E	CRITICAL
394	Hillsborough Ave	40th St to 50th St (City Limits)	CET	STATE	6LD	P	09/21/10	45799	44465	50300	50300	0.88	D	NON-CRITICAL
395	Himes Ave	Interbay Blvd to Gandy Blvd	INB	CITY	2LU	C	12/02/07	3112	3051	15200	15200	0.20	A	NON-CRITICAL
396	Himes Ave	Gandy Blvd to Euclid Ave	INB	CITY	3LU	C	12/02/07	10445	10240	11261	11261	0.91	A	NON-CRITICAL
397	Himes Ave	Euclid Ave(EI Prado) to Bay to Bay Blvd	INB	CITY	2LU	C	12/09/07	3315	3218	10725	10725	0.30	A	NON-CRITICAL
398	Himes Ave	Bay to Bay Blvd to San Miguel	INB	CITY	2LU	C	12/02/07	5408	5302	10725	10725	0.49	B	NON-CRITICAL
399	Himes Ave	Neptune St(Morrison Ave) to Swann Ave	INB	CITY	2LU	NC	12/02/07	2094	2053	10725	10725	0.19	A	NON-CRITICAL
400	Himes Ave	Swann Ave to Azeele St	INB	CITY	2LU	NC	12/02/07	7024	6886	10725	10725	0.64	C	NON-CRITICAL
401	Himes Ave	Azeele St to Kennedy Blvd	INB	CITY	2LU	NC	11/02/10	7358	7358	10725	10725	0.69	C	NON-CRITICAL
402	Himes Ave	Kennedy Blvd to Cypress St	WS	CITY	5LU	C	12/02/07	14924	14631	23855	23855	0.61	C	NON-CRITICAL
403	Himes Ave	Cypress St to I-275	WS	CITY	5LU	M	12/02/07	26782	26257	33200	33200	0.79	C	NON-CRITICAL
404	Himes Ave	I-275(Spruce St) to Columbus Dr	WS	CITY	5LU	M	12/02/07	22671	22226	33200	33200	0.67	C	NON-CRITICAL
405	Himes Ave	Columbus Dr to Tampa Bay Blvd	WS	CITY	5LU	M	12/10/07	24706	23986	33200	33200	0.72	C	NON-CRITICAL
406	Himes Ave	Tampa Bay Blvd to M.L.K.Jr Blvd	WS	CITY	5LU	M	12/10/07	24107	23634	33200	33200	0.71	C	NON-CRITICAL
407	Himes Ave	M.L.K.Jr Blvd to Hillsborough Ave	WS	CITY	5LU	M	12/10/07	15064	14625	33200	33200	0.44	B	NON-CRITICAL
408	Himes Ave	Hillsborough Ave to Henry (City Limits)	CET	COUNTY	2LU	C	11/16/10	15356	15204	10725	10725	1.42	F	CRITICAL
409	Howard Ave	Bayshore Blvd(Morrison Ave) to Swann Ave	INB	CITY	2LU	C	11/02/10	11825	11825	10725	10725	1.10	E	CRITICAL
410	Howard Ave	Swann Ave to Azeele St	INB	CITY	2LU	C	11/02/10	13777	13777	10725	10725	1.28	F	CRITICAL
411	Howard Ave	Azeele St to Platt St	INB	CITY	2LU	OC	11/02/10	12715	12715	8208	8208	1.55	F	CRITICAL
412	Howard Ave	Platt St(Cleveland St) to Kennedy Blvd	INB	CITY	3LO	OM	06/10/08	17845	17845	17032	17032	1.05	E	CRITICAL
413	Howard Ave	Kennedy Blvd to Cass St	CET	COUNTY	2LO	OM	06/10/08	17785	17785	9120	9120	1.95	F	CRITICAL
414	Howard Ave	Cass St to Cypress St	CET	COUNTY	2LO	OM	06/28/07	20893	20686	9120	9120	2.27	F	CRITICAL

APPENDIX J

Transit Routes

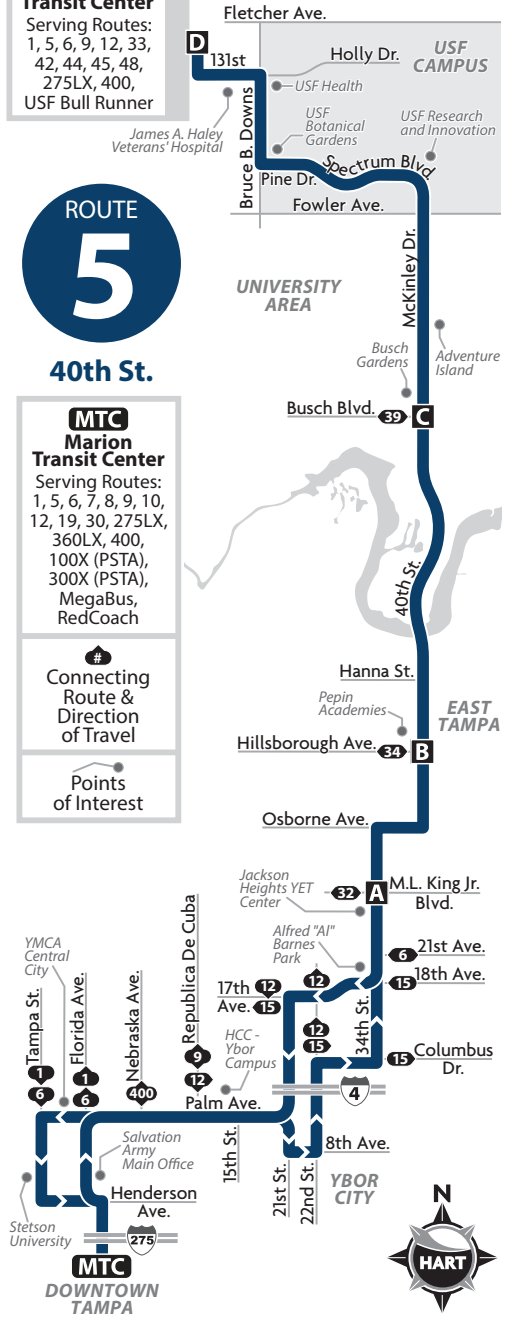
ROUTE 5 40TH ST.

University Area Transit Center
 Serving Routes: 1, 5, 6, 9, 12, 33, 42, 44, 45, 48, 275LX, 400, USF Bull Runner

ROUTE 5 40th St.

MTC Marion Transit Center
 Serving Routes: 1, 5, 6, 7, 8, 9, 10, 12, 19, 30, 275LX, 360LX, 400, 100X (PSTA), 300X (PSTA), MegaBus, RedCoach

Connecting Route & Direction of Travel
• Points of Interest



Downtown Tampa to University Area via 40th St.

Destinations:

- Marion Transit Center (MTC)
- Stetson University (Tampa Law Center)
- Salvation Army Main Office
- YMCA Central City
- Ybor City
- HCC - Ybor Campus
- Alfred "Al" Barnes Park
- Jackson Heights YET Center
- Pepin Academies
- Busch Gardens
- Adventure Island
- USF Research and Innovation
- USF Botanical Gardens
- USF Health
- James A. Haley Veterans' Hospital
- University Area Transit Center (UATC)

ROUTE **5** **40TH ST. NORTHBOUND TO UNIVERSITY AREA**

WEEKDAY - NORTHBOUND

Marion Transit Center MTC DEPARTS	34th St. @ M.L. King Jr. Blvd. A	40th St. @ Hillsborough Ave. B	40th St. @ Busch Blvd. C	University Area Transit Center D ARRIVES
5:00	5:17	5:24	5:35	5:49
6:00	6:17	6:24	6:35	6:49
7:00	7:17	7:24	7:35	7:49
8:00	8:17	8:24	8:35	8:49
9:00	9:17	9:24	9:35	9:49
10:00	10:17	10:24	10:35	10:49
11:00	11:17	11:24	11:35	11:49
12:00	12:17	12:24	12:35	12:49
1:00	1:17	1:24	1:35	1:49
2:00	2:17	2:24	2:35	2:49
3:00	3:17	3:24	3:35	3:49
4:00	4:17	4:24	4:35	4:49
5:00	5:17	5:24	5:35	5:49
6:00	6:17	6:24	6:35	6:49
7:00	7:17	7:24	7:35	7:49
8:00	8:17	8:24	8:35	8:49
9:00	9:17	9:24	9:35	9:49
10:00	10:17	10:24	10:35	10:49
11:00	11:17	11:24	11:35	11:49

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE 5 **40TH ST. SOUTHBOUND**
TO DOWNTOWN TAMPA

WEEKDAY - SOUTHBOUND

University Area Transit Center D ▶ DEPARTS	40th St. @ Busch Blvd. C ▶	40th St. @ Hillsborough Ave. B ▶	34th St. @ M.L. King Jr. Blvd. A ▶	Marion Transit Center MTC ARRIVES
5:00	5:12	5:23	5:29	5:47
6:00	6:12	6:23	6:29	6:47
7:00	7:12	7:23	7:29	7:47
8:00	8:12	8:23	8:29	8:47
9:00	9:12	9:23	9:29	9:47
10:00	10:12	10:23	10:29	10:47
11:00	11:12	11:23	11:29	11:47
12:00	12:12	12:23	12:29	12:47
1:00	1:12	1:23	1:29	1:47
2:00	2:12	2:23	2:29	2:47
3:00	3:12	3:23	3:29	3:47
4:00	4:12	4:23	4:29	4:47
5:00	5:12	5:23	5:29	5:47
6:00	6:12	6:23	6:29	6:47
7:00	7:12	7:23	7:29	7:47
8:00	8:12	8:23	8:29	8:47
9:00	9:12	9:23	9:29	9:47
10:00	10:12	10:23	10:29	10:47
11:00	11:12	11:23	11:29	11:47

P.M. Times are shown in *bold/italic*.
Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE 5 **40TH ST. NORTHBOUND TO UNIVERSITY AREA**

SATURDAY - NORTHBOUND

Marion Transit Center MTC DEPARTS	34th St. @ M.L. King Jr. Blvd. A	40th St. @ Hillsborough Ave. B	40th St. @ Busch Blvd. C	University Area Transit Center D ARRIVES
6:00	6:16	6:23	6:34	6:45
7:00	7:16	7:23	7:34	7:45
8:00	8:16	8:23	8:34	8:45
9:00	9:16	9:23	9:34	9:45
10:00	10:16	10:23	10:34	10:45
11:00	11:16	11:23	11:34	11:45
12:00	12:16	12:23	12:34	12:45
<i>1:00</i>	<i>1:16</i>	<i>1:23</i>	<i>1:34</i>	<i>1:45</i>
<i>2:00</i>	<i>2:16</i>	<i>2:23</i>	<i>2:34</i>	<i>2:45</i>
<i>3:00</i>	<i>3:16</i>	<i>3:23</i>	<i>3:34</i>	<i>3:45</i>
<i>4:00</i>	<i>4:16</i>	<i>4:23</i>	<i>4:34</i>	<i>4:45</i>
<i>5:00</i>	<i>5:16</i>	<i>5:23</i>	<i>5:34</i>	<i>5:45</i>
<i>6:00</i>	<i>6:16</i>	<i>6:23</i>	<i>6:34</i>	<i>6:45</i>
<i>7:00</i>	<i>7:16</i>	<i>7:23</i>	<i>7:34</i>	<i>7:45</i>
<i>8:00</i>	<i>8:16</i>	<i>8:23</i>	<i>8:34</i>	<i>8:45</i>
<i>9:00</i>	<i>9:16</i>	<i>9:23</i>	<i>9:34</i>	<i>9:45</i>
<i>10:00</i>	<i>10:16</i>	<i>10:23</i>	<i>10:34</i>	<i>10:45</i>

SUNDAY - NORTHBOUND

6:00	6:16	6:23	6:34	6:45
7:00	7:16	7:23	7:34	7:45
8:00	8:16	8:23	8:34	8:45
9:00	9:16	9:23	9:34	9:45
10:00	10:16	10:23	10:34	10:45
11:00	11:16	11:23	11:34	11:45
12:00	12:16	12:23	12:34	12:45
<i>1:00</i>	<i>1:16</i>	<i>1:23</i>	<i>1:34</i>	<i>1:45</i>
<i>2:00</i>	<i>2:16</i>	<i>2:23</i>	<i>2:34</i>	<i>2:45</i>
<i>3:00</i>	<i>3:16</i>	<i>3:23</i>	<i>3:34</i>	<i>3:45</i>
<i>4:00</i>	<i>4:16</i>	<i>4:23</i>	<i>4:34</i>	<i>4:45</i>
<i>5:00</i>	<i>5:16</i>	<i>5:23</i>	<i>5:34</i>	<i>5:45</i>
<i>6:00</i>	<i>6:16</i>	<i>6:23</i>	<i>6:34</i>	<i>6:45</i>
<i>7:00</i>	<i>7:16</i>	<i>7:23</i>	<i>7:34</i>	<i>7:45</i>
<i>8:00</i>	<i>8:16</i>	<i>8:23</i>	<i>8:34</i>	<i>8:45</i>
<i>9:00</i>	<i>9:16</i>	<i>9:23</i>	<i>9:34</i>	<i>9:45</i>
<i>10:00</i>	<i>10:16</i>	<i>10:23</i>	<i>10:34</i>	<i>10:45</i>

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE 5 **40TH ST. SOUTHBOUND**
TO DOWNTOWN TAMPA

SATURDAY - SOUTHBOUND

University Area Transit Center D ▶ DEPARTS	40th St. @ Busch Blvd. C ▶	40th St. @ Hillsborough Ave. B ▶	34th St. @ M.L. King Jr. Blvd. A ▶	Marion Transit Center MTC ARRIVES
6:00	6:11	6:22	6:28	6:44
7:00	7:11	7:22	7:28	7:44
8:00	8:11	8:22	8:28	8:44
9:00	9:11	9:22	9:28	9:44
10:00	10:11	10:22	10:28	10:44
11:00	11:11	11:22	11:28	11:44
12:00	12:11	12:22	12:28	12:44
1:00	1:11	1:22	1:28	1:44
2:00	2:11	2:22	2:28	2:44
3:00	3:11	3:22	3:28	3:44
4:00	4:11	4:22	4:28	4:44
5:00	5:11	5:22	5:28	5:44
6:00	6:11	6:22	6:28	6:44
7:00	7:11	7:22	7:28	7:44
8:00	8:11	8:22	8:28	8:44
9:00	9:11	9:22	9:28	9:44
10:00	10:11	10:22	10:28	10:44

SUNDAY - SOUTHBOUND

6:00	6:11	6:22	6:28	6:44
7:00	7:11	7:22	7:28	7:44
8:00	8:11	8:22	8:28	8:44
9:00	9:11	9:22	9:28	9:44
10:00	10:11	10:22	10:28	10:44
11:00	11:11	11:22	11:28	11:44
12:00	12:11	12:22	12:28	12:44
1:00	1:11	1:22	1:28	1:44
2:00	2:11	2:22	2:28	2:44
3:00	3:11	3:22	3:28	3:44
4:00	4:11	4:22	4:28	4:44
5:00	5:11	5:22	5:28	5:44
6:00	6:11	6:22	6:28	6:44
7:00	7:11	7:22	7:28	7:44
8:00	8:11	8:22	8:28	8:44
9:00	9:11	9:22	9:28	9:44
10:00	10:11	10:22	10:28	10:44

P.M. Times are shown in *bold/italic*.
Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE 9 15TH/30TH ST.

University Area Transit Center
 Serving Routes:
 1, 5, 6, 9, 12, 33, 42, 44, 45, 48,
 275LX, 400, USF Bull Runner

ROUTE 9 15th/30th St.

MTC Marion Transit Center
 Serving Routes:
 1, 5, 6, 7, 8, 9, 10,
 12, 19, 30, 275LX,
 360LX, 400,
 100X (PSTA),
 300X (PSTA),
 MegaBus,
 RedCoach

Connecting Route & Direction of Travel

Points of Interest



Downtown Tampa to University Area via 15th/30th St.

- Destinations:**
- Marion Transit Center (MTC)
 - Greyhound Bus Station
 - Tampa Theatre
 - Old City Hall/Municipal Office Building
 - County Center
 - Amalie Arena
 - USF Health
 - Tampa Bay History Center
 - Sparkman Wharf
 - Florida Aquarium
 - Port Tampa Bay
 - Ybor City
 - HART Administrative Offices
 - HCC - Ybor Campus
 - Cuscaden Park
 - Erwin Technical College
 - Fun Lan Flea Market
 - Tampa Wholesale Produce Market
 - Hillsborough County Tax Collector
 - U.S. Post Office - Produce
 - Deborah McNair-Calhoun Head Start Center
 - Tampa General Hospital - Healthpark
 - Gwen Miller Center
 - Rowlett Park
 - Busch Gardens - Employee Entrance
 - Hillsborough County Tax Collector
 - Yuengling Brewing
 - USF Health
 - James A. Haley Veterans' Hospital
 - University Area Transit Center (UATC)

ROUTE **9** **15TH/30TH ST.**
NORTHBOUND
 TO UNIVERSITY AREA

WEEKDAY - NORTHBOUND

Marion Transit Center MTC DEPARTS	15th St. @ 17th Ave. A	Hillsborough Ave. @ 22nd St. B	Rowlett Park Dr. @ Sligh Ave. C	30th St. @ Busch Blvd. D	University Area Transit Center E ARRIVES
5:00	5:14	5:21	5:31	5:37	5:49
6:00	6:14	6:21	6:31	6:37	6:49
7:00	7:14	7:21	7:31	7:37	7:49
8:00	8:14	8:21	8:31	8:37	8:49
9:00	9:14	9:21	9:31	9:37	9:49
10:00	10:14	10:21	10:31	10:37	10:49
11:00	11:14	11:21	11:31	11:37	11:49
12:00	12:14	12:21	12:31	12:37	12:49
1:00	1:14	1:21	1:31	1:37	1:49
2:00	2:14	2:21	2:31	2:37	2:49
3:00	3:14	3:21	3:31	3:37	3:49
4:00	4:14	4:21	4:31	4:37	4:49
5:00	5:14	5:21	5:31	5:37	5:49
6:00	6:14	6:21	6:31	6:37	6:49
7:00	7:14	7:21	7:31	7:37	7:49
8:00	8:14	8:21	8:31	8:37	8:49
9:00	9:14	9:21	9:31	9:37	9:49
10:00	10:14	10:21	10:31	10:37	10:49

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE **9** **15TH/30TH ST.**
SOUTHBOUND
 TO DOWNTOWN TAMPA

WEEKDAY - SOUTHBOUND

University Area Transit Center E ▶	30th St. @ Busch Blvd. D ▶	Sligh Ave. @ Rowlett Park Dr. C ▶	Hillsborough Ave. @ 22nd St. B ▶	Republic De Cuba @ Columbus Dr. A ▶	Marion Transit Center MTC
DEPARTS					ARRIVES
5:00	5:13	5:19	5:25	5:38	5:50
6:00	6:13	6:19	6:25	6:38	6:50
7:00	7:13	7:19	7:25	7:38	7:50
8:00	8:13	8:19	8:25	8:38	8:50
9:00	9:13	9:19	9:25	9:38	9:50
10:00	10:13	10:19	10:25	10:38	10:50
11:00	11:13	11:19	11:25	11:38	11:50
12:00	12:13	12:19	12:25	12:38	12:50
<i>1:00</i>	<i>1:13</i>	<i>1:19</i>	<i>1:25</i>	<i>1:38</i>	<i>1:50</i>
<i>2:00</i>	<i>2:13</i>	<i>2:19</i>	<i>2:25</i>	<i>2:38</i>	<i>2:50</i>
<i>3:00</i>	<i>3:13</i>	<i>3:19</i>	<i>3:25</i>	<i>3:38</i>	<i>3:50</i>
<i>4:00</i>	<i>4:13</i>	<i>4:19</i>	<i>4:25</i>	<i>4:38</i>	<i>4:50</i>
<i>5:00</i>	<i>5:13</i>	<i>5:19</i>	<i>5:25</i>	<i>5:38</i>	<i>5:50</i>
<i>6:00</i>	<i>6:13</i>	<i>6:19</i>	<i>6:25</i>	<i>6:38</i>	<i>6:50</i>
<i>7:00</i>	<i>7:13</i>	<i>7:19</i>	<i>7:25</i>	<i>7:38</i>	<i>7:50</i>
<i>8:00</i>	<i>8:13</i>	<i>8:19</i>	<i>8:25</i>	<i>8:38</i>	<i>8:50</i>
<i>9:00</i>	<i>9:13</i>	<i>9:19</i>	<i>9:25</i>	<i>9:38</i>	<i>9:50</i>
<i>10:00</i>	<i>10:13</i>	<i>10:19</i>	<i>10:25</i>	<i>10:38</i>	<i>10:50</i>

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE 9 **15TH/30TH ST.**
NORTHBOUND
 TO UNIVERSITY AREA

SATURDAY - NORTHBOUND

Marion Transit Center MTC DEPARTS	15th St. @ 17th Ave. A	Hillsborough Ave. @ 22nd St. B	Rowlett Park Dr. @ Sligh Ave. C	30th St. @ Busch Blvd. D	University Area Transit Center E ARRIVES
6:00	6:07	6:16	6:23	6:29	6:44
7:00	7:07	7:16	7:23	7:29	7:44
8:00	8:07	8:16	8:23	8:29	8:44
9:00	9:07	9:16	9:23	9:29	9:44
10:00	10:07	10:16	10:23	10:29	10:44
11:00	11:07	11:16	11:23	11:29	11:44
12:00	12:07	12:16	12:23	12:29	12:44
<i>1:00</i>	<i>1:07</i>	<i>1:16</i>	<i>1:23</i>	<i>1:29</i>	<i>1:44</i>
<i>2:00</i>	<i>2:07</i>	<i>2:16</i>	<i>2:23</i>	<i>2:29</i>	<i>2:44</i>
<i>3:00</i>	<i>3:07</i>	<i>3:16</i>	<i>3:23</i>	<i>3:29</i>	<i>3:44</i>
<i>4:00</i>	<i>4:07</i>	<i>4:16</i>	<i>4:23</i>	<i>4:29</i>	<i>4:44</i>
<i>5:00</i>	<i>5:07</i>	<i>5:16</i>	<i>5:23</i>	<i>5:29</i>	<i>5:44</i>
<i>6:00</i>	<i>6:07</i>	<i>6:16</i>	<i>6:23</i>	<i>6:29</i>	<i>6:44</i>
<i>7:00</i>	<i>7:07</i>	<i>7:16</i>	<i>7:23</i>	<i>7:29</i>	<i>7:44</i>
<i>8:00</i>	<i>8:07</i>	<i>8:16</i>	<i>8:23</i>	<i>8:29</i>	<i>8:44</i>
<i>9:00</i>	<i>9:07</i>	<i>9:16</i>	<i>9:23</i>	<i>9:29</i>	<i>9:44</i>
<i>10:00</i>	<i>10:07</i>	<i>10:16</i>	<i>10:23</i>	<i>10:29</i>	<i>10:44</i>

SUNDAY - NORTHBOUND

6:00	6:07	6:16	6:23	6:29	6:44
7:00	7:07	7:16	7:23	7:29	7:44
8:00	8:07	8:16	8:23	8:29	8:44
9:00	9:07	9:16	9:23	9:29	9:44
10:00	10:07	10:16	10:23	10:29	10:44
11:00	11:07	11:16	11:23	11:29	11:44
12:00	12:07	12:16	12:23	12:29	12:44
<i>1:00</i>	<i>1:07</i>	<i>1:16</i>	<i>1:23</i>	<i>1:29</i>	<i>1:44</i>
<i>2:00</i>	<i>2:07</i>	<i>2:16</i>	<i>2:23</i>	<i>2:29</i>	<i>2:44</i>
<i>3:00</i>	<i>3:07</i>	<i>3:16</i>	<i>3:23</i>	<i>3:29</i>	<i>3:44</i>
<i>4:00</i>	<i>4:07</i>	<i>4:16</i>	<i>4:23</i>	<i>4:29</i>	<i>4:44</i>
<i>5:00</i>	<i>5:07</i>	<i>5:16</i>	<i>5:23</i>	<i>5:29</i>	<i>5:44</i>
<i>6:00</i>	<i>6:07</i>	<i>6:16</i>	<i>6:23</i>	<i>6:29</i>	<i>6:44</i>
<i>7:00</i>	<i>7:07</i>	<i>7:16</i>	<i>7:23</i>	<i>7:29</i>	<i>7:44</i>
<i>8:00</i>	<i>8:07</i>	<i>8:16</i>	<i>8:23</i>	<i>8:29</i>	<i>8:44</i>
<i>9:00</i>	<i>9:07</i>	<i>9:16</i>	<i>9:23</i>	<i>9:29</i>	<i>9:44</i>
<i>10:00</i>	<i>10:07</i>	<i>10:16</i>	<i>10:23</i>	<i>10:29</i>	<i>10:44</i>

P.M. Times are shown in ***bold/italic***.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE 9 **15TH/30TH ST.**
SOUTHBOUND
 TO DOWNTOWN TAMPA

SATURDAY - SOUTHBOUND

University Area Transit Center	30th St. @ Busch Blvd.	Sligh Ave. @ Rowlett Park Dr.	Hillsborough Ave. @ 22nd St.	Republic De Cuba @ Columbus Dr.	Marion Transit Center
E ▶	D ▶	C ▶	B ▶	A ▶	MTC
DEPARTS					ARRIVES
6:00	6:12	6:18	6:22	6:35	6:45
7:00	7:12	7:18	7:22	7:35	7:45
8:00	8:12	8:18	8:22	8:35	8:45
9:00	9:12	9:18	9:22	9:35	9:45
10:00	10:12	10:18	10:22	10:35	10:45
11:00	11:12	11:18	11:22	11:35	11:45
12:00	12:12	12:18	12:22	12:35	12:45
1:00	1:12	1:18	1:22	1:35	1:45
2:00	2:12	2:18	2:22	2:35	2:45
3:00	3:12	3:18	3:22	3:35	3:45
4:00	4:12	4:18	4:22	4:35	4:45
5:00	5:12	5:18	5:22	5:35	5:45
6:00	6:12	6:18	6:22	6:35	6:45
7:00	7:12	7:18	7:22	7:35	7:45
8:00	8:12	8:18	8:22	8:35	8:45
9:00	9:12	9:18	9:22	9:35	9:45
10:00	10:12	10:18	10:22	10:35	10:45

SUNDAY - SOUTHBOUND

6:00	6:12	6:18	6:22	6:35	6:45
7:00	7:12	7:18	7:22	7:35	7:45
8:00	8:12	8:18	8:22	8:35	8:45
9:00	9:12	9:18	9:22	9:35	9:45
10:00	10:12	10:18	10:22	10:35	10:45
11:00	11:12	11:18	11:22	11:35	11:45
12:00	12:12	12:18	12:22	12:35	12:45
1:00	1:12	1:18	1:22	1:35	1:45
2:00	2:12	2:18	2:22	2:35	2:45
3:00	3:12	3:18	3:22	3:35	3:45
4:00	4:12	4:18	4:22	4:35	4:45
5:00	5:12	5:18	5:22	5:35	5:45
6:00	6:12	6:18	6:22	6:35	6:45
7:00	7:12	7:18	7:22	7:35	7:45
8:00	8:12	8:18	8:22	8:35	8:45
9:00	9:12	9:18	9:22	9:35	9:45
10:00	10:12	10:18	10:22	10:35	10:45

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE 12 22ND ST.

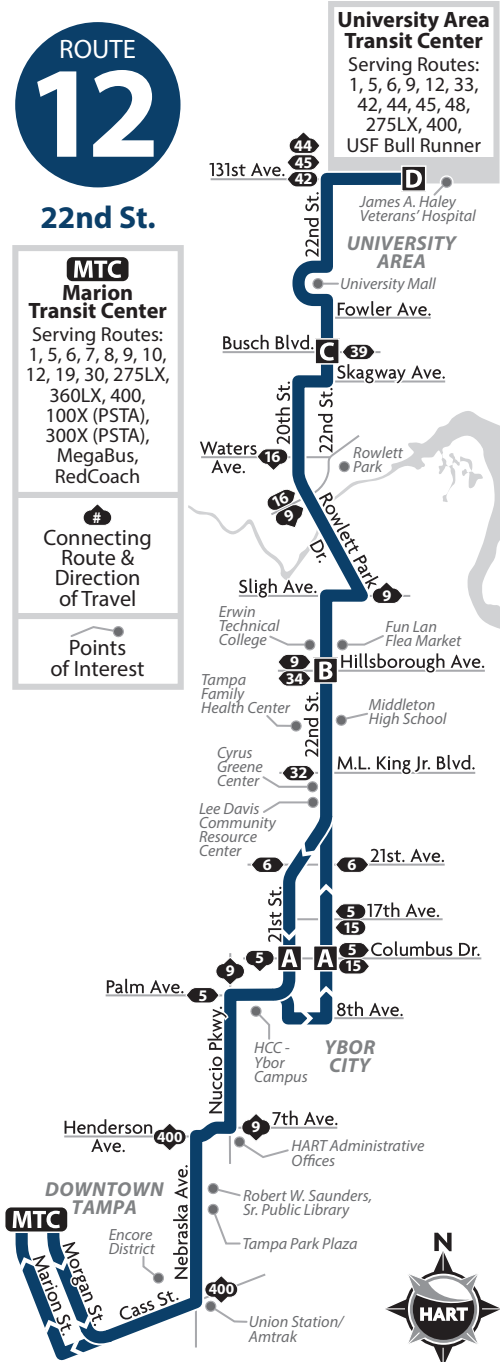
ROUTE 12

22nd St.

MTC Marion Transit Center
 Serving Routes: 1, 5, 6, 7, 8, 9, 10, 12, 19, 30, 275LX, 360LX, 400, 100X (PSTA), 300X (PSTA), MegaBus, RedCoach

#
 Connecting Route & Direction of Travel

•
 Points of Interest



Downtown Tampa to University Area via 22nd St.

Destinations:

- Marion Transit Center (MTC)
- Union Station/Amtrak
- Encore District
- Tampa Park Plaza
- Robert W. Saunders, Sr. Public Library
- Ybor City
- HART Administrative Offices
- HCC - Ybor Campus
- Lee Davis Community Resource Center
- Cyrus Greene Center
- Middleton High School
- Tampa Family Health Center - Osborne
- Fun Lan Flea Market
- Erwin Technical College
- Rowlett Park
- University Mall
- James A. Haley Veterans' Hospital
- University Area Transit Center (UATC)

ROUTE 12 **22ND ST. NORTHBOUND TO UNIVERSITY AREA**

WEEKDAY - NORTHBOUND

Marion Transit Center MTCT DEPARTS	22nd St. @ Columbus Dr. A	22nd St. @ Hillsborough Ave. B	22nd St. @ Busch Blvd. C	University Area Transit Center D ARRIVES
4:00	4:14	4:25	4:37	4:50
4:30	4:44	4:55	5:07	5:20
5:00	5:14	5:25	5:37	5:50
5:30	5:44	5:55	6:07	6:20
6:00	6:14	6:25	6:37	6:50
6:30	6:44	6:55	7:07	7:20
7:00	7:14	7:25	7:37	7:50
7:30	7:44	7:55	8:07	8:20
8:00	8:14	8:25	8:37	8:50
8:30	8:44	8:55	9:07	9:20
9:00	9:14	9:25	9:37	9:50
9:30	9:44	9:55	10:07	10:20
10:00	10:14	10:25	10:37	10:50
10:30	10:44	10:55	11:07	11:20
11:00	11:14	11:25	11:37	11:50
11:30	11:44	11:55	12:07	12:20
12:00	12:14	12:25	12:37	12:50
12:30	12:44	12:55	1:07	1:20
1:00	1:14	1:25	1:37	1:50
1:30	1:44	1:55	2:07	2:20
2:00	2:14	2:25	2:37	2:50
2:30	2:44	2:55	3:07	3:20
3:00	3:14	3:25	3:37	3:50
3:30	3:44	3:55	4:07	4:20
4:00	4:14	4:25	4:37	4:50
4:30	4:44	4:55	5:07	5:20
5:00	5:14	5:25	5:37	5:50
5:30	5:44	5:55	6:07	6:20
6:00	6:14	6:25	6:37	6:50
6:30	6:44	6:55	7:07	7:20
7:00	7:14	7:25	7:37	7:50
7:30	7:44	7:55	8:07	8:20
8:00	8:14	8:25	8:37	8:50
8:30	8:44	8:55	9:07	9:20
9:00	9:14	9:25	9:37	9:50
9:30	9:44	9:55	10:07	10:20
10:00	10:14	10:25	10:37	10:50
10:30	10:44	10:55	11:07	11:20
11:00	11:14	11:25	11:37	11:50
11:30	11:44	11:55	12:07	12:20
12:00	12:14	12:25	12:37	12:50

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE **12** **22ND ST.**
SOUTHBOUND
 TO DOWNTOWN TAMPA

WEEKDAY - SOUTHBOUND

University Area Transit Center D ▶ DEPARTS	22nd St. @ Busch Blvd. C ▶	22nd St. @ Hillsborough Ave. B ▶	21st St. @ Columbus Dr. A ▶	Marion Transit Center MTC ARRIVES
4:00	4:15	4:27	4:37	4:48
4:30	4:45	4:57	5:07	5:18
5:00	5:15	5:27	5:37	5:48
5:30	5:45	5:57	6:07	6:18
6:00	6:15	6:27	6:37	6:48
6:30	6:45	6:57	7:07	7:18
7:00	7:15	7:27	7:37	7:48
7:30	7:45	7:57	8:07	8:18
8:00	8:15	8:27	8:37	8:48
8:30	8:45	8:57	9:07	9:18
9:00	9:15	9:27	9:37	9:48
9:30	9:45	9:57	10:07	10:18
10:00	10:15	10:27	10:37	10:48
10:30	10:45	10:57	11:07	11:18
11:00	11:15	11:27	11:37	11:48
11:30	11:45	11:57	12:07	12:18
12:00	12:15	12:27	12:37	12:48
12:30	12:45	12:57	1:07	1:18
1:00	1:15	1:27	1:37	1:48
1:30	1:45	1:57	2:07	2:18
2:00	2:15	2:27	2:37	2:48
2:30	2:45	2:57	3:07	3:18
3:00	3:15	3:27	3:37	3:48
3:30	3:45	3:57	4:07	4:18
4:00	4:15	4:27	4:37	4:48
4:30	4:45	4:57	5:07	5:18
5:00	5:15	5:27	5:37	5:48
5:30	5:45	5:57	6:07	6:18
6:00	6:15	6:27	6:37	6:48
6:30	6:45	6:57	7:07	7:18
7:00	7:15	7:27	7:37	7:48
7:30	7:45	7:57	8:07	8:18
8:00	8:15	8:27	8:37	8:48
8:30	8:45	8:57	9:07	9:18
9:00	9:15	9:27	9:37	9:48
9:30	9:45	9:57	10:07	10:18
10:00	10:15	10:27	10:37	10:48
10:30	10:45	10:57	11:07	11:18
11:00	11:15	11:27	11:37	11:48
11:30	11:45	11:57	12:07	12:18
12:00	12:15	12:27	12:37	12:48

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE 12 22ND ST. NORTHBOUND TO UNIVERSITY AREA

SATURDAY - NORTHBOUND

Marion Transit Center MTCT DEPARTS	22nd St. @ Columbus Dr. A	22nd St. @ Hillsborough Ave. B	22nd St. @ Busch Blvd. C	University Area Transit Center D ARRIVES
6:00	6:13	6:25	6:37	6:50
6:30	6:43	6:55	7:07	7:20
7:00	7:13	7:25	7:37	7:50
7:30	7:43	7:55	8:07	8:20
8:00	8:13	8:25	8:37	8:50
8:30	8:43	8:55	9:07	9:20
9:00	9:13	9:25	9:37	9:50
9:30	9:43	9:55	10:07	10:20
10:00	10:13	10:25	10:37	10:50
10:30	10:43	10:55	11:07	11:20
11:00	11:13	11:25	11:37	11:50
11:30	11:43	11:55	12:07	12:20
12:00	12:13	12:25	12:37	12:50
12:30	12:43	12:55	1:07	1:20
1:00	1:13	1:25	1:37	1:50
1:30	1:43	1:55	2:07	2:20
2:00	2:13	2:25	2:37	2:50
2:30	2:43	2:55	3:07	3:20
3:00	3:13	3:25	3:37	3:50
3:30	3:43	3:55	4:07	4:20
4:00	4:13	4:25	4:37	4:50
4:30	4:43	4:55	5:07	5:20
5:00	5:13	5:25	5:37	5:50
5:30	5:43	5:55	6:07	6:20
6:00	6:13	6:25	6:37	6:50
6:30	6:43	6:55	7:07	7:20
7:00	7:13	7:25	7:37	7:50
7:30	7:43	7:55	8:07	8:20
8:00	8:13	8:25	8:37	8:50
8:30	8:43	8:55	9:07	9:20
9:00	9:13	9:25	9:37	9:50
9:30	9:43	9:55	10:07	10:20
10:00	10:13	10:25	10:37	10:50

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE **12** **22ND ST.**
SOUTHBOUND
 TO DOWNTOWN TAMPA

SATURDAY - SOUTHBOUND

University Area Transit Center D ▶ DEPARTS	22nd St. @ Busch Blvd. C ▶	22nd St. @ Hillsborough Ave. B ▶	21st St. @ Columbus Dr. A ▶	Marion Transit Center MTC ARRIVES
6:00	6:15	6:28	6:38	6:49
6:30	6:45	6:58	7:08	7:19
7:00	7:15	7:28	7:38	7:49
7:30	7:45	7:58	8:08	8:19
8:00	8:15	8:28	8:38	8:49
8:30	8:45	8:58	9:08	9:19
9:00	9:15	9:28	9:38	9:49
9:30	9:45	9:58	10:08	10:19
10:00	10:15	10:28	10:38	10:49
10:30	10:45	10:58	11:08	11:19
11:00	11:15	11:28	11:38	11:49
11:30	11:45	11:58	12:08	12:19
12:00	12:15	12:28	12:38	12:49
12:30	12:45	12:58	1:08	1:19
1:00	1:15	1:28	1:38	1:49
1:30	1:45	1:58	2:08	2:19
2:00	2:15	2:28	2:38	2:49
2:30	2:45	2:58	3:08	3:19
3:00	3:15	3:28	3:38	3:49
3:30	3:45	3:58	4:08	4:19
4:00	4:15	4:28	4:38	4:49
4:30	4:45	4:58	5:08	5:19
5:00	5:15	5:28	5:38	5:49
5:30	5:45	5:58	6:08	6:19
6:00	6:15	6:28	6:38	6:49
6:30	6:45	6:58	7:08	7:19
7:00	7:15	7:28	7:38	7:49
7:30	7:45	7:58	8:08	8:19
8:00	8:15	8:28	8:38	8:49
8:30	8:45	8:58	9:08	9:19
9:00	9:15	9:28	9:38	9:49
9:30	9:45	9:58	10:08	10:19
10:00	10:15	10:28	10:38	10:49

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE 12 22ND ST. NORTHBOUND TO UNIVERSITY AREA

SUNDAY - NORTHBOUND

Marion Transit Center MTCT DEPARTS	22nd St. @ Columbus Dr. A	22nd St. @ Hillsborough Ave. B	22nd St. @ Busch Blvd. C	University Area Transit Center D ARRIVES
6:00	6:12	6:22	6:33	6:45
6:30	6:42	6:52	7:03	7:15
7:00	7:12	7:22	7:33	7:45
7:30	7:42	7:52	8:03	8:15
8:00	8:12	8:22	8:33	8:45
8:30	8:42	8:52	9:03	9:15
9:00	9:12	9:22	9:33	9:45
9:30	9:42	9:52	10:03	10:15
10:00	10:12	10:22	10:33	10:45
10:30	10:42	10:52	11:03	11:15
11:00	11:12	11:22	11:33	11:45
11:30	11:42	11:52	12:03	12:15
12:00	12:12	12:22	12:33	12:45
12:30	12:42	12:52	1:03	1:15
1:00	1:12	1:22	1:33	1:45
1:30	1:42	1:52	2:03	2:15
2:00	2:12	2:22	2:33	2:45
2:30	2:42	2:52	3:03	3:15
3:00	3:12	3:22	3:33	3:45
3:30	3:42	3:52	4:03	4:15
4:00	4:12	4:22	4:33	4:45
4:30	4:42	4:52	5:03	5:15
5:00	5:12	5:22	5:33	5:45
5:30	5:42	5:52	6:03	6:15
6:00	6:12	6:22	6:33	6:45
6:30	6:42	6:52	7:03	7:15
7:00	7:12	7:22	7:33	7:45
7:30	7:42	7:52	8:03	8:15
8:00	8:12	8:22	8:33	8:45
8:30	8:42	8:52	9:03	9:15
9:00	9:12	9:22	9:33	9:45
9:30	9:42	9:52	10:03	10:15
10:00	10:12	10:22	10:33	10:45

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE **12** **22ND ST.**
SOUTHBOUND
 TO DOWNTOWN TAMPA

SUNDAY - SOUTHBOUND

University Area Transit Center D ▶ DEPARTS	22nd St. @ Busch Blvd. C ▶	22nd St. @ Hillsborough Ave. B ▶	21st St. @ Columbus Dr. A ▶	Marion Transit Center MTC ARRIVES
6:00	6:15	6:28	6:37	6:47
6:30	6:45	6:58	7:07	7:17
7:00	7:15	7:28	7:37	7:47
7:30	7:45	7:58	8:07	8:17
8:00	8:15	8:28	8:37	8:47
8:30	8:45	8:58	9:07	9:17
9:00	9:15	9:28	9:37	9:47
9:30	9:45	9:58	10:07	10:17
10:00	10:15	10:28	10:37	10:47
10:30	10:45	10:58	11:07	11:17
11:00	11:15	11:28	11:37	11:47
11:30	11:45	11:58	12:07	12:17
12:00	12:15	12:28	12:37	12:47
12:30	12:45	12:58	1:07	1:17
1:00	1:15	1:28	1:37	1:47
1:30	1:45	1:58	2:07	2:17
2:00	2:15	2:28	2:37	2:47
2:30	2:45	2:58	3:07	3:17
3:00	3:15	3:28	3:37	3:47
3:30	3:45	3:58	4:07	4:17
4:00	4:15	4:28	4:37	4:47
4:30	4:45	4:58	5:07	5:17
5:00	5:15	5:28	5:37	5:47
5:30	5:45	5:58	6:07	6:17
6:00	6:15	6:28	6:37	6:47
6:30	6:45	6:58	7:07	7:17
7:00	7:15	7:28	7:37	7:47
7:30	7:45	7:58	8:07	8:17
8:00	8:15	8:28	8:37	8:47
8:30	8:45	8:58	9:07	9:17
9:00	9:15	9:28	9:37	9:47
9:30	9:45	9:58	10:07	10:17
10:00	10:15	10:28	10:37	10:47

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE 34 HILLSBOROUGH AVE.



Northwest Transfer Center to Netpark via Hillsborough Ave.

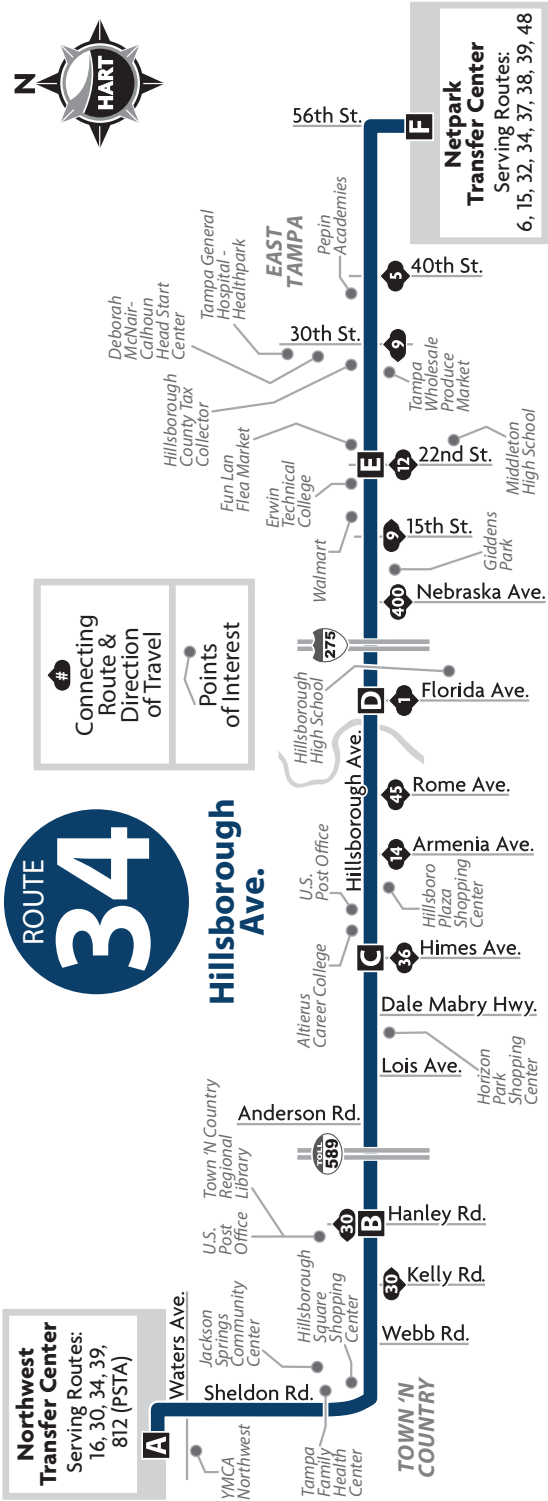
- Destinations:**
- Northwest Transfer Center
 - YMCA Northwest
 - Jackson Springs Community Center
 - Tampa Family Health Center - South Sheldon
 - Hillsborough Square Shopping Center
 - Town 'N Country Regional Library
 - U.S. Post Office - Town 'N Country
 - Horizon Park Shopping Center
 - Altierus Career College
 - U.S. Post Office - Hilldale
 - Hillsboro Plaza Shopping Center
 - Hillsborough High School
 - Giddens Park
 - Walmart
 - Erwin Technical College
 - Middleton High School
 - Fun Lan Flea Market
 - Tampa Wholesale Produce Market
 - Hillsborough County Tax Collector
 - U.S. Post Office - Produce
 - Deborah McNair-Calhoun Head Start Center
 - Tampa General Hospital - Healthpark
 - Pepin Academies
 - Netpark Transfer Center



Northwest Transfer Center
Serving Routes:
16, 30, 34, 39,
812 (PSTA)

ROUTE 34

Hillsborough Ave.



Effective January 24, 2021

ROUTE 34

WEEKDAY - EASTBOUND

DEPARTS	A	B	C	D	E	F	ARRIVES
4:45	Northwest Transfer Center	Hillsborough Ave. @ Hanley Rd.	Hillsborough Ave. @ Himes Ave.	Hillsborough Ave. @ Florida Ave.	Hillsborough Ave. @ 22nd St.	Netpark Transfer Center	5:44
5:15							6:14
5:45							6:44
6:15							7:14
6:35							7:34
6:55							7:54
7:15							8:14
7:35							8:34
7:55							8:54
8:15							9:14
8:35							9:34
8:55							9:54
9:15							10:14
9:35							10:34
9:55							10:54
10:15							11:14
10:35							11:34
10:55							11:54
11:15							12:14
11:35							12:34
11:55							12:54
12:15							1:14
12:35							1:34
12:55							1:54
1:15							2:14
1:35							2:34
1:55							2:54
2:15							3:14
2:35							3:34
2:55							3:54
3:15							4:14

Continued on next page →

ROUTE 34

WEEKDAY - EASTBOUND continued...

DEPARTS	A	B	C	D	E	F	ARRIVES
3:35	Northwest Transfer Center	Hillsborough Ave. @ Hanley Rd.	Hillsborough Ave. @ Himes Ave.	Hillsborough Ave. @ Florida Ave.	Hillsborough Ave. @ 22nd St.	Netpark Transfer Center	4:34
3:55							4:54
4:15							5:14
4:35							5:34
4:55							5:54
5:15							6:14
5:35							6:34
5:55							6:54
6:15							7:14
6:35							7:34
6:55							7:54
7:15							8:14
7:35							8:34
7:55							8:54
8:15							9:14
8:45							9:44
9:15							10:14
10:15							11:14
10:45							11:44
11:45							12:44

P.M. Times are shown in **bold/italic**.

Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE
34

WEEKDAY - WESTBOUND

DEPARTS	F	E	D	C	B	A
4:30	4:43	4:51	5:01	5:16	5:29	
5:00	5:13	5:21	5:31	5:46	5:59	
5:30	5:43	5:51	6:01	6:16	6:29	
6:00	6:13	6:21	6:31	6:46	6:59	
6:20	6:33	6:41	6:51	7:06	7:19	
6:40	6:53	7:01	7:11	7:26	7:39	
7:00	7:13	7:21	7:31	7:46	7:59	
7:20	7:33	7:41	7:51	8:06	8:19	
7:40	7:53	8:01	8:11	8:26	8:39	
8:00	8:13	8:21	8:31	8:46	8:59	
8:20	8:33	8:41	8:51	9:06	9:19	
8:40	8:53	9:01	9:11	9:26	9:39	
9:00	9:13	9:21	9:31	9:46	9:59	
9:20	9:33	9:41	9:51	10:06	10:19	
9:40	9:53	10:01	10:11	10:26	10:39	
10:00	10:13	10:21	10:31	10:46	10:59	
10:20	10:33	10:41	10:51	11:06	11:19	
10:40	10:53	11:01	11:11	11:26	11:39	
11:00	11:13	11:21	11:31	11:46	11:59	
11:20	11:33	11:41	11:51	12:06	12:19	
11:40	11:53	12:01	12:11	12:26	12:39	
12:00	12:13	12:21	12:31	12:46	12:59	
12:20	12:33	12:41	12:51	1:06	1:19	
12:40	12:53	1:01	1:11	1:26	1:39	
1:00	1:13	1:21	1:31	1:46	1:59	
1:20	1:33	1:41	1:51	2:06	2:19	
1:40	1:53	2:01	2:11	2:26	2:39	
2:00	2:13	2:21	2:31	2:46	2:59	
2:20	2:33	2:41	2:51	3:06	3:19	
2:40	2:53	3:01	3:11	3:26	3:39	
3:00	3:13	3:21	3:31	3:46	3:59	

Continued on next page →

ROUTE
34

WEEKDAY - WESTBOUND continued...

DEPARTS	F	E	D	C	B	A
3:20	3:33	3:41	3:51	4:06	4:19	
3:40	3:53	4:01	4:11	4:26	4:39	
4:00	4:13	4:21	4:31	4:46	4:59	
4:20	4:33	4:41	4:51	5:06	5:19	
4:40	4:53	5:01	5:11	5:26	5:39	
5:00	5:13	5:21	5:31	5:46	5:59	
5:20	5:33	5:41	5:51	6:06	6:19	
5:40	5:53	6:01	6:11	6:26	6:39	
6:00	6:13	6:21	6:31	6:46	6:59	
6:20	6:33	6:41	6:51	7:06	7:19	
6:40	6:53	7:01	7:11	7:26	7:39	
7:00	7:13	7:21	7:31	7:46	7:59	
7:30	7:43	7:51	8:01	8:16	8:29	
8:00	8:13	8:21	8:31	8:46	8:59	
8:30	8:43	8:51	9:01	9:16	9:29	
9:00	9:13	9:21	9:31	9:46	9:59	
9:30	9:43	9:51	10:01	10:16	10:29	
10:30	10:43	10:51	11:01	11:16	11:29	
11:30	11:43	11:51	12:01	12:16	12:29	
12:00	12:13	12:21	12:31	12:46	12:59	

P.M. Times are shown in **bold/italic**.

Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE **34** **HILLSBOROUGH AVE.**
EASTBOUND
 TO NETPARK

SATURDAY - EASTBOUND

Northwest Transfer Center A ▶	Hillsborough Ave. @ Hanley Rd. B ▶	Hillsborough Ave. @ Himes Ave. C ▶	Hillsborough Ave. @ Florida Ave. D ▶	Hillsborough Ave. @ 22nd St. E ▶	Netpark Transfer Center F
DEPARTS					ARRIVES
6:00	6:14	6:27	6:37	6:44	6:54
6:30	6:44	6:57	7:07	7:14	7:24
7:00	7:14	7:27	7:37	7:44	7:54
7:30	7:44	7:57	8:07	8:14	8:24
8:00	8:14	8:27	8:37	8:44	8:54
8:30	8:44	8:57	9:07	9:14	9:24
9:00	9:14	9:27	9:37	9:44	9:54
9:30	9:44	9:57	10:07	10:14	10:24
10:00	10:14	10:27	10:37	10:44	10:54
10:30	10:44	10:57	11:07	11:14	11:24
11:00	11:14	11:27	11:37	11:44	11:54
11:30	11:44	11:57	12:07	12:14	12:24
12:00	12:14	12:27	12:37	12:44	12:54
12:30	12:44	12:57	1:07	1:14	1:24
<i>1:00</i>	<i>1:14</i>	<i>1:27</i>	<i>1:37</i>	<i>1:44</i>	<i>1:54</i>
<i>1:30</i>	<i>1:44</i>	<i>1:57</i>	<i>2:07</i>	<i>2:14</i>	<i>2:24</i>
<i>2:00</i>	<i>2:14</i>	<i>2:27</i>	<i>2:37</i>	<i>2:44</i>	<i>2:54</i>
<i>2:30</i>	<i>2:44</i>	<i>2:57</i>	<i>3:07</i>	<i>3:14</i>	<i>3:24</i>
<i>3:00</i>	<i>3:14</i>	<i>3:27</i>	<i>3:37</i>	<i>3:44</i>	<i>3:54</i>
<i>3:30</i>	<i>3:44</i>	<i>3:57</i>	<i>4:07</i>	<i>4:14</i>	<i>4:24</i>
<i>4:00</i>	<i>4:14</i>	<i>4:27</i>	<i>4:37</i>	<i>4:44</i>	<i>4:54</i>
<i>4:30</i>	<i>4:44</i>	<i>4:57</i>	<i>5:07</i>	<i>5:14</i>	<i>5:24</i>
<i>5:00</i>	<i>5:14</i>	<i>5:27</i>	<i>5:37</i>	<i>5:44</i>	<i>5:54</i>
<i>5:30</i>	<i>5:44</i>	<i>5:57</i>	<i>6:07</i>	<i>6:14</i>	<i>6:24</i>
<i>6:00</i>	<i>6:14</i>	<i>6:27</i>	<i>6:37</i>	<i>6:44</i>	<i>6:54</i>
<i>6:30</i>	<i>6:44</i>	<i>6:57</i>	<i>7:07</i>	<i>7:14</i>	<i>7:24</i>
<i>7:00</i>	<i>7:14</i>	<i>7:27</i>	<i>7:37</i>	<i>7:44</i>	<i>7:54</i>
<i>7:30</i>	<i>7:44</i>	<i>7:57</i>	<i>8:07</i>	<i>8:14</i>	<i>8:24</i>
<i>8:00</i>	<i>8:14</i>	<i>8:27</i>	<i>8:37</i>	<i>8:44</i>	<i>8:54</i>
<i>8:30</i>	<i>8:44</i>	<i>8:57</i>	<i>9:07</i>	<i>9:14</i>	<i>9:24</i>
<i>9:00</i>	<i>9:14</i>	<i>9:27</i>	<i>9:37</i>	<i>9:44</i>	<i>9:54</i>
<i>9:30</i>	<i>9:44</i>	<i>9:57</i>	<i>10:07</i>	<i>10:14</i>	<i>10:24</i>
<i>10:00</i>	<i>10:14</i>	<i>10:27</i>	<i>10:37</i>	<i>10:44</i>	<i>10:54</i>

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE
34

HILLSBOROUGH AVE.
WESTBOUND
TO NORTHWEST TRANSFER CENTER

SATURDAY - WESTBOUND

Netpark Transfer Center F ▶ DEPARTS	Hillsborough Ave. @ 22nd St. E ▶	Hillsborough Ave. @ Florida Ave. D ▶	Hillsborough Ave. @ Himes Ave. C ▶	Hillsborough Ave. @ Hanley Rd. B ▶	Northwest Transfer Center A ARRIVES
6:30	6:42	6:48	6:57	7:09	7:21
7:00	7:12	7:18	7:27	7:39	7:51
7:30	7:42	7:48	7:57	8:09	8:21
8:00	8:12	8:18	8:27	8:39	8:51
8:30	8:42	8:48	8:57	9:09	9:21
9:00	9:12	9:18	9:27	9:39	9:51
9:30	9:42	9:48	9:57	10:09	10:21
10:00	10:12	10:18	10:27	10:39	10:51
10:30	10:42	10:48	10:57	11:09	11:21
11:00	11:12	11:18	11:27	11:39	11:51
11:30	11:42	11:48	11:57	12:09	12:21
12:00	12:12	12:18	12:27	12:39	12:51
12:30	12:42	12:48	12:57	1:09	1:21
<i>1:00</i>	<i>1:12</i>	<i>1:18</i>	<i>1:27</i>	<i>1:39</i>	<i>1:51</i>
<i>1:30</i>	<i>1:42</i>	<i>1:48</i>	<i>1:57</i>	<i>2:09</i>	<i>2:21</i>
<i>2:00</i>	<i>2:12</i>	<i>2:18</i>	<i>2:27</i>	<i>2:39</i>	<i>2:51</i>
<i>2:30</i>	<i>2:42</i>	<i>2:48</i>	<i>2:57</i>	<i>3:09</i>	<i>3:21</i>
<i>3:00</i>	<i>3:12</i>	<i>3:18</i>	<i>3:27</i>	<i>3:39</i>	<i>3:51</i>
<i>3:30</i>	<i>3:42</i>	<i>3:48</i>	<i>3:57</i>	<i>4:09</i>	<i>4:21</i>
<i>4:00</i>	<i>4:12</i>	<i>4:18</i>	<i>4:27</i>	<i>4:39</i>	<i>4:51</i>
<i>4:30</i>	<i>4:42</i>	<i>4:48</i>	<i>4:57</i>	<i>5:09</i>	<i>5:21</i>
<i>5:00</i>	<i>5:12</i>	<i>5:18</i>	<i>5:27</i>	<i>5:39</i>	<i>5:51</i>
<i>5:30</i>	<i>5:42</i>	<i>5:48</i>	<i>5:57</i>	<i>6:09</i>	<i>6:21</i>
<i>6:00</i>	<i>6:12</i>	<i>6:18</i>	<i>6:27</i>	<i>6:39</i>	<i>6:51</i>
<i>6:30</i>	<i>6:42</i>	<i>6:48</i>	<i>6:57</i>	<i>7:09</i>	<i>7:21</i>
<i>7:00</i>	<i>7:12</i>	<i>7:18</i>	<i>7:27</i>	<i>7:39</i>	<i>7:51</i>
<i>7:30</i>	<i>7:42</i>	<i>7:48</i>	<i>7:57</i>	<i>8:09</i>	<i>8:21</i>
<i>8:00</i>	<i>8:12</i>	<i>8:18</i>	<i>8:27</i>	<i>8:39</i>	<i>8:51</i>
<i>8:30</i>	<i>8:42</i>	<i>8:48</i>	<i>8:57</i>	<i>9:09</i>	<i>9:21</i>
<i>9:00</i>	<i>9:12</i>	<i>9:18</i>	<i>9:27</i>	<i>9:39</i>	<i>9:51</i>
<i>9:30</i>	<i>9:42</i>	<i>9:48</i>	<i>9:57</i>	<i>10:09</i>	<i>10:21</i>
<i>10:00</i>	<i>10:12</i>	<i>10:18</i>	<i>10:27</i>	<i>10:39</i>	<i>10:51</i>
<i>10:30</i>	<i>10:42</i>	<i>10:48</i>	<i>10:57</i>	<i>11:09</i>	<i>11:21</i>

P.M. Times are shown in *bold/italic*.

Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE **34** **HILLSBOROUGH AVE.**
EASTBOUND
 TO NETPARK

SUNDAY - EASTBOUND

Northwest Transfer Center A ▶	Hillsborough Ave. @ Hanley Rd. B ▶	Hillsborough Ave. @ Himes Ave. C ▶	Hillsborough Ave. @ Florida Ave. D ▶	Hillsborough Ave. @ 22nd St. E ▶	Netpark Transfer Center F
DEPARTS					ARRIVES
6:30	6:43	6:56	7:05	7:12	7:22
7:00	7:13	7:26	7:35	7:42	7:52
7:30	7:43	7:56	8:05	8:12	8:22
8:00	8:13	8:26	8:35	8:42	8:52
8:30	8:43	8:56	9:05	9:12	9:22
9:00	9:13	9:26	9:35	9:42	9:52
9:30	9:43	9:56	10:05	10:12	10:22
10:00	10:13	10:26	10:35	10:42	10:52
10:30	10:43	10:56	11:05	11:12	11:22
11:00	11:13	11:26	11:35	11:42	11:52
11:30	11:43	11:56	12:05	12:12	12:22
12:00	12:13	12:26	12:35	12:42	12:52
12:30	12:43	12:56	1:05	1:12	1:22
1:00	1:13	1:26	1:35	1:42	1:52
1:30	1:43	1:56	2:05	2:12	2:22
2:00	2:13	2:26	2:35	2:42	2:52
2:30	2:43	2:56	3:05	3:12	3:22
3:00	3:13	3:26	3:35	3:42	3:52
3:30	3:43	3:56	4:05	4:12	4:22
4:00	4:13	4:26	4:35	4:42	4:52
4:30	4:43	4:56	5:05	5:12	5:22
5:00	5:13	5:26	5:35	5:42	5:52
5:30	5:43	5:56	6:05	6:12	6:22
6:00	6:13	6:26	6:35	6:42	6:52
6:30	6:43	6:56	7:05	7:12	7:22
7:00	7:13	7:26	7:35	7:42	7:52
7:30	7:43	7:56	8:05	8:12	8:22
8:00	8:13	8:26	8:35	8:42	8:52
8:30	8:43	8:56	9:05	9:12	9:22
9:00	9:13	9:26	9:35	9:42	9:52
9:30	9:43	9:56	10:05	10:12	10:22
10:00	10:13	10:26	10:35	10:42	10:52
11:00	11:13	11:26	11:35	11:42	11:52

P.M. Times are shown in *bold/italic*.
 Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

ROUTE
34

HILLSBOROUGH AVE.
WESTBOUND
TO NORTHWEST TRANSFER CENTER

SUNDAY - WESTBOUND

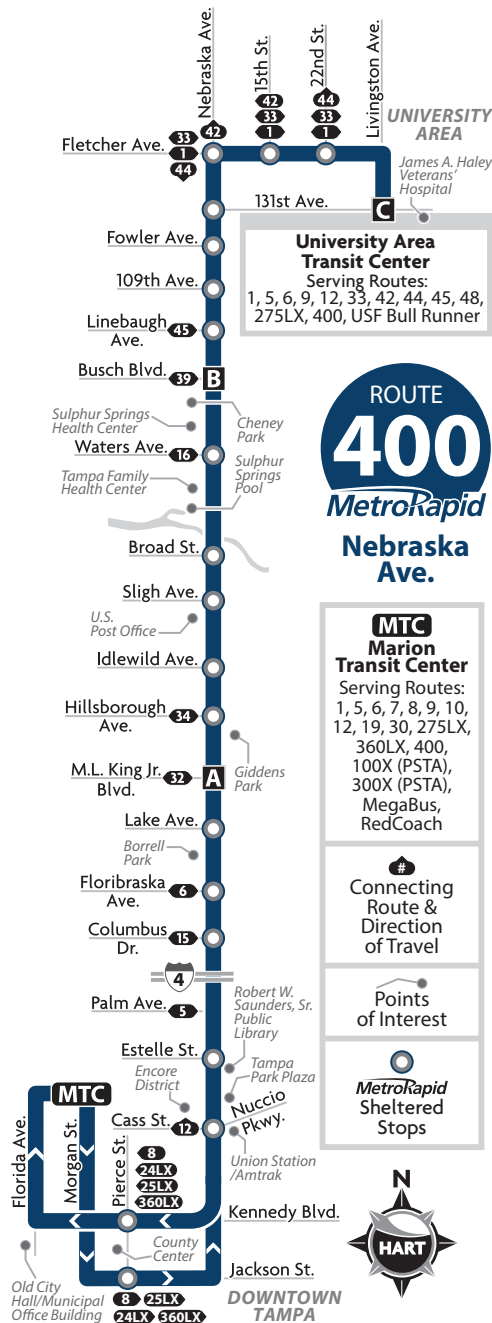
F Netpark Transfer Center DEPARTS	E Hillsborough Ave. @ 22nd St.	D Hillsborough Ave. @ Florida Ave.	C Hillsborough Ave. @ Himes Ave.	B Hillsborough Ave. @ Hanley Rd.	A Northwest Transfer Center ARRIVES
6:00	6:12	6:18	6:27	6:39	6:51
6:30	6:42	6:48	6:57	7:09	7:21
7:00	7:12	7:18	7:27	7:39	7:51
7:30	7:42	7:48	7:57	8:09	8:21
8:00	8:12	8:18	8:27	8:39	8:51
8:30	8:42	8:48	8:57	9:09	9:21
9:00	9:12	9:18	9:27	9:39	9:51
9:30	9:42	9:48	9:57	10:09	10:21
10:00	10:12	10:18	10:27	10:39	10:51
10:30	10:42	10:48	10:57	11:09	11:21
11:00	11:12	11:18	11:27	11:39	11:51
11:30	11:42	11:48	11:57	<i>12:09</i>	<i>12:21</i>
12:00	12:12	12:18	12:27	12:39	12:51
12:30	12:42	12:48	12:57	1:09	1:21
1:00	1:12	1:18	1:27	1:39	1:51
1:30	1:42	1:48	1:57	2:09	2:21
2:00	2:12	2:18	2:27	2:39	2:51
2:30	2:42	2:48	2:57	3:09	3:21
3:00	3:12	3:18	3:27	3:39	3:51
3:30	3:42	3:48	3:57	4:09	4:21
4:00	4:12	4:18	4:27	4:39	4:51
4:30	4:42	4:48	4:57	5:09	5:21
5:00	5:12	5:18	5:27	5:39	5:51
5:30	5:42	5:48	5:57	6:09	6:21
6:00	6:12	6:18	6:27	6:39	6:51
6:30	6:42	6:48	6:57	7:09	7:21
7:00	7:12	7:18	7:27	7:39	7:51
7:30	7:42	7:48	7:57	8:09	8:21
8:00	8:12	8:18	8:27	8:39	8:51
8:30	8:42	8:48	8:57	9:09	9:21
9:00	9:12	9:18	9:27	9:39	9:51
9:30	9:42	9:48	9:57	10:09	10:21
10:00	10:12	10:18	10:27	10:39	10:51

P.M. Times are shown in *bold/italic*.

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ROUTE 400 NEBRASKA AVE.

MetroRapid



Downtown Tampa to University Area via Nebraska Ave.

Destinations:

- Marion Transit Center (MTC)
- Old City Hall/Municipal Office Building
- County Center
- Edgecomb Courthouse
- Joe Chillura Courthouse Square
- Union Station/Amtrak
- Encore District
- Tampa Park Plaza
- Robert W. Saunders, Sr. Public Library
- Borrell Park
- Giddens Park
- U.S. Post Office - Sulphur Springs
- Sulphur Springs Pool
- Tampa Family Health Center - Nebraska
- Sulphur Springs Health Center
- Cheney Park
- James A. Haley Veterans' Hospital
- University Area Transit Center (UATC)

WEEKDAY - NORTHBOUND

Marion Transit Center	Nebraska Ave. @ M.L. King Jr. Blvd.	Nebraska Ave. @ Busch Blvd.	University Area Transit Center
MTCT DEPARTS	A	B	C ARRIVES
4:30	4:44	4:57	5:09
5:00	5:13	5:27	5:38
5:30	5:44	5:58	6:10
6:00	6:14	6:29	6:42
6:15	6:29	6:44	6:57
6:30	6:44	6:58	7:11
6:45	7:00	7:14	7:30
7:00	7:15	7:29	7:45
7:15	7:31	7:46	8:01
7:30	7:46	8:00	8:13
7:50	8:05	8:19	8:33
8:05	8:19	8:33	8:46
8:20	8:34	8:48	9:01
8:35	8:49	9:03	9:16
8:50	9:02	9:16	9:29
9:00	9:12	9:26	9:39
9:15	9:29	9:44	9:57
9:30	9:44	9:59	10:13
9:45	10:00	10:15	10:28
10:00	10:14	10:29	10:42
10:15	10:29	10:44	10:57
10:30	10:44	10:59	11:13
10:45	10:59	11:14	11:28
11:00	11:15	11:29	11:43
11:15	11:29	11:44	11:58
11:30	11:44	12:00	12:14
11:45	12:00	12:15	12:29
12:00	12:16	12:31	12:46
12:15	12:30	12:45	12:59
12:30	12:45	1:01	1:15
12:45	1:00	1:15	1:29
1:00	1:15	1:30	1:44
1:15	1:30	1:46	2:01
1:30	1:45	2:00	2:15
1:45	1:59	2:15	2:29
2:00	2:15	2:31	2:47

Continued on next page →

WEEKDAY - NORTHBOUND continued...

Marion Transit Center	Nebraska Ave. @ M.L. King Jr. Blvd.	Nebraska Ave. @ Busch Blvd.	University Area Transit Center
MTCT DEPARTS	A	B	C ARRIVES
2:15	2:30	2:45	3:01
2:30	2:45	3:00	3:17
2:45	3:00	3:16	3:32
3:00	3:14	3:30	3:47
3:15	3:31	3:48	4:05
3:30	3:46	4:04	4:22
3:45	4:03	4:21	4:40
4:00	4:17	4:35	4:52
4:15	4:32	4:50	5:08
4:30	4:48	5:06	5:25
4:45	5:02	5:21	5:38
5:00	5:18	5:37	5:55
5:15	5:32	5:51	6:08
5:30	5:46	6:05	6:21
5:45	6:00	6:17	6:32
6:00	6:16	6:32	6:47
6:15	6:29	6:44	7:00
6:30	6:43	6:58	7:13
6:45	6:58	7:12	7:24
7:00	7:12	7:26	7:38
7:15	7:28	7:42	7:54
7:30	7:43	7:55	8:06
7:45	7:58	8:11	8:23
8:00	8:14	8:28	8:41
8:30	8:44	8:58	9:10
9:00	9:14	9:27	9:38
9:30	9:45	9:59	10:10
10:00	10:15	10:29	10:40
11:00	11:14	11:26	11:37
12:00	12:14	12:27	12:36

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WEEKDAY - SOUTHBOUND

University Area Transit Center	Nebraska Ave. @ Busch Blvd.	Nebraska Ave. @ M.L. King Jr. Blvd.	MTC Marion Transit Center
C DEPARTS	B DEPARTS	A DEPARTS	MTC ARRIVES
4:30	4:45	5:01	5:13
5:00	5:16	5:31	5:44
5:30	5:46	6:01	6:12
6:00	6:17	6:32	6:43
6:15	6:32	6:47	6:59
6:30	6:48	7:04	7:16
6:45	7:06	7:24	7:38
7:00	7:22	7:41	7:55
7:15	7:37	7:55	8:10
7:30	7:50	8:08	8:22
7:45	8:05	8:23	8:37
8:00	8:19	8:36	8:50
8:15	8:33	8:49	9:03
8:30	8:47	9:03	9:16
8:45	9:01	9:17	9:29
9:00	9:16	9:32	9:43
9:15	9:32	9:48	10:01
9:30	9:45	10:01	10:14
9:45	10:01	10:17	10:30
10:00	10:17	10:32	10:44
10:15	10:31	10:48	11:01
10:30	10:46	11:02	11:15
10:45	11:01	11:17	11:29
11:00	11:17	11:33	11:45
11:15	11:31	11:47	12:01
11:30	11:46	12:01	12:15
11:45	12:02	12:18	12:31
12:00	12:16	12:31	12:45
12:15	12:31	12:46	1:00
12:30	12:47	1:02	1:14
12:45	1:02	1:18	1:31
1:00	1:17	1:32	1:45
1:15	1:31	1:47	2:00
1:30	1:47	2:02	2:15
1:45	2:02	2:18	2:31
2:00	2:17	2:32	2:45

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WEEKDAY - SOUTHBOUND continued...

University Area Transit Center	Nebraska Ave. @ Busch Blvd.	Nebraska Ave. @ M.L. King Jr. Blvd.	MTC Marion Transit Center
C DEPARTS	B DEPARTS	A DEPARTS	MTC ARRIVES
2:15	2:32	2:48	3:01
2:30	2:49	3:05	3:17
2:45	3:02	3:18	3:30
3:00	3:18	3:34	3:45
3:15	3:34	3:51	4:02
3:30	3:49	4:06	4:18
3:45	4:05	4:20	4:32
4:00	4:19	4:36	4:48
4:15	4:34	4:50	5:03
4:30	4:49	5:06	5:19
4:45	5:04	5:21	5:32
5:00	5:18	5:34	5:45
5:15	5:32	5:48	5:59
5:30	5:47	6:02	6:13
5:45	6:00	6:14	6:26
6:00	6:15	6:29	6:40
6:15	6:29	6:43	6:54
6:30	6:44	6:57	7:08
6:45	6:59	7:13	7:24
7:00	7:15	7:30	7:42
7:15	7:29	7:44	7:55
7:30	7:44	7:58	8:10
7:45	7:59	8:14	8:26
8:00	8:14	8:27	8:39
8:30	8:44	8:59	9:11
9:00	9:16	9:31	9:42
9:30	9:44	9:58	10:10
10:00	10:14	10:28	10:40
11:00	11:15	11:30	11:40
12:00	12:12	12:26	12:37

P.M. Times are shown in *bold/italic*.
Schedule times subject to delay due to traffic conditions, weather or unforeseen events.



ROUTE 400 NEBRASKA AVE. NORTHBOUND TO UNIVERSITY AREA

SATURDAY - NORTHBOUND

Marion Transit Center MTC DEPARTS	Nebraska Ave. @ M.L. King Jr. Blvd. A	Nebraska Ave. @ Busch Blvd. B	University Area Transit Center C ARRIVES
5:00	5:12	5:26	5:39
5:30	5:44	5:56	6:09
6:00	6:13	6:27	6:39
6:30	6:43	6:56	7:07
7:00	7:13	7:28	7:41
7:30	7:44	7:59	8:11
8:00	8:14	8:29	8:42
8:30	8:44	8:59	9:13
9:00	9:15	9:31	9:45
9:30	9:44	10:00	10:15
10:00	10:15	10:31	10:47
10:30	10:45	11:01	11:16
11:00	11:14	11:31	11:48
11:30	11:45	12:01	12:17
12:00	12:15	12:31	12:48
12:30	12:45	1:02	1:19
1:00	1:16	1:34	1:51
1:30	1:44	2:02	2:18
2:00	2:15	2:33	2:50
2:30	2:45	3:02	3:19
3:00	3:15	3:32	3:49
3:30	3:48	4:04	4:18
4:00	4:16	4:34	4:50
4:30	4:45	5:02	5:18
5:00	5:15	5:32	5:48
5:30	5:44	6:00	6:16
6:00	6:15	6:32	6:47
6:30	6:46	7:02	7:17
7:00	7:14	7:29	7:44
7:30	7:44	7:58	8:12
8:00	8:15	8:29	8:43
8:30	8:44	8:59	9:12
9:00	9:14	9:28	9:41
9:30	9:43	9:56	10:07
10:00	10:15	10:29	10:42
11:00	11:15	11:28	11:41
12:00	12:15	12:28	12:41

P.M. Times are shown in *bold/italic*.

Schedule times subject to delay due to traffic conditions, weather or unforeseen events.



NEBRASKA AVE.

SOUTHBOUND TO DOWNTOWN TAMPA

SATURDAY - SOUTHBOUND

University Area Transit Center C ▶ DEPARTS	Nebraska Ave. @ Busch Blvd. B ▶	Nebraska Ave. @ M.L. King Jr. Blvd. A ▶	Marion Transit Center MTC ARRIVES
5:00	5:15	5:29	5:41
5:30	5:45	5:58	6:10
6:00	6:15	6:29	6:42
6:30	6:46	7:00	7:12
7:00	7:16	7:31	7:42
7:30	7:46	8:02	8:14
8:00	8:16	8:32	8:45
8:30	8:47	9:02	9:15
9:00	9:17	9:32	9:45
9:30	9:46	10:03	10:16
10:00	10:17	10:34	10:48
10:30	10:47	11:05	11:19
11:00	11:18	11:35	11:48
11:30	11:47	12:05	12:19
12:00	12:18	12:36	12:50
12:30	12:49	1:06	1:18
1:00	1:18	1:36	1:48
1:30	1:49	2:06	2:19
2:00	2:20	2:37	2:50
2:30	2:48	3:05	3:18
3:00	3:19	3:37	3:50
3:30	3:49	4:07	4:19
4:00	4:17	4:33	4:46
4:30	4:48	5:04	5:17
5:00	5:16	5:34	5:47
5:30	5:48	6:04	6:17
6:00	6:18	6:34	6:46
6:30	6:47	7:01	7:13
7:00	7:17	7:34	7:46
7:30	7:46	8:00	8:12
8:00	8:16	8:31	8:43
8:30	8:44	8:58	9:09
9:00	9:16	9:31	9:43
9:30	9:46	10:00	10:13
10:00	10:15	10:28	10:41
11:00	11:15	11:30	11:43
12:00	12:15	12:28	12:41

P.M. Times are shown in *bold/italic*.

Schedule times subject to delay due to traffic conditions, weather or unforeseen events.



ROUTE 400 NEBRASKA AVE. NORTHBOUND TO UNIVERSITY AREA

SUNDAY - NORTHBOUND

Maion Transit Center MTC DEPARTS	Nebraska Ave. @ M.L. King Jr. Blvd. A	Nebraska Ave. @ Busch Blvd. B	University Area Transit Center C ARRIVES
5:00	5:12	5:26	5:39
5:30	5:44	5:56	6:09
6:00	6:13	6:27	6:39
6:30	6:43	6:56	7:07
7:00	7:13	7:28	7:41
7:30	7:44	7:59	8:11
8:00	8:14	8:29	8:42
8:30	8:44	8:59	9:13
9:00	9:15	9:31	9:45
9:30	9:44	10:00	10:15
10:00	10:15	10:31	10:47
10:30	10:45	11:01	11:16
11:00	11:14	11:31	11:48
11:30	11:45	12:01	12:17
12:00	12:15	12:31	12:48
12:30	12:45	1:02	1:19
1:00	1:16	1:34	1:51
1:30	1:44	2:02	2:18
2:00	2:15	2:33	2:50
2:30	2:45	3:02	3:19
3:00	3:15	3:32	3:49
3:30	3:48	4:04	4:18
4:00	4:16	4:34	4:50
4:30	4:45	5:02	5:18
5:00	5:15	5:32	5:48
5:30	5:44	6:00	6:16
6:00	6:15	6:32	6:47
6:30	6:46	7:02	7:17
7:00	7:14	7:29	7:44
7:30	7:44	7:58	8:12
8:00	8:15	8:29	8:43
8:30	8:44	8:59	9:12
9:00	9:14	9:28	9:41
9:30	9:43	9:56	10:07
10:00	10:15	10:29	10:42
11:00	11:15	11:28	11:41
12:00	12:15	12:28	12:41

P.M. Times are shown in *bold/italic*.

Schedule times subject to delay due to traffic conditions, weather or unforeseen events.



NEBRASKA AVE.

SOUTHBOUND
TO DOWNTOWN TAMPA

SUNDAY - SOUTHBOUND

University Area Transit Center C ▶ DEPARTS	Nebraska Ave. @ Busch Blvd. B ▶	Nebraska Ave. @ M.L. King Jr. Blvd. A ▶	Marion Transit Center MTC ARRIVES
5:00	5:15	5:29	5:41
5:31	5:46	5:59	6:11
6:00	6:15	6:29	6:42
6:30	6:46	7:00	7:12
7:00	7:16	7:31	7:42
7:30	7:46	8:02	8:14
8:00	8:16	8:32	8:45
8:30	8:47	9:02	9:15
9:00	9:17	9:32	9:45
9:30	9:46	10:03	10:16
10:00	10:17	10:34	10:48
10:30	10:47	11:05	11:19
11:00	11:18	11:35	11:48
11:30	11:47	12:05	12:19
12:00	12:18	12:36	12:50
12:30	12:49	1:06	1:18
1:00	1:18	1:36	1:48
1:30	1:49	2:06	2:19
2:00	2:20	2:37	2:50
2:30	2:48	3:05	3:18
3:00	3:19	3:37	3:50
3:30	3:49	4:07	4:19
4:00	4:17	4:33	4:46
4:30	4:48	5:04	5:17
5:00	5:16	5:34	5:47
5:30	5:48	6:04	6:17
6:00	6:18	6:34	6:46
6:30	6:47	7:01	7:13
7:00	7:17	7:34	7:46
7:30	7:46	8:00	8:12
8:00	8:16	8:31	8:43
8:30	8:44	8:58	9:09
9:00	9:16	9:31	9:43
9:30	9:46	10:00	10:13
10:00	10:15	10:28	10:41
11:00	11:15	11:30	11:43
12:00	12:15	12:28	12:41

P.M. Times are shown in *bold/italic*.

Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

APPENDIX K

Trip Generation

Peak Hour Trip Generation Comparison

Future Land Use (ITE Code)	ITE Edition	ITE Code	Scale	ITE units	Proposed Weekday AM Peak hour Trip Generation																			
					Directional Distribution		Gross Volumes		Multimodal Reduction		External trips		Internal Capture		Net New External trips		Pass-by Capture		Net New External Trips					
					In (percent)	Out (percent)	In	Out	Percent	Trips	In	Out	Percent	IC Trips	In	Out	Percent	PB Trips	In	Out	Total			
Government Office (730)	10	730	500	employees	25	25	413	138	550	0	28	392	131	0	0	0	0	0	0	0	392	131	523	
Culinary Program (590)	10	590	1962	sqft	71	21	2	1	2	0	0	1	0	2	0	0	0	0	0	0	0	0	2	
Career Source (590)	10	590	2573	sqft	71	21	2	1	3	0	0	2	1	2	0	0	0	0	0	0	0	0	2	
Technology & Arts (590)	10	590	9375	sqft	71	21	7	2	9	0	0	6	2	9	0	0	0	0	0	0	0	0	9	
Wellness Center/Doctor's Office (590)	10	590	2650	sqft	78	22	6	2	7	0	0	5	2	7	0	0	0	0	0	0	0	0	7	
							Total	428	142	571	0	29	407	135	543	0	0	0	0	0	0	0	0	543

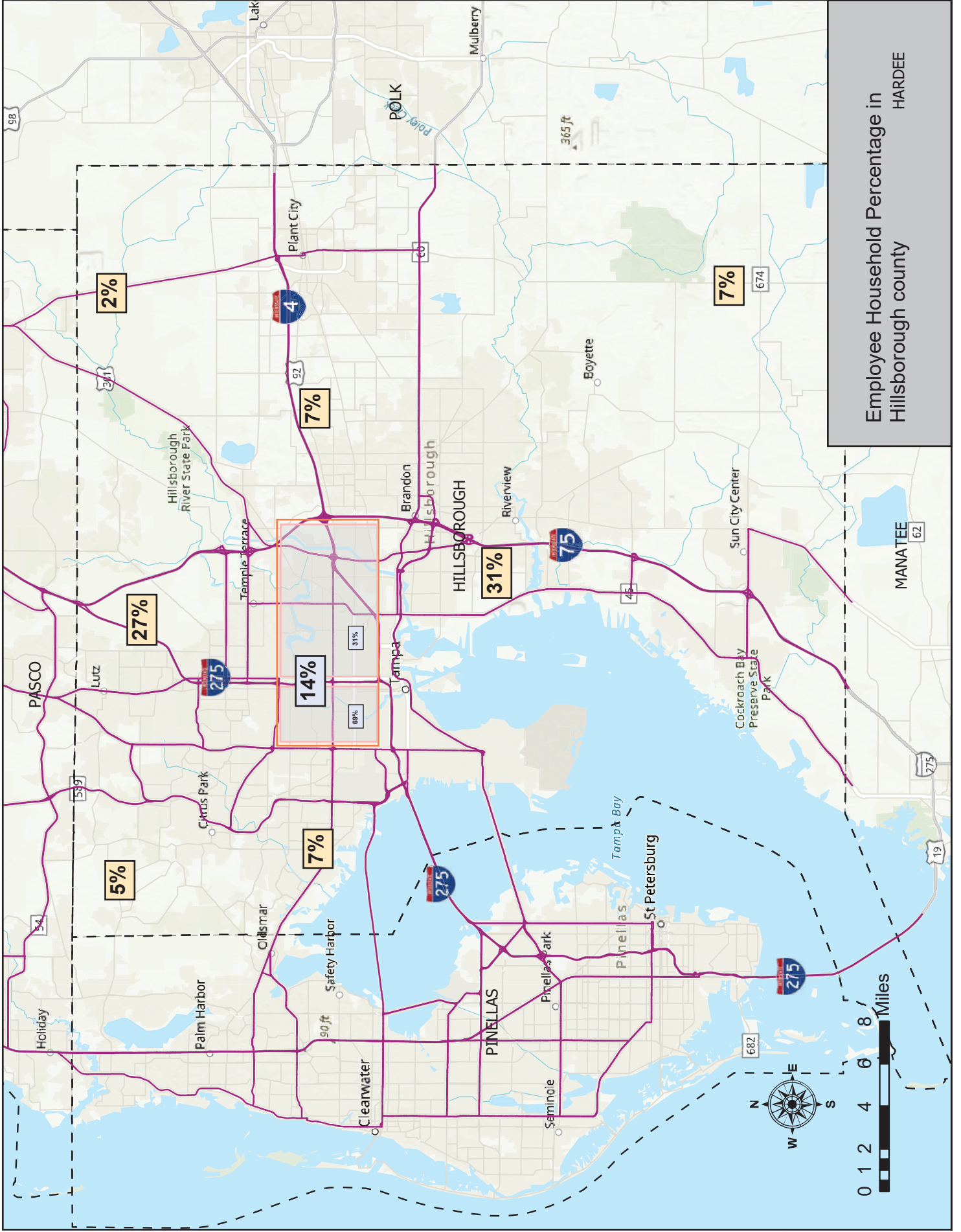
ITE Land Use Code
710
590
Rate or Equation
1.10
1.00

Future Land Use (ITE Code)	ITE Edition	ITE Code	Scale	ITE units	Proposed Weekday PM Peak hour Trip Generation																						
					Directional Distribution		Gross Volumes		Multimodal Reduction		External trips		Internal Capture		Net New External trips		Pass-by Capture		Net New External Trips								
					In (percent)	Out (percent)	In	Out	Percent	Trips	In	Out	Percent	IC Trips	In	Out	Percent	PB Trips	In	Out	Total						
Government Office (730)	10	730	500	employees	20	80	71.0	284.0	355	5%	17.8	67	270	337	0	0	0	0	0	0	0	0	0	67	270	337	
Culinary Program (590)	10	590	1962	sqft	48	52	0.6	0.6	1	5%	0.1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	
Career Source (590)	10	590	2573	sqft	48	52	3.3	3.6	7	5%	0.3	3	3	7	0	0	0	0	0	0	0	0	0	3	7		
Technology & Arts (590)	10	590	9375	sqft	48	52	33.8	36.6	70	5%	3.5	32	35	67	0	0	0	0	0	0	0	0	0	32	35	67	
Wellness Center/Doctor's Office (590)	10	590	2650	sqft	28	72	2.6	6.6	9	5%	0.5	2	6	9	0	0	0	0	0	0	0	0	0	2	6	9	
							Total	111	331	443	0	22	106	315	420	0	0	0	0	0	0	0	0	0	106	315	420

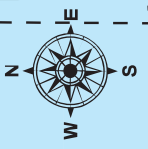
ITE Land Use Code
710
590
Rate or Equation
0.71
T = 9.33(X) - 17.13

APPENDIX L

Cardinal Distribution



Employee Household Percentage in Hillsborough county HARDEE



APPENDIX M

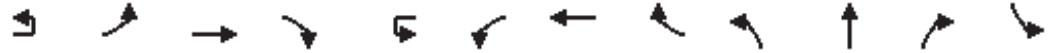
Future SYNCHRO

Reports

Background Traffic

HCM Signalized Intersection Capacity Analysis
1: N 15th Street & Hillsborough Ave

2023 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	43	1388	52	4	99	1894	21	86	92	46	75
Future Volume (vph)	4	43	1388	52	4	99	1894	21	86	92	46	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.95		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5009			1752	5028		1752	1753		1752
Flt Permitted		0.07	1.00			0.13	1.00		0.25	1.00		0.51
Satd. Flow (perm)		129	5009			245	5028		455	1753		941
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	45	1461	55	4	104	1994	22	91	97	48	79
RTOR Reduction (vph)	0	0	2	0	0	0	0	0	0	12	0	0
Lane Group Flow (vph)	0	49	1514	0	0	108	2016	0	91	133	0	79
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		121.1	115.5			124.5	117.2		28.7	28.7		28.7
Effective Green, g (s)		121.1	115.5			124.5	117.2		28.7	28.7		28.7
Actuated g/C Ratio		0.71	0.68			0.73	0.69		0.17	0.17		0.17
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		145	3403			244	3466		76	295		158
v/s Ratio Prot		0.01	0.30			c0.02	c0.40			0.08		
v/s Ratio Perm		0.23				0.31			c0.20			0.08
v/c Ratio		0.34	0.45			0.44	0.58		1.20	0.45		0.50
Uniform Delay, d1		10.6	12.5			8.3	13.7		70.7	63.5		64.1
Progression Factor		1.00	1.00			1.86	1.25		1.00	1.00		1.00
Incremental Delay, d2		0.5	0.4			0.4	0.6		165.8	1.1		2.5
Delay (s)		11.1	12.9			15.8	17.7		236.4	64.6		66.6
Level of Service		B	B			B	B		F	E		E
Approach Delay (s)			12.9				17.6			130.9		
Approach LOS			B				B			F		

Intersection Summary		
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.70	C
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	82.7%	18.5
Analysis Period (min)	15	ICU Level of Service
		E

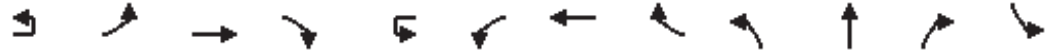
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	180	57
Future Volume (vph)	180	57
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1778	
Flt Permitted	1.00	
Satd. Flow (perm)	1778	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	189	60
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	241	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	28.7	
Effective Green, g (s)	28.7	
Actuated g/C Ratio	0.17	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	300	
v/s Ratio Prot	0.14	
v/s Ratio Perm		
v/c Ratio	0.80	
Uniform Delay, d1	67.9	
Progression Factor	1.00	
Incremental Delay, d2	14.3	
Delay (s)	82.2	
Level of Service	F	
Approach Delay (s)	78.4	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

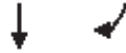
2023 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	13	60	1396	44	4	77	1915	21	29	58	25	74
Future Volume (vph)	13	60	1396	44	4	77	1915	21	29	58	25	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	1.00			1.00	1.00			0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.99		0.95
Satd. Flow (prot)		1752	5013			1752	5028			1767		1752
Flt Permitted		0.07	1.00			0.14	1.00			0.52		0.48
Satd. Flow (perm)		134	5013			267	5028			931		887
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	63	1469	46	4	81	2016	22	31	61	26	78
RTOR Reduction (vph)	0	0	1	0	0	0	1	0	0	7	0	0
Lane Group Flow (vph)	0	77	1514	0	0	85	2037	0	0	111	0	78
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		134.5	127.3			132.5	126.3			17.5		17.5
Effective Green, g (s)		134.5	127.3			132.5	126.3			17.5		17.5
Actuated g/C Ratio		0.79	0.75			0.78	0.74			0.10		0.10
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		174	3753			262	3735			95		91
v/s Ratio Prot		c0.02	0.30			0.01	c0.41					
v/s Ratio Perm		0.33				0.24				c0.12		0.09
v/c Ratio		0.44	0.40			0.32	0.55			1.17		0.86
Uniform Delay, d1		7.4	7.7			4.9	9.4			76.2		75.0
Progression Factor		4.90	0.57			2.47	1.80			1.00		1.00
Incremental Delay, d2		0.6	0.3			0.1	0.2			144.0		50.5
Delay (s)		37.0	4.7			12.2	17.2			220.3		125.5
Level of Service		D	A			B	B			F		F
Approach Delay (s)			6.2				17.0			220.3		
Approach LOS			A				B			F		

Intersection Summary		
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.61	
Actuated Cycle Length (s)	170.0	Sum of lost time (s) 19.0
Intersection Capacity Utilization	79.3%	ICU Level of Service D
Analysis Period (min)	15	

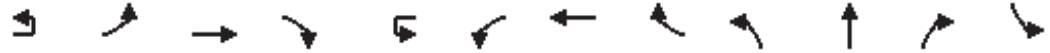
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	75	61
Future Volume (vph)	75	61
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1721	
Flt Permitted	1.00	
Satd. Flow (perm)	1721	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	79	64
RTOR Reduction (vph)	20	0
Lane Group Flow (vph)	123	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	17.5	
Effective Green, g (s)	17.5	
Actuated g/C Ratio	0.10	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	177	
v/s Ratio Prot	0.07	
v/s Ratio Perm		
v/c Ratio	0.70	
Uniform Delay, d1	73.7	
Progression Factor	1.00	
Incremental Delay, d2	11.3	
Delay (s)	85.0	
Level of Service	F	
Approach Delay (s)	99.3	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
3: N 22nd Street & Hillsborough Ave

2023 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	102	1244	151	4	161	1806	147	119	139	95	120
Future Volume (vph)	2	102	1244	151	4	161	1806	147	119	139	95	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.98			1.00	0.99		1.00	0.94		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4954			1752	4979		1752	1732		1752
Flt Permitted		0.07	1.00			0.07	1.00		0.12	1.00		0.43
Satd. Flow (perm)		135	4954			135	4979		217	1732		798
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	107	1309	159	4	169	1901	155	125	146	100	126
RTOR Reduction (vph)	0	0	8	0	0	0	5	0	0	13	0	0
Lane Group Flow (vph)	0	109	1460	0	0	173	2051	0	125	233	0	126
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6			5	2		7	4		3
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		70.1	70.1			71.1	71.1		59.8	44.9		57.2
Effective Green, g (s)		70.1	70.1			71.1	71.1		59.8	44.9		57.2
Actuated g/C Ratio		0.41	0.41			0.42	0.42		0.35	0.26		0.34
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		204	2042			214	2082		210	457		344
v/s Ratio Prot		0.05	c0.29			0.08	c0.41		c0.05	0.13		0.03
v/s Ratio Perm		0.17				0.26			0.16			0.09
v/c Ratio		0.53	0.71			0.81	0.98		0.60	0.51		0.37
Uniform Delay, d1		65.8	41.6			46.9	48.9		42.5	53.2		40.8
Progression Factor		1.00	1.02			0.99	1.36		1.00	1.00		1.00
Incremental Delay, d2		2.5	2.0			12.5	12.0		4.5	1.2		0.7
Delay (s)		68.3	44.5			58.7	78.7		47.0	54.4		41.5
Level of Service		E	D			E	E		D	D		D
Approach Delay (s)			46.2				77.1			51.9		
Approach LOS			D				E			D		

Intersection Summary		
HCM 2000 Control Delay	64.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.91	E
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	93.2%	24.8
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	315	90
Future Volume (vph)	315	90
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	1783	
Flt Permitted	1.00	
Satd. Flow (perm)	1783	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	332	95
RTOR Reduction (vph)	6	0
Lane Group Flow (vph)	421	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	43.6	
Effective Green, g (s)	43.6	
Actuated g/C Ratio	0.26	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	457	
v/s Ratio Prot	c0.24	
v/s Ratio Perm		
v/c Ratio	0.92	
Uniform Delay, d1	61.5	
Progression Factor	1.00	
Incremental Delay, d2	24.3	
Delay (s)	85.8	
Level of Service	F	
Approach Delay (s)	75.7	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
4: N 30th Street & Hillsborough Ave

2023 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	81	1317	61	1	51	1912	189	56	102	19	186
Future Volume (vph)	4	81	1317	61	1	51	1912	189	56	102	19	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5003			1752	4968		1752	1801		1752
Flt Permitted		0.15	1.00			0.26	1.00		0.21	1.00		0.59
Satd. Flow (perm)		281	5003			476	4968		391	1801		1092
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	85	1386	64	1	54	2013	199	59	107	20	196
RTOR Reduction (vph)	0	0	3	0	0	0	7	0	0	4	0	0
Lane Group Flow (vph)	0	89	1447	0	0	55	2205	0	59	123	0	196
Turn Type	custom	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1				5				4			8
Actuated Green, G (s)		26.3	101.5			15.5	90.7		34.1	34.1		34.1
Effective Green, g (s)		26.3	101.5			15.5	90.7		34.1	34.1		34.1
Actuated g/C Ratio		0.15	0.60			0.09	0.53		0.20	0.20		0.20
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		43	2987			43	2650		78	361		219
v/s Ratio Prot			0.29				c0.44			0.07		
v/s Ratio Perm		c0.32				0.12			0.15			c0.18
v/c Ratio		2.07	0.48			1.28	0.83		0.76	0.34		0.89
Uniform Delay, d1		71.8	19.4			77.2	33.3		64.0	58.3		66.2
Progression Factor		1.26	0.36			1.09	0.81		1.00	1.00		1.00
Incremental Delay, d2		535.2	0.4			214.3	2.6		33.5	0.6		33.7
Delay (s)		625.5	7.3			298.4	29.5		97.5	58.9		99.9
Level of Service		F	A			F	C		F	E		F
Approach Delay (s)			43.1				36.0			71.1		
Approach LOS			D				D			E		

Intersection Summary

HCM 2000 Control Delay	45.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

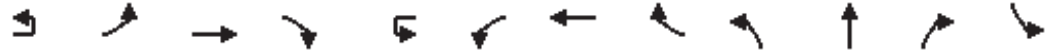
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	173	116
Future Volume (vph)	173	116
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.94	
Flt Protected	1.00	
Satd. Flow (prot)	1734	
Flt Permitted	1.00	
Satd. Flow (perm)	1734	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	182	122
RTOR Reduction (vph)	15	0
Lane Group Flow (vph)	289	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	34.1	
Effective Green, g (s)	34.1	
Actuated g/C Ratio	0.20	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	347	
v/s Ratio Prot	0.17	
v/s Ratio Perm		
v/c Ratio	0.83	
Uniform Delay, d1	65.2	
Progression Factor	1.00	
Incremental Delay, d2	15.5	
Delay (s)	80.7	
Level of Service	F	
Approach Delay (s)	88.3	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
5: N 34th Street & Hillsborough Ave

2023 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	15	1455	51	13	59	1992	31	103	84	37	51
Future Volume (vph)	2	15	1455	51	13	59	1992	31	103	84	37	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	0.99			1.00	1.00		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	5010			1752	5024		1752	1760		
Flt Permitted		0.06	1.00			0.12	1.00		0.40	1.00		
Satd. Flow (perm)		112	5010			217	5024		733	1760		
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	16	1532	54	14	62	2097	33	108	88	39	54
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	10	0	0
Lane Group Flow (vph)	0	18	1584	0	0	76	2129	0	108	117	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		117.5	113.8			125.1	117.6		29.5	29.5		
Effective Green, g (s)		117.5	113.8			125.1	117.6		29.5	29.5		
Actuated g/C Ratio		0.69	0.67			0.74	0.69		0.17	0.17		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		113	3353			227	3475		127	305		
v/s Ratio Prot		0.00	0.32			c0.01	c0.42			0.07		
v/s Ratio Perm		0.11				0.23			0.15			
v/c Ratio		0.16	0.47			0.33	0.61		0.85	0.38		
Uniform Delay, d1		11.2	13.6			8.6	14.0		68.1	62.2		
Progression Factor		1.35	0.85			1.12	0.66		1.00	1.00		
Incremental Delay, d2		0.6	0.4			0.5	0.5		38.8	0.8		
Delay (s)		15.6	12.0			10.1	9.7		106.9	63.0		
Level of Service		B	B			B	A		F	E		
Approach Delay (s)			12.0				9.8			83.2		
Approach LOS			B				A			F		

Intersection Summary		
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.68	
Actuated Cycle Length (s)	170.0	Sum of lost time (s) 19.2
Intersection Capacity Utilization	84.7%	ICU Level of Service E
Analysis Period (min)	15	

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	106	56
Future Volume (vph)	106	56
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1758	
Flt Permitted	0.75	
Satd. Flow (perm)	1331	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	112	59
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	218	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	29.5	
Effective Green, g (s)	29.5	
Actuated g/C Ratio	0.17	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	230	
v/s Ratio Prot		
v/s Ratio Perm	c0.16	
v/c Ratio	0.95	
Uniform Delay, d1	69.5	
Progression Factor	1.00	
Incremental Delay, d2	44.0	
Delay (s)	113.5	
Level of Service	F	
Approach Delay (s)	113.5	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
6: N 40th Street & Hillsborough Ave

2023 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔↔		↔↔	↔↔↔		↔↔	↔↔	↔	↔↔	↔↔
Traffic Volume (vph)	32	179	1110	235	201	1426	69	271	593	253	245	883
Future Volume (vph)	32	179	1110	235	201	1426	69	271	593	253	245	883
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91		0.97	0.91		0.97	0.95	1.00	0.97	0.95
Frt		1.00	0.97		1.00	0.99		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)		3400	4904		3400	5001		3400	3505	1568	3400	3505
Flt Permitted		0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)		3400	4904		3400	5001		3400	3505	1568	3400	3505
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)	34	188	1168	247	212	1501	73	285	624	266	258	929
RTOR Reduction (vph)	0	0	19	0	0	3	0	0	0	123	0	0
Lane Group Flow (vph)	0	222	1396	0	212	1571	0	285	624	143	258	929
Turn Type	Prot	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	1	1	6		5	2		7	4		3	8
Permitted Phases										4		
Actuated Green, G (s)		13.8	71.2		12.2	69.6		16.1	44.4	44.4	15.0	43.3
Effective Green, g (s)		13.8	71.2		12.2	69.6		16.1	44.4	44.4	15.0	43.3
Actuated g/C Ratio		0.08	0.42		0.07	0.41		0.09	0.26	0.26	0.09	0.25
Clearance Time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		276	2053		244	2047		322	915	409	300	892
v/s Ratio Prot		0.07	c0.28		0.06	c0.31		c0.08	0.18		0.08	c0.27
v/s Ratio Perm										0.09		
v/c Ratio		0.80	0.68		0.87	0.77		0.89	0.68	0.35	0.86	1.04
Uniform Delay, d1		76.8	40.1		78.1	43.2		76.0	56.5	51.1	76.5	63.4
Progression Factor		0.83	1.09		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		14.0	1.6		26.2	2.8		23.8	2.1	0.5	21.0	41.5
Delay (s)		77.9	45.4		104.4	46.1		99.9	58.6	51.6	97.5	104.8
Level of Service		E	D		F	D		F	E	D	F	F
Approach Delay (s)			49.8			53.0			67.0			93.0
Approach LOS			D			D			E			F

Intersection Summary

HCM 2000 Control Delay	65.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	366
Future Volume (vph)	366
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.8
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	385
RTOR Reduction (vph)	116
Lane Group Flow (vph)	269
Turn Type	Perm
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	43.3
Effective Green, g (s)	43.3
Actuated g/C Ratio	0.25
Clearance Time (s)	6.8
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	399
v/s Ratio Prot	
v/s Ratio Perm	0.17
v/c Ratio	0.68
Uniform Delay, d1	57.0
Progression Factor	1.00
Incremental Delay, d2	4.5
Delay (s)	61.5
Level of Service	E
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
8: N 22nd Street & Hanna Ave

2023 - Background Traffic AM.syn
11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	14	226	27	114	287	67	14	181	44	46	344	9
Future Volume (vph)	14	226	27	114	287	67	14	181	44	46	344	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1815			1787			1794			1829	
Flt Permitted		0.97			0.83			0.97			0.94	
Satd. Flow (perm)		1756			1498			1741			1726	
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)	15	238	28	120	302	71	15	191	46	48	362	9
RTOR Reduction (vph)	0	7	0	0	11	0	0	11	0	0	1	0
Lane Group Flow (vph)	0	274	0	0	482	0	0	241	0	0	418	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		24.8			24.8			28.8			28.8	
Effective Green, g (s)		24.8			24.8			28.8			28.8	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		669			571			771			764	
v/s Ratio Prot												
v/s Ratio Perm		0.16			0.32			0.14			0.24	
v/c Ratio		0.41			0.84			0.31			0.55	
Uniform Delay, d1		14.7			18.3			11.7			13.3	
Progression Factor		1.00			1.46			1.00			1.00	
Incremental Delay, d2		0.4			10.2			1.1			2.8	
Delay (s)		15.1			37.1			12.8			16.1	
Level of Service		B			D			B			B	
Approach Delay (s)		15.1			37.1			12.8			16.1	
Approach LOS		B			D			B			B	

Intersection Summary

HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N 30th Street & Hanna Ave

2023 - Background Traffic AM.syn
 11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	262	46	118	327	71	63	272	37	70	311	57
Future Volume (vph)	28	262	46	118	327	71	63	272	37	70	311	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1804		1752	1795		1752	1811		1752	1802	
Flt Permitted	0.33	1.00		0.46	1.00		0.48	1.00		0.54	1.00	
Satd. Flow (perm)	604	1804		843	1795		888	1811		995	1802	
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)	29	276	48	124	344	75	66	286	39	74	327	60
RTOR Reduction (vph)	0	10	0	0	13	0	0	7	0	0	9	0
Lane Group Flow (vph)	29	314	0	124	406	0	66	318	0	74	378	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	20.9	20.9		20.9	20.9		32.7	32.7		32.7	32.7	
Effective Green, g (s)	20.9	20.9		20.9	20.9		32.7	32.7		32.7	32.7	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.50	0.50		0.50	0.50	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	194	580		271	577		446	911		500	906	
v/s Ratio Prot		0.17			c0.23			0.18			c0.21	
v/s Ratio Perm	0.05			0.15			0.07			0.07		
v/c Ratio	0.15	0.54		0.46	0.70		0.15	0.35		0.15	0.42	
Uniform Delay, d1	15.7	18.1		17.5	19.3		8.7	9.7		8.7	10.2	
Progression Factor	1.02	1.09		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.0		1.2	3.9		0.7	1.1		0.6	1.4	
Delay (s)	16.3	20.8		18.8	23.2		9.4	10.8		9.3	11.6	
Level of Service	B	C		B	C		A	B		A	B	
Approach Delay (s)		20.4			22.2			10.6			11.2	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 12: N 15th Street & Sligh Ave

2023 - Background Traffic AM.syn
 11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	384	115	93	410	3	57	16	52	9	32	9
Future Volume (vph)	1	384	115	93	410	3	57	16	52	9	32	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.94			0.98	
Flt Protected		1.00			0.99			0.98			0.99	
Satd. Flow (prot)		1787			1826			1702			1786	
Flt Permitted		1.00			0.83			0.83			0.94	
Satd. Flow (perm)		1786			1531			1443			1694	
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)	1	404	121	98	432	3	60	17	55	9	34	9
RTOR Reduction (vph)	0	10	0	0	0	0	0	45	0	0	8	0
Lane Group Flow (vph)	0	516	0	0	533	0	0	87	0	0	44	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		49.2			49.2			9.1			9.1	
Effective Green, g (s)		49.2			49.2			9.1			9.1	
Actuated g/C Ratio		0.70			0.70			0.13			0.13	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1255			1076			187			220	
v/s Ratio Prot												
v/s Ratio Perm		0.29			0.35			0.06			0.03	
v/c Ratio		0.41			0.50			0.46			0.20	
Uniform Delay, d1		4.3			4.7			28.2			27.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.0			1.6			1.8			0.5	
Delay (s)		5.3			6.4			30.0			27.7	
Level of Service		A			A			C			C	
Approach Delay (s)		5.3			6.4			30.0			27.7	
Approach LOS		A			A			C			C	

Intersection Summary		
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.49	A
Actuated Cycle Length (s)	70.0	Sum of lost time (s)
Intersection Capacity Utilization	82.8%	11.7
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

2023 - Background Traffic AM.syn
 11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	286	147	194	355	19	108	43	111	33	58	43
Future Volume (vph)	12	286	147	194	355	19	108	43	111	33	58	43
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		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	0.89		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1751		1752	1831		1752	1645		1752	1727	
Flt Permitted	0.52	1.00		0.48	1.00		0.69	1.00		0.52	1.00	
Satd. Flow (perm)	957	1751		885	1831		1270	1645		966	1727	
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	301	155	204	374	20	114	45	117	35	61	45
RTOR Reduction (vph)	0	7	0	0	1	0	0	99	0	0	28	0
Lane Group Flow (vph)	13	449	0	204	393	0	114	63	0	35	78	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	78.1	78.1		78.1	78.1		15.0	15.0		15.0	15.0	
Effective Green, g (s)	78.1	78.1		78.1	78.1		15.0	15.0		15.0	15.0	
Actuated g/C Ratio	0.74	0.74		0.74	0.74		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	711	1302		658	1361		181	235		138	246	
v/s Ratio Prot		c0.26			0.21			0.04			0.04	
v/s Ratio Perm	0.01			0.23			c0.09			0.04		
v/c Ratio	0.02	0.35		0.31	0.29		0.63	0.27		0.25	0.32	
Uniform Delay, d1	3.5	4.6		4.5	4.4		42.4	40.1		40.0	40.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.7		1.2	0.5		6.7	0.6		1.0	0.7	
Delay (s)	3.5	5.4		5.7	4.9		49.1	40.7		41.0	41.1	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		5.3			5.2			44.2			41.1	
Approach LOS		A			A			D			D	

Intersection Summary		
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.40	B
Actuated Cycle Length (s)	105.0	Sum of lost time (s)
Intersection Capacity Utilization	72.0%	14.9
Analysis Period (min)	15	ICU Level of Service
		C

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 15: Sligh Ave & Rowlett Park Dr

2023 - Background Traffic AM.syn
 11/29/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	151	258	272	201	307	316
Future Volume (vph)	151	258	272	201	307	316
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1739		1752	1568
Flt Permitted	0.33	1.00	1.00		0.95	1.00
Satd. Flow (perm)	603	1845	1739		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	159	272	286	212	323	333
RTOR Reduction (vph)	0	0	32	0	0	246
Lane Group Flow (vph)	159	272	466	0	323	87
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	38.2	31.7	31.7		18.3	18.3
Effective Green, g (s)	38.2	31.7	31.7		18.3	18.3
Actuated g/C Ratio	0.55	0.45	0.45		0.26	0.26
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	435	835	787		458	409
v/s Ratio Prot	c0.03	0.15	c0.27		c0.18	0.06
v/s Ratio Perm	0.17					
v/c Ratio	0.37	0.33	0.59		0.71	0.21
Uniform Delay, d1	15.3	12.3	14.3		23.4	20.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	1.0	3.3		4.9	0.3
Delay (s)	15.8	13.3	17.6		28.3	20.5
Level of Service	B	B	B		C	C
Approach Delay (s)		14.3	17.6		24.3	
Approach LOS		B	B		C	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: N 15th Street & Hillsborough Ave

2028 - Background Traffic AM.syn
 11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	45	1455	55	4	104	1986	25	95	101	50	82
Future Volume (vph)	4	45	1455	55	4	104	1986	25	95	101	50	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.95		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5008			1752	5027		1752	1752		1752
Flt Permitted		0.06	1.00			0.12	1.00		0.22	1.00		0.50
Satd. Flow (perm)		107	5008			215	5027		408	1752		920
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	47	1532	58	4	109	2091	26	100	106	53	86
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	12	0	0
Lane Group Flow (vph)	0	51	1588	0	0	113	2116	0	100	147	0	86
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		117.2	111.6			121.8	113.9		32.0	32.0		32.0
Effective Green, g (s)		117.2	111.6			121.8	113.9		32.0	32.0		32.0
Actuated g/C Ratio		0.69	0.66			0.72	0.67		0.19	0.19		0.19
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		127	3287			225	3368		76	329		173
v/s Ratio Prot		0.01	0.32			c0.02	c0.42			0.08		
v/s Ratio Perm		0.26				0.34			c0.25			0.09
v/c Ratio		0.40	0.48			0.50	0.63		1.32	0.45		0.50
Uniform Delay, d1		13.5	14.7			10.2	16.0		69.0	61.1		61.8
Progression Factor		1.00	1.00			2.22	1.10		1.00	1.00		1.00
Incremental Delay, d2		0.8	0.5			0.5	0.7		209.2	1.0		2.2
Delay (s)		14.2	15.2			23.1	18.3		278.2	62.1		64.0
Level of Service		B	B			C	B		F	E		E
Approach Delay (s)			15.2				18.6			145.5		
Approach LOS			B				B			F		

Intersection Summary		
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.77	C
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	86.2%	18.5
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑	
Traffic Volume (vph)	203	65
Future Volume (vph)	203	65
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1778	
Flt Permitted	1.00	
Satd. Flow (perm)	1778	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	214	68
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	274	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	32.0	
Effective Green, g (s)	32.0	
Actuated g/C Ratio	0.19	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	334	
v/s Ratio Prot	0.15	
v/s Ratio Perm		
v/c Ratio	0.82	
Uniform Delay, d1	66.2	
Progression Factor	1.00	
Incremental Delay, d2	14.8	
Delay (s)	81.0	
Level of Service	F	
Approach Delay (s)	77.0	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

2028 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	14	63	1468	46	4	81	2012	22	32	64	27	77
Future Volume (vph)	14	63	1468	46	4	81	2012	22	32	64	27	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	1.00			1.00	1.00			0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.99		0.95
Satd. Flow (prot)		1752	5013			1752	5028			1767		1752
Flt Permitted		0.06	1.00			0.13	1.00			0.55		0.47
Satd. Flow (perm)		113	5013			243	5028			979		858
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)	15	66	1545	48	4	85	2118	23	34	67	28	81
RTOR Reduction (vph)	0	0	1	0	0	0	1	0	0	6	0	0
Lane Group Flow (vph)	0	81	1592	0	0	89	2140	0	0	123	0	81
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		134.1	126.0			130.5	124.2			18.7		18.7
Effective Green, g (s)		134.1	126.0			130.5	124.2			18.7		18.7
Actuated g/C Ratio		0.79	0.74			0.77	0.73			0.11		0.11
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		167	3715			242	3673			107		94
v/s Ratio Prot		c0.02	0.32			0.01	c0.43					
v/s Ratio Perm		0.36				0.27				c0.13		0.09
v/c Ratio		0.49	0.43			0.37	0.58			1.15		0.86
Uniform Delay, d1		10.0	8.3			5.6	10.7			75.7		74.4
Progression Factor		3.19	0.58			2.62	1.84			1.00		1.00
Incremental Delay, d2		0.7	0.3			0.0	0.1			132.1		50.9
Delay (s)		32.7	5.1			14.6	19.8			207.7		125.3
Level of Service		C	A			B	B			F		F
Approach Delay (s)			6.5				19.6			207.7		
Approach LOS			A				B			F		

Intersection Summary

HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

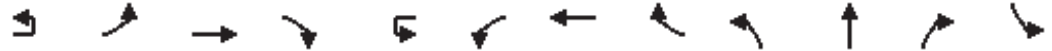
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	75	61
Future Volume (vph)	75	61
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1721	
Flt Permitted	1.00	
Satd. Flow (perm)	1721	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	79	64
RTOR Reduction (vph)	20	0
Lane Group Flow (vph)	123	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	18.7	
Effective Green, g (s)	18.7	
Actuated g/C Ratio	0.11	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	189	
v/s Ratio Prot	0.07	
v/s Ratio Perm		
v/c Ratio	0.65	
Uniform Delay, d1	72.5	
Progression Factor	1.00	
Incremental Delay, d2	7.9	
Delay (s)	80.4	
Level of Service	F	
Approach Delay (s)	96.6	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
3: N 22nd Street & Hillsborough Ave

2028 - Background Traffic AM.syn
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Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	109	1307	158	4	174	1892	165	130	161	104	131
Future Volume (vph)	2	109	1307	158	4	174	1892	165	130	161	104	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.98			1.00	0.99		1.00	0.94		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4955			1752	4975		1752	1736		1752
Flt Permitted		0.08	1.00			0.08	1.00		0.09	1.00		0.39
Satd. Flow (perm)		145	4955			145	4975		158	1736		716
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	115	1376	166	4	183	1992	174	137	169	109	138
RTOR Reduction (vph)	0	0	9	0	0	0	6	0	0	12	0	0
Lane Group Flow (vph)	0	117	1533	0	0	187	2160	0	137	266	0	138
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6			5	2		7	4		3
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		66.6	66.6			68.6	68.6		62.0	46.6		60.0
Effective Green, g (s)		66.6	66.6			68.6	68.6		62.0	46.6		60.0
Actuated g/C Ratio		0.39	0.39			0.40	0.40		0.36	0.27		0.35
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		204	1941			224	2007		202	475		340
v/s Ratio Prot		0.05	c0.31			0.09	c0.43		c0.06	0.15		0.03
v/s Ratio Perm		0.17				0.25			0.19			0.11
v/c Ratio		0.57	0.79			0.83	1.08		0.68	0.56		0.41
Uniform Delay, d1		69.0	45.5			48.8	50.7		42.5	52.9		39.4
Progression Factor		0.94	0.95			1.00	1.33		1.00	1.00		1.00
Incremental Delay, d2		3.6	3.1			13.1	40.0		8.7	1.8		0.8
Delay (s)		68.4	46.2			61.7	107.4		51.2	54.7		40.2
Level of Service		E	D			E	F		D	D		D
Approach Delay (s)			47.8				103.8			53.5		
Approach LOS			D				F			D		

Intersection Summary		
HCM 2000 Control Delay	78.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.99	E
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	98.8%	24.8
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	356	95
Future Volume (vph)	356	95
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	1786	
Flt Permitted	1.00	
Satd. Flow (perm)	1786	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	375	100
RTOR Reduction (vph)	6	0
Lane Group Flow (vph)	469	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	45.6	
Effective Green, g (s)	45.6	
Actuated g/C Ratio	0.27	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	479	
v/s Ratio Prot	c0.26	
v/s Ratio Perm		
v/c Ratio	0.98	
Uniform Delay, d1	61.7	
Progression Factor	1.00	
Incremental Delay, d2	35.5	
Delay (s)	97.2	
Level of Service	F	
Approach Delay (s)	84.4	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
4: N 30th Street & Hillsborough Ave

2028 - Background Traffic AM.syn
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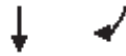


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	97	1381	64	1	54	2013	198	61	115	21	204
Future Volume (vph)	4	97	1381	64	1	54	2013	198	61	115	21	204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5003			1752	4968		1752	1802		1752
Flt Permitted		0.18	1.00			0.31	1.00		0.18	1.00		0.57
Satd. Flow (perm)		335	5003			568	4968		327	1802		1052
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	102	1454	67	1	57	2119	208	64	121	22	215
RTOR Reduction (vph)	0	0	3	0	0	0	7	0	0	4	0	0
Lane Group Flow (vph)	0	106	1518	0	0	58	2320	0	64	139	0	215
Turn Type	custom	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1				5				4			8
Actuated Green, G (s)		22.0	100.8			13.0	91.8		37.3	37.3		37.3
Effective Green, g (s)		22.0	100.8			13.0	91.8		37.3	37.3		37.3
Actuated g/C Ratio		0.13	0.59			0.08	0.54		0.22	0.22		0.22
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		43	2966			43	2682		71	395		230
v/s Ratio Prot			0.30				c0.47			0.08		
v/s Ratio Perm		c0.32				0.10			0.20			c0.20
v/c Ratio		2.47	0.51			1.35	0.87		0.90	0.35		0.93
Uniform Delay, d1		74.0	20.2			78.5	33.8		64.6	56.1		65.2
Progression Factor		1.19	0.35			1.10	0.80		1.00	1.00		1.00
Incremental Delay, d2		702.9	0.4			236.7	3.0		73.4	0.5		41.3
Delay (s)		791.3	7.5			323.4	30.1		137.9	56.7		106.5
Level of Service		F	A			F	C		F	E		F
Approach Delay (s)			58.5				37.2			81.8		
Approach LOS			E				D			F		

Intersection Summary

HCM 2000 Control Delay	52.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	→
Traffic Volume (vph)	200	127
Future Volume (vph)	200	127
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.94	
Flt Protected	1.00	
Satd. Flow (prot)	1737	
Flt Permitted	1.00	
Satd. Flow (perm)	1737	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	211	134
RTOR Reduction (vph)	14	0
Lane Group Flow (vph)	331	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	37.3	
Effective Green, g (s)	37.3	
Actuated g/C Ratio	0.22	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	381	
v/s Ratio Prot	0.19	
v/s Ratio Perm		
v/c Ratio	0.87	
Uniform Delay, d1	64.0	
Progression Factor	1.00	
Incremental Delay, d2	18.5	
Delay (s)	82.5	
Level of Service	F	
Approach Delay (s)	91.7	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
5: N 34th Street & Hillsborough Ave

2028 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	16	1536	53	14	93	2089	32	113	92	41	56
Future Volume (vph)	2	16	1536	53	14	93	2089	32	113	92	41	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	0.99			1.00	1.00		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	5011			1752	5024		1752	1760		
Flt Permitted		0.05	1.00			0.10	1.00		0.39	1.00		
Satd. Flow (perm)		94	5011			185	5024		724	1760		
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	17	1617	56	15	98	2199	34	119	97	43	59
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	10	0	0
Lane Group Flow (vph)	0	19	1671	0	0	113	2232	0	119	130	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		113.9	110.2			124.1	115.3		31.8	31.8		
Effective Green, g (s)		113.9	110.2			124.1	115.3		31.8	31.8		
Actuated g/C Ratio		0.67	0.65			0.73	0.68		0.19	0.19		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		99	3248			216	3407		135	329		
v/s Ratio Prot		0.00	0.33			c0.03	c0.44			0.07		
v/s Ratio Perm		0.12				0.35			0.16			
v/c Ratio		0.19	0.51			0.52	0.66		0.88	0.40		
Uniform Delay, d1		13.3	15.8			11.3	15.8		67.3	60.7		
Progression Factor		1.43	0.91			2.73	0.69		1.00	1.00		
Incremental Delay, d2		0.8	0.5			1.2	0.5		43.9	0.8		
Delay (s)		19.8	14.8			32.1	11.5		111.2	61.5		
Level of Service		B	B			C	B		F	E		
Approach Delay (s)			14.9				12.5			84.3		
Approach LOS			B				B			F		

Intersection Summary

HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	116	62
Future Volume (vph)	116	62
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1758	
Flt Permitted	0.72	
Satd. Flow (perm)	1290	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	122	65
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	239	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	31.8	
Effective Green, g (s)	31.8	
Actuated g/C Ratio	0.19	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	241	
v/s Ratio Prot		
v/s Ratio Perm	c0.19	
v/c Ratio	0.99	
Uniform Delay, d1	68.9	
Progression Factor	1.00	
Incremental Delay, d2	55.1	
Delay (s)	124.1	
Level of Service	F	
Approach Delay (s)	124.1	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
6: N 40th Street & Hillsborough Ave

2028 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations		↔↔	↔↔↔		↔↔	↔↔↔		↔↔	↔↔	↔	↔↔	↔↔	
Traffic Volume (vph)	33	188	1180	246	211	1496	85	298	649	277	279	974	
Future Volume (vph)	33	188	1180	246	211	1496	85	298	649	277	279	974	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8	
Lane Util. Factor		0.97	0.91		0.97	0.91		0.97	0.95	1.00	0.97	0.95	
Frt		1.00	0.97		1.00	0.99		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)		3400	4906		3400	4996		3400	3505	1568	3400	3505	
Flt Permitted		0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3400	4906		3400	4996		3400	3505	1568	3400	3505	
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)	35	198	1242	259	222	1575	89	314	683	292	294	1025	
RTOR Reduction (vph)	0	0	19	0	0	4	0	0	0	118	0	0	
Lane Group Flow (vph)	0	233	1482	0	222	1660	0	314	683	174	294	1025	
Turn Type	Prot	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	1	1	6		5	2		7	4		3	8	
Permitted Phases										4			
Actuated Green, G (s)		14.0	71.2		12.2	69.4		16.2	44.2	44.2	15.2	43.2	
Effective Green, g (s)		14.0	71.2		12.2	69.4		16.2	44.2	44.2	15.2	43.2	
Actuated g/C Ratio		0.08	0.42		0.07	0.41		0.10	0.26	0.26	0.09	0.25	
Clearance Time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		280	2054		244	2039		324	911	407	304	890	
v/s Ratio Prot		0.07	c0.30		0.07	c0.33		c0.09	0.19		0.09	c0.29	
v/s Ratio Perm										0.11			
v/c Ratio		0.83	0.72		0.91	0.81		0.97	0.75	0.43	0.97	1.15	
Uniform Delay, d1		76.8	41.1		78.4	44.6		76.7	57.8	52.4	77.2	63.4	
Progression Factor		0.83	1.12		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		16.4	1.9		34.0	3.7		41.2	3.4	0.7	42.3	81.2	
Delay (s)		80.5	48.0		112.4	48.3		117.8	61.2	53.1	119.4	144.6	
Level of Service		F	D		F	D		F	E	D	F	F	
Approach Delay (s)			52.4			55.8			73.2			121.6	
Approach LOS			D			E			E			F	
Intersection Summary													
HCM 2000 Control Delay			75.5									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.95										
Actuated Cycle Length (s)			170.0									Sum of lost time (s)	27.2
Intersection Capacity Utilization			95.2%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	401
Future Volume (vph)	401
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.8
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	422
RTOR Reduction (vph)	116
Lane Group Flow (vph)	306
Turn Type	Perm
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	43.2
Effective Green, g (s)	43.2
Actuated g/C Ratio	0.25
Clearance Time (s)	6.8
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	398
v/s Ratio Prot	
v/s Ratio Perm	0.20
v/c Ratio	0.77
Uniform Delay, d1	58.8
Progression Factor	1.00
Incremental Delay, d2	8.7
Delay (s)	67.5
Level of Service	E
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
8: N 22nd Street & Hanna Ave

2028 - Background Traffic AM.syn
11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	16	266	31	133	336	81	15	198	59	50	378	10
Future Volume (vph)	16	266	31	133	336	81	15	198	59	50	378	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.97			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1815			1787			1786			1828	
Flt Permitted		0.96			0.81			0.97			0.93	
Satd. Flow (perm)		1750			1458			1729			1710	
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)	17	280	33	140	354	85	16	208	62	53	398	11
RTOR Reduction (vph)	0	6	0	0	10	0	0	14	0	0	1	0
Lane Group Flow (vph)	0	324	0	0	569	0	0	272	0	0	461	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		27.6			27.6			26.0			26.0	
Effective Green, g (s)		27.6			27.6			26.0			26.0	
Actuated g/C Ratio		0.42			0.42			0.40			0.40	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		743			619			691			684	
v/s Ratio Prot												
v/s Ratio Perm		0.18			0.39			0.16			0.27	
v/c Ratio		0.44			0.92			0.39			0.67	
Uniform Delay, d1		13.2			17.7			13.9			16.0	
Progression Factor		1.00			1.46			1.00			1.00	
Incremental Delay, d2		0.4			16.8			1.7			5.2	
Delay (s)		13.6			42.5			15.6			21.3	
Level of Service		B			D			B			C	
Approach Delay (s)		13.6			42.5			15.6			21.3	
Approach LOS		B			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	98.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N 30th Street & Hanna Ave

2028 - Background Traffic AM.syn
 11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	313	53	137	391	84	70	299	41	76	341	66
Future Volume (vph)	32	313	53	137	391	84	70	299	41	76	341	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1804		1752	1796		1752	1811		1752	1800	
Flt Permitted	0.26	1.00		0.40	1.00		0.43	1.00		0.50	1.00	
Satd. Flow (perm)	483	1804		739	1796		791	1811		916	1800	
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)	34	329	56	144	412	88	74	315	43	80	359	69
RTOR Reduction (vph)	0	10	0	0	12	0	0	7	0	0	10	0
Lane Group Flow (vph)	34	375	0	144	488	0	74	351	0	80	418	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	23.0	23.0		23.0	23.0		30.6	30.6		30.6	30.6	
Effective Green, g (s)	23.0	23.0		23.0	23.0		30.6	30.6		30.6	30.6	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.47	0.47		0.47	0.47	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	170	638		261	635		372	852		431	847	
v/s Ratio Prot		0.21			c0.27			0.19			c0.23	
v/s Ratio Perm	0.07			0.19			0.09			0.09		
v/c Ratio	0.20	0.59		0.55	0.77		0.20	0.41		0.19	0.49	
Uniform Delay, d1	14.6	17.1		16.9	18.6		10.0	11.3		10.0	11.9	
Progression Factor	0.96	1.01		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.3		2.5	5.6		1.2	1.5		0.9	2.1	
Delay (s)	14.6	18.7		19.4	24.2		11.2	12.8		10.9	13.9	
Level of Service	B	B		B	C		B	B		B	B	
Approach Delay (s)		18.4			23.1			12.5			13.4	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 12: N 15th Street & Sligh Ave

2028 - Background Traffic AM.syn
 11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	425	128	102	455	3	63	17	59	10	35	10
Future Volume (vph)	1	425	128	102	455	3	63	17	59	10	35	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.94			0.97	
Flt Protected		1.00			0.99			0.98			0.99	
Satd. Flow (prot)		1787			1827			1700			1782	
Flt Permitted		1.00			0.81			0.83			0.93	
Satd. Flow (perm)		1786			1502			1437			1671	
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)	1	447	135	107	479	3	66	18	62	11	37	11
RTOR Reduction (vph)	0	10	0	0	0	0	0	46	0	0	10	0
Lane Group Flow (vph)	0	573		0	0	589	0	0	100	0	0	49
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		48.8			48.8			9.5			9.5	
Effective Green, g (s)		48.8			48.8			9.5			9.5	
Actuated g/C Ratio		0.70			0.70			0.14			0.14	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1245			1047			195			226	
v/s Ratio Prot												
v/s Ratio Perm		0.32			c0.39			c0.07			0.03	
v/c Ratio		0.46			0.56			0.51			0.22	
Uniform Delay, d1		4.7			5.3			28.1			26.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.2			2.2			2.3			0.5	
Delay (s)		6.0			7.5			30.4			27.4	
Level of Service		A			A			C			C	
Approach Delay (s)		6.0			7.5			30.4			27.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

2028 - Background Traffic AM.syn
 11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	319	161	213	391	22	122	50	123	36	64	47
Future Volume (vph)	14	319	161	213	391	22	122	50	123	36	64	47
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		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	0.89		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1752		1752	1830		1752	1649		1752	1728	
Flt Permitted	0.49	1.00		0.45	1.00		0.67	1.00		0.48	1.00	
Satd. Flow (perm)	904	1752		824	1830		1243	1649		889	1728	
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)	15	336	169	224	412	23	128	53	129	38	67	49
RTOR Reduction (vph)	0	7	0	0	1	0	0	91	0	0	28	0
Lane Group Flow (vph)	15	498	0	224	434	0	128	91	0	38	88	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	76.8	76.8		76.8	76.8		16.3	16.3		16.3	16.3	
Effective Green, g (s)	76.8	76.8		76.8	76.8		16.3	16.3		16.3	16.3	
Actuated g/C Ratio	0.73	0.73		0.73	0.73		0.16	0.16		0.16	0.16	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	661	1281		602	1338		192	255		138	268	
v/s Ratio Prot		c0.28			0.24			0.06			0.05	
v/s Ratio Perm	0.02			0.27			c0.10			0.04		
v/c Ratio	0.02	0.39		0.37	0.32		0.67	0.36		0.28	0.33	
Uniform Delay, d1	3.9	5.3		5.2	5.0		41.8	39.7		39.1	39.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.9		1.8	0.6		8.4	0.9		1.1	0.7	
Delay (s)	3.9	6.2		7.0	5.6		50.2	40.5		40.2	40.2	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		6.1			6.1			44.5			40.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
15: Sligh Ave & Rowlett Park Dr

2028 - Background Traffic AM.syn
11/29/2021



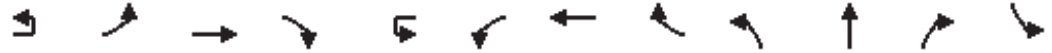
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	165	287	300	225	336	346
Future Volume (vph)	165	287	300	225	336	346
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1738		1752	1568
Flt Permitted	0.26	1.00	1.00		0.95	1.00
Satd. Flow (perm)	486	1845	1738		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	174	302	316	237	354	364
RTOR Reduction (vph)	0	0	33	0	0	265
Lane Group Flow (vph)	174	302	520	0	354	99
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	37.4	30.6	30.6		19.1	19.1
Effective Green, g (s)	37.4	30.6	30.6		19.1	19.1
Actuated g/C Ratio	0.53	0.44	0.44		0.27	0.27
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	382	806	759		478	427
v/s Ratio Prot	c0.04	0.16	c0.30		c0.20	0.06
v/s Ratio Perm	0.20					
v/c Ratio	0.46	0.37	0.68		0.74	0.23
Uniform Delay, d1	18.7	13.3	15.8		23.2	19.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9	1.3	5.0		6.1	0.3
Delay (s)	19.6	14.6	20.8		29.3	20.0
Level of Service	B	B	C		C	C
Approach Delay (s)		16.4	20.8		24.6	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: N 15th Street & Hillsborough Ave

2028 - Background Traffic PM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	9	90	1579	64	34	117	1986	50	95	245	67	87
Future Volume (vph)	9	90	1579	64	34	117	1986	50	95	245	67	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5007			1752	5017		1752	1785		1752
Flt Permitted		0.05	1.00			0.09	1.00		0.34	1.00		0.21
Satd. Flow (perm)		84	5007			162	5017		628	1785		384
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)	9	95	1662	67	36	123	2091	53	100	258	71	92
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	5	0	0
Lane Group Flow (vph)	0	104	1727	0	0	159	2143	0	100	324	0	92
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		119.9	108.2			122.1	109.3		40.5	40.5		40.5
Effective Green, g (s)		119.9	108.2			122.1	109.3		40.5	40.5		40.5
Actuated g/C Ratio		0.67	0.60			0.68	0.61		0.22	0.22		0.22
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		164	3009			222	3046		141	401		86
v/s Ratio Prot		0.04	0.34			c0.05	0.43			0.18		
v/s Ratio Perm		0.38				c0.43			0.16			c0.24
v/c Ratio		0.63	0.57			0.72	0.70		0.71	0.81		1.07
Uniform Delay, d1		35.7	21.9			20.1	24.2		64.3	66.0		69.8
Progression Factor		1.00	1.00			1.81	1.23		1.00	1.00		1.00
Incremental Delay, d2		5.8	0.8			6.8	1.1		15.1	11.3		117.3
Delay (s)		41.5	22.7			43.1	30.9		79.4	77.3		187.0
Level of Service		D	C			D	C		E	E		F
Approach Delay (s)			23.7				31.8			77.8		
Approach LOS			C				C			E		

Intersection Summary

HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↘
Traffic Volume (vph)	185	59
Future Volume (vph)	185	59
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1778	
Flt Permitted	1.00	
Satd. Flow (perm)	1778	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	195	62
RTOR Reduction (vph)	6	0
Lane Group Flow (vph)	251	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	40.5	
Effective Green, g (s)	40.5	
Actuated g/C Ratio	0.22	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	400	
v/s Ratio Prot	0.14	
v/s Ratio Perm		
v/c Ratio	0.63	
Uniform Delay, d1	62.9	
Progression Factor	1.00	
Incremental Delay, d2	3.1	
Delay (s)	66.0	
Level of Service	E	
Approach Delay (s)	97.9	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

2028 - Background Traffic PM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	39	65	1597	66	20	45	2006	40	61	101	26	121
Future Volume (vph)	39	65	1597	66	20	45	2006	40	61	101	26	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Fr _t		1.00	0.99			1.00	1.00			0.98		1.00
Fl _t Protected		0.95	1.00			0.95	1.00			0.98		0.95
Satd. Flow (prot)		1752	5006			1752	5021			1782		1752
Fl _t Permitted		0.05	1.00			0.10	1.00			0.58		0.48
Satd. Flow (perm)		91	5006			190	5021			1047		878
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)	41	68	1681	69	21	47	2112	42	64	106	27	127
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	3	0	0
Lane Group Flow (vph)	0	109	1748	0	0	68	2153	0	0	194	0	127
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		134.4	123.0			124.4	118.0			31.6		31.6
Effective Green, g (s)		134.4	123.0			124.4	118.0			31.6		31.6
Actuated g/C Ratio		0.75	0.68			0.69	0.66			0.18		0.18
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		173	3420			186	3291			183		154
v/s Ratio Prot		c0.04	c0.35			0.01	c0.43					
v/s Ratio Perm		0.43				0.24				c0.19		0.14
v/c Ratio		0.63	0.51			0.37	0.65			1.06		0.82
Uniform Delay, d1		31.9	13.9			10.5	18.7			74.2		71.5
Progression Factor		2.04	0.47			1.52	0.62			1.00		1.00
Incremental Delay, d2		4.4	0.4			0.2	0.4			82.9		28.7
Delay (s)		69.3	6.9			16.2	12.0			157.1		100.2
Level of Service		E	A			B	B			F		F
Approach Delay (s)			10.6				12.1			157.1		
Approach LOS			B				B			F		

Intersection Summary

HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

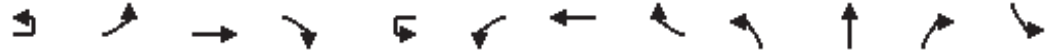
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↘
Traffic Volume (vph)	83	81
Future Volume (vph)	83	81
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1708	
Flt Permitted	1.00	
Satd. Flow (perm)	1708	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	87	85
RTOR Reduction (vph)	22	0
Lane Group Flow (vph)	150	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	31.6	
Effective Green, g (s)	31.6	
Actuated g/C Ratio	0.18	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	299	
v/s Ratio Prot	0.09	
v/s Ratio Perm		
v/c Ratio	0.50	
Uniform Delay, d1	67.1	
Progression Factor	1.00	
Incremental Delay, d2	1.3	
Delay (s)	68.4	
Level of Service	E	
Approach Delay (s)	81.9	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
3: N 22nd Street & Hillsborough Ave

2028 - Background Traffic PM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	145	1497	118	13	159	1819	120	182	283	116	147
Future Volume (vph)	4	145	1497	118	13	159	1819	120	182	283	116	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.96		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4981			1752	4989		1752	1764		1752
Flt Permitted		0.07	1.00			0.07	1.00		0.10	1.00		0.16
Satd. Flow (perm)		127	4981			127	4989		180	1764		289
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	153	1576	124	14	167	1915	126	192	298	122	155
RTOR Reduction (vph)	0	0	5	0	0	0	4	0	0	8	0	0
Lane Group Flow (vph)	0	157	1695	0	0	181	2037	0	192	412	0	155
Turn Type	custom	pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6		5	5	2		7	4		3
Permitted Phases	1	6			2	2			4			8
Actuated Green, G (s)		72.7	72.7			76.9	76.9		67.1	47.7		60.3
Effective Green, g (s)		72.7	72.7			76.9	76.9		67.1	47.7		60.3
Actuated g/C Ratio		0.40	0.40			0.43	0.43		0.37	0.27		0.33
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		183	2011			223	2131		236	467		226
v/s Ratio Prot		0.07	c0.34			0.08	c0.41		c0.09	c0.23		0.06
v/s Ratio Perm		0.28				0.26			0.22			0.17
v/c Ratio		0.86	0.84			0.81	0.96		0.81	0.88		0.69
Uniform Delay, d1		72.3	48.5			53.0	49.9		47.1	63.5		46.8
Progression Factor		0.78	0.70			0.55	0.97		1.00	1.00		1.00
Incremental Delay, d2		27.5	4.0			13.3	8.2		18.9	17.9		8.3
Delay (s)		83.6	37.9			42.3	56.4		66.0	81.4		55.2
Level of Service		F	D			D	E		E	F		E
Approach Delay (s)			41.7				55.3			76.6		
Approach LOS			D				E			E		

Intersection Summary		
HCM 2000 Control Delay	56.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.94	E
Actuated Cycle Length (s)	180.0	Sum of lost time (s)
Intersection Capacity Utilization	98.7%	24.8
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↙
Traffic Volume (vph)	293	106
Future Volume (vph)	293	106
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1771	
Flt Permitted	1.00	
Satd. Flow (perm)	1771	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	308	112
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	412	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	44.3	
Effective Green, g (s)	44.3	
Actuated g/C Ratio	0.25	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	435	
v/s Ratio Prot	c0.23	
v/s Ratio Perm		
v/c Ratio	0.95	
Uniform Delay, d1	66.7	
Progression Factor	1.00	
Incremental Delay, d2	30.2	
Delay (s)	96.9	
Level of Service	F	
Approach Delay (s)	85.7	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
4: N 30th Street & Hillsborough Ave

2028 - Background Traffic PM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	114	1657	101	2	50	1803	226	70	183	46	221
Future Volume (vph)	4	114	1657	101	2	50	1803	226	70	183	46	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.98		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4993			1752	4952		1752	1790		1752
Flt Permitted		0.95	1.00			0.16	1.00		0.30	1.00		0.45
Satd. Flow (perm)		1752	4993			298	4952		549	1790		825
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	120	1744	106	2	53	1898	238	74	193	48	233
RTOR Reduction (vph)	0	0	4	0	0	0	8	0	0	5	0	0
Lane Group Flow (vph)	0	124	1846	0	0	55	2128	0	74	236	0	233
Turn Type	Prot	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases	1	1	6			5	2			4		
Permitted Phases					5				4			8
Actuated Green, G (s)		15.9	84.6			24.8	93.5		51.7	51.7		51.7
Effective Green, g (s)		15.9	84.6			24.8	93.5		51.7	51.7		51.7
Actuated g/C Ratio		0.09	0.47			0.14	0.52		0.29	0.29		0.29
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		154	2346			41	2572		157	514		236
v/s Ratio Prot		0.07	c0.37				c0.43			0.13		
v/s Ratio Perm						c0.18			0.13			c0.28
v/c Ratio		0.81	0.79			1.34	0.83		0.47	0.46		0.99
Uniform Delay, d1		80.5	40.1			77.6	36.4		52.9	52.7		63.8
Progression Factor		1.51	0.31			0.67	0.39		1.00	1.00		1.00
Incremental Delay, d2		16.0	1.7			236.0	2.4		2.2	0.7		54.5
Delay (s)		137.9	14.1			288.3	16.5		55.1	53.3		118.3
Level of Service		F	B			F	B		E	D		F
Approach Delay (s)			21.9				23.3			53.7		
Approach LOS			C				C			D		

Intersection Summary

HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

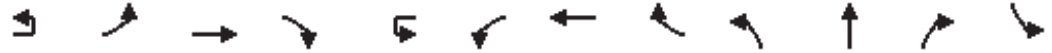
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↘
Traffic Volume (vph)	174	151
Future Volume (vph)	174	151
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1716	
Flt Permitted	1.00	
Satd. Flow (perm)	1716	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	183	159
RTOR Reduction (vph)	18	0
Lane Group Flow (vph)	324	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	51.7	
Effective Green, g (s)	51.7	
Actuated g/C Ratio	0.29	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	492	
v/s Ratio Prot	0.19	
v/s Ratio Perm		
v/c Ratio	0.66	
Uniform Delay, d1	56.4	
Progression Factor	1.00	
Incremental Delay, d2	3.2	
Delay (s)	59.6	
Level of Service	E	
Approach Delay (s)	83.4	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
5: N 34th Street & Hillsborough Ave

2028 - Background Traffic PM.syn
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Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	10	30	1779	107	31	112	1913	81	121	149	67	51
Future Volume (vph)	10	30	1779	107	31	112	1913	81	121	149	67	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	0.99			1.00	0.99		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	4993			1752	5005		1752	1758		
Flt Permitted		0.06	1.00			0.05	1.00		0.44	1.00		
Satd. Flow (perm)		117	4993			87	5005		811	1758		
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)	11	32	1873	113	33	118	2014	85	127	157	71	54
RTOR Reduction (vph)	0	0	3	0	0	0	2	0	0	9	0	0
Lane Group Flow (vph)	0	43	1983	0	0	151	2097	0	127	219	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		108.3	108.3			110.5	110.5		37.9	37.9		
Effective Green, g (s)		108.3	108.3			110.5	110.5		37.9	37.9		
Actuated g/C Ratio		0.60	0.60			0.61	0.61		0.21	0.21		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		183	3004			188	3072		170	370		
v/s Ratio Prot		0.02	c0.40			0.06	c0.42			0.12		
v/s Ratio Perm		0.12				c0.42			0.16			
v/c Ratio		0.23	0.66			0.80	0.68		0.75	0.59		
Uniform Delay, d1		35.2	23.7			50.4	23.1		66.6	64.1		
Progression Factor		0.24	0.17			1.57	0.75		1.00	1.00		
Incremental Delay, d2		0.4	0.8			9.4	0.5		16.3	2.5		
Delay (s)		8.9	4.9			88.5	17.7		82.9	66.6		
Level of Service		A	A			F	B		F	E		
Approach Delay (s)			5.0				22.5			72.4		
Approach LOS			A				C			E		

Intersection Summary		
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.85	C
Actuated Cycle Length (s)	180.0	Sum of lost time (s)
Intersection Capacity Utilization	89.7%	19.2
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	130	37
Future Volume (vph)	130	37
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.99	
Satd. Flow (prot)	1782	
Flt Permitted	0.56	
Satd. Flow (perm)	1017	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	137	39
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	226	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	37.9	
Effective Green, g (s)	37.9	
Actuated g/C Ratio	0.21	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	214	
v/s Ratio Prot		
v/s Ratio Perm	c0.22	
v/c Ratio	1.06	
Uniform Delay, d1	71.0	
Progression Factor	1.00	
Incremental Delay, d2	77.2	
Delay (s)	148.2	
Level of Service	F	
Approach Delay (s)	148.2	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
6: N 40th Street & Hillsborough Ave

2028 - Background Traffic PM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↑↑↑			↔↔	↑↑↑		↔↔	↑↑	↔	↔↔
Traffic Volume (vph)	28	317	1358	225	13	157	1453	198	374	1016	310	260
Future Volume (vph)	28	317	1358	225	13	157	1453	198	374	1016	310	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91			0.97	0.91		0.97	0.95	1.00	0.97
Frt		1.00	0.98			1.00	0.98		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)		3400	4928			3400	4945		3400	3505	1568	3400
Flt Permitted		0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)		3400	4928			3400	4945		3400	3505	1568	3400
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)	29	334	1429	237	14	165	1529	208	394	1069	326	274
RTOR Reduction (vph)	0	0	13	0	0	0	10	0	0	0	107	0
Lane Group Flow (vph)	0	363	1653	0	0	179	1727	0	394	1069	219	274
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases												4
Actuated Green, G (s)		20.2	75.2			12.2	67.2		19.2	48.6	48.6	16.8
Effective Green, g (s)		20.2	75.2			12.2	67.2		19.2	48.6	48.6	16.8
Actuated g/C Ratio		0.11	0.42			0.07	0.37		0.11	0.27	0.27	0.09
Clearance Time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		381	2058			230	1846		362	946	423	317
v/s Ratio Prot		0.11	c0.34			0.05	c0.35		c0.12	c0.31		0.08
v/s Ratio Perm												0.14
v/c Ratio		0.95	0.80			0.78	0.94		1.09	1.13	0.52	0.86
Uniform Delay, d1		79.4	45.9			82.6	54.3		80.4	65.7	55.7	80.5
Progression Factor		0.68	1.34			1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		28.1	2.6			15.2	10.4		73.1	72.0	1.1	20.9
Delay (s)		81.9	64.1			97.8	64.7		153.5	137.7	56.8	101.4
Level of Service		F	E			F	E		F	F	E	F
Approach Delay (s)			67.2			67.8			126.4			
Approach LOS			E			E			F			

Intersection Summary

HCM 2000 Control Delay	89.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	914	282
Future Volume (vph)	914	282
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.8	6.8
Lane Util. Factor	0.95	1.00
Fr _t	1.00	0.85
Fl _t Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Fl _t Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	962	297
RTOR Reduction (vph)	0	123
Lane Group Flow (vph)	962	174
Turn Type	NA	Perm
Protected Phases	8	
Permitted Phases		8
Actuated Green, G (s)	46.2	46.2
Effective Green, g (s)	46.2	46.2
Actuated g/C Ratio	0.26	0.26
Clearance Time (s)	6.8	6.8
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	899	402
v/s Ratio Prot	0.27	
v/s Ratio Perm		0.11
v/c Ratio	1.07	0.43
Uniform Delay, d ₁	66.9	56.0
Progression Factor	1.00	1.00
Incremental Delay, d ₂	50.6	0.8
Delay (s)	117.5	56.7
Level of Service	F	E
Approach Delay (s)	102.8	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
8: N 22nd Street & Hanna Ave

2028 - Background Traffic PM.syn
11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	26	351	43	41	383	43	35	385	84	44	315	8
Future Volume (vph)	26	351	43	41	383	43	35	385	84	44	315	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		1814			1814			1797			1829	
Flt Permitted		0.94			0.90			0.95			0.90	
Satd. Flow (perm)		1711			1642			1722			1656	
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)	27	369	45	43	403	45	37	405	88	46	332	8
RTOR Reduction (vph)	0	5	0	0	5	0	0	9	0	0	1	0
Lane Group Flow (vph)	0	436	0	0	486	0	0	521	0	0	385	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		23.6			23.6			40.0			40.0	
Effective Green, g (s)		23.6			23.6			40.0			40.0	
Actuated g/C Ratio		0.31			0.31			0.53			0.53	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		538			516			918			883	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.30			c0.30			0.23	
v/c Ratio		0.81			0.94			0.57			0.44	
Uniform Delay, d1		23.6			25.0			11.7			10.6	
Progression Factor		1.00			1.10			1.00			1.00	
Incremental Delay, d2		8.8			23.2			2.5			1.6	
Delay (s)		32.4			50.8			14.2			12.2	
Level of Service		C			D			B			B	
Approach Delay (s)		32.4			50.8			14.2			12.2	
Approach LOS		C			D			B			B	

Intersection Summary

HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N 30th Street & Hanna Ave

2028 - Background Traffic PM.syn
 11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	332	59	67	311	96	72	349	102	71	420	84
Future Volume (vph)	87	332	59	67	311	96	72	349	102	71	420	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1803		1752	1779		1752	1782		1752	1799	
Flt Permitted	0.28	1.00		0.30	1.00		0.37	1.00		0.41	1.00	
Satd. Flow (perm)	510	1803		553	1779		679	1782		761	1799	
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)	92	349	62	71	327	101	76	367	107	75	442	88
RTOR Reduction (vph)	0	9	0	0	15	0	0	13	0	0	9	0
Lane Group Flow (vph)	92	402	0	71	413	0	76	461	0	75	521	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	22.9	22.9		22.9	22.9		40.7	40.7		40.7	40.7	
Effective Green, g (s)	22.9	22.9		22.9	22.9		40.7	40.7		40.7	40.7	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.54	0.54		0.54	0.54	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	155	550		168	543		368	967		412	976	
v/s Ratio Prot		0.22			c0.23			0.26			c0.29	
v/s Ratio Perm	0.18			0.13			0.11			0.10		
v/c Ratio	0.59	0.73		0.42	0.76		0.21	0.48		0.18	0.53	
Uniform Delay, d1	22.1	23.3		20.8	23.6		8.8	10.6		8.7	11.0	
Progression Factor	1.32	1.31		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.5	3.7		1.7	6.2		1.3	1.7		1.0	2.1	
Delay (s)	33.8	34.3		22.5	29.8		10.1	12.3		9.7	13.1	
Level of Service	C	C		C	C		B	B		A	B	
Approach Delay (s)		34.2			28.7			12.0			12.7	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 12: N 15th Street & Sligh Ave

2028 - Background Traffic PM.syn
 11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	15	455	82	46	436	15	100	54	69	15	39	2
Future Volume (vph)	15	455	82	46	436	15	100	54	69	15	39	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			1.00			0.96			1.00	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		1805			1829			1729			1812	
Flt Permitted		0.98			0.92			0.83			0.90	
Satd. Flow (perm)		1777			1682			1463			1652	
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)	16	479	86	48	459	16	105	57	73	16	41	2
RTOR Reduction (vph)	0	8	0	0	2	0	0	26	0	0	2	0
Lane Group Flow (vph)	0	573	0	0	521	0	0	209	0	0	57	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		43.2			43.2			15.1			15.1	
Effective Green, g (s)		43.2			43.2			15.1			15.1	
Actuated g/C Ratio		0.62			0.62			0.22			0.22	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1096			1038			315			356	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.31			c0.14			0.03	
v/c Ratio		0.52			0.50			0.66			0.16	
Uniform Delay, d1		7.6			7.4			25.1			22.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.8			1.7			5.2			0.2	
Delay (s)		9.4			9.2			30.3			22.5	
Level of Service		A			A			C			C	
Approach Delay (s)		9.4			9.2			30.3			22.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

2028 - Background Traffic PM.syn
 11/29/2021



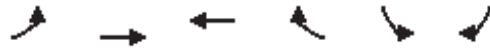
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	390	136	198	321	47	141	60	253	40	33	35
Future Volume (vph)	13	390	136	198	321	47	141	60	253	40	33	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.88		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1773		1752	1810		1752	1621		1752	1702	
Flt Permitted	0.52	1.00		0.41	1.00		0.71	1.00		0.22	1.00	
Satd. Flow (perm)	955	1773		761	1810		1310	1621		412	1702	
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	411	143	208	338	49	148	63	266	42	35	37
RTOR Reduction (vph)	0	5	0	0	2	0	0	156	0	0	31	0
Lane Group Flow (vph)	14	549	0	208	385	0	148	173	0	42	41	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	75.2	75.2		75.2	75.2		17.9	17.9		17.9	17.9	
Effective Green, g (s)	75.2	75.2		75.2	75.2		17.9	17.9		17.9	17.9	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.17	0.17		0.17	0.17	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	683	1269		545	1296		223	276		70	290	
v/s Ratio Prot		c0.31			0.21			0.11			0.02	
v/s Ratio Perm	0.01			0.27			c0.11			0.10		
v/c Ratio	0.02	0.43		0.38	0.30		0.66	0.63		0.60	0.14	
Uniform Delay, d1	4.3	6.1		5.8	5.4		40.7	40.4		40.2	37.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.1		2.0	0.6		7.2	4.4		13.1	0.2	
Delay (s)	4.3	7.2		7.8	6.0		48.0	44.9		53.3	37.3	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		7.1			6.6			45.8			43.2	
Approach LOS		A			A			D			D	

Intersection Summary		
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.49	B
Actuated Cycle Length (s)	105.0	Sum of lost time (s)
Intersection Capacity Utilization	86.7%	14.9
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 15: Sligh Ave & Rowlett Park Dr

2028 - Background Traffic PM.syn
 11/29/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷		↶	↷
Traffic Volume (vph)	335	322	375	285	381	164
Future Volume (vph)	335	322	375	285	381	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1737		1752	1568
Flt Permitted	0.13	1.00	1.00		0.95	1.00
Satd. Flow (perm)	242	1845	1737		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	353	339	395	300	401	173
RTOR Reduction (vph)	0	0	32	0	0	127
Lane Group Flow (vph)	353	339	663	0	401	46
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	45.0	30.5	30.5		21.5	21.5
Effective Green, g (s)	45.0	30.5	30.5		21.5	21.5
Actuated g/C Ratio	0.56	0.38	0.38		0.27	0.27
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	409	703	662		470	421
v/s Ratio Prot	c0.16	0.18	c0.38		c0.23	0.03
v/s Ratio Perm	0.33					
v/c Ratio	0.86	0.48	1.00		0.85	0.11
Uniform Delay, d1	28.3	18.8	24.8		27.8	22.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	16.9	2.4	35.3		14.0	0.1
Delay (s)	45.2	21.1	60.0		41.7	22.2
Level of Service	D	C	E		D	C
Approach Delay (s)		33.4	60.0		35.8	
Approach LOS		C	E		D	

Intersection Summary			
HCM 2000 Control Delay	43.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
46: Hanna Ave

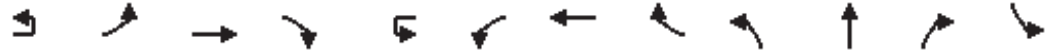
2028 - Background Traffic PM.syn
11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑							
Traffic Volume (vph)	0	337	0	0	386	40	0	0	83	0	0	0
Future Volume (vph)	0	337	0	0	386	40	0	0	83	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0				
Lane Util. Factor		1.00			1.00			1.00				
Frt		1.00			0.99			0.85				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1845			1821			0				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1845			1821			0				
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	355	0	0	406	42	0	0	87	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	355	0	0	448	0	0	87	0	0	0	0
Turn Type		NA			NA							
Protected Phases		4			8							
Permitted Phases												
Actuated Green, G (s)		26.0			26.0			0.0				
Effective Green, g (s)		26.0			26.0			0.0				
Actuated g/C Ratio		1.00			1.00			0.00				
Clearance Time (s)		4.5			4.5							
Lane Grp Cap (vph)		1845			1821			0				
v/s Ratio Prot		0.19			0.25							
v/s Ratio Perm												
v/c Ratio		0.19			0.25			no cap				
Uniform Delay, d1		0.0			0.0			Error				
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.2			0.3			Error				
Delay (s)		0.2			0.3			Error				
Level of Service		A			A			F				
Approach Delay (s)		0.2			0.3			Error			0.0	
Approach LOS		A			A			F			A	
Intersection Summary												
HCM 2000 Control Delay			Error		HCM 2000 Level of Service			F				
HCM 2000 Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			26.0		Sum of lost time (s)			4.5				
Intersection Capacity Utilization			Err%		ICU Level of Service			H				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 1: N 15th Street & Hillsborough Ave

2033 - Background Traffic AM.syn
 11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	47	1522	57	4	112	2074	29	103	110	55	89
Future Volume (vph)	4	47	1522	57	4	112	2074	29	103	110	55	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.95		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5009			1752	5025		1752	1752		1752
Flt Permitted		0.05	1.00			0.10	1.00		0.21	1.00		0.50
Satd. Flow (perm)		86	5009			185	5025		390	1752		915
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	49	1602	60	4	118	2183	31	108	116	58	94
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	12	0	0
Lane Group Flow (vph)	0	53	1660	0	0	122	2213	0	108	162	0	94
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		112.0	106.5			117.6	109.3		36.7	36.7		36.7
Effective Green, g (s)		112.0	106.5			117.6	109.3		36.7	36.7		36.7
Actuated g/C Ratio		0.66	0.63			0.69	0.64		0.22	0.22		0.22
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		110	3137			204	3230		84	378		197
v/s Ratio Prot		0.02	0.33			c0.03	c0.44			0.09		
v/s Ratio Perm		0.30				0.38			c0.28			0.10
v/c Ratio		0.48	0.53			0.60	0.69		1.29	0.43		0.48
Uniform Delay, d1		18.0	17.7			13.4	19.4		66.7	57.6		58.3
Progression Factor		1.00	1.00			2.41	0.95		1.00	1.00		1.00
Incremental Delay, d2		1.2	0.6			2.5	1.0		192.9	0.8		1.8
Delay (s)		19.3	18.4			34.9	19.4		259.5	58.4		60.1
Level of Service		B	B			C	B		F	E		E
Approach Delay (s)			18.4				20.3			135.4		
Approach LOS			B				C			F		

Intersection Summary		
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.84	C
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	89.9%	18.5
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↘
Traffic Volume (vph)	230	73
Future Volume (vph)	230	73
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1778	
Flt Permitted	1.00	
Satd. Flow (perm)	1778	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	242	77
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	311	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	36.7	
Effective Green, g (s)	36.7	
Actuated g/C Ratio	0.22	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	383	
v/s Ratio Prot	0.18	
v/s Ratio Perm		
v/c Ratio	0.81	
Uniform Delay, d1	63.4	
Progression Factor	1.00	
Incremental Delay, d2	12.4	
Delay (s)	75.7	
Level of Service	E	
Approach Delay (s)	72.2	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

2033 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	15	69	1538	48	4	85	2108	24	35	69	30	77
Future Volume (vph)	15	69	1538	48	4	85	2108	24	35	69	30	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	1.00			1.00	1.00			0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.99		0.95
Satd. Flow (prot)		1752	5013			1752	5028			1766		1752
Flt Permitted		0.05	1.00			0.12	1.00			0.58		0.45
Satd. Flow (perm)		94	5013			220	5028			1035		833
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)	16	73	1619	51	4	89	2219	25	37	73	32	81
RTOR Reduction (vph)	0	0	1	0	0	0	1	0	0	7	0	0
Lane Group Flow (vph)	0	89	1669	0	0	93	2243	0	0	135	0	81
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		133.3	124.2			128.1	121.6			20.3		20.3
Effective Green, g (s)		133.3	124.2			128.1	121.6			20.3		20.3
Actuated g/C Ratio		0.78	0.73			0.75	0.72			0.12		0.12
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		162	3662			224	3596			123		99
v/s Ratio Prot		c0.03	0.33			0.02	c0.45					
v/s Ratio Perm		c0.40				0.30				c0.13		0.10
v/c Ratio		0.55	0.46			0.42	0.62			1.10		0.82
Uniform Delay, d1		16.1	9.2			6.4	12.4			74.8		73.0
Progression Factor		2.07	0.63			2.84	1.78			1.00		1.00
Incremental Delay, d2		1.8	0.4			0.0	0.1			109.6		38.7
Delay (s)		35.0	6.2			18.4	22.2			184.5		111.7
Level of Service		D	A			B	C			F		F
Approach Delay (s)			7.6				22.1			184.5		
Approach LOS			A				C			F		

Intersection Summary

HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

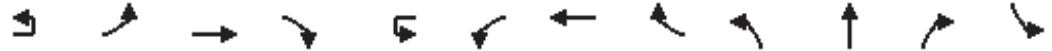
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	75	61
Future Volume (vph)	75	61
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1721	
Flt Permitted	1.00	
Satd. Flow (perm)	1721	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	79	64
RTOR Reduction (vph)	19	0
Lane Group Flow (vph)	124	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	20.3	
Effective Green, g (s)	20.3	
Actuated g/C Ratio	0.12	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	205	
v/s Ratio Prot	0.07	
v/s Ratio Perm		
v/c Ratio	0.60	
Uniform Delay, d1	71.0	
Progression Factor	1.00	
Incremental Delay, d2	4.9	
Delay (s)	76.0	
Level of Service	E	
Approach Delay (s)	88.9	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
3: N 22nd Street & Hillsborough Ave

2033 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	2	113	1368	166	4	188	1978	183	141	186	113	146
Future Volume (vph)	2	113	1368	166	4	188	1978	183	141	186	113	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.98			1.00	0.99		1.00	0.94		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4954			1752	4972		1752	1740		1752
Flt Permitted		0.08	1.00			0.08	1.00		0.09	1.00		0.32
Satd. Flow (perm)		148	4954			148	4972		162	1740		582
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	119	1440	175	4	198	2082	193	148	196	119	154
RTOR Reduction (vph)	0	0	9	0	0	0	7	0	0	12	0	0
Lane Group Flow (vph)	0	121	1606	0	0	202	2268	0	148	303	0	154
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6			5	2		7	4		3
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		65.6	65.6			68.6	68.6		61.2	45.5		60.8
Effective Green, g (s)		65.6	65.6			68.6	68.6		61.2	45.5		60.8
Actuated g/C Ratio		0.39	0.39			0.40	0.40		0.36	0.27		0.36
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		204	1911			235	2006		205	465		314
v/s Ratio Prot		0.05	c0.32			0.09	c0.46		c0.07	0.17		0.04
v/s Ratio Perm		0.17				0.25			0.19			0.13
v/c Ratio		0.59	0.84			0.86	1.13		0.72	0.65		0.49
Uniform Delay, d1		69.1	47.4			50.3	50.7		43.5	55.2		39.9
Progression Factor		0.87	0.87			0.97	1.31		1.00	1.00		1.00
Incremental Delay, d2		4.1	4.2			12.7	62.0		11.8	3.6		1.2
Delay (s)		64.5	45.6			61.4	128.4		55.4	58.8		41.1
Level of Service		E	D			E	F		E	E		D
Approach Delay (s)			46.9				122.9			57.7		
Approach LOS			D				F			E		

Intersection Summary			
HCM 2000 Control Delay	90.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	393	100
Future Volume (vph)	393	100
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	1789	
Flt Permitted	1.00	
Satd. Flow (perm)	1789	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	414	105
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	514	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	45.3	
Effective Green, g (s)	45.3	
Actuated g/C Ratio	0.27	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	476	
v/s Ratio Prot	c0.29	
v/s Ratio Perm		
v/c Ratio	1.08	
Uniform Delay, d1	62.4	
Progression Factor	1.00	
Incremental Delay, d2	64.3	
Delay (s)	126.7	
Level of Service	F	
Approach Delay (s)	107.1	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
4: N 30th Street & Hillsborough Ave

2033 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	105	1446	76	1	56	2116	225	66	125	22	223
Future Volume (vph)	4	105	1446	76	1	56	2116	225	66	125	22	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4998			1752	4963		1752	1804		1752
Flt Permitted		0.23	1.00			0.47	1.00		0.16	1.00		0.56
Satd. Flow (perm)		419	4998			858	4963		289	1804		1035
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	111	1522	80	1	59	2227	237	69	132	23	235
RTOR Reduction (vph)	0	0	3	0	0	0	8	0	0	4	0	0
Lane Group Flow (vph)	0	115	1599	0	0	60	2456	0	69	151	0	235
Turn Type	custom	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1				5				4			8
Actuated Green, G (s)		17.6	101.6			8.6	92.6		40.9	40.9		40.9
Effective Green, g (s)		17.6	101.6			8.6	92.6		40.9	40.9		40.9
Actuated g/C Ratio		0.10	0.60			0.05	0.54		0.24	0.24		0.24
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		43	2987			43	2703		69	434		249
v/s Ratio Prot			0.32				c0.49			0.08		
v/s Ratio Perm		c0.27				0.07			c0.24			0.23
v/c Ratio		2.67	0.54			1.40	0.91		1.00	0.35		0.94
Uniform Delay, d1		76.2	20.2			80.7	34.9		64.5	53.5		63.4
Progression Factor		1.15	0.36			1.10	0.80		1.00	1.00		1.00
Incremental Delay, d2		791.3	0.4			250.4	4.2		108.3	0.5		41.5
Delay (s)		878.8	7.7			338.8	32.1		172.9	54.0		104.9
Level of Service		F	A			F	C		F	D		F
Approach Delay (s)			66.0				39.4			90.6		
Approach LOS			E				D			F		

Intersection Summary

HCM 2000 Control Delay	56.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	→
Traffic Volume (vph)	228	137
Future Volume (vph)	228	137
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.94	
Flt Protected	1.00	
Satd. Flow (prot)	1741	
Flt Permitted	1.00	
Satd. Flow (perm)	1741	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	240	144
RTOR Reduction (vph)	13	0
Lane Group Flow (vph)	371	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	40.9	
Effective Green, g (s)	40.9	
Actuated g/C Ratio	0.24	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	418	
v/s Ratio Prot	0.21	
v/s Ratio Perm		
v/c Ratio	0.89	
Uniform Delay, d1	62.3	
Progression Factor	1.00	
Incremental Delay, d2	19.8	
Delay (s)	82.1	
Level of Service	F	
Approach Delay (s)	90.8	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
5: N 34th Street & Hillsborough Ave

2033 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	17	1607	66	15	96	2206	44	123	100	45	61
Future Volume (vph)	2	17	1607	66	15	96	2206	44	123	100	45	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	0.99			1.00	1.00		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	5006			1752	5021		1752	1759		
Flt Permitted		0.04	1.00			0.09	1.00		0.37	1.00		
Satd. Flow (perm)		75	5006			162	5021		675	1759		
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	18	1692	69	16	101	2322	46	129	105	47	64
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	10	0	0
Lane Group Flow (vph)	0	20	1759	0	0	117	2367	0	129	142	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		113.6	109.8			124.4	115.2		31.8	31.8		
Effective Green, g (s)		113.6	109.8			124.4	115.2		31.8	31.8		
Actuated g/C Ratio		0.67	0.65			0.73	0.68		0.19	0.19		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		87	3233			204	3402		126	329		
v/s Ratio Prot		0.01	0.35			c0.03	c0.47			0.08		
v/s Ratio Perm		0.15				0.39			0.19			
v/c Ratio		0.23	0.54			0.57	0.70		1.02	0.43		
Uniform Delay, d1		14.9	16.4			13.0	16.7		69.1	61.1		
Progression Factor		1.71	0.96			2.38	0.74		1.00	1.00		
Incremental Delay, d2		1.1	0.5			1.7	0.5		86.7	0.9		
Delay (s)		26.5	16.4			32.5	12.9		155.8	62.0		
Level of Service		C	B			C	B		F	E		
Approach Delay (s)			16.5				13.8			105.1		
Approach LOS			B				B			F		

Intersection Summary

HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

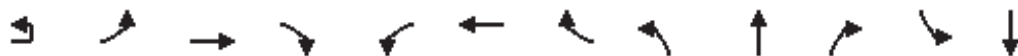
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	126	67
Future Volume (vph)	126	67
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1758	
Flt Permitted	0.69	
Satd. Flow (perm)	1231	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	133	71
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	261	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	31.8	
Effective Green, g (s)	31.8	
Actuated g/C Ratio	0.19	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	230	
v/s Ratio Prot		
v/s Ratio Perm	c0.21	
v/c Ratio	1.13	
Uniform Delay, d1	69.1	
Progression Factor	1.00	
Incremental Delay, d2	100.0	
Delay (s)	169.1	
Level of Service	F	
Approach Delay (s)	169.1	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
6: N 40th Street & Hillsborough Ave

2033 - Background Traffic AM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔↔		↔↔	↔↔↔		↔↔	↔↔	↔	↔↔	↔↔
Traffic Volume (vph)	35	197	1238	258	221	1566	96	324	720	301	311	1067
Future Volume (vph)	35	197	1238	258	221	1566	96	324	720	301	311	1067
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91		0.97	0.91		0.97	0.95	1.00	0.97	0.95
Frt		1.00	0.97		1.00	0.99		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)		3400	4905		3400	4992		3400	3505	1568	3400	3505
Flt Permitted		0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)		3400	4905		3400	4992		3400	3505	1568	3400	3505
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)	37	207	1303	272	233	1648	101	341	758	317	327	1123
RTOR Reduction (vph)	0	0	19	0	0	4	0	0	0	116	0	0
Lane Group Flow (vph)	0	244	1556	0	233	1745	0	341	758	201	327	1123
Turn Type	Prot	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	1	1	6		5	2		7	4		3	8
Permitted Phases										4		
Actuated Green, G (s)		14.1	71.2		12.2	69.3		16.2	44.2	44.2	15.2	43.2
Effective Green, g (s)		14.1	71.2		12.2	69.3		16.2	44.2	44.2	15.2	43.2
Actuated g/C Ratio		0.08	0.42		0.07	0.41		0.10	0.26	0.26	0.09	0.25
Clearance Time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		282	2054		244	2034		324	911	407	304	890
v/s Ratio Prot		0.07	c0.32		0.07	c0.35		c0.10	0.22		0.10	c0.32
v/s Ratio Perm										0.13		
v/c Ratio		0.87	0.76		0.95	0.86		1.05	0.83	0.49	1.08	1.26
Uniform Delay, d1		77.0	42.1		78.6	45.9		76.9	59.4	53.4	77.4	63.4
Progression Factor		0.85	1.16		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		20.0	2.2		44.8	5.0		64.4	6.6	0.9	73.2	126.9
Delay (s)		85.8	51.2		123.4	50.8		141.3	66.0	54.3	150.6	190.3
Level of Service		F	D		F	D		F	E	D	F	F
Approach Delay (s)			55.9			59.4			81.5			156.4
Approach LOS			E			E			F			F

Intersection Summary

HCM 2000 Control Delay	88.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	436
Future Volume (vph)	436
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.8
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	459
RTOR Reduction (vph)	116
Lane Group Flow (vph)	343
Turn Type	Perm
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	43.2
Effective Green, g (s)	43.2
Actuated g/C Ratio	0.25
Clearance Time (s)	6.8
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	398
v/s Ratio Prot	
v/s Ratio Perm	0.22
v/c Ratio	0.86
Uniform Delay, d1	60.6
Progression Factor	1.00
Incremental Delay, d2	17.2
Delay (s)	77.8
Level of Service	E
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
8: N 22nd Street & Hanna Ave

2033 - Background Traffic AM.syn
11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	18	301	36	152	384	89	16	216	75	55	411	11
Future Volume (vph)	18	301	36	152	384	89	16	216	75	55	411	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.97			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1815			1787			1779			1828	
Flt Permitted		0.96			0.78			0.96			0.93	
Satd. Flow (perm)		1740			1418			1718			1707	
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	317	38	160	404	94	17	227	79	58	433	12
RTOR Reduction (vph)	0	6	0	0	9	0	0	18	0	0	1	0
Lane Group Flow (vph)	0	368	0	0	649	0	0	305	0	0	502	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		29.3			29.3			24.3			24.3	
Effective Green, g (s)		29.3			29.3			24.3			24.3	
Actuated g/C Ratio		0.45			0.45			0.37			0.37	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		784			639			642			638	
v/s Ratio Prot												
v/s Ratio Perm		0.21			0.46			0.18			0.29	
v/c Ratio		0.47			1.02			0.47			0.79	
Uniform Delay, d1		12.4			17.9			15.5			18.0	
Progression Factor		1.00			1.30			1.00			1.00	
Incremental Delay, d2		0.4			35.8			2.5			9.5	
Delay (s)		12.9			59.0			18.0			27.5	
Level of Service		B			E			B			C	
Approach Delay (s)		12.9			59.0			18.0			27.5	
Approach LOS		B			E			B			C	
Intersection Summary												
HCM 2000 Control Delay			34.1									C
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			65.0						11.4			
Intersection Capacity Utilization			109.0%									G
ICU Level of Service												
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
10: N 30th Street & Hanna Ave

2033 - Background Traffic AM.syn
11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	355	60	156	446	96	76	325	54	83	372	77
Future Volume (vph)	37	355	60	156	446	96	76	325	54	83	372	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1805		1752	1796		1752	1805		1752	1797	
Flt Permitted	0.20	1.00		0.35	1.00		0.38	1.00		0.45	1.00	
Satd. Flow (perm)	377	1805		652	1796		692	1805		825	1797	
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)	39	374	63	164	469	101	80	342	57	87	392	81
RTOR Reduction (vph)	0	9	0	0	12	0	0	9	0	0	12	0
Lane Group Flow (vph)	39	428	0	164	558	0	80	390	0	87	461	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	24.2	24.2		24.2	24.2		29.4	29.4		29.4	29.4	
Effective Green, g (s)	24.2	24.2		24.2	24.2		29.4	29.4		29.4	29.4	
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.45	0.45		0.45	0.45	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	140	672		242	668		312	816		373	812	
v/s Ratio Prot		0.24			c0.31			0.22			c0.26	
v/s Ratio Perm	0.10			0.25			0.12			0.11		
v/c Ratio	0.28	0.64		0.68	0.84		0.26	0.48		0.23	0.57	
Uniform Delay, d1	14.3	16.8		17.1	18.6		11.0	12.4		10.9	13.1	
Progression Factor	0.96	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	1.8		7.3	8.9		2.0	2.0		1.5	2.9	
Delay (s)	14.7	18.4		24.5	27.5		13.0	14.4		12.4	16.0	
Level of Service	B	B		C	C		B	B		B	B	
Approach Delay (s)		18.1			26.8			14.2			15.4	
Approach LOS		B			C			B			B	

Intersection Summary

HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 12: N 15th Street & Sligh Ave

2033 - Background Traffic AM.syn
 11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	464	139	110	495	4	71	19	62	11	42	11
Future Volume (vph)	1	464	139	110	495	4	71	19	62	11	42	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.95			0.98	
Flt Protected		1.00			0.99			0.98			0.99	
Satd. Flow (prot)		1787			1827			1704			1785	
Flt Permitted		1.00			0.80			0.82			0.94	
Satd. Flow (perm)		1786			1470			1424			1691	
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)	1	488	146	116	521	4	75	20	65	12	44	12
RTOR Reduction (vph)	0	12	0	0	0	0	0	41	0	0	10	0
Lane Group Flow (vph)	0	623	0	0	641	0	0	119	0	0	58	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		46.2			46.2			12.1			12.1	
Effective Green, g (s)		46.2			46.2			12.1			12.1	
Actuated g/C Ratio		0.66			0.66			0.17			0.17	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1178			970			246			292	
v/s Ratio Prot												
v/s Ratio Perm		0.35			c0.44			c0.08			0.03	
v/c Ratio		0.53			0.66			0.48			0.20	
Uniform Delay, d1		6.2			7.2			26.1			24.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.7			3.5			1.5			0.3	
Delay (s)		7.9			10.7			27.6			25.1	
Level of Service		A			B			C			C	
Approach Delay (s)		7.9			10.7			27.6			25.1	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

2033 - Background Traffic AM.syn
 11/29/2021



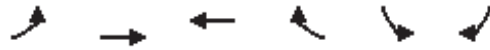
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	346	175	232	426	23	132	54	137	40	70	51
Future Volume (vph)	16	346	175	232	426	23	132	54	137	40	70	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	0.89		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1752		1752	1831		1752	1646		1752	1728	
Flt Permitted	0.46	1.00		0.42	1.00		0.64	1.00		0.44	1.00	
Satd. Flow (perm)	856	1752		772	1831		1187	1646		820	1728	
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)	17	364	184	244	448	24	139	57	144	42	74	54
RTOR Reduction (vph)	0	7	0	0	1	0	0	94	0	0	27	0
Lane Group Flow (vph)	17	541	0	244	471	0	139	107	0	42	101	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	75.8	75.8		75.8	75.8		17.3	17.3		17.3	17.3	
Effective Green, g (s)	75.8	75.8		75.8	75.8		17.3	17.3		17.3	17.3	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.16	0.16		0.16	0.16	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	617	1264		557	1321		195	271		135	284	
v/s Ratio Prot		0.31			0.26			0.07			0.06	
v/s Ratio Perm	0.02			c0.32			c0.12			0.05		
v/c Ratio	0.03	0.43		0.44	0.36		0.71	0.40		0.31	0.36	
Uniform Delay, d1	4.1	5.9		5.9	5.5		41.5	39.2		38.6	38.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.1		2.5	0.8		11.6	1.0		1.3	0.8	
Delay (s)	4.2	6.9		8.4	6.2		53.1	40.1		39.9	39.7	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		6.9			7.0			45.5			39.7	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 15: Sligh Ave & Rowlett Park Dr

2033 - Background Traffic AM.syn
 11/29/2021



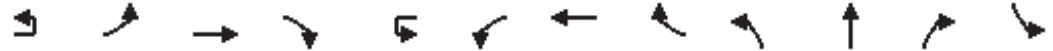
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	180	318	326	245	366	377
Future Volume (vph)	180	318	326	245	366	377
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1738		1752	1568
Flt Permitted	0.20	1.00	1.00		0.95	1.00
Satd. Flow (perm)	372	1845	1738		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	189	335	343	258	385	397
RTOR Reduction (vph)	0	0	35	0	0	283
Lane Group Flow (vph)	189	335	566	0	385	114
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	36.4	29.4	29.4		20.1	20.1
Effective Green, g (s)	36.4	29.4	29.4		20.1	20.1
Actuated g/C Ratio	0.52	0.42	0.42		0.29	0.29
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	331	774	729		503	450
v/s Ratio Prot	c0.06	0.18	c0.33		c0.22	0.07
v/s Ratio Perm	0.24					
v/c Ratio	0.57	0.43	0.78		0.77	0.25
Uniform Delay, d1	22.4	14.4	17.5		22.8	19.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.4	1.8	8.0		6.8	0.3
Delay (s)	24.7	16.2	25.4		29.6	19.5
Level of Service	C	B	C		C	B
Approach Delay (s)		19.3	25.4		24.5	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: N 15th Street & Hillsborough Ave

2033 - Background Traffic PM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	9	94	1651	67	36	122	2076	56	103	273	73	95
Future Volume (vph)	9	94	1651	67	36	122	2076	56	103	273	73	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5006			1752	5016		1752	1786		1752
Flt Permitted		0.04	1.00			0.06	1.00		0.36	1.00		0.25
Satd. Flow (perm)		76	5006			117	5016		663	1786		460
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)	9	99	1738	71	38	128	2185	59	108	287	77	100
RTOR Reduction (vph)	0	0	2	0	0	0	2	0	0	5	0	0
Lane Group Flow (vph)	0	108	1807	0	0	166	2242	0	108	359	0	100
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		108.2	96.7			114.4	99.8		50.2	50.2		50.2
Effective Green, g (s)		108.2	96.7			114.4	99.8		50.2	50.2		50.2
Actuated g/C Ratio		0.60	0.54			0.64	0.55		0.28	0.28		0.28
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		152	2689			206	2781		184	498		128
v/s Ratio Prot		0.05	0.36			c0.07	c0.45			0.20		
v/s Ratio Perm		0.38				0.44			0.16			c0.22
v/c Ratio		0.71	0.67			0.81	0.81		0.59	0.72		0.78
Uniform Delay, d1		46.1	30.2			42.2	32.3		56.0	58.6		59.8
Progression Factor		1.00	1.00			1.47	0.94		1.00	1.00		1.00
Incremental Delay, d2		12.2	1.4			14.1	1.9		4.7	5.1		25.9
Delay (s)		58.3	31.5			76.1	32.3		60.7	63.7		85.8
Level of Service		E	C			E	C		E	E		F
Approach Delay (s)			33.0				35.3			63.0		
Approach LOS			C				D			E		

Intersection Summary			
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↘
Traffic Volume (vph)	207	68
Future Volume (vph)	207	68
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1776	
Flt Permitted	1.00	
Satd. Flow (perm)	1776	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	218	72
RTOR Reduction (vph)	6	0
Lane Group Flow (vph)	284	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	50.2	
Effective Green, g (s)	50.2	
Actuated g/C Ratio	0.28	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	495	
v/s Ratio Prot	0.16	
v/s Ratio Perm		
v/c Ratio	0.57	
Uniform Delay, d1	55.7	
Progression Factor	1.00	
Incremental Delay, d2	1.6	
Delay (s)	57.3	
Level of Service	E	
Approach Delay (s)	64.6	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

2033 - Background Traffic PM.syn
11/29/2021

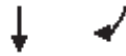


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	40	70	1673	72	21	55	2096	46	66	110	29	131
Future Volume (vph)	40	70	1673	72	21	55	2096	46	66	110	29	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Flt		1.00	0.99			1.00	1.00			0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.98		0.95
Satd. Flow (prot)		1752	5005			1752	5020			1780		1752
Flt Permitted		0.04	1.00			0.09	1.00			0.58		0.48
Satd. Flow (perm)		71	5005			160	5020			1041		882
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)	42	74	1761	76	22	58	2206	48	69	116	31	138
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	4	0	0
Lane Group Flow (vph)	0	116	1835	0	0	80	2253	0	0	212	0	138
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		129.9	117.8			120.5	113.1			35.8		35.8
Effective Green, g (s)		129.9	117.8			120.5	113.1			35.8		35.8
Actuated g/C Ratio		0.72	0.65			0.67	0.63			0.20		0.20
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		164	3275			172	3154			207		175
v/s Ratio Prot		c0.05	c0.37			0.02	0.45					
v/s Ratio Perm		c0.46				0.29				c0.20		0.16
v/c Ratio		0.71	0.56			0.47	0.71			1.02		0.79
Uniform Delay, d1		47.6	17.0			13.4	22.6			72.1		68.5
Progression Factor		1.61	0.44			2.18	0.67			1.00		1.00
Incremental Delay, d2		8.0	0.5			0.2	0.3			69.0		20.6
Delay (s)		84.9	8.0			29.3	15.4			141.1		89.1
Level of Service		F	A			C	B			F		F
Approach Delay (s)			12.6				15.9			141.1		
Approach LOS			B				B			F		

Intersection Summary

HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	91	88
Future Volume (vph)	91	88
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1709	
Flt Permitted	1.00	
Satd. Flow (perm)	1709	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	96	93
RTOR Reduction (vph)	22	0
Lane Group Flow (vph)	167	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	35.8	
Effective Green, g (s)	35.8	
Actuated g/C Ratio	0.20	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	339	
v/s Ratio Prot	0.10	
v/s Ratio Perm		
v/c Ratio	0.49	
Uniform Delay, d1	64.0	
Progression Factor	1.00	
Incremental Delay, d2	1.1	
Delay (s)	65.2	
Level of Service	E	
Approach Delay (s)	75.3	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
3: N 22nd Street & Hillsborough Ave

2033 - Background Traffic PM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	160	1567	123	13	171	1903	125	197	322	126	160
Future Volume (vph)	4	160	1567	123	13	171	1903	125	197	322	126	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.96		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4981			1752	4989		1752	1767		1752
Flt Permitted		0.07	1.00			0.07	1.00		0.08	1.00		0.09
Satd. Flow (perm)		132	4981			132	4989		154	1767		164
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	168	1649	129	14	180	2003	132	207	339	133	168
RTOR Reduction (vph)	0	0	5	0	0	0	4	0	0	7	0	0
Lane Group Flow (vph)	0	172	1773	0	0	194	2131	0	207	465	0	168
Turn Type	custom	pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6		5	5	2		7	4		3
Permitted Phases	1	6			2	2			4			8
Actuated Green, G (s)		70.3	70.3			75.6	75.6		67.9	47.9		62.1
Effective Green, g (s)		70.3	70.3			75.6	75.6		67.9	47.9		62.1
Actuated g/C Ratio		0.39	0.39			0.42	0.42		0.38	0.27		0.35
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		182	1945			234	2095		235	470		207
v/s Ratio Prot		0.08	c0.36			0.09	c0.43		c0.10	c0.26		0.08
v/s Ratio Perm		0.29				0.26			0.23			0.20
v/c Ratio		0.95	0.91			0.83	1.02		0.88	0.99		0.81
Uniform Delay, d1		76.8	51.9			53.9	52.2		54.2	65.8		48.3
Progression Factor		0.68	0.55			0.54	0.94		1.00	1.00		1.00
Incremental Delay, d2		45.3	6.8			12.4	19.0		29.5	38.2		20.9
Delay (s)		97.5	35.5			41.7	68.2		83.7	104.0		69.2
Level of Service		F	D			D	E		F	F		E
Approach Delay (s)			41.0				66.0			97.8		
Approach LOS			D				E			F		

Intersection Summary

HCM 2000 Control Delay	65.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↘
Traffic Volume (vph)	319	114
Future Volume (vph)	319	114
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1772	
Flt Permitted	1.00	
Satd. Flow (perm)	1772	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	336	120
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	449	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	45.0	
Effective Green, g (s)	45.0	
Actuated g/C Ratio	0.25	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	443	
v/s Ratio Prot	0.25	
v/s Ratio Perm		
v/c Ratio	1.01	
Uniform Delay, d1	67.5	
Progression Factor	1.00	
Incremental Delay, d2	46.4	
Delay (s)	113.9	
Level of Service	F	
Approach Delay (s)	101.8	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
4: N 30th Street & Hillsborough Ave

2033 - Background Traffic PM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	124	1735	106	2	64	1886	240	76	211	50	240
Future Volume (vph)	4	124	1735	106	2	64	1886	240	76	211	50	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.98		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4992			1752	4951		1752	1791		1752
Flt Permitted		0.95	1.00			0.20	1.00		0.26	1.00		0.41
Satd. Flow (perm)		1752	4992			369	4951		484	1791		753
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	131	1826	112	2	67	1985	253	80	222	53	253
RTOR Reduction (vph)	0	0	4	0	0	0	9	0	0	5	0	0
Lane Group Flow (vph)	0	135	1934	0	0	69	2229	0	80	270	0	253
Turn Type	Prot	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases	1	1	6			5	2			4		
Permitted Phases					5				4			8
Actuated Green, G (s)		16.7	87.2			20.0	90.5		53.9	53.9		53.9
Effective Green, g (s)		16.7	87.2			20.0	90.5		53.9	53.9		53.9
Actuated g/C Ratio		0.09	0.48			0.11	0.50		0.30	0.30		0.30
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		162	2418			41	2489		144	536		225
v/s Ratio Prot		0.08	c0.39				c0.45			0.15		
v/s Ratio Perm						c0.19			0.17			c0.34
v/c Ratio		0.83	0.80			1.68	0.90		0.56	0.50		1.12
Uniform Delay, d1		80.3	39.1			80.0	40.5		53.0	52.0		63.0
Progression Factor		1.51	0.31			0.68	0.39		1.00	1.00		1.00
Incremental Delay, d2		16.0	1.5			366.6	3.8		4.6	0.7		97.5
Delay (s)		137.2	13.5			420.6	19.4		57.6	52.8		160.6
Level of Service		F	B			F	B		E	D		F
Approach Delay (s)			21.5				31.4			53.8		
Approach LOS			C				C			D		

Intersection Summary

HCM 2000 Control Delay	37.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	197	163
Future Volume (vph)	197	163
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1719	
Flt Permitted	1.00	
Satd. Flow (perm)	1719	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	207	172
RTOR Reduction (vph)	17	0
Lane Group Flow (vph)	362	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	53.9	
Effective Green, g (s)	53.9	
Actuated g/C Ratio	0.30	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	514	
v/s Ratio Prot	0.21	
v/s Ratio Perm		
v/c Ratio	0.70	
Uniform Delay, d1	56.0	
Progression Factor	1.00	
Incremental Delay, d2	4.4	
Delay (s)	60.4	
Level of Service	E	
Approach Delay (s)	100.5	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
5: N 34th Street & Hillsborough Ave

2033 - Background Traffic PM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	10	37	1862	118	32	126	2011	94	131	162	73	56
Future Volume (vph)	10	37	1862	118	32	126	2011	94	131	162	73	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	0.99			1.00	0.99		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	4991			1752	5002		1752	1759		
Flt Permitted		0.05	1.00			0.04	1.00		0.45	1.00		
Satd. Flow (perm)		88	4991			82	5002		827	1759		
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)	11	39	1960	124	34	133	2117	99	138	171	77	59
RTOR Reduction (vph)	0	0	3	0	0	0	2	0	0	9	0	0
Lane Group Flow (vph)	0	50	2081	0	0	167	2214	0	138	239	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		102.7	102.7			105.7	105.7		42.7	42.7		
Effective Green, g (s)		102.7	102.7			105.7	105.7		42.7	42.7		
Actuated g/C Ratio		0.57	0.57			0.59	0.59		0.24	0.24		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		164	2847			191	2937		196	417		
v/s Ratio Prot		0.02	c0.42			0.07	c0.44			0.14		
v/s Ratio Perm		0.15				c0.44			0.17			
v/c Ratio		0.30	0.73			0.87	0.75		0.70	0.57		
Uniform Delay, d1		51.3	28.5			57.2	27.5		62.9	60.6		
Progression Factor		0.37	0.21			1.47	0.75		1.00	1.00		
Incremental Delay, d2		0.6	1.0			12.1	0.5		10.9	1.9		
Delay (s)		19.7	7.1			96.4	21.2		73.8	62.5		
Level of Service		B	A			F	C		E	E		
Approach Delay (s)			7.4				26.5			66.5		
Approach LOS			A				C			E		

Intersection Summary

HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

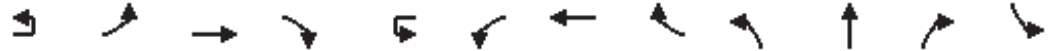
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	141	40
Future Volume (vph)	141	40
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.99	
Satd. Flow (prot)	1782	
Flt Permitted	0.57	
Satd. Flow (perm)	1028	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	148	42
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	245	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	42.7	
Effective Green, g (s)	42.7	
Actuated g/C Ratio	0.24	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	243	
v/s Ratio Prot		
v/s Ratio Perm	c0.24	
v/c Ratio	1.01	
Uniform Delay, d1	68.7	
Progression Factor	1.00	
Incremental Delay, d2	60.1	
Delay (s)	128.7	
Level of Service	F	
Approach Delay (s)	128.7	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
6: N 40th Street & Hillsborough Ave

2033 - Background Traffic PM.syn
11/29/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↑↑↑			↔↔	↑↑↑		↔↔	↑↑	↔	↔↔
Traffic Volume (vph)	29	338	1421	235	13	165	1521	216	407	1112	337	282
Future Volume (vph)	29	338	1421	235	13	165	1521	216	407	1112	337	282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91			0.97	0.91		0.97	0.95	1.00	0.97
Frt		1.00	0.98			1.00	0.98		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)		3400	4929			3400	4942		3400	3505	1568	3400
Flt Permitted		0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)		3400	4929			3400	4942		3400	3505	1568	3400
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)	31	356	1496	247	14	174	1601	227	428	1171	355	297
RTOR Reduction (vph)	0	0	13	0	0	0	10	0	0	0	108	0
Lane Group Flow (vph)	0	387	1730	0	0	188	1818	0	428	1171	247	297
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases												4
Actuated Green, G (s)		20.2	75.2			12.2	67.2		19.2	48.2	48.2	17.2
Effective Green, g (s)		20.2	75.2			12.2	67.2		19.2	48.2	48.2	17.2
Actuated g/C Ratio		0.11	0.42			0.07	0.37		0.11	0.27	0.27	0.10
Clearance Time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		381	2059			230	1845		362	938	419	324
v/s Ratio Prot		0.11	c0.35			0.06	c0.37		c0.13	c0.33		0.09
v/s Ratio Perm												0.16
v/c Ratio		1.02	0.84			0.82	0.99		1.18	1.25	0.59	0.92
Uniform Delay, d1		79.9	47.0			82.8	55.9		80.4	65.9	57.3	80.7
Progression Factor		0.65	1.32			1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		41.6	2.9			19.7	17.8		106.8	120.7	2.2	29.3
Delay (s)		93.5	65.0			102.5	73.7		187.2	186.6	59.5	110.0
Level of Service		F	E			F	E		F	F	E	F
Approach Delay (s)			70.2				76.4			163.7		
Approach LOS			E				E			F		

Intersection Summary		
HCM 2000 Control Delay	108.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.11	F
Actuated Cycle Length (s)	180.0	Sum of lost time (s)
Intersection Capacity Utilization	106.9%	27.2
Analysis Period (min)	15	ICU Level of Service
		G

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1013	306
Future Volume (vph)	1013	306
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.8	6.8
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1066	322
RTOR Reduction (vph)	0	120
Lane Group Flow (vph)	1066	202
Turn Type	NA	Perm
Protected Phases	8	
Permitted Phases		8
Actuated Green, G (s)	46.2	46.2
Effective Green, g (s)	46.2	46.2
Actuated g/C Ratio	0.26	0.26
Clearance Time (s)	6.8	6.8
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	899	402
v/s Ratio Prot	0.30	
v/s Ratio Perm		0.13
v/c Ratio	1.19	0.50
Uniform Delay, d1	66.9	57.1
Progression Factor	1.00	1.00
Incremental Delay, d2	94.9	1.0
Delay (s)	161.8	58.1
Level of Service	F	E
Approach Delay (s)	132.8	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
8: N 22nd Street & Hanna Ave

2033 - Background Traffic PM.syn
11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	30	401	37	47	437	50	38	419	106	48	342	13
Future Volume (vph)	30	401	37	47	437	50	38	419	106	48	342	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		1819			1813			1792			1826	
Flt Permitted		0.91			0.88			0.95			0.89	
Satd. Flow (perm)		1668			1597			1711			1628	
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)	32	422	39	49	460	53	40	441	112	51	360	14
RTOR Reduction (vph)	0	4	0	0	5	0	0	11	0	0	1	0
Lane Group Flow (vph)	0	489	0	0	557	0	0	582	0	0	424	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		24.3			24.3			39.3			39.3	
Effective Green, g (s)		24.3			24.3			39.3			39.3	
Actuated g/C Ratio		0.32			0.32			0.52			0.52	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		540			517			896			853	
v/s Ratio Prot												
v/s Ratio Perm		0.29			0.35			0.34			0.26	
v/c Ratio		0.91			1.08			0.65			0.50	
Uniform Delay, d1		24.3			25.4			12.9			11.5	
Progression Factor		1.00			1.22			1.00			1.00	
Incremental Delay, d2		18.6			58.1			3.6			2.1	
Delay (s)		42.9			89.0			16.5			13.5	
Level of Service		D			F			B			B	
Approach Delay (s)		42.9			89.0			16.5			13.5	
Approach LOS		D			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
10: N 30th Street & Hanna Ave

2033 - Background Traffic PM.syn
11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	378	83	77	362	109	78	379	118	85	440	93
Future Volume (vph)	99	378	83	77	362	109	78	379	118	85	440	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1795		1752	1781		1752	1779		1752	1796	
Flt Permitted	0.22	1.00		0.24	1.00		0.33	1.00		0.36	1.00	
Satd. Flow (perm)	409	1795		434	1781		607	1779		663	1796	
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)	104	398	87	81	381	115	82	399	124	89	463	98
RTOR Reduction (vph)	0	11	0	0	14	0	0	15	0	0	10	0
Lane Group Flow (vph)	104	474	0	81	482	0	82	508	0	89	551	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	24.8	24.8		24.8	24.8		38.8	38.8		38.8	38.8	
Effective Green, g (s)	24.8	24.8		24.8	24.8		38.8	38.8		38.8	38.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.52	0.52		0.52	0.52	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	593		143	588		314	920		342	929	
v/s Ratio Prot		0.26			c0.27			0.29			c0.31	
v/s Ratio Perm	0.25			0.19			0.14			0.13		
v/c Ratio	0.77	0.80		0.57	0.82		0.26	0.55		0.26	0.59	
Uniform Delay, d1	22.5	22.8		20.7	23.0		10.1	12.2		10.1	12.6	
Progression Factor	1.26	1.26		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.9	4.9		5.1	8.7		2.0	2.4		1.8	2.8	
Delay (s)	44.2	33.8		25.7	31.8		12.1	14.6		11.9	15.4	
Level of Service	D	C		C	C		B	B		B	B	
Approach Delay (s)		35.6			30.9			14.3			14.9	
Approach LOS		D			C			B			B	

Intersection Summary		
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.68	
Actuated Cycle Length (s)	75.0	Sum of lost time (s) 11.4
Intersection Capacity Utilization	90.2%	ICU Level of Service E
Analysis Period (min)	15	

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 12: N 15th Street & Sligh Ave

2033 - Background Traffic PM.syn
 11/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	16	495	90	50	478	16	109	61	75	16	44	2
Future Volume (vph)	16	495	90	50	478	16	109	61	75	16	44	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			1.00			0.96			1.00	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		1805			1829			1730			1813	
Flt Permitted		0.98			0.91			0.83			0.90	
Satd. Flow (perm)		1774			1664			1460			1648	
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)	17	521	95	53	503	17	115	64	79	17	46	2
RTOR Reduction (vph)	0	8	0	0	1	0	0	25	0	0	2	0
Lane Group Flow (vph)	0	625	0	0	572	0	0	233	0	0	63	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		42.5			42.5			15.8			15.8	
Effective Green, g (s)		42.5			42.5			15.8			15.8	
Actuated g/C Ratio		0.61			0.61			0.23			0.23	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1077			1010			329			371	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.34			c0.16			0.04	
v/c Ratio		0.58			0.57			0.71			0.17	
Uniform Delay, d1		8.3			8.2			25.0			21.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.3			2.3			6.8			0.2	
Delay (s)		10.6			10.5			31.8			22.0	
Level of Service		B			B			C			C	
Approach Delay (s)		10.6			10.5			31.8			22.0	
Approach LOS		B			B			C			C	

Intersection Summary

HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

2033 - Background Traffic PM.syn
 11/29/2021



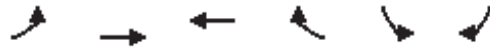
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	424	148	216	352	54	154	65	280	43	39	38
Future Volume (vph)	14	424	148	216	352	54	154	65	280	43	39	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.88		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1773		1752	1808		1752	1620		1752	1708	
Flt Permitted	0.49	1.00		0.38	1.00		0.70	1.00		0.21	1.00	
Satd. Flow (perm)	898	1773		700	1808		1299	1620		380	1708	
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)	15	446	156	227	371	57	162	68	295	45	41	40
RTOR Reduction (vph)	0	5	0	0	2	0	0	157	0	0	33	0
Lane Group Flow (vph)	15	597	0	227	426	0	162	206	0	45	48	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	73.7	73.7		73.7	73.7		19.4	19.4		19.4	19.4	
Effective Green, g (s)	73.7	73.7		73.7	73.7		19.4	19.4		19.4	19.4	
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.18	0.18		0.18	0.18	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	630	1244		491	1269		240	299		70	315	
v/s Ratio Prot		c0.34			0.24			c0.13			0.03	
v/s Ratio Perm	0.02			0.32			0.12			0.12		
v/c Ratio	0.02	0.48		0.46	0.34		0.68	0.69		0.64	0.15	
Uniform Delay, d1	4.7	7.0		6.9	6.1		39.9	40.0		39.6	35.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.3		3.1	0.7		7.3	6.4		18.4	0.2	
Delay (s)	4.8	8.4		10.0	6.8		47.2	46.4		58.0	36.1	
Level of Service	A	A		B	A		D	D		E	D	
Approach Delay (s)		8.3			7.9			46.6			44.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 15: Sligh Ave & Rowlett Park Dr

2033 - Background Traffic PM.syn
 11/29/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	364	351	409	310	413	187
Future Volume (vph)	364	351	409	310	413	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1737		1752	1568
Flt Permitted	0.14	1.00	1.00		0.95	1.00
Satd. Flow (perm)	253	1845	1737		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	383	369	431	326	435	197
RTOR Reduction (vph)	0	0	33	0	0	142
Lane Group Flow (vph)	383	369	724	0	435	55
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	44.2	29.2	29.2		22.3	22.3
Effective Green, g (s)	44.2	29.2	29.2		22.3	22.3
Actuated g/C Ratio	0.55	0.36	0.36		0.28	0.28
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	420	673	634		488	437
v/s Ratio Prot	c0.17	0.20	c0.42		c0.25	0.04
v/s Ratio Perm	0.33					
v/c Ratio	0.91	0.55	1.14		0.89	0.13
Uniform Delay, d1	28.5	20.2	25.4		27.7	21.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	23.7	3.2	81.7		18.2	0.1
Delay (s)	52.2	23.4	107.1		45.9	21.7
Level of Service	D	C	F		D	C
Approach Delay (s)		38.1	107.1		38.3	
Approach LOS		D	F		D	

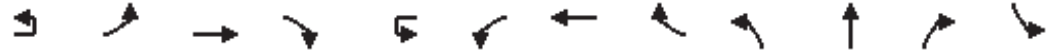
Intersection Summary			
HCM 2000 Control Delay	62.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Total Project Traffic

HCM Signalized Intersection Capacity Analysis
 1: N 15th Street & Hillsborough Ave

2023 - Background+Project Traffic AM.syn
 12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	55	1499	52	4	99	1949	21	86	92	46	75
Future Volume (vph)	4	55	1499	52	4	99	1949	21	86	92	46	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.95		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5010			1752	5028		1752	1753		1752
Flt Permitted		0.05	1.00			0.12	1.00		0.25	1.00		0.51
Satd. Flow (perm)		94	5010			225	5028		455	1753		941
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	58	1578	55	4	104	2052	22	91	97	48	79
RTOR Reduction (vph)	0	0	2	0	0	0	0	0	0	12	0	0
Lane Group Flow (vph)	0	62	1631	0	0	108	2074	0	91	133	0	79
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		103.4	103.4			115.2	115.2		28.7	28.7		28.7
Effective Green, g (s)		103.4	103.4			115.2	115.2		28.7	28.7		28.7
Actuated g/C Ratio		0.61	0.61			0.68	0.68		0.17	0.17		0.17
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		131	3047			326	3407		76	295		158
v/s Ratio Prot		0.02	c0.33			0.04	c0.41			0.08		
v/s Ratio Perm		0.27				0.19			c0.20			0.08
v/c Ratio		0.47	0.54			0.33	0.61		1.20	0.45		0.50
Uniform Delay, d1		21.2	19.3			23.0	15.0		70.7	63.5		64.1
Progression Factor		1.00	1.00			0.35	0.26		1.00	1.00		1.00
Incremental Delay, d2		1.0	0.7			0.2	0.7		165.8	1.1		2.5
Delay (s)		22.2	20.0			8.1	4.6		236.4	64.6		66.6
Level of Service		C	C			A	A		F	E		E
Approach Delay (s)			20.1				4.8			130.9		
Approach LOS			C				A			F		

Intersection Summary		
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.73	C
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	83.7%	18.5
Analysis Period (min)	15	ICU Level of Service
		E

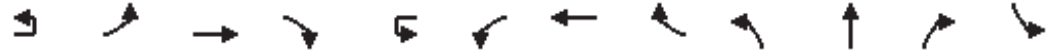
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	180	57
Future Volume (vph)	180	57
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1778	
Flt Permitted	1.00	
Satd. Flow (perm)	1778	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	189	60
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	241	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	28.7	
Effective Green, g (s)	28.7	
Actuated g/C Ratio	0.17	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	300	
v/s Ratio Prot	0.14	
v/s Ratio Perm		
v/c Ratio	0.80	
Uniform Delay, d1	67.9	
Progression Factor	1.00	
Incremental Delay, d2	14.3	
Delay (s)	82.2	
Level of Service	F	
Approach Delay (s)	78.4	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

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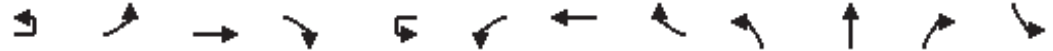
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔			↔
Traffic Volume (vph)	13	60	1507	44	4	77	1970	21	29	58	25	74
Future Volume (vph)	13	60	1507	44	4	77	1970	21	29	58	25	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	1.00			1.00	1.00			0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.99		0.95
Satd. Flow (prot)		1752	5015			1752	5028			1767		1752
Flt Permitted		0.07	1.00			0.12	1.00			0.52		0.48
Satd. Flow (perm)		122	5015			229	5028			931		887
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	63	1586	46	4	81	2074	22	31	61	26	78
RTOR Reduction (vph)	0	0	1	0	0	0	1	0	0	7	0	0
Lane Group Flow (vph)	0	77	1631	0	0	85	2095	0	0	111	0	78
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		138.5	128.1			128.5	123.1			17.5		17.5
Effective Green, g (s)		138.5	128.1			128.5	123.1			17.5		17.5
Actuated g/C Ratio		0.81	0.75			0.76	0.72			0.10		0.10
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		199	3778			221	3640			95		91
v/s Ratio Prot		c0.02	0.33			0.01	c0.42					
v/s Ratio Perm		0.29				0.28				c0.12		0.09
v/c Ratio		0.39	0.43			0.38	0.58			1.17		0.86
Uniform Delay, d1		20.7	7.7			13.7	11.1			76.2		75.0
Progression Factor		1.12	0.30			0.50	0.19			1.00		1.00
Incremental Delay, d2		0.4	0.3			0.1	0.2			144.0		50.5
Delay (s)		23.6	2.6			7.0	2.3			220.3		125.5
Level of Service		C	A			A	A			F		F
Approach Delay (s)			3.5				2.5			220.3		
Approach LOS			A				A			F		

Intersection Summary		
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.63	B
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	80.4%	19.0
Analysis Period (min)	15	ICU Level of Service
		D

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	75	61
Future Volume (vph)	75	61
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1721	
Flt Permitted	1.00	
Satd. Flow (perm)	1721	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	79	64
RTOR Reduction (vph)	20	0
Lane Group Flow (vph)	123	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	17.5	
Effective Green, g (s)	17.5	
Actuated g/C Ratio	0.10	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	177	
v/s Ratio Prot	0.07	
v/s Ratio Perm		
v/c Ratio	0.70	
Uniform Delay, d1	73.7	
Progression Factor	1.00	
Incremental Delay, d2	11.3	
Delay (s)	85.0	
Level of Service	F	
Approach Delay (s)	99.3	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	2	213	1244	151	4	161	1841	147	119	139	95	120
Future Volume (vph)	2	213	1244	151	4	161	1841	147	119	139	95	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.98			1.00	0.99		1.00	0.94		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4954			1752	4980		1752	1732		1752
Flt Permitted		0.07	1.00			0.07	1.00		0.10	1.00		0.38
Satd. Flow (perm)		131	4954			131	4980		179	1732		700
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	224	1309	159	4	169	1938	155	125	146	100	126
RTOR Reduction (vph)	0	0	8	0	0	0	5	0	0	14	0	0
Lane Group Flow (vph)	0	226	1460	0	0	173	2088	0	125	232	0	126
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6			5	2		7	4		3
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		76.0	76.0			73.6	73.6		50.3	41.3		53.7
Effective Green, g (s)		76.0	76.0			73.6	73.6		50.3	41.3		53.7
Actuated g/C Ratio		0.45	0.45			0.43	0.43		0.30	0.24		0.32
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		245	2214			220	2156		136	420		287
v/s Ratio Prot		c0.11	0.29			0.08	c0.42		c0.05	0.13		0.03
v/s Ratio Perm		0.31				0.26			0.22			0.11
v/c Ratio		0.92	0.66			0.79	0.97		0.92	0.55		0.44
Uniform Delay, d1		66.0	36.8			46.3	47.1		49.9	56.3		43.7
Progression Factor		0.79	0.63			1.02	0.50		1.00	1.00		1.00
Incremental Delay, d2		34.9	1.4			9.7	8.7		52.6	1.9		1.1
Delay (s)		86.9	24.8			57.1	32.0		102.5	58.2		44.8
Level of Service		F	C			E	C		F	E		D
Approach Delay (s)			33.0				34.0			73.1		
Approach LOS			C				C			E		

Intersection Summary			
HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	PT	
Traffic Volume (vph)	315	110
Future Volume (vph)	315	110
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1773	
Flt Permitted	1.00	
Satd. Flow (perm)	1773	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	332	116
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	441	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	43.0	
Effective Green, g (s)	43.0	
Actuated g/C Ratio	0.25	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	448	
v/s Ratio Prot	c0.25	
v/s Ratio Perm		
v/c Ratio	0.98	
Uniform Delay, d1	63.1	
Progression Factor	1.00	
Incremental Delay, d2	38.0	
Delay (s)	101.1	
Level of Service	F	
Approach Delay (s)	88.8	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
4: N 30th Street & Hillsborough Ave

2023 - Background+Project Traffic AM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	81	1317	61	1	51	1912	252	56	102	19	200
Future Volume (vph)	4	81	1317	61	1	51	1912	252	56	102	19	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.98		1.00	0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5003			1752	4948		1752	1801		1752
Flt Permitted		0.17	1.00			0.29	1.00		0.17	1.00		0.60
Satd. Flow (perm)		315	5003			535	4948		312	1801		1107
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	85	1386	64	1	54	2013	265	59	107	20	211
RTOR Reduction (vph)	0	0	3	0	0	0	10	0	0	4	0	0
Lane Group Flow (vph)	0	89	1447	0	0	55	2268	0	59	123	0	211
Turn Type	custom	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1				5				4			8
Actuated Green, G (s)		23.4	101.1			13.8	91.5		36.2	36.2		36.2
Effective Green, g (s)		23.4	101.1			13.8	91.5		36.2	36.2		36.2
Actuated g/C Ratio		0.14	0.59			0.08	0.54		0.21	0.21		0.21
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		43	2975			43	2663		66	383		235
v/s Ratio Prot			0.29				0.46			0.07		
v/s Ratio Perm		0.28				0.10			0.19			0.19
v/c Ratio		2.07	0.49			1.28	0.85		0.89	0.32		0.90
Uniform Delay, d1		73.3	19.6			78.1	33.5		65.0	56.5		65.1
Progression Factor		0.84	0.91			1.24	0.26		1.00	1.00		1.00
Incremental Delay, d2		537.4	0.4			212.3	2.8		74.2	0.5		32.5
Delay (s)		599.0	18.3			309.0	11.5		139.2	57.0		97.6
Level of Service		F	B			F	B		F	E		F
Approach Delay (s)			51.9				18.5			83.1		
Approach LOS			D				B			F		

Intersection Summary

HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	18.9
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)	173	151
Future Volume (vph)	173	151
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1716	
Flt Permitted	1.00	
Satd. Flow (perm)	1716	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	182	159
RTOR Reduction (vph)	19	0
Lane Group Flow (vph)	322	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	36.2	
Effective Green, g (s)	36.2	
Actuated g/C Ratio	0.21	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	365	
v/s Ratio Prot	0.19	
v/s Ratio Perm		
v/c Ratio	0.88	
Uniform Delay, d1	64.8	
Progression Factor	1.00	
Incremental Delay, d2	21.3	
Delay (s)	86.2	
Level of Service	F	
Approach Delay (s)	90.5	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	15	1469	51	13	59	2055	31	103	84	37	51
Future Volume (vph)	2	15	1469	51	13	59	2055	31	103	84	37	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Fr _t		1.00	0.99			1.00	1.00		1.00	0.95		
Fl _t Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	5010			1752	5025		1752	1760		
Fl _t Permitted		0.06	1.00			0.11	1.00		0.40	1.00		
Satd. Flow (perm)		111	5010			200	5025		733	1760		
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	16	1546	54	14	62	2163	33	108	88	39	54
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	10	0	0
Lane Group Flow (vph)	0	18	1598	0	0	76	2195	0	108	117	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		113.3	113.3			115.6	115.6		29.5	29.5		
Effective Green, g (s)		113.3	113.3			115.6	115.6		29.5	29.5		
Actuated g/C Ratio		0.67	0.67			0.68	0.68		0.17	0.17		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		129	3339			209	3417		127	305		
v/s Ratio Prot		0.00	c0.32			0.02	c0.44			0.07		
v/s Ratio Perm		0.09				0.23			0.15			
v/c Ratio		0.14	0.48			0.36	0.64		0.85	0.38		
Uniform Delay, d1		21.4	13.9			12.2	15.5		68.1	62.2		
Progression Factor		0.39	0.40			0.42	0.43		1.00	1.00		
Incremental Delay, d2		0.4	0.4			0.6	0.5		38.8	0.8		
Delay (s)		8.8	5.9			5.6	7.2		106.9	63.0		
Level of Service		A	A			A	A		F	E		
Approach Delay (s)			5.9				7.1			83.2		
Approach LOS			A				A			F		

Intersection Summary

HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	106	56
Future Volume (vph)	106	56
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1758	
Flt Permitted	0.75	
Satd. Flow (perm)	1331	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	112	59
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	218	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	29.5	
Effective Green, g (s)	29.5	
Actuated g/C Ratio	0.17	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	230	
v/s Ratio Prot		
v/s Ratio Perm	c0.16	
v/c Ratio	0.95	
Uniform Delay, d1	69.5	
Progression Factor	1.00	
Incremental Delay, d2	44.0	
Delay (s)	113.5	
Level of Service	F	
Approach Delay (s)	113.5	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔↔		↔↔	↔↔↔		↔↔	↔↔	↔	↔↔	↔↔
Traffic Volume (vph)	32	179	1110	249	201	1456	69	304	625	253	245	883
Future Volume (vph)	32	179	1110	249	201	1456	69	304	625	253	245	883
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91		0.97	0.91		0.97	0.95	1.00	0.97	0.95
Frt		1.00	0.97		1.00	0.99		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)		3400	4898		3400	5002		3400	3505	1568	3400	3505
Flt Permitted		0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)		3400	4898		3400	5002		3400	3505	1568	3400	3505
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)	34	188	1168	262	212	1533	73	320	658	266	258	929
RTOR Reduction (vph)	0	0	21	0	0	3	0	0	0	137	0	0
Lane Group Flow (vph)	0	222	1409	0	212	1603	0	320	658	129	258	929
Turn Type	Prot	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	1	1	6		5	2		7	4		3	8
Permitted Phases										4		
Actuated Green, G (s)		13.1	61.9		13.8	62.6		18.7	49.6	49.6	17.5	48.4
Effective Green, g (s)		13.1	61.9		13.8	62.6		18.7	49.6	49.6	17.5	48.4
Actuated g/C Ratio		0.08	0.36		0.08	0.37		0.11	0.29	0.29	0.10	0.28
Clearance Time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		262	1783		276	1841		374	1022	457	350	997
v/s Ratio Prot		0.07	c0.29		0.06	c0.32		c0.09	0.19		0.08	c0.27
v/s Ratio Perm										0.08		
v/c Ratio		0.85	0.79		0.77	0.87		0.86	0.64	0.28	0.74	0.93
Uniform Delay, d1		77.5	48.3		76.5	49.9		74.3	52.5	46.4	74.0	59.2
Progression Factor		0.53	0.78		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		19.6	3.3		12.1	6.0		17.1	1.4	0.3	7.9	14.8
Delay (s)		61.0	40.7		88.6	55.9		91.5	53.9	46.8	81.9	74.0
Level of Service		E	D		F	E		F	D	D	F	E
Approach Delay (s)			43.4			59.7			62.0			70.7
Approach LOS			D			E			E			E

Intersection Summary		
HCM 2000 Control Delay	58.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.91	E
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	91.4%	27.2
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	366
Future Volume (vph)	366
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.8
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	385
RTOR Reduction (vph)	111
Lane Group Flow (vph)	274
Turn Type	Perm
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	48.4
Effective Green, g (s)	48.4
Actuated g/C Ratio	0.28
Clearance Time (s)	6.8
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	446
v/s Ratio Prot	
v/s Ratio Perm	0.17
v/c Ratio	0.61
Uniform Delay, d1	52.7
Progression Factor	1.00
Incremental Delay, d2	2.5
Delay (s)	55.2
Level of Service	E
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)	14	287	27	134	287	94	14	181	155	148	344	9
Future Volume (vph)	14	287	27	134	287	94	14	181	155	148	344	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.94			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1820			1776			1731			1814	
Flt Permitted		0.97			0.77			0.97			0.74	
Satd. Flow (perm)		1769			1387			1687			1366	
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)	15	302	28	141	302	99	15	191	163	156	362	9
RTOR Reduction (vph)	0	5	0	0	13	0	0	44	0	0	1	0
Lane Group Flow (vph)	0	340	0	0	529	0	0	325	0	0	526	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		25.9			25.9			27.7			27.7	
Effective Green, g (s)		25.9			25.9			27.7			27.7	
Actuated g/C Ratio		0.40			0.40			0.43			0.43	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		704			552			718			582	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.38			0.19			c0.38	
v/c Ratio		0.48			0.96			0.45			0.90	
Uniform Delay, d1		14.6			19.0			13.3			17.4	
Progression Factor		1.00			1.21			1.00			1.00	
Incremental Delay, d2		0.5			26.4			2.1			19.9	
Delay (s)		15.1			49.6			15.3			37.3	
Level of Service		B			D			B			D	
Approach Delay (s)		15.1			49.6			15.3			37.3	
Approach LOS		B			D			B			D	

Intersection Summary

HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N 30th Street & Hanna Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	294	95	118	374	71	126	272	37	70	311	81
Future Volume (vph)	35	294	95	118	374	71	126	272	37	70	311	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1777		1752	1800		1752	1811		1752	1788	
Flt Permitted	0.30	1.00		0.37	1.00		0.44	1.00		0.53	1.00	
Satd. Flow (perm)	548	1777		682	1800		820	1811		977	1788	
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)	37	309	100	124	394	75	133	286	39	74	327	85
RTOR Reduction (vph)	0	19	0	0	12	0	0	7	0	0	13	0
Lane Group Flow (vph)	37	390	0	124	457	0	133	318	0	74	399	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	22.9	22.9		22.9	22.9		30.7	30.7		30.7	30.7	
Effective Green, g (s)	22.9	22.9		22.9	22.9		30.7	30.7		30.7	30.7	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.47	0.47		0.47	0.47	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	193	626		240	634		387	855		461	844	
v/s Ratio Prot		0.22			c0.25			0.18			c0.22	
v/s Ratio Perm	0.07			0.18			0.16			0.08		
v/c Ratio	0.19	0.62		0.52	0.72		0.34	0.37		0.16	0.47	
Uniform Delay, d1	14.6	17.5		16.7	18.3		10.8	11.0		9.8	11.6	
Progression Factor	0.92	0.94		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.8		1.9	4.0		2.4	1.2		0.7	1.9	
Delay (s)	13.9	18.1		18.5	22.3		13.2	12.2		10.5	13.5	
Level of Service	B	B		B	C		B	B		B	B	
Approach Delay (s)		17.8			21.5			12.5			13.1	
Approach LOS		B			C			B			B	

Intersection Summary

HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 12: N 15th Street & Sligh Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	486	164	93	437	3	57	16	52	9	32	9
Future Volume (vph)	1	486	164	93	437	3	57	16	52	9	32	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.94			0.98	
Flt Protected		1.00			0.99			0.98			0.99	
Satd. Flow (prot)		1782			1827			1702			1786	
Flt Permitted		1.00			0.80			0.83			0.94	
Satd. Flow (perm)		1781			1476			1443			1694	
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)	1	512	173	98	460	3	60	17	55	9	34	9
RTOR Reduction (vph)	0	11	0	0	0	0	0	45	0	0	8	0
Lane Group Flow (vph)	0	675	0	0	561	0	0	87	0	0	44	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		49.2			49.2			9.1			9.1	
Effective Green, g (s)		49.2			49.2			9.1			9.1	
Actuated g/C Ratio		0.70			0.70			0.13			0.13	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1251			1037			187			220	
v/s Ratio Prot												
v/s Ratio Perm		0.38			c0.38			c0.06			0.03	
v/c Ratio		0.54			0.54			0.46			0.20	
Uniform Delay, d1		5.0			5.0			28.2			27.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.7			2.0			1.8			0.5	
Delay (s)		6.6			7.0			30.0			27.7	
Level of Service		A			A			C			C	
Approach Delay (s)		6.6			7.0			30.0			27.7	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

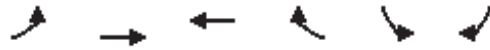
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	286	249	194	355	19	135	43	111	33	58	43
Future Volume (vph)	12	286	249	194	355	19	135	43	111	33	58	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.89		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1716		1752	1831		1752	1645		1752	1727	
Flt Permitted	0.51	1.00		0.41	1.00		0.69	1.00		0.55	1.00	
Satd. Flow (perm)	949	1716		756	1831		1270	1645		1010	1727	
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	301	262	204	374	20	142	45	117	35	61	45
RTOR Reduction (vph)	0	12	0	0	1	0	0	97	0	0	28	0
Lane Group Flow (vph)	13	551	0	204	393	0	142	65	0	35	78	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	76.0	76.0		76.0	76.0		17.1	17.1		17.1	17.1	
Effective Green, g (s)	76.0	76.0		76.0	76.0		17.1	17.1		17.1	17.1	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.16	0.16		0.16	0.16	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	686	1242		547	1325		206	267		164	281	
v/s Ratio Prot		c0.32			0.21			0.04			0.05	
v/s Ratio Perm	0.01			0.27			c0.11			0.03		
v/c Ratio	0.02	0.44		0.37	0.30		0.69	0.24		0.21	0.28	
Uniform Delay, d1	4.1	5.9		5.5	5.1		41.4	38.3		38.1	38.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.1		1.9	0.6		9.2	0.5		0.7	0.5	
Delay (s)	4.1	7.0		7.4	5.7		50.7	38.8		38.8	39.1	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		7.0			6.3			44.3			39.0	
Approach LOS		A			A			D			D	

Intersection Summary		
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio	0.50	
Actuated Cycle Length (s)	105.0	Sum of lost time (s) 14.9
Intersection Capacity Utilization	78.3%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group



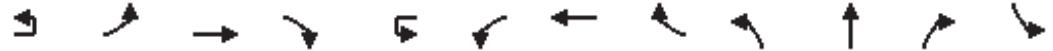
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	151	258	272	208	331	316
Future Volume (vph)	151	258	272	208	331	316
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1737		1752	1568
Flt Permitted	0.31	1.00	1.00		0.95	1.00
Satd. Flow (perm)	579	1845	1737		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	159	272	286	219	348	333
RTOR Reduction (vph)	0	0	34	0	0	243
Lane Group Flow (vph)	159	272	471	0	348	90
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	37.6	31.1	31.1		18.9	18.9
Effective Green, g (s)	37.6	31.1	31.1		18.9	18.9
Actuated g/C Ratio	0.54	0.44	0.44		0.27	0.27
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	419	819	771		473	423
v/s Ratio Prot	c0.04	0.15	c0.27		c0.20	0.06
v/s Ratio Perm	0.17					
v/c Ratio	0.38	0.33	0.61		0.74	0.21
Uniform Delay, d1	16.2	12.7	14.8		23.3	19.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	1.1	3.6		5.9	0.3
Delay (s)	16.7	13.8	18.4		29.2	20.0
Level of Service	B	B	B		C	C
Approach Delay (s)		14.9	18.4		24.7	
Approach LOS		B	B		C	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: N 15th Street & Hillsborough Ave

2023 - Background+Project Traffic PM.syn
 12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	8	92	1550	61	33	110	1966	34	86	216	61	80
Future Volume (vph)	8	92	1550	61	33	110	1966	34	86	216	61	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5007			1752	5023		1752	1784		1752
Flt Permitted		0.04	1.00			0.11	1.00		0.32	1.00		0.20
Satd. Flow (perm)		80	5007			201	5023		599	1784		370
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)	8	97	1632	64	35	116	2069	36	91	227	64	84
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	6	0	0
Lane Group Flow (vph)	0	105	1694	0	0	151	2104	0	91	285	0	84
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		103.8	103.8			115.6	115.6		34.2	34.2		34.2
Effective Green, g (s)		103.8	103.8			115.6	115.6		34.2	34.2		34.2
Actuated g/C Ratio		0.58	0.58			0.64	0.64		0.19	0.19		0.19
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		154	2887			331	3225		113	338		70
v/s Ratio Prot		0.04	c0.34			0.06	c0.42			0.16		
v/s Ratio Perm		c0.35				0.23			0.15			c0.23
v/c Ratio		0.68	0.59			0.46	0.65		0.81	0.84		1.20
Uniform Delay, d1		42.1	24.4			35.3	19.8		69.7	70.3		72.9
Progression Factor		1.00	1.00			0.45	0.44		1.00	1.00		1.00
Incremental Delay, d2		9.5	0.9			0.3	0.8		32.6	17.2		171.1
Delay (s)		51.6	25.3			16.3	9.5		102.4	87.6		244.0
Level of Service		D	C			B	A		F	F		F
Approach Delay (s)			26.8				10.0			91.1		
Approach LOS			C				A			F		

Intersection Summary		
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.79	
Actuated Cycle Length (s)	180.0	Sum of lost time (s) 18.5
Intersection Capacity Utilization	87.9%	ICU Level of Service E
Analysis Period (min)	15	

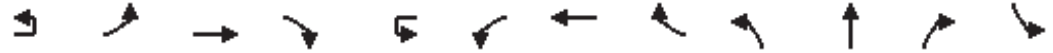
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑	
Traffic Volume (vph)	164	58
Future Volume (vph)	164	58
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1773	
Flt Permitted	1.00	
Satd. Flow (perm)	1773	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	173	61
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	227	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	34.2	
Effective Green, g (s)	34.2	
Actuated g/C Ratio	0.19	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	336	
v/s Ratio Prot	0.13	
v/s Ratio Perm		
v/c Ratio	0.67	
Uniform Delay, d1	67.7	
Progression Factor	1.00	
Incremental Delay, d2	5.3	
Delay (s)	73.0	
Level of Service	E	
Approach Delay (s)	118.2	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

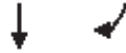
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12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	37	62	1562	63	19	43	1981	38	51	93	24	110
Future Volume (vph)	37	62	1562	63	19	43	1981	38	51	93	24	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	0.99			1.00	1.00			0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.98		0.95
Satd. Flow (prot)		1752	5007			1752	5022			1782		1752
Flt Permitted		0.06	1.00			0.11	1.00			0.59		0.47
Satd. Flow (perm)		104	5007			195	5022			1071		868
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)	39	65	1644	66	20	45	2085	40	54	98	25	116
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	3	0	0
Lane Group Flow (vph)	0	104	1708	0	0	65	2124	0	0	174	0	116
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		139.0	127.0			124.6	119.0			28.4		28.4
Effective Green, g (s)		139.0	127.0			124.6	119.0			28.4		28.4
Actuated g/C Ratio		0.77	0.71			0.69	0.66			0.16		0.16
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		204	3532			183	3320			168		136
v/s Ratio Prot		c0.04	0.34			0.01	c0.42					
v/s Ratio Perm		0.35				0.23				c0.16		0.13
v/c Ratio		0.51	0.48			0.36	0.64			1.03		0.85
Uniform Delay, d1		38.0	11.8			22.8	17.9			75.8		73.8
Progression Factor		0.97	0.39			0.42	0.17			1.00		1.00
Incremental Delay, d2		0.6	0.4			0.2	0.4			78.5		37.3
Delay (s)		37.5	5.0			9.8	3.4			154.3		111.1
Level of Service		D	A			A	A			F		F
Approach Delay (s)			6.8				3.6			154.3		
Approach LOS			A				A			F		

Intersection Summary		
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.70	B
Actuated Cycle Length (s)	180.0	Sum of lost time (s)
Intersection Capacity Utilization	83.3%	19.0
Analysis Period (min)	15	ICU Level of Service
		E

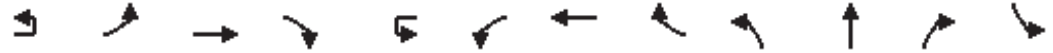
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	76	74
Future Volume (vph)	76	74
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1708	
Flt Permitted	1.00	
Satd. Flow (perm)	1708	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	80	78
RTOR Reduction (vph)	21	0
Lane Group Flow (vph)	137	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	28.4	
Effective Green, g (s)	28.4	
Actuated g/C Ratio	0.16	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	269	
v/s Ratio Prot	0.08	
v/s Ratio Perm		
v/c Ratio	0.51	
Uniform Delay, d1	69.4	
Progression Factor	1.00	
Incremental Delay, d2	1.5	
Delay (s)	70.9	
Level of Service	E	
Approach Delay (s)	87.9	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
3: N 22nd Street & Hillsborough Ave

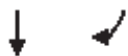
2023 - Background+Project Traffic PM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	151	1455	105	12	149	1736	110	157	258	106	134
Future Volume (vph)	4	151	1455	105	12	149	1736	110	157	258	106	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.96		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4985			1752	4991		1752	1764		1752
Flt Permitted		0.07	1.00			0.07	1.00		0.08	1.00		0.27
Satd. Flow (perm)		124	4985			124	4991		146	1764		500
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	159	1532	111	13	157	1827	116	165	272	112	141
RTOR Reduction (vph)	0	0	5	0	0	0	4	0	0	8	0	0
Lane Group Flow (vph)	0	163	1638	0	0	170	1939	0	165	376	0	141
Turn Type	custom	pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6		5	5	2		7	4		3
Permitted Phases	1	6			2	2			4			8
Actuated Green, G (s)		75.1	75.1			76.2	76.2		67.4	53.4		59.4
Effective Green, g (s)		75.1	75.1			76.2	76.2		67.4	53.4		59.4
Actuated g/C Ratio		0.42	0.42			0.42	0.42		0.37	0.30		0.33
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		192	2079			203	2112		179	523		234
v/s Ratio Prot		0.07	c0.33			0.08	c0.39		c0.07	c0.21		0.03
v/s Ratio Perm		0.28				0.28			0.27			0.16
v/c Ratio		0.85	0.79			0.84	0.92		0.92	0.72		0.60
Uniform Delay, d1		69.5	45.5			52.5	49.0		50.0	56.6		46.9
Progression Factor		0.73	0.58			0.74	0.66		1.00	1.00		1.00
Incremental Delay, d2		25.3	2.8			18.0	5.6		45.2	5.0		4.3
Delay (s)		75.8	29.0			56.8	38.1		95.2	61.6		51.2
Level of Service		E	C			E	D		F	E		D
Approach Delay (s)			33.2				39.6			71.7		
Approach LOS			C				D			E		

Intersection Summary			
HCM 2000 Control Delay	46.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↙
Traffic Volume (vph)	267	184
Future Volume (vph)	267	184
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.94	
Flt Protected	1.00	
Satd. Flow (prot)	1732	
Flt Permitted	1.00	
Satd. Flow (perm)	1732	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	281	194
RTOR Reduction (vph)	14	0
Lane Group Flow (vph)	461	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	49.4	
Effective Green, g (s)	49.4	
Actuated g/C Ratio	0.27	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	475	
v/s Ratio Prot	c0.27	
v/s Ratio Perm		
v/c Ratio	0.97	
Uniform Delay, d1	64.6	
Progression Factor	1.00	
Incremental Delay, d2	33.8	
Delay (s)	98.4	
Level of Service	F	
Approach Delay (s)	87.6	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	134	1578	94	2	48	1718	213	63	158	42	248
Future Volume (vph)	4	134	1578	94	2	48	1718	213	63	158	42	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.98		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4993			1752	4953		1752	1787		1752
Flt Permitted		0.95	1.00			0.15	1.00		0.36	1.00		0.50
Satd. Flow (perm)		1752	4993			270	4953		655	1787		918
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	141	1661	99	2	51	1808	224	66	166	44	261
RTOR Reduction (vph)	0	0	4	0	0	0	8	0	0	6	0	0
Lane Group Flow (vph)	0	145	1756	0	0	53	2024	0	66	204	0	261
Turn Type	Prot	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases	1	1	6			5	2			4		
Permitted Phases					5				4			8
Actuated Green, G (s)		17.2	81.5			27.3	91.6		52.3	52.3		52.3
Effective Green, g (s)		17.2	81.5			27.3	91.6		52.3	52.3		52.3
Actuated g/C Ratio		0.10	0.45			0.15	0.51		0.29	0.29		0.29
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		167	2260			40	2520		190	519		266
v/s Ratio Prot		0.08	c0.35				c0.41			0.11		
v/s Ratio Perm						c0.20			0.10			c0.28
v/c Ratio		0.87	0.78			1.32	0.80		0.35	0.39		0.98
Uniform Delay, d1		80.3	41.6			76.3	36.7		50.4	51.1		63.4
Progression Factor		1.14	0.45			0.62	0.25		1.00	1.00		1.00
Incremental Delay, d2		25.3	1.8			238.6	2.3		1.1	0.5		49.7
Delay (s)		116.4	20.6			286.1	11.4		51.5	51.6		113.1
Level of Service		F	C			F	B		D	D		F
Approach Delay (s)			27.9				18.4			51.6		
Approach LOS			C				B			D		

Intersection Summary

HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

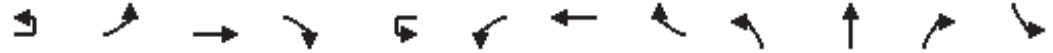
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	151	139
Future Volume (vph)	151	139
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1712	
Flt Permitted	1.00	
Satd. Flow (perm)	1712	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	159	146
RTOR Reduction (vph)	18	0
Lane Group Flow (vph)	287	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	52.3	
Effective Green, g (s)	52.3	
Actuated g/C Ratio	0.29	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	497	
v/s Ratio Prot	0.17	
v/s Ratio Perm		
v/c Ratio	0.58	
Uniform Delay, d1	54.4	
Progression Factor	1.00	
Incremental Delay, d2	1.6	
Delay (s)	56.0	
Level of Service	E	
Approach Delay (s)	82.3	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
5: N 34th Street & Hillsborough Ave

2023 - Background+Project Traffic PM.syn
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Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	9	29	1739	93	30	95	1828	69	110	136	61	47
Future Volume (vph)	9	29	1739	93	30	95	1828	69	110	136	61	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Fr _t		1.00	0.99			1.00	0.99		1.00	0.95		
Fl _t Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	4998			1752	5008		1752	1759		
Fl _t Permitted		0.07	1.00			0.07	1.00		0.43	1.00		
Satd. Flow (perm)		122	4998			122	5008		790	1759		
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)	9	31	1831	98	32	100	1924	73	116	143	64	49
RTOR Reduction (vph)	0	0	3	0	0	0	2	0	0	10	0	0
Lane Group Flow (vph)	0	40	1926	0	0	132	1995	0	116	197	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		112.8	107.7			134.3	122.7		33.0	33.0		
Effective Green, g (s)		112.8	107.7			134.3	122.7		33.0	33.0		
Actuated g/C Ratio		0.63	0.60			0.75	0.68		0.18	0.18		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		122	2990			273	3413		144	322		
v/s Ratio Prot		0.01	c0.39			c0.05	c0.40			0.11		
v/s Ratio Perm		0.20				0.31			0.15			
v/c Ratio		0.33	0.64			0.48	0.58		0.81	0.61		
Uniform Delay, d1		35.9	23.6			39.0	15.2		70.4	67.6		
Progression Factor		0.66	0.14			1.03	0.25		1.00	1.00		
Incremental Delay, d2		1.1	0.8			0.6	0.3		26.9	3.4		
Delay (s)		25.0	4.1			41.0	4.2		97.4	71.0		
Level of Service		C	A			D	A		F	E		
Approach Delay (s)			4.5				6.4			80.5		
Approach LOS			A				A			F		

Intersection Summary		
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.72	B
Actuated Cycle Length (s)	180.0	Sum of lost time (s)
Intersection Capacity Utilization	85.6%	19.2
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	119	34
Future Volume (vph)	119	34
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.99	
Satd. Flow (prot)	1781	
Flt Permitted	0.56	
Satd. Flow (perm)	1000	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	125	36
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	205	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	33.0	
Effective Green, g (s)	33.0	
Actuated g/C Ratio	0.18	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	183	
v/s Ratio Prot		
v/s Ratio Perm	c0.21	
v/c Ratio	1.12	
Uniform Delay, d1	73.5	
Progression Factor	1.00	
Incremental Delay, d2	102.7	
Delay (s)	176.2	
Level of Service	F	
Approach Delay (s)	176.2	
Approach LOS	F	
Intersection Summary		

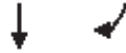


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↑↑↑			↔↔	↑↑↑		↔↔	↑↑	↔	↔↔
Traffic Volume (vph)	27	302	1309	239	12	150	1385	179	353	916	283	231
Future Volume (vph)	27	302	1309	239	12	150	1385	179	353	916	283	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91			0.97	0.91		0.97	0.95	1.00	0.97
Frt		1.00	0.98			1.00	0.98		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)		3400	4919			3400	4950		3400	3505	1568	3400
Flt Permitted		0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)		3400	4919			3400	4950		3400	3505	1568	3400
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)	28	318	1378	252	13	158	1458	188	372	964	298	243
RTOR Reduction (vph)	0	0	14	0	0	0	9	0	0	0	102	0
Lane Group Flow (vph)	0	346	1616	0	0	171	1637	0	372	964	196	243
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases												4
Actuated Green, G (s)		20.0	71.5			12.2	63.7		21.2	54.9	54.9	14.2
Effective Green, g (s)		20.0	71.5			12.2	63.7		21.2	54.9	54.9	14.2
Actuated g/C Ratio		0.11	0.40			0.07	0.35		0.12	0.30	0.30	0.08
Clearance Time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		377	1953			230	1751		400	1069	478	268
v/s Ratio Prot		0.10	c0.33			0.05	c0.33		c0.11	c0.28		0.07
v/s Ratio Perm												0.12
v/c Ratio		0.92	0.83			0.74	0.93		0.93	0.90	0.41	0.91
Uniform Delay, d1		79.2	48.7			82.4	56.1		78.7	60.0	49.7	82.2
Progression Factor		0.55	1.02			1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		22.1	3.3			12.2	10.8		28.1	10.5	0.6	31.4
Delay (s)		65.4	52.7			94.6	66.9		106.7	70.5	50.3	113.6
Level of Service		E	D			F	E		F	E	D	F
Approach Delay (s)			55.0				69.5			75.0		
Approach LOS			D				E			E		

Intersection Summary

HCM 2000 Control Delay	69.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	851	257
Future Volume (vph)	851	257
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.8	6.8
Lane Util. Factor	0.95	1.00
Fr _t	1.00	0.85
Fl _t Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Fl _t Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	896	271
RTOR Reduction (vph)	0	138
Lane Group Flow (vph)	896	133
Turn Type	NA	Perm
Protected Phases	8	
Permitted Phases		8
Actuated Green, G (s)	47.9	47.9
Effective Green, g (s)	47.9	47.9
Actuated g/C Ratio	0.27	0.27
Clearance Time (s)	6.8	6.8
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	932	417
v/s Ratio Prot	c0.26	
v/s Ratio Perm		0.08
v/c Ratio	0.96	0.32
Uniform Delay, d1	65.1	53.0
Progression Factor	1.00	1.00
Incremental Delay, d2	20.6	0.4
Delay (s)	85.7	53.4
Level of Service	F	D
Approach Delay (s)	84.3	
Approach LOS	F	
Intersection Summary		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	22	305	31	120	370	126	31	352	92	52	287	7
Future Volume (vph)	22	305	31	120	370	126	31	352	92	52	287	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.97			0.97			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1817			1776			1791			1826	
Flt Permitted		0.95			0.83			0.96			0.86	
Satd. Flow (perm)		1725			1489			1719			1577	
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)	23	321	33	126	389	133	33	371	97	55	302	7
RTOR Reduction (vph)	0	5	0	0	13	0	0	11	0	0	1	0
Lane Group Flow (vph)	0	372	0	0	635	0	0	490	0	0	363	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		34.4			34.4			29.2			29.2	
Effective Green, g (s)		34.4			34.4			29.2			29.2	
Actuated g/C Ratio		0.46			0.46			0.39			0.39	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		791			682			669			613	
v/s Ratio Prot												
v/s Ratio Perm		0.22			0.43			0.28			0.23	
v/c Ratio		0.47			0.93			0.73			0.59	
Uniform Delay, d1		14.0			19.2			19.6			18.2	
Progression Factor		1.00			0.95			1.00			1.00	
Incremental Delay, d2		0.4			19.0			7.0			4.2	
Delay (s)		14.5			37.2			26.5			22.4	
Level of Service		B			D			C			C	
Approach Delay (s)		14.5			37.2			26.5			22.4	
Approach LOS		B			D			C			C	

Intersection Summary

HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
10: N 30th Street & Hanna Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	326	97	58	286	82	101	318	86	64	383	82
Future Volume (vph)	94	326	97	58	286	82	101	318	86	64	383	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1781		1752	1783		1752	1786		1752	1796	
Flt Permitted	0.36	1.00		0.29	1.00		0.39	1.00		0.44	1.00	
Satd. Flow (perm)	671	1781		535	1783		711	1786		810	1796	
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)	99	343	102	61	301	86	106	335	91	67	403	86
RTOR Reduction (vph)	0	16	0	0	15	0	0	11	0	0	9	0
Lane Group Flow (vph)	99	429	0	61	372	0	106	415	0	67	480	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	25.1	25.1		25.1	25.1		38.5	38.5		38.5	38.5	
Effective Green, g (s)	25.1	25.1		25.1	25.1		38.5	38.5		38.5	38.5	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.51	0.51		0.51	0.51	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	224	596		179	596		364	916		415	921	
v/s Ratio Prot		c0.24			0.21			0.23			c0.27	
v/s Ratio Perm	0.15			0.11			0.15			0.08		
v/c Ratio	0.44	0.72		0.34	0.62		0.29	0.45		0.16	0.52	
Uniform Delay, d1	19.5	21.9		18.7	21.0		10.4	11.6		9.7	12.1	
Progression Factor	0.95	0.98		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	3.9		1.1	2.0		2.0	1.6		0.8	2.1	
Delay (s)	19.9	25.4		19.9	23.0		12.5	13.2		10.5	14.2	
Level of Service	B	C		B	C		B	B		B	B	
Approach Delay (s)		24.4			22.6			13.0			13.8	
Approach LOS		C			C			B			B	

Intersection Summary

HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
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)	14	426	80	42	480	14	123	49	62	14	35	2
Future Volume (vph)	14	426	80	42	480	14	123	49	62	14	35	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			1.00			0.96			0.99	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		1804			1831			1733			1810	
Flt Permitted		0.98			0.93			0.81			0.90	
Satd. Flow (perm)		1774			1714			1435			1652	
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)	15	448	84	44	505	15	129	52	65	15	37	2
RTOR Reduction (vph)	0	8	0	0	1	0	0	21	0	0	2	0
Lane Group Flow (vph)	0	539	0	0	563	0	0	225	0	0	52	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		42.4			42.4			15.9			15.9	
Effective Green, g (s)		42.4			42.4			15.9			15.9	
Actuated g/C Ratio		0.61			0.61			0.23			0.23	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1074			1038			325			375	
v/s Ratio Prot												
v/s Ratio Perm		0.30			0.33			0.16			0.03	
v/c Ratio		0.50			0.54			0.69			0.14	
Uniform Delay, d1		7.8			8.1			24.8			21.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.7			2.0			6.3			0.2	
Delay (s)		9.5			10.1			31.1			21.8	
Level of Service		A			B			C			C	
Approach Delay (s)		9.5			10.1			31.1			21.8	
Approach LOS		A			B			C			C	

Intersection Summary		
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.58	B
Actuated Cycle Length (s)	70.0	Sum of lost time (s)
Intersection Capacity Utilization	75.7%	11.7
Analysis Period (min)	15	ICU Level of Service
		D

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

2023 - Background+Project Traffic PM.syn

12/01/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	356	135	181	290	43	214	55	231	36	30	32
Future Volume (vph)	11	356	135	181	290	43	214	55	231	36	30	32
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		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.88		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1769		1752	1809		1752	1621		1752	1702	
Flt Permitted	0.53	1.00		0.42	1.00		0.71	1.00		0.32	1.00	
Satd. Flow (perm)	978	1769		766	1809		1317	1621		599	1702	
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	375	142	191	305	45	225	58	243	38	32	34
RTOR Reduction (vph)	0	7	0	0	3	0	0	144	0	0	26	0
Lane Group Flow (vph)	12	510	0	191	347	0	225	157	0	38	40	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	69.3	69.3		69.3	69.3		23.8	23.8		23.8	23.8	
Effective Green, g (s)	69.3	69.3		69.3	69.3		23.8	23.8		23.8	23.8	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.23	0.23		0.23	0.23	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	645	1167		505	1193		298	367		135	385	
v/s Ratio Prot		c0.29			0.19			0.10			0.02	
v/s Ratio Perm	0.01			0.25			c0.17			0.06		
v/c Ratio	0.02	0.44		0.38	0.29		0.76	0.43		0.28	0.10	
Uniform Delay, d1	6.1	8.5		8.1	7.5		37.9	34.8		33.5	32.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.2		2.2	0.6		10.4	0.8		1.1	0.1	
Delay (s)	6.2	9.7		10.2	8.1		48.3	35.6		34.7	32.3	
Level of Service	A	A		B	A		D	D		C	C	
Approach Delay (s)		9.6			8.9			41.0			33.1	
Approach LOS		A			A			D			C	

Intersection Summary

HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	303	293	342	279	352	150
Future Volume (vph)	303	293	342	279	352	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1733		1752	1568
Flt Permitted	0.18	1.00	1.00		0.95	1.00
Satd. Flow (perm)	326	1845	1733		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	319	308	360	294	371	158
RTOR Reduction (vph)	0	0	36	0	0	121
Lane Group Flow (vph)	319	308	618	0	371	37
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	47.6	35.9	35.9		18.9	18.9
Effective Green, g (s)	47.6	35.9	35.9		18.9	18.9
Actuated g/C Ratio	0.60	0.45	0.45		0.24	0.24
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	402	827	777		413	370
v/s Ratio Prot	c0.12	0.17	c0.36		c0.21	0.02
v/s Ratio Perm	0.36					
v/c Ratio	0.79	0.37	0.80		0.90	0.10
Uniform Delay, d1	12.6	14.6	18.9		29.6	23.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	10.3	1.3	8.3		21.6	0.1
Delay (s)	22.9	15.9	27.2		51.2	24.0
Level of Service	C	B	C		D	C
Approach Delay (s)		19.5	27.2		43.1	
Approach LOS		B	C		D	

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	57	1566	55	4	104	2041	25	95	101	50	82
Future Volume (vph)	4	57	1566	55	4	104	2041	25	95	101	50	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.95		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5010			1752	5027		1752	1752		1752
Flt Permitted		0.04	1.00			0.10	1.00		0.23	1.00		0.50
Satd. Flow (perm)		81	5010			193	5027		419	1752		925
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	60	1648	58	4	109	2148	26	100	106	53	86
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	12	0	0
Lane Group Flow (vph)	0	64	1704	0	0	113	2173	0	100	147	0	86
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		98.4	98.4			111.5	111.5		32.4	32.4		32.4
Effective Green, g (s)		98.4	98.4			111.5	111.5		32.4	32.4		32.4
Actuated g/C Ratio		0.58	0.58			0.66	0.66		0.19	0.19		0.19
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		121	2899			316	3297		79	333		176
v/s Ratio Prot		0.02	c0.34			0.04	c0.43			0.08		
v/s Ratio Perm		0.28				0.19			c0.24			0.09
v/c Ratio		0.53	0.59			0.36	0.66		1.27	0.44		0.49
Uniform Delay, d1		26.0	22.9			32.3	17.7		68.8	60.8		61.4
Progression Factor		1.00	1.00			0.37	0.24		1.00	1.00		1.00
Incremental Delay, d2		1.9	0.9			0.2	0.9		188.5	0.9		2.1
Delay (s)		27.9	23.7			12.3	5.1		257.3	61.7		63.5
Level of Service		C	C			B	A		F	E		E
Approach Delay (s)			23.9				5.5			137.2		
Approach LOS			C				A			F		

Intersection Summary		
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.80	C
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	87.3%	18.5
Analysis Period (min)	15	ICU Level of Service
		E

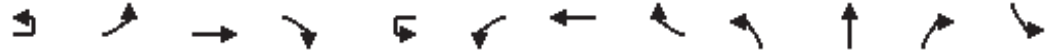
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑	
Traffic Volume (vph)	203	65
Future Volume (vph)	203	65
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1778	
Flt Permitted	1.00	
Satd. Flow (perm)	1778	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	214	68
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	275	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	32.4	
Effective Green, g (s)	32.4	
Actuated g/C Ratio	0.19	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	338	
v/s Ratio Prot	0.15	
v/s Ratio Perm		
v/c Ratio	0.81	
Uniform Delay, d1	65.9	
Progression Factor	1.00	
Incremental Delay, d2	13.8	
Delay (s)	79.7	
Level of Service	E	
Approach Delay (s)	75.9	
Approach LOS	E	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

2028 - Background+Project Traffic AM.syn
12/03/2021



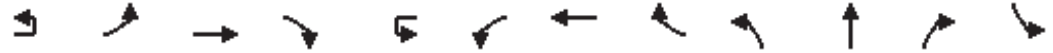
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	14	63	1579	46	4	81	2067	22	32	64	27	77
Future Volume (vph)	14	63	1579	46	4	81	2067	22	32	64	27	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	1.00			1.00	1.00			0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.99		0.95
Satd. Flow (prot)		1752	5015			1752	5028			1767		1752
Flt Permitted		0.06	1.00			0.11	1.00			0.54		0.46
Satd. Flow (perm)		106	5015			206	5028			971		853
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)	15	66	1662	48	4	85	2176	23	34	67	28	81
RTOR Reduction (vph)	0	0	1	0	0	0	0	0	0	7	0	0
Lane Group Flow (vph)	0	81	1709	0	0	89	2199	0	0	122	0	81
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		133.5	125.4			131.5	124.4			18.5		18.5
Effective Green, g (s)		133.5	125.4			131.5	124.4			18.5		18.5
Actuated g/C Ratio		0.79	0.74			0.77	0.73			0.11		0.11
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		161	3699			223	3679			105		92
v/s Ratio Prot		c0.02	0.34			0.02	c0.44					
v/s Ratio Perm		0.37				0.29				c0.13		0.09
v/c Ratio		0.50	0.46			0.40	0.60			1.16		0.88
Uniform Delay, d1		31.1	8.9			14.6	10.9			75.8		74.7
Progression Factor		1.21	0.42			1.06	0.26			1.00		1.00
Incremental Delay, d2		0.8	0.3			0.0	0.1			137.4		56.7
Delay (s)		38.6	4.1			15.6	2.9			213.2		131.3
Level of Service		D	A			B	A			F		F
Approach Delay (s)			5.6				3.4			213.2		
Approach LOS			A				A			F		

Intersection Summary		
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.66	B
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	82.4%	19.0
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	PT	
Traffic Volume (vph)	75	61
Future Volume (vph)	75	61
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1721	
Flt Permitted	1.00	
Satd. Flow (perm)	1721	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	79	64
RTOR Reduction (vph)	20	0
Lane Group Flow (vph)	123	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	18.5	
Effective Green, g (s)	18.5	
Actuated g/C Ratio	0.11	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	187	
v/s Ratio Prot	0.07	
v/s Ratio Perm		
v/c Ratio	0.66	
Uniform Delay, d1	72.7	
Progression Factor	1.00	
Incremental Delay, d2	8.2	
Delay (s)	80.9	
Level of Service	F	
Approach Delay (s)	99.1	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	2	220	1307	158	4	174	1927	165	130	161	104	131
Future Volume (vph)	2	220	1307	158	4	174	1927	165	130	161	104	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.98			1.00	0.99		1.00	0.94		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4955			1752	4976		1752	1736		1752
Flt Permitted		0.07	1.00			0.07	1.00		0.10	1.00		0.31
Satd. Flow (perm)		134	4955			134	4976		182	1736		567
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	232	1376	166	4	183	2028	174	137	169	109	138
RTOR Reduction (vph)	0	0	8	0	0	0	6	0	0	14	0	0
Lane Group Flow (vph)	0	234	1534	0	0	187	2196	0	137	264	0	138
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6			5	2		7	4		3
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		73.9	73.9			73.2	73.2		49.6	40.6		56.4
Effective Green, g (s)		73.9	73.9			73.2	73.2		49.6	40.6		56.4
Actuated g/C Ratio		0.43	0.43			0.43	0.43		0.29	0.24		0.33
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		239	2153			231	2142		136	414		274
v/s Ratio Prot		c0.11	0.31			0.09	c0.44		c0.05	0.15		0.04
v/s Ratio Perm		0.32				0.26			0.24			0.13
v/c Ratio		0.98	0.71			0.81	1.03		1.01	0.64		0.50
Uniform Delay, d1		70.3	39.3			48.4	48.4		53.6	58.1		42.7
Progression Factor		0.75	0.62			1.04	0.48		1.00	1.00		1.00
Incremental Delay, d2		48.9	1.8			9.4	20.2		79.1	3.6		1.5
Delay (s)		101.8	26.2			59.9	43.5		132.7	61.7		44.1
Level of Service		F	C			E	D		F	E		D
Approach Delay (s)			36.1				44.8			85.2		
Approach LOS			D				D			F		

Intersection Summary			
HCM 2000 Control Delay	52.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑	
Traffic Volume (vph)	356	115
Future Volume (vph)	356	115
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1777	
Flt Permitted	1.00	
Satd. Flow (perm)	1777	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	375	121
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	489	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	44.0	
Effective Green, g (s)	44.0	
Actuated g/C Ratio	0.26	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	459	
v/s Ratio Prot	c0.28	
v/s Ratio Perm		
v/c Ratio	1.07	
Uniform Delay, d1	63.0	
Progression Factor	1.00	
Incremental Delay, d2	60.7	
Delay (s)	123.7	
Level of Service	F	
Approach Delay (s)	106.4	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	97	1381	64	1	54	2013	261	61	115	21	218
Future Volume (vph)	4	97	1381	64	1	54	2013	261	61	115	21	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.98		1.00	0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5003			1752	4949		1752	1802		1752
Flt Permitted		0.20	1.00			0.37	1.00		0.14	1.00		0.58
Satd. Flow (perm)		373	5003			683	4949		251	1802		1065
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	102	1454	67	1	57	2119	275	64	121	22	229
RTOR Reduction (vph)	0	0	3	0	0	0	10	0	0	4	0	0
Lane Group Flow (vph)	0	106	1518	0	0	58	2384	0	64	139	0	229
Turn Type	custom	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1				5				4			8
Actuated Green, G (s)		19.8	101.2			10.8	92.2		39.1	39.1		39.1
Effective Green, g (s)		19.8	101.2			10.8	92.2		39.1	39.1		39.1
Actuated g/C Ratio		0.12	0.60			0.06	0.54		0.23	0.23		0.23
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		43	2978			43	2684		57	414		244
v/s Ratio Prot			0.30				c0.48			0.08		
v/s Ratio Perm		c0.28				0.08			c0.26			0.22
v/c Ratio		2.47	0.51			1.35	0.89		1.12	0.34		0.94
Uniform Delay, d1		75.1	20.0			79.6	34.4		65.5	54.6		64.3
Progression Factor		0.94	0.84			1.23	0.22		1.00	1.00		1.00
Incremental Delay, d2		706.3	0.4			234.4	3.6		156.9	0.5		40.6
Delay (s)		776.5	17.2			331.9	11.2		222.4	55.1		104.8
Level of Service		F	B			F	B		F	E		F
Approach Delay (s)			66.7				18.7			106.8		
Approach LOS			E				B			F		

Intersection Summary

HCM 2000 Control Delay	48.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	200	162
Future Volume (vph)	200	162
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1721	
Flt Permitted	1.00	
Satd. Flow (perm)	1721	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	211	171
RTOR Reduction (vph)	18	0
Lane Group Flow (vph)	364	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	39.1	
Effective Green, g (s)	39.1	
Actuated g/C Ratio	0.23	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	395	
v/s Ratio Prot	0.21	
v/s Ratio Perm		
v/c Ratio	0.92	
Uniform Delay, d1	64.0	
Progression Factor	1.00	
Incremental Delay, d2	26.7	
Delay (s)	90.7	
Level of Service	F	
Approach Delay (s)	96.0	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	
Traffic Volume (vph)	2	16	1550	53	14	93	2152	32	113	92	41	56
Future Volume (vph)	2	16	1550	53	14	93	2152	32	113	92	41	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	1.00			1.00	1.00		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	5011			1752	5025		1752	1760		
Flt Permitted		0.05	1.00			0.09	1.00		0.39	1.00		
Satd. Flow (perm)		93	5011			170	5025		724	1760		
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	17	1632	56	15	98	2265	34	119	97	43	59
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	10	0	0
Lane Group Flow (vph)	0	19	1686	0	0	113	2298	0	119	130	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		109.3	109.3			113.3	113.3		31.8	31.8		
Effective Green, g (s)		109.3	109.3			113.3	113.3		31.8	31.8		
Actuated g/C Ratio		0.64	0.64			0.67	0.67		0.19	0.19		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		115	3221			203	3349		135	329		
v/s Ratio Prot		0.01	c0.34			0.03	c0.46			0.07		
v/s Ratio Perm		0.10				0.34			0.16			
v/c Ratio		0.17	0.52			0.56	0.69		0.88	0.40		
Uniform Delay, d1		26.7	16.3			15.6	17.4		67.3	60.7		
Progression Factor		0.57	0.41			1.48	0.48		1.00	1.00		
Incremental Delay, d2		0.6	0.5			1.3	0.5		43.9	0.8		
Delay (s)		15.8	7.2			24.5	8.8		111.2	61.5		
Level of Service		B	A			C	A		F	E		
Approach Delay (s)			7.3				9.5			84.3		
Approach LOS			A				A			F		

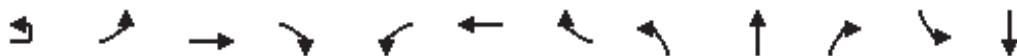
Intersection Summary

HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	116	62
Future Volume (vph)	116	62
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1758	
Flt Permitted	0.72	
Satd. Flow (perm)	1290	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	122	65
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	239	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	31.8	
Effective Green, g (s)	31.8	
Actuated g/C Ratio	0.19	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	241	
v/s Ratio Prot		
v/s Ratio Perm	c0.19	
v/c Ratio	0.99	
Uniform Delay, d1	68.9	
Progression Factor	1.00	
Incremental Delay, d2	55.1	
Delay (s)	124.1	
Level of Service	F	
Approach Delay (s)	124.1	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↑↑↑		↔↔	↑↑↑		↔↔	↑↑	↔	↔↔	↑↑
Traffic Volume (vph)	33	188	1180	260	211	1526	85	331	681	277	279	974
Future Volume (vph)	33	188	1180	260	211	1526	85	331	681	277	279	974
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91		0.97	0.91		0.97	0.95	1.00	0.97	0.95
Frt		1.00	0.97		1.00	0.99		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)		3400	4899		3400	4996		3400	3505	1568	3400	3505
Flt Permitted		0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)		3400	4899		3400	4996		3400	3505	1568	3400	3505
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)	35	198	1242	274	222	1606	89	348	717	292	294	1025
RTOR Reduction (vph)	0	0	21	0	0	3	0	0	0	140	0	0
Lane Group Flow (vph)	0	233	1495	0	222	1692	0	348	717	152	294	1025
Turn Type	Prot	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	1	1	6		5	2		7	4		3	8
Permitted Phases										4		
Actuated Green, G (s)		13.0	58.8		14.2	60.0		18.6	50.5	50.5	19.3	51.2
Effective Green, g (s)		13.0	58.8		14.2	60.0		18.6	50.5	50.5	19.3	51.2
Actuated g/C Ratio		0.08	0.35		0.08	0.35		0.11	0.30	0.30	0.11	0.30
Clearance Time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		260	1694		284	1763		372	1041	465	386	1055
v/s Ratio Prot		0.07	c0.31		0.07	c0.34		c0.10	0.20		0.09	c0.29
v/s Ratio Perm										0.10		
v/c Ratio		0.90	0.88		0.78	0.96		0.94	0.69	0.33	0.76	0.97
Uniform Delay, d1		77.8	52.3		76.4	53.8		75.1	52.8	46.5	73.1	58.7
Progression Factor		0.56	0.75		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		26.8	6.1		13.1	13.8		30.4	1.9	0.4	8.6	21.0
Delay (s)		70.5	45.2		89.4	67.6		105.5	54.7	46.9	81.7	79.7
Level of Service		E	D		F	E		F	D	D	F	E
Approach Delay (s)			48.6			70.1			66.1			74.1
Approach LOS			D			E			E			E

Intersection Summary		
HCM 2000 Control Delay	64.8	HCM 2000 Level of Service E
HCM 2000 Volume to Capacity ratio	0.98	
Actuated Cycle Length (s)	170.0	Sum of lost time (s) 27.2
Intersection Capacity Utilization	96.7%	ICU Level of Service F
Analysis Period (min)	15	

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	401
Future Volume (vph)	401
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.8
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	422
RTOR Reduction (vph)	108
Lane Group Flow (vph)	314
Turn Type	Perm
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	51.2
Effective Green, g (s)	51.2
Actuated g/C Ratio	0.30
Clearance Time (s)	6.8
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	472
v/s Ratio Prot	
v/s Ratio Perm	0.20
v/c Ratio	0.66
Uniform Delay, d1	51.9
Progression Factor	1.00
Incremental Delay, d2	3.5
Delay (s)	55.4
Level of Service	E
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)	16	327	31	153	336	108	15	198	170	152	378	10
Future Volume (vph)	16	327	31	153	336	108	15	198	170	152	378	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.94			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1820			1777			1731			1814	
Flt Permitted		0.96			0.75			0.97			0.72	
Satd. Flow (perm)		1759			1350			1682			1322	
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)	17	344	33	161	354	114	16	208	179	160	398	11
RTOR Reduction (vph)	0	5	0	0	12	0	0	44	0	0	1	0
Lane Group Flow (vph)	0	389	0	0	617	0	0	359	0	0	568	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		27.3			27.3			26.3			26.3	
Effective Green, g (s)		27.3			27.3			26.3			26.3	
Actuated g/C Ratio		0.42			0.42			0.40			0.40	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		738			567			680			534	
v/s Ratio Prot												
v/s Ratio Perm		0.22			0.46			0.21			0.43	
v/c Ratio		0.53			1.09			0.53			1.06	
Uniform Delay, d1		14.0			18.9			14.6			19.4	
Progression Factor		1.00			1.14			1.00			1.00	
Incremental Delay, d2		0.7			61.4			2.9			56.9	
Delay (s)		14.7			83.0			17.6			76.2	
Level of Service		B			F			B			E	
Approach Delay (s)		14.7			83.0			17.6			76.2	
Approach LOS		B			F			B			E	

Intersection Summary

HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
10: N 30th Street & Hanna Ave

2028 - Background+Project Traffic AM.syn
12/03/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	345	102	137	438	84	133	299	41	76	341	90
Future Volume (vph)	39	345	102	137	438	84	133	299	41	76	341	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1782		1752	1800		1752	1811		1752	1787	
Flt Permitted	0.24	1.00		0.32	1.00		0.39	1.00		0.49	1.00	
Satd. Flow (perm)	436	1782		596	1800		717	1811		895	1787	
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)	41	363	107	144	461	88	140	315	43	80	359	95
RTOR Reduction (vph)	0	17	0	0	11	0	0	7	0	0	14	0
Lane Group Flow (vph)	41	453	0	144	538	0	140	351	0	80	440	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	24.7	24.7		24.7	24.7		28.9	28.9		28.9	28.9	
Effective Green, g (s)	24.7	24.7		24.7	24.7		28.9	28.9		28.9	28.9	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	165	677		226	684		318	805		397	794	
v/s Ratio Prot		0.25			c0.30			0.19			c0.25	
v/s Ratio Perm	0.09			0.24			0.20			0.09		
v/c Ratio	0.25	0.67		0.64	0.79		0.44	0.44		0.20	0.55	
Uniform Delay, d1	13.8	16.8		16.5	17.8		12.5	12.4		11.0	13.3	
Progression Factor	0.91	0.93		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	2.2		5.8	5.9		4.4	1.7		1.1	2.8	
Delay (s)	13.2	17.7		22.3	23.8		16.8	14.1		12.2	16.1	
Level of Service	B	B		C	C		B	B		B	B	
Approach Delay (s)		17.4			23.5			14.9			15.5	
Approach LOS		B			C			B			B	

Intersection Summary

HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
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)	1	527	177	102	482	3	63	17	59	10	35	10
Future Volume (vph)	1	527	177	102	482	3	63	17	59	10	35	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.94			0.97	
Flt Protected		1.00			0.99			0.98			0.99	
Satd. Flow (prot)		1782			1828			1700			1782	
Flt Permitted		1.00			0.78			0.83			0.93	
Satd. Flow (perm)		1782			1445			1437			1671	
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)	1	555	186	107	507	3	66	18	62	11	37	11
RTOR Reduction (vph)	0	12	0	0	0	0	0	46	0	0	10	0
Lane Group Flow (vph)	0	730	0	0	617	0	0	100	0	0	49	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		48.8			48.8			9.5			9.5	
Effective Green, g (s)		48.8			48.8			9.5			9.5	
Actuated g/C Ratio		0.70			0.70			0.14			0.14	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1242			1007			195			226	
v/s Ratio Prot												
v/s Ratio Perm		0.41			c0.43			c0.07			0.03	
v/c Ratio		0.59			0.61			0.51			0.22	
Uniform Delay, d1		5.4			5.6			28.1			26.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.0			2.8			2.3			0.5	
Delay (s)		7.5			8.4			30.4			27.4	
Level of Service		A			A			C			C	
Approach Delay (s)		7.5			8.4			30.4			27.4	
Approach LOS		A			A			C			C	

Intersection Summary		
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.60	B
Actuated Cycle Length (s)	70.0	Sum of lost time (s)
Intersection Capacity Utilization	99.2%	11.7
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

2028 - Background+Project Traffic AM.syn
 12/03/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	319	263	213	391	22	149	50	123	36	64	47
Future Volume (vph)	14	319	263	213	391	22	149	50	123	36	64	47
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		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.89		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1720		1752	1830		1752	1649		1752	1728	
Flt Permitted	0.48	1.00		0.38	1.00		0.68	1.00		0.51	1.00	
Satd. Flow (perm)	894	1720		695	1830		1254	1649		938	1728	
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)	15	336	277	224	412	23	157	53	129	38	67	49
RTOR Reduction (vph)	0	13	0	0	1	0	0	89	0	0	27	0
Lane Group Flow (vph)	15	600	0	224	434	0	157	93	0	38	89	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	74.7	74.7		74.7	74.7		18.4	18.4		18.4	18.4	
Effective Green, g (s)	74.7	74.7		74.7	74.7		18.4	18.4		18.4	18.4	
Actuated g/C Ratio	0.71	0.71		0.71	0.71		0.18	0.18		0.18	0.18	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	636	1223		494	1301		219	288		164	302	
v/s Ratio Prot		c0.35			0.24			0.06			0.05	
v/s Ratio Perm	0.02			0.32			c0.13			0.04		
v/c Ratio	0.02	0.49		0.45	0.33		0.72	0.32		0.23	0.29	
Uniform Delay, d1	4.4	6.7		6.5	5.7		40.8	37.9		37.2	37.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.4		3.0	0.7		10.6	0.7		0.7	0.5	
Delay (s)	4.5	8.1		9.4	6.4		51.5	38.5		38.0	38.2	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		8.0			7.4			44.5			38.1	
Approach LOS		A			A			D			D	

Intersection Summary		
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.55	B
Actuated Cycle Length (s)	105.0	Sum of lost time (s)
Intersection Capacity Utilization	83.0%	14.9
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



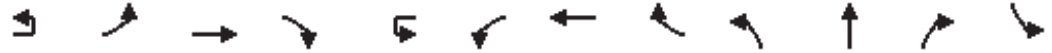
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	165	287	300	232	360	346
Future Volume (vph)	165	287	300	232	360	346
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1736		1752	1568
Flt Permitted	0.26	1.00	1.00		0.95	1.00
Satd. Flow (perm)	484	1845	1736		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	174	302	316	244	379	364
RTOR Reduction (vph)	0	0	38	0	0	267
Lane Group Flow (vph)	174	302	522	0	379	97
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	37.9	31.0	31.0		18.6	18.6
Effective Green, g (s)	37.9	31.0	31.0		18.6	18.6
Actuated g/C Ratio	0.54	0.44	0.44		0.27	0.27
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	387	817	768		465	416
v/s Ratio Prot	c0.04	0.16	c0.30		c0.22	0.06
v/s Ratio Perm	0.20					
v/c Ratio	0.45	0.37	0.68		0.82	0.23
Uniform Delay, d1	9.7	13.0	15.5		24.1	20.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.8	1.3	4.8		10.5	0.3
Delay (s)	10.6	14.3	20.4		34.6	20.4
Level of Service	B	B	C		C	C
Approach Delay (s)		12.9	20.4		27.7	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: N 15th Street & Hillsborough Ave

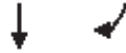
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 12/03/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	9	96	1621	64	34	117	2071	50	95	245	67	87
Future Volume (vph)	9	96	1621	64	34	117	2071	50	95	245	67	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5007			1752	5018		1752	1785		1752
Flt Permitted		0.05	1.00			0.09	1.00		0.32	1.00		0.20
Satd. Flow (perm)		88	5007			162	5018		581	1785		368
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)	9	101	1706	67	36	123	2180	53	100	258	71	92
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	5	0	0
Lane Group Flow (vph)	0	110	1771	0	0	159	2232	0	100	324	0	92
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		95.7	95.7			109.9	109.9		39.8	39.8		39.8
Effective Green, g (s)		95.7	95.7			109.9	109.9		39.8	39.8		39.8
Actuated g/C Ratio		0.53	0.53			0.61	0.61		0.22	0.22		0.22
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		155	2662			328	3063		128	394		81
v/s Ratio Prot		0.05	c0.35			0.07	c0.44			0.18		
v/s Ratio Perm		0.33				0.23			0.17			c0.25
v/c Ratio		0.71	0.67			0.48	0.73		0.78	0.82		1.14
Uniform Delay, d1		44.3	30.5			41.3	24.6		66.0	66.7		70.1
Progression Factor		1.00	1.00			0.43	0.31		1.00	1.00		1.00
Incremental Delay, d2		11.5	1.3			0.3	1.1		25.9	12.9		141.4
Delay (s)		55.8	31.9			18.0	8.7		91.9	79.6		211.5
Level of Service		E	C			B	A		F	E		F
Approach Delay (s)			33.3				9.3			82.5		
Approach LOS			C				A			F		

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

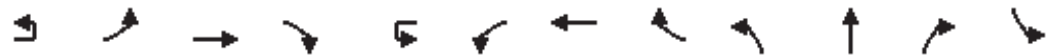
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	185	68
Future Volume (vph)	185	68
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1770	
Flt Permitted	1.00	
Satd. Flow (perm)	1770	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	195	72
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	259	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	39.8	
Effective Green, g (s)	39.8	
Actuated g/C Ratio	0.22	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	391	
v/s Ratio Prot	0.15	
v/s Ratio Perm		
v/c Ratio	0.66	
Uniform Delay, d1	64.0	
Progression Factor	1.00	
Incremental Delay, d2	4.2	
Delay (s)	68.2	
Level of Service	E	
Approach Delay (s)	104.9	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
2: N 19th street & Hillsborough Ave

2028 - Background+Project Traffic PM.syn
12/03/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	39	65	1639	66	20	45	2091	40	61	101	26	121
Future Volume (vph)	39	65	1639	66	20	45	2091	40	61	101	26	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	0.99			1.00	1.00			0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.98		0.95
Satd. Flow (prot)		1752	5007			1752	5022			1782		1752
Flt Permitted		0.04	1.00			0.09	1.00			0.59		0.48
Satd. Flow (perm)		81	5007			167	5022			1065		890
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)	41	68	1725	69	21	47	2201	42	64	106	27	127
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	3	0	0
Lane Group Flow (vph)	0	109	1792	0	0	68	2242	0	0	194	0	127
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		134.8	122.1			121.4	115.1			32.6		32.6
Effective Green, g (s)		134.8	122.1			121.4	115.1			32.6		32.6
Actuated g/C Ratio		0.75	0.68			0.67	0.64			0.18		0.18
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		184	3396			168	3211			192		161
v/s Ratio Prot		c0.04	0.36			0.01	c0.45					
v/s Ratio Perm		0.40				0.26				c0.18		0.14
v/c Ratio		0.59	0.53			0.40	0.70			1.01		0.79
Uniform Delay, d1		44.5	14.5			29.5	21.1			73.7		70.4
Progression Factor		0.83	0.24			0.53	0.18			1.00		1.00
Incremental Delay, d2		2.6	0.4			0.2	0.3			67.3		22.1
Delay (s)		39.6	3.9			15.8	4.1			141.0		92.5
Level of Service		D	A			B	A			F		F
Approach Delay (s)			6.0				4.4			141.0		
Approach LOS			A				A			F		

Intersection Summary		
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.75	B
Actuated Cycle Length (s)	180.0	Sum of lost time (s)
Intersection Capacity Utilization	87.6%	19.0
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	83	81
Future Volume (vph)	83	81
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1708	
Flt Permitted	1.00	
Satd. Flow (perm)	1708	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	87	85
RTOR Reduction (vph)	21	0
Lane Group Flow (vph)	151	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	32.6	
Effective Green, g (s)	32.6	
Actuated g/C Ratio	0.18	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	309	
v/s Ratio Prot	0.09	
v/s Ratio Perm		
v/c Ratio	0.49	
Uniform Delay, d1	66.2	
Progression Factor	1.00	
Incremental Delay, d2	1.2	
Delay (s)	67.4	
Level of Service	E	
Approach Delay (s)	78.1	
Approach LOS	E	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	160	1524	118	13	159	1819	120	182	283	116	147
Future Volume (vph)	4	160	1524	118	13	159	1819	120	182	283	116	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.96		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4982			1752	4989		1752	1764		1752
Flt Permitted		0.07	1.00			0.07	1.00		0.08	1.00		0.21
Satd. Flow (perm)		128	4982			128	4989		139	1764		393
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	168	1604	124	14	167	1915	126	192	298	122	155
RTOR Reduction (vph)	0	0	5	0	0	0	4	0	0	8	0	0
Lane Group Flow (vph)	0	172	1723	0	0	181	2037	0	192	412	0	155
Turn Type	custom	pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6		5	5	2		7	4		3
Permitted Phases	1	6			2	2			4			8
Actuated Green, G (s)		72.7	72.7			75.3	75.3		68.2	53.2		61.8
Effective Green, g (s)		72.7	72.7			75.3	75.3		68.2	53.2		61.8
Actuated g/C Ratio		0.40	0.40			0.42	0.42		0.38	0.30		0.34
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		186	2012			211	2087		187	521		224
v/s Ratio Prot		0.08	c0.35			0.08	c0.41		c0.09	0.23		0.05
v/s Ratio Perm		0.30				0.28			c0.30			0.19
v/c Ratio		0.92	0.86			0.86	0.98		1.03	0.79		0.69
Uniform Delay, d1		74.0	48.9			53.9	51.5		55.8	58.3		45.4
Progression Factor		0.67	0.53			0.74	0.68		1.00	1.00		1.00
Incremental Delay, d2		40.5	4.3			18.0	10.5		73.0	8.3		8.9
Delay (s)		90.3	30.2			58.1	45.4		128.8	66.5		54.3
Level of Service		F	C			E	D		F	E		D
Approach Delay (s)			35.6				46.4			86.1		
Approach LOS			D				D			F		

Intersection Summary

HCM 2000 Control Delay	53.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↙
Traffic Volume (vph)	293	191
Future Volume (vph)	293	191
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.94	
Flt Protected	1.00	
Satd. Flow (prot)	1735	
Flt Permitted	1.00	
Satd. Flow (perm)	1735	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	308	201
RTOR Reduction (vph)	13	0
Lane Group Flow (vph)	496	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	50.0	
Effective Green, g (s)	50.0	
Actuated g/C Ratio	0.28	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	481	
v/s Ratio Prot	0.29	
v/s Ratio Perm		
v/c Ratio	1.03	
Uniform Delay, d1	65.0	
Progression Factor	1.00	
Incremental Delay, d2	49.3	
Delay (s)	114.3	
Level of Service	F	
Approach Delay (s)	100.3	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	141	1657	101	2	50	1803	238	70	183	46	268
Future Volume (vph)	4	141	1657	101	2	50	1803	238	70	183	46	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.98		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4993			1752	4948		1752	1790		1752
Flt Permitted		0.95	1.00			0.17	1.00		0.31	1.00		0.46
Satd. Flow (perm)		1752	4993			322	4948		578	1790		844
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	148	1744	106	2	53	1898	251	74	193	48	282
RTOR Reduction (vph)	0	0	4	0	0	0	9	0	0	5	0	0
Lane Group Flow (vph)	0	152	1846	0	0	55	2140	0	74	236	0	282
Turn Type	Prot	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases	1	1	6			5	2			4		
Permitted Phases					5				4			8
Actuated Green, G (s)		17.7	84.3			22.9	89.5		53.9	53.9		53.9
Effective Green, g (s)		17.7	84.3			22.9	89.5		53.9	53.9		53.9
Actuated g/C Ratio		0.10	0.47			0.13	0.50		0.30	0.30		0.30
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		172	2338			40	2460		173	536		252
v/s Ratio Prot		0.09	c0.37				c0.43			0.13		
v/s Ratio Perm						c0.17			0.13			c0.33
v/c Ratio		0.88	0.79			1.38	0.87		0.43	0.44		1.12
Uniform Delay, d1		80.1	40.4			78.5	40.1		50.7	50.9		63.0
Progression Factor		1.18	0.40			0.60	0.24		1.00	1.00		1.00
Incremental Delay, d2		24.9	1.7			250.5	3.4		1.7	0.6		92.5
Delay (s)		119.9	17.8			298.0	12.9		52.4	51.5		155.5
Level of Service		F	B			F	B		D	D		F
Approach Delay (s)			25.5				20.0			51.7		
Approach LOS			C				C			D		

Intersection Summary

HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



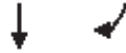
Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	174	151
Future Volume (vph)	174	151
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1716	
Flt Permitted	1.00	
Satd. Flow (perm)	1716	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	183	159
RTOR Reduction (vph)	18	0
Lane Group Flow (vph)	324	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	53.9	
Effective Green, g (s)	53.9	
Actuated g/C Ratio	0.30	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	513	
v/s Ratio Prot	0.19	
v/s Ratio Perm		
v/c Ratio	0.63	
Uniform Delay, d1	54.5	
Progression Factor	1.00	
Incremental Delay, d2	2.5	
Delay (s)	57.0	
Level of Service	E	
Approach Delay (s)	101.5	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	
Traffic Volume (vph)	10	30	1826	107	31	112	1925	81	121	149	67	51
Future Volume (vph)	10	30	1826	107	31	112	1925	81	121	149	67	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	0.99			1.00	0.99		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	4994			1752	5006		1752	1758		
Flt Permitted		0.05	1.00			0.05	1.00		0.44	1.00		
Satd. Flow (perm)		90	4994			100	5006		811	1758		
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)	11	32	1922	113	33	118	2026	85	127	157	71	54
RTOR Reduction (vph)	0	0	3	0	0	0	2	0	0	9	0	0
Lane Group Flow (vph)	0	43	2032	0	0	151	2109	0	127	219	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		118.2	106.9			127.6	111.6		37.9	37.9		
Effective Green, g (s)		118.2	106.9			127.6	111.6		37.9	37.9		
Actuated g/C Ratio		0.66	0.59			0.71	0.62		0.21	0.21		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		163	2965			217	3103		170	370		
v/s Ratio Prot		0.02	0.41			c0.06	0.42			0.12		
v/s Ratio Perm		0.16				c0.43			0.16			
v/c Ratio		0.26	0.69			0.70	0.68		0.75	0.59		
Uniform Delay, d1		43.9	25.0			46.8	22.5		66.6	64.1		
Progression Factor		0.74	0.14			0.95	0.29		1.00	1.00		
Incremental Delay, d2		0.5	0.8			3.2	0.4		16.3	2.5		
Delay (s)		32.9	4.3			47.7	7.0		82.9	66.6		
Level of Service		C	A			D	A		F	E		
Approach Delay (s)			4.9				9.7			72.4		
Approach LOS			A				A			E		

Intersection Summary		
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.80	B
Actuated Cycle Length (s)	180.0	Sum of lost time (s)
Intersection Capacity Utilization	90.6%	19.2
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	130	37
Future Volume (vph)	130	37
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.99	
Satd. Flow (prot)	1782	
Flt Permitted	0.56	
Satd. Flow (perm)	1017	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	137	39
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	226	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	37.9	
Effective Green, g (s)	37.9	
Actuated g/C Ratio	0.21	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	214	
v/s Ratio Prot		
v/s Ratio Perm	c0.22	
v/c Ratio	1.06	
Uniform Delay, d1	71.0	
Progression Factor	1.00	
Incremental Delay, d2	77.2	
Delay (s)	148.2	
Level of Service	F	
Approach Delay (s)	148.2	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↑↑↑			↔↔	↑↑↑		↔↔	↑↑	↔	↔↔
Traffic Volume (vph)	28	317	1380	250	13	157	1453	198	386	1016	310	260
Future Volume (vph)	28	317	1380	250	13	157	1453	198	386	1016	310	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91			0.97	0.91		0.97	0.95	1.00	0.97
Frt		1.00	0.98			1.00	0.98		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)		3400	4920			3400	4945		3400	3505	1568	3400
Flt Permitted		0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)		3400	4920			3400	4945		3400	3505	1568	3400
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)	29	334	1453	263	14	165	1529	208	406	1069	326	274
RTOR Reduction (vph)	0	0	14	0	0	0	10	0	0	0	101	0
Lane Group Flow (vph)	0	363	1702	0	0	179	1727	0	406	1069	225	274
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases												4
Actuated Green, G (s)		19.6	68.8			12.6	61.8		21.7	56.4	56.4	15.0
Effective Green, g (s)		19.6	68.8			12.6	61.8		21.7	56.4	56.4	15.0
Actuated g/C Ratio		0.11	0.38			0.07	0.34		0.12	0.31	0.31	0.08
Clearance Time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		370	1880			238	1697		409	1098	491	283
v/s Ratio Prot		0.11	c0.35			0.05	c0.35		c0.12	c0.31		0.08
v/s Ratio Perm												0.14
v/c Ratio		0.98	0.91			0.75	1.02		0.99	0.97	0.46	0.97
Uniform Delay, d1		80.0	52.5			82.2	59.1		79.1	61.1	49.6	82.3
Progression Factor		0.57	0.95			1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		34.9	5.9			12.6	26.4		42.4	20.9	0.7	44.3
Delay (s)		80.4	55.6			94.7	85.5		121.4	81.9	50.2	126.5
Level of Service		F	E			F	F		F	F	D	F
Approach Delay (s)			59.9				86.4			85.1		
Approach LOS			E				F			F		

Intersection Summary

HCM 2000 Control Delay	80.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	939	282
Future Volume (vph)	939	282
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.8	6.8
Lane Util. Factor	0.95	1.00
Fr _t	1.00	0.85
Fl _t Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Fl _t Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	988	297
RTOR Reduction (vph)	0	125
Lane Group Flow (vph)	988	172
Turn Type	NA	Perm
Protected Phases	8	
Permitted Phases		8
Actuated Green, G (s)	49.7	49.7
Effective Green, g (s)	49.7	49.7
Actuated g/C Ratio	0.28	0.28
Clearance Time (s)	6.8	6.8
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	967	432
v/s Ratio Prot	0.28	
v/s Ratio Perm		0.11
v/c Ratio	1.02	0.40
Uniform Delay, d ₁	65.2	53.0
Progression Factor	1.00	1.00
Incremental Delay, d ₂	34.5	0.6
Delay (s)	99.7	53.6
Level of Service	F	D
Approach Delay (s)	95.6	
Approach LOS	F	
Intersection Summary		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	26	362	43	126	424	128	35	385	99	55	315	8
Future Volume (vph)	26	362	43	126	424	128	35	385	99	55	315	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.97			0.97			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1815			1781			1791			1826	
Flt Permitted		0.94			0.81			0.95			0.80	
Satd. Flow (perm)		1712			1463			1716			1474	
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)	27	381	45	133	446	135	37	405	104	58	332	8
RTOR Reduction (vph)	0	6	0	0	11	0	0	11	0	0	1	0
Lane Group Flow (vph)	0	447	0	0	703	0	0	535	0	0	397	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		37.1			37.1			26.5			26.5	
Effective Green, g (s)		37.1			37.1			26.5			26.5	
Actuated g/C Ratio		0.49			0.49			0.35			0.35	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		846			723			606			520	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.48			c0.31			0.27	
v/c Ratio		0.53			0.97			0.88			0.76	
Uniform Delay, d1		13.0			18.4			22.8			21.5	
Progression Factor		1.00			0.96			1.00			1.00	
Incremental Delay, d2		0.6			25.6			16.9			10.2	
Delay (s)		13.6			43.3			39.7			31.6	
Level of Service		B			D			D			C	
Approach Delay (s)		13.6			43.3			39.7			31.6	
Approach LOS		B			D			D			C	

Intersection Summary

HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N 30th Street & Hanna Ave

2028 - Background+Project Traffic PM.syn
 12/03/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	370	106	67	335	96	111	349	102	71	420	89
Future Volume (vph)	106	370	106	67	335	96	111	349	102	71	420	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1783		1752	1783		1752	1782		1752	1796	
Flt Permitted	0.30	1.00		0.25	1.00		0.33	1.00		0.39	1.00	
Satd. Flow (perm)	558	1783		456	1783		614	1782		713	1796	
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)	112	389	112	71	353	101	117	367	107	75	442	94
RTOR Reduction (vph)	0	15	0	0	15	0	0	13	0	0	9	0
Lane Group Flow (vph)	112	486	0	71	439	0	117	461	0	75	527	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	26.7	26.7		26.7	26.7		36.9	36.9		36.9	36.9	
Effective Green, g (s)	26.7	26.7		26.7	26.7		36.9	36.9		36.9	36.9	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.49	0.49		0.49	0.49	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	198	634		162	634		302	876		350	883	
v/s Ratio Prot		c0.27			0.25			0.26			c0.29	
v/s Ratio Perm	0.20			0.16			0.19			0.11		
v/c Ratio	0.57	0.77		0.44	0.69		0.39	0.53		0.21	0.60	
Uniform Delay, d1	19.5	21.4		18.4	20.6		12.0	13.1		10.8	13.7	
Progression Factor	0.92	0.95		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.3	5.0		1.9	3.3		3.7	2.3		1.4	3.0	
Delay (s)	21.2	25.2		20.3	23.9		15.7	15.3		12.2	16.7	
Level of Service	C	C		C	C		B	B		B	B	
Approach Delay (s)		24.5			23.4			15.4			16.1	
Approach LOS		C			C			B			B	

Intersection Summary		
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.67	B
Actuated Cycle Length (s)	75.0	Sum of lost time (s)
Intersection Capacity Utilization	89.1%	11.4
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	15	466	87	46	521	15	132	54	69	15	39	2
Future Volume (vph)	15	466	87	46	521	15	132	54	69	15	39	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			1.00			0.96			1.00	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		1804			1831			1732			1812	
Flt Permitted		0.98			0.92			0.81			0.90	
Satd. Flow (perm)		1772			1699			1433			1646	
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)	16	491	92	48	548	16	139	57	73	16	41	2
RTOR Reduction (vph)	0	8	0	0	1	0	0	21	0	0	2	0
Lane Group Flow (vph)	0	591	0	0	611	0	0	248	0	0	57	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		42.0			42.0			16.3			16.3	
Effective Green, g (s)		42.0			42.0			16.3			16.3	
Actuated g/C Ratio		0.60			0.60			0.23			0.23	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1063			1019			333			383	
v/s Ratio Prot												
v/s Ratio Perm		0.33			0.36			0.17			0.03	
v/c Ratio		0.56			0.60			0.75			0.15	
Uniform Delay, d1		8.4			8.7			24.9			21.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.1			2.6			8.8			0.2	
Delay (s)		10.5			11.4			33.7			21.5	
Level of Service		B			B			C			C	
Approach Delay (s)		10.5			11.4			33.7			21.5	
Approach LOS		B			B			C			C	

Intersection Summary		
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.64	B
Actuated Cycle Length (s)	70.0	Sum of lost time (s)
Intersection Capacity Utilization	81.2%	11.7
Analysis Period (min)	15	ICU Level of Service
		D

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 13: N 22nd Street & Sligh Ave

2028 - Background+Project Traffic PM.syn

12/03/2021

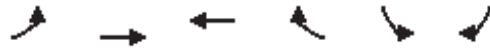


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	390	147	198	321	47	226	60	253	40	33	35
Future Volume (vph)	13	390	147	198	321	47	226	60	253	40	33	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.88		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1769		1752	1810		1752	1621		1752	1702	
Flt Permitted	0.50	1.00		0.38	1.00		0.71	1.00		0.30	1.00	
Satd. Flow (perm)	922	1769		697	1810		1310	1621		551	1702	
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	411	155	208	338	49	238	63	266	42	35	37
RTOR Reduction (vph)	0	7	0	0	3	0	0	143	0	0	28	0
Lane Group Flow (vph)	14	559	0	208	384	0	238	186	0	42	44	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	67.7	67.7		67.7	67.7		25.4	25.4		25.4	25.4	
Effective Green, g (s)	67.7	67.7		67.7	67.7		25.4	25.4		25.4	25.4	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.24	0.24		0.24	0.24	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	594	1140		449	1167		316	392		133	411	
v/s Ratio Prot		c0.32			0.21			0.12			0.03	
v/s Ratio Perm	0.02			0.30			c0.18			0.08		
v/c Ratio	0.02	0.49		0.46	0.33		0.75	0.48		0.32	0.11	
Uniform Delay, d1	6.7	9.7		9.4	8.4		36.9	34.1		32.7	31.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.5		3.4	0.8		9.7	0.9		1.4	0.1	
Delay (s)	6.8	11.2		12.9	9.2		46.6	35.0		34.0	31.1	
Level of Service	A	B		B	A		D	D		C	C	
Approach Delay (s)		11.1			10.5			39.9			32.2	
Approach LOS		B			B			D			C	

Intersection Summary

HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		

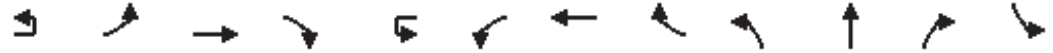
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	335	322	375	304	386	164
Future Volume (vph)	335	322	375	304	386	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1733		1752	1568
Flt Permitted	0.12	1.00	1.00		0.95	1.00
Satd. Flow (perm)	221	1845	1733		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	353	339	395	320	406	173
RTOR Reduction (vph)	0	0	36	0	0	130
Lane Group Flow (vph)	353	339	679	0	406	43
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	46.7	33.4	33.4		19.8	19.8
Effective Green, g (s)	46.7	33.4	33.4		19.8	19.8
Actuated g/C Ratio	0.58	0.42	0.42		0.25	0.25
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	383	770	723		433	388
v/s Ratio Prot	c0.15	0.18	c0.39		c0.23	0.03
v/s Ratio Perm	0.38					
v/c Ratio	0.92	0.44	0.94		0.94	0.11
Uniform Delay, d1	21.5	16.6	22.3		29.5	23.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	27.2	1.8	21.5		27.9	0.1
Delay (s)	48.7	18.5	43.8		57.4	23.4
Level of Service	D	B	D		E	C
Approach Delay (s)		33.9	43.8		47.2	
Approach LOS		C	D		D	

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	59	1633	57	4	112	2129	29	103	110	55	89
Future Volume (vph)	4	59	1633	57	4	112	2129	29	103	110	55	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.95		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5010			1752	5026		1752	1752		1752
Flt Permitted		0.05	1.00			0.09	1.00		0.21	1.00		0.50
Satd. Flow (perm)		85	5010			165	5026		390	1752		915
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	62	1719	60	4	118	2241	31	108	116	58	94
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	12	0	0
Lane Group Flow (vph)	0	66	1777	0	0	122	2271	0	108	162	0	94
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		94.7	94.7			107.0	107.0		36.7	36.7		36.7
Effective Green, g (s)		94.7	94.7			107.0	107.0		36.7	36.7		36.7
Actuated g/C Ratio		0.56	0.56			0.63	0.63		0.22	0.22		0.22
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		123	2790			291	3163		84	378		197
v/s Ratio Prot		0.02	c0.35			0.05	c0.45			0.09		
v/s Ratio Perm		0.27				0.21			c0.28			0.10
v/c Ratio		0.54	0.64			0.42	0.72		1.29	0.43		0.48
Uniform Delay, d1		29.5	25.8			37.9	21.3		66.7	57.6		58.3
Progression Factor		1.00	1.00			0.37	0.23		1.00	1.00		1.00
Incremental Delay, d2		2.2	1.1			0.3	1.1		192.9	0.8		1.8
Delay (s)		31.8	27.0			14.1	6.0		259.5	58.4		60.1
Level of Service		C	C			B	A		F	E		E
Approach Delay (s)			27.1				6.4			135.4		
Approach LOS			C				A			F		

Intersection Summary		
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.87	C
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	91.0%	18.5
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↙
Traffic Volume (vph)	230	73
Future Volume (vph)	230	73
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1778	
Flt Permitted	1.00	
Satd. Flow (perm)	1778	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	242	77
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	311	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	36.7	
Effective Green, g (s)	36.7	
Actuated g/C Ratio	0.22	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	383	
v/s Ratio Prot	0.18	
v/s Ratio Perm		
v/c Ratio	0.81	
Uniform Delay, d1	63.4	
Progression Factor	1.00	
Incremental Delay, d2	12.4	
Delay (s)	75.7	
Level of Service	E	
Approach Delay (s)	72.2	
Approach LOS	E	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑			↔		↔
Traffic Volume (vph)	15	69	1649	48	4	85	2163	24	35	69	30	77
Future Volume (vph)	15	69	1649	48	4	85	2163	24	35	69	30	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	1.00			1.00	1.00			0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.99		0.95
Satd. Flow (prot)		1752	5014			1752	5028			1766		1752
Flt Permitted		0.05	1.00			0.10	1.00			0.58		0.45
Satd. Flow (perm)		87	5014			184	5028			1035		833
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)	16	73	1736	51	4	89	2277	25	37	73	32	81
RTOR Reduction (vph)	0	0	1	0	0	0	1	0	0	7	0	0
Lane Group Flow (vph)	0	89	1786	0	0	93	2301	0	0	135	0	81
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		135.7	124.4			125.7	119.4			20.3		20.3
Effective Green, g (s)		135.7	124.4			125.7	119.4			20.3		20.3
Actuated g/C Ratio		0.80	0.73			0.74	0.70			0.12		0.12
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		180	3669			194	3531			123		99
v/s Ratio Prot		c0.03	0.36			0.02	c0.46					
v/s Ratio Perm		0.36				0.34				c0.13		0.10
v/c Ratio		0.49	0.49			0.48	0.65			1.10		0.82
Uniform Delay, d1		34.3	9.5			20.8	13.9			74.8		73.0
Progression Factor		0.93	0.25			0.82	0.20			1.00		1.00
Incremental Delay, d2		0.6	0.4			0.1	0.1			109.6		38.7
Delay (s)		32.6	2.7			17.1	2.9			184.5		111.7
Level of Service		C	A			B	A			F		F
Approach Delay (s)			4.1				3.5			184.5		
Approach LOS			A				A			F		

Intersection Summary

HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	75	61
Future Volume (vph)	75	61
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1721	
Flt Permitted	1.00	
Satd. Flow (perm)	1721	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	79	64
RTOR Reduction (vph)	19	0
Lane Group Flow (vph)	124	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	20.3	
Effective Green, g (s)	20.3	
Actuated g/C Ratio	0.12	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	205	
v/s Ratio Prot	0.07	
v/s Ratio Perm		
v/c Ratio	0.60	
Uniform Delay, d1	71.0	
Progression Factor	1.00	
Incremental Delay, d2	4.9	
Delay (s)	76.0	
Level of Service	E	
Approach Delay (s)	88.9	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	2	224	1368	166	4	188	2013	183	141	186	113	146
Future Volume (vph)	2	224	1368	166	4	188	2013	183	141	186	113	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.98			1.00	0.99		1.00	0.94		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4954			1752	4973		1752	1740		1752
Flt Permitted		0.07	1.00			0.07	1.00		0.09	1.00		0.28
Satd. Flow (perm)		134	4954			134	4973		172	1740		515
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	236	1440	175	4	198	2119	193	148	196	119	154
RTOR Reduction (vph)	0	0	9	0	0	0	6	0	0	13	0	0
Lane Group Flow (vph)	0	238	1606	0	0	202	2306	0	148	302	0	154
Turn Type	custom	pm+pt	NA		custom	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6			5	2		7	4		3
Permitted Phases	1	6			5	2			4			8
Actuated Green, G (s)		72.6	72.6			73.5	73.5		52.0	43.0		56.0
Effective Green, g (s)		72.6	72.6			73.5	73.5		52.0	43.0		56.0
Actuated g/C Ratio		0.43	0.43			0.43	0.43		0.31	0.25		0.33
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		225	2115			234	2150		136	440		249
v/s Ratio Prot		c0.11	0.32			0.09	c0.46		c0.06	0.17		0.04
v/s Ratio Perm		c0.34				0.28			0.28			0.16
v/c Ratio		1.06	0.76			0.86	1.07		1.09	0.69		0.62
Uniform Delay, d1		71.6	41.3			51.0	48.2		52.0	57.4		43.7
Progression Factor		0.77	0.66			1.08	0.47		1.00	1.00		1.00
Incremental Delay, d2		72.6	2.3			11.0	36.4		102.8	4.8		4.5
Delay (s)		127.7	29.4			66.1	59.2		154.7	62.2		48.2
Level of Service		F	C			E	E		F	E		D
Approach Delay (s)			42.0				59.7			91.8		
Approach LOS			D				E			F		

Intersection Summary

HCM 2000 Control Delay	64.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	111.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑	
Traffic Volume (vph)	393	120
Future Volume (vph)	393	120
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1780	
Flt Permitted	1.00	
Satd. Flow (perm)	1780	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	414	126
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	533	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	45.0	
Effective Green, g (s)	45.0	
Actuated g/C Ratio	0.26	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	471	
v/s Ratio Prot	c0.30	
v/s Ratio Perm		
v/c Ratio	1.13	
Uniform Delay, d1	62.5	
Progression Factor	1.00	
Incremental Delay, d2	83.1	
Delay (s)	145.6	
Level of Service	F	
Approach Delay (s)	124.0	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	105	1446	76	1	56	2116	288	66	125	22	237
Future Volume (vph)	4	105	1446	76	1	56	2116	288	66	125	22	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.98		1.00	0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4998			1752	4945		1752	1804		1752
Flt Permitted		0.23	1.00			0.47	1.00		0.10	1.00		0.56
Satd. Flow (perm)		419	4998			858	4945		180	1804		1035
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	111	1522	80	1	59	2227	303	69	132	23	249
RTOR Reduction (vph)	0	0	3	0	0	0	10	0	0	4	0	0
Lane Group Flow (vph)	0	115	1599	0	0	60	2520	0	69	151	0	249
Turn Type	custom	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1				5				4			8
Actuated Green, G (s)		17.6	101.6			8.6	92.6		40.9	40.9		40.9
Effective Green, g (s)		17.6	101.6			8.6	92.6		40.9	40.9		40.9
Actuated g/C Ratio		0.10	0.60			0.05	0.54		0.24	0.24		0.24
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		43	2987			43	2693		43	434		249
v/s Ratio Prot			0.32				c0.51			0.08		
v/s Ratio Perm		c0.27				0.07			c0.38			0.24
v/c Ratio		2.67	0.54			1.40	0.94		1.60	0.35		1.00
Uniform Delay, d1		76.2	20.2			80.7	35.9		64.5	53.5		64.5
Progression Factor		0.98	0.81			1.25	0.31		1.00	1.00		1.00
Incremental Delay, d2		794.8	0.5			249.6	5.6		356.8	0.5		57.0
Delay (s)		869.5	16.9			350.6	16.8		421.4	54.0		121.6
Level of Service		F	B			F	B		F	D		F
Approach Delay (s)			74.0				24.6			167.2		
Approach LOS			E				C			F		

Intersection Summary

HCM 2000 Control Delay	57.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		

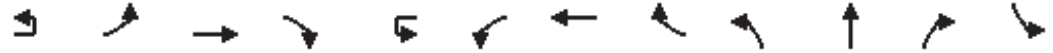
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↓	↙
Traffic Volume (vph)	228	172
Future Volume (vph)	228	172
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.94	
Flt Protected	1.00	
Satd. Flow (prot)	1726	
Flt Permitted	1.00	
Satd. Flow (perm)	1726	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	240	181
RTOR Reduction (vph)	16	0
Lane Group Flow (vph)	405	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	40.9	
Effective Green, g (s)	40.9	
Actuated g/C Ratio	0.24	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	415	
v/s Ratio Prot	0.23	
v/s Ratio Perm		
v/c Ratio	0.98	
Uniform Delay, d1	64.1	
Progression Factor	1.00	
Incremental Delay, d2	37.5	
Delay (s)	101.6	
Level of Service	F	
Approach Delay (s)	109.0	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
5: N 34th Street & Hillsborough Ave

2033 - Background+Project Traffic AM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	17	1621	66	15	96	2269	44	123	100	45	61
Future Volume (vph)	2	17	1621	66	15	96	2269	44	123	100	45	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	0.99			1.00	1.00		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	5007			1752	5022		1752	1759		
Flt Permitted		0.04	1.00			0.08	1.00		0.40	1.00		
Satd. Flow (perm)		73	5007			140	5022		736	1759		
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	18	1706	69	16	101	2388	46	129	105	47	64
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	10	0	0
Lane Group Flow (vph)	0	20	1773	0	0	117	2433	0	129	142	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		103.9	103.9			111.7	111.7		35.6	35.6		
Effective Green, g (s)		103.9	103.9			111.7	111.7		35.6	35.6		
Actuated g/C Ratio		0.61	0.61			0.66	0.66		0.21	0.21		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		79	3060			199	3299		154	368		
v/s Ratio Prot		0.01	c0.35			0.04	c0.48			0.08		
v/s Ratio Perm		0.15				0.35			0.18			
v/c Ratio		0.25	0.58			0.59	0.74		0.84	0.39		
Uniform Delay, d1		35.3	19.9			19.4	19.4		64.4	57.8		
Progression Factor		0.52	0.35			2.18	0.37		1.00	1.00		
Incremental Delay, d2		1.4	0.7			1.2	0.4		30.9	0.7		
Delay (s)		19.6	7.7			43.4	7.5		95.3	58.5		
Level of Service		B	A			D	A		F	E		
Approach Delay (s)			7.8				9.2			75.4		
Approach LOS			A				A			E		

Intersection Summary		
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.80	B
Actuated Cycle Length (s)	170.0	Sum of lost time (s)
Intersection Capacity Utilization	92.6%	19.2
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	126	67
Future Volume (vph)	126	67
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1758	
Flt Permitted	0.72	
Satd. Flow (perm)	1288	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	133	71
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	260	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	35.6	
Effective Green, g (s)	35.6	
Actuated g/C Ratio	0.21	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	269	
v/s Ratio Prot		
v/s Ratio Perm	c0.20	
v/c Ratio	0.97	
Uniform Delay, d1	66.6	
Progression Factor	1.00	
Incremental Delay, d2	45.3	
Delay (s)	111.9	
Level of Service	F	
Approach Delay (s)	111.9	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔↔		↔↔	↔↔↔		↔↔	↔↔	↔	↔↔	↔↔
Traffic Volume (vph)	35	197	1238	272	221	1596	96	357	752	301	311	1067
Future Volume (vph)	35	197	1238	272	221	1596	96	357	752	301	311	1067
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91		0.97	0.91		0.97	0.95	1.00	0.97	0.95
Frt		1.00	0.97		1.00	0.99		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)		3400	4900		3400	4993		3400	3505	1568	3400	3505
Flt Permitted		0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)		3400	4900		3400	4993		3400	3505	1568	3400	3505
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)	37	207	1303	286	233	1680	101	376	792	317	327	1123
RTOR Reduction (vph)	0	0	20	0	0	4	0	0	0	122	0	0
Lane Group Flow (vph)	0	244	1569	0	233	1777	0	376	792	195	327	1123
Turn Type	Prot	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	1	1	6		5	2		7	4		3	8
Permitted Phases										4		
Actuated Green, G (s)		12.6	58.2		12.8	58.4		19.0	52.4	52.4	19.4	52.8
Effective Green, g (s)		12.6	58.2		12.8	58.4		19.0	52.4	52.4	19.4	52.8
Actuated g/C Ratio		0.07	0.34		0.08	0.34		0.11	0.31	0.31	0.11	0.31
Clearance Time (s)		6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		252	1677		256	1715		380	1080	483	388	1088
v/s Ratio Prot		0.07	c0.32		0.07	c0.36		c0.11	0.23		0.10	c0.32
v/s Ratio Perm										0.12		
v/c Ratio		0.97	0.94		0.91	1.04		0.99	0.73	0.40	0.84	1.03
Uniform Delay, d1		78.5	54.1		78.0	55.8		75.4	52.6	46.4	73.8	58.6
Progression Factor		0.58	0.80		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		42.4	9.6		33.4	31.7		42.9	2.6	0.6	15.2	35.9
Delay (s)		88.1	53.0		111.4	87.5		118.3	55.2	47.0	89.0	94.5
Level of Service		F	D		F	F		F	E	D	F	F
Approach Delay (s)			57.7			90.3			69.4			84.6
Approach LOS			E			F			E			F
Intersection Summary												
HCM 2000 Control Delay			76.3									E
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			170.0						27.2			
Intersection Capacity Utilization			101.9%									G
Analysis Period (min)			15									

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	436
Future Volume (vph)	436
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.8
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	459
RTOR Reduction (vph)	107
Lane Group Flow (vph)	352
Turn Type	Perm
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	52.8
Effective Green, g (s)	52.8
Actuated g/C Ratio	0.31
Clearance Time (s)	6.8
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	487
v/s Ratio Prot	
v/s Ratio Perm	0.22
v/c Ratio	0.72
Uniform Delay, d1	52.1
Progression Factor	1.00
Incremental Delay, d2	5.3
Delay (s)	57.4
Level of Service	E
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)	18	285	70	55	337	19	41	115	42	89	219	32
Future Volume (vph)	18	285	70	55	337	19	41	115	42	89	219	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.97			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1793			1821			1774			1798	
Flt Permitted		0.97			0.90			0.88			0.86	
Satd. Flow (perm)		1748			1642			1578			1570	
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	300	74	58	355	20	43	121	44	94	231	34
RTOR Reduction (vph)	0	15	0	0	3	0	0	12	0	0	5	0
Lane Group Flow (vph)	0	378	0	0	430	0	0	196	0	0	354	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		21.5			22.2			32.1			32.1	
Effective Green, g (s)		21.5			22.2			32.1			32.1	
Actuated g/C Ratio		0.33			0.34			0.49			0.49	
Clearance Time (s)		5.7			5.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		578			560			779			775	
v/s Ratio Prot												
v/s Ratio Perm		0.22			c0.26			0.12			c0.23	
v/c Ratio		0.65			0.77			0.25			0.46	
Uniform Delay, d1		18.6			19.1			9.5			10.8	
Progression Factor		1.00			0.56			1.00			1.00	
Incremental Delay, d2		2.7			0.6			0.8			1.9	
Delay (s)		21.2			11.4			10.3			12.7	
Level of Service		C			B			B			B	
Approach Delay (s)		21.2			11.4			10.3			12.7	
Approach LOS		C			B			B			B	

Intersection Summary

HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	75.3%	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)	18	362	36	172	384	116	16	216	186	157	411	11
Future Volume (vph)	18	362	36	172	384	116	16	216	186	157	411	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.94			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1819			1779			1730			1815	
Flt Permitted		0.96			0.72			0.97			0.70	
Satd. Flow (perm)		1757			1301			1681			1288	
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	381	38	181	404	122	17	227	196	165	433	12
RTOR Reduction (vph)	0	5	0	0	12	0	0	45	0	0	1	0
Lane Group Flow (vph)	0	433	0	0	695	0	0	395	0	0	609	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		27.3			27.3			26.3			26.3	
Effective Green, g (s)		27.3			27.3			26.3			26.3	
Actuated g/C Ratio		0.42			0.42			0.40			0.40	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		737			546			680			521	
v/s Ratio Prot												
v/s Ratio Perm		0.25			0.53			0.24			0.47	
v/c Ratio		0.59			1.27			0.58			1.17	
Uniform Delay, d1		14.5			18.9			15.1			19.4	
Progression Factor		1.00			1.15			1.00			1.00	
Incremental Delay, d2		1.2			134.5			3.6			95.0	
Delay (s)		15.7			156.1			18.7			114.3	
Level of Service		B			F			B			F	
Approach Delay (s)		15.7			156.1			18.7			114.3	
Approach LOS		B			F			B			F	

Intersection Summary

HCM 2000 Control Delay	88.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	132.6%	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)	44	387	109	156	493	96	139	325	54	83	372	101
Future Volume (vph)	44	387	109	156	493	96	139	325	54	83	372	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1784		1752	1800		1752	1805		1752	1786	
Flt Permitted	0.19	1.00		0.29	1.00		0.33	1.00		0.43	1.00	
Satd. Flow (perm)	348	1784		532	1800		606	1805		794	1786	
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)	46	407	115	164	519	101	146	342	57	87	392	106
RTOR Reduction (vph)	0	16	0	0	11	0	0	9	0	0	14	0
Lane Group Flow (vph)	46	506	0	164	609	0	146	390	0	87	484	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	26.2	26.2		26.2	26.2		27.4	27.4		27.4	27.4	
Effective Green, g (s)	26.2	26.2		26.2	26.2		27.4	27.4		27.4	27.4	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.42	0.42		0.42	0.42	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	140	719		214	725		255	760		334	752	
v/s Ratio Prot		0.28			c0.34			0.22			c0.27	
v/s Ratio Perm	0.13			0.31			0.24			0.11		
v/c Ratio	0.33	0.70		0.77	0.84		0.57	0.51		0.26	0.64	
Uniform Delay, d1	13.3	16.2		16.8	17.5		14.3	13.9		12.2	14.9	
Progression Factor	0.89	0.87		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	2.6		15.1	8.5		9.0	2.5		1.9	4.2	
Delay (s)	13.1	16.8		31.8	26.0		23.4	16.3		14.1	19.1	
Level of Service	B	B		C	C		C	B		B	B	
Approach Delay (s)		16.5			27.2			18.2			18.4	
Approach LOS		B			C			B			B	

Intersection Summary		
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.74	
Actuated Cycle Length (s)	65.0	Sum of lost time (s) 11.4
Intersection Capacity Utilization	93.2%	ICU Level of Service F
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)	1	566	188	110	522	4	71	19	62	11	42	11
Future Volume (vph)	1	566	188	110	522	4	71	19	62	11	42	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.95			0.98	
Flt Protected		1.00			0.99			0.98			0.99	
Satd. Flow (prot)		1783			1827			1704			1785	
Flt Permitted		1.00			0.78			0.82			0.94	
Satd. Flow (perm)		1782			1430			1424			1690	
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)	1	596	198	116	549	4	75	20	65	12	44	12
RTOR Reduction (vph)	0	14	0	0	0	0	0	38	0	0	10	0
Lane Group Flow (vph)	0	781	0	0	669	0	0	122	0	0	58	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		46.1			46.1			12.2			12.2	
Effective Green, g (s)		46.1			46.1			12.2			12.2	
Actuated g/C Ratio		0.66			0.66			0.17			0.17	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1173			941			248			294	
v/s Ratio Prot												
v/s Ratio Perm		0.44			0.47			0.09			0.03	
v/c Ratio		0.67			0.71			0.49			0.20	
Uniform Delay, d1		7.3			7.7			26.1			24.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.0			4.5			1.5			0.3	
Delay (s)		10.3			12.2			27.6			25.0	
Level of Service		B			B			C			C	
Approach Delay (s)		10.3			12.2			27.6			25.0	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		

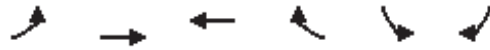
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	346	277	232	426	23	159	54	137	40	70	51
Future Volume (vph)	16	346	277	232	426	23	159	54	137	40	70	51
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		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.89		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1721		1752	1831		1752	1646		1752	1728	
Flt Permitted	0.46	1.00		0.35	1.00		0.65	1.00		0.47	1.00	
Satd. Flow (perm)	845	1721		642	1831		1204	1646		875	1728	
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)	17	364	292	244	448	24	167	57	144	42	74	54
RTOR Reduction (vph)	0	13	0	0	1	0	0	91	0	0	26	0
Lane Group Flow (vph)	17	643	0	244	471	0	167	110	0	42	102	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	73.6	73.6		73.6	73.6		19.5	19.5		19.5	19.5	
Effective Green, g (s)	73.6	73.6		73.6	73.6		19.5	19.5		19.5	19.5	
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.19	0.19		0.19	0.19	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	592	1206		450	1283		223	305		162	320	
v/s Ratio Prot		0.37			0.26			0.07			0.06	
v/s Ratio Perm	0.02			0.38			0.14			0.05		
v/c Ratio	0.03	0.53		0.54	0.37		0.75	0.36		0.26	0.32	
Uniform Delay, d1	4.8	7.5		7.6	6.3		40.4	37.3		36.6	37.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.7		4.6	0.8		12.9	0.7		0.9	0.6	
Delay (s)	4.9	9.2		12.2	7.1		53.3	38.0		37.4	37.6	
Level of Service	A	A		B	A		D	D		D	D	
Approach Delay (s)		9.1			8.9			45.0			37.5	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	180	318	326	252	390	377
Future Volume (vph)	180	318	326	252	390	377
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1736		1752	1568
Flt Permitted	0.21	1.00	1.00		0.95	1.00
Satd. Flow (perm)	390	1845	1736		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	189	335	343	265	411	397
RTOR Reduction (vph)	0	0	38	0	0	288
Lane Group Flow (vph)	189	335	570	0	411	109
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	37.3	30.5	30.5		19.2	19.2
Effective Green, g (s)	37.3	30.5	30.5		19.2	19.2
Actuated g/C Ratio	0.53	0.44	0.44		0.27	0.27
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	340	803	756		480	430
v/s Ratio Prot	c0.05	0.18	c0.33		c0.23	0.07
v/s Ratio Perm	0.24					
v/c Ratio	0.56	0.42	0.75		0.86	0.25
Uniform Delay, d1	10.8	13.6	16.6		24.1	19.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0	1.6	6.9		14.0	0.3
Delay (s)	12.8	15.2	23.4		38.1	20.1
Level of Service	B	B	C		D	C
Approach Delay (s)		14.4	23.4		29.2	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	75.4%	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)	63	170	475	4	161	2	379	84	2	5	77	38
Future Volume (vph)	63	170	475	4	161	2	379	84	2	5	77	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5			5.5			5.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.91			1.00			1.00			0.96	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		1670			1840			1771			1762	
Flt Permitted		0.96			0.99			0.72			0.98	
Satd. Flow (perm)		1603			1817			1321			1733	
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)	66	179	500	4	169	2	399	88	2	5	81	40
RTOR Reduction (vph)	0	132	0	0	1	0	0	0	0	0	18	0
Lane Group Flow (vph)	0	613	0	0	174	0	0	489	0	0	108	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		35.6			35.6			28.9			28.9	
Effective Green, g (s)		35.6			35.6			28.9			28.9	
Actuated g/C Ratio		0.47			0.47			0.38			0.38	
Clearance Time (s)		5.5			5.5			5.5			5.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		755			856			505			663	
v/s Ratio Prot												
v/s Ratio Perm		c0.38			0.10			c0.37			0.06	
v/c Ratio		0.81			0.20			0.97			0.16	
Uniform Delay, d1		17.1			11.7			22.9			15.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		6.7			0.1			32.9			0.5	
Delay (s)		23.8			11.8			55.8			15.9	
Level of Service		C			B			E			B	
Approach Delay (s)		23.8			11.8			55.8			15.9	
Approach LOS		C			B			E			B	

Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	11.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



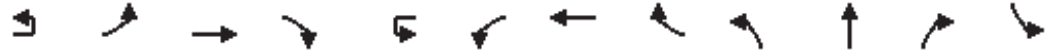
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Volume (vph)	63	170	475	4	161	2	379	84	2	5	77	38
Future Volume (vph)	63	170	475	4	161	2	379	84	2	5	77	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5			5.5	
Lane Util. Factor		1.00			1.00		1.00	1.00			1.00	
Frt		0.91			1.00		1.00	1.00			0.96	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		1670			1840		1752	1839			1762	
Flt Permitted		0.96			0.99		0.73	1.00			0.99	
Satd. Flow (perm)		1602			1816		1349	1839			1753	
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)	66	179	500	4	169	2	399	88	2	5	81	40
RTOR Reduction (vph)	0	104	0	0	1	0	0	1	0	0	21	0
Lane Group Flow (vph)	0	641	0	0	174	0	399	89	0	0	105	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		32.9			32.9		31.6	31.6			31.6	
Effective Green, g (s)		32.9			32.9		31.6	31.6			31.6	
Actuated g/C Ratio		0.44			0.44		0.42	0.42			0.42	
Clearance Time (s)		5.5			5.5		5.5	5.5			5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		698			791		564	769			733	
v/s Ratio Prot								0.05				
v/s Ratio Perm		c0.40			0.10		c0.30				0.06	
v/c Ratio		0.92			0.22		0.71	0.12			0.14	
Uniform Delay, d1		20.0			13.3		18.1	13.4			13.6	
Progression Factor		1.00			1.00		1.00	1.00			1.00	
Incremental Delay, d2		17.0			0.1		7.3	0.3			0.4	
Delay (s)		37.1			13.4		25.4	13.7			14.0	
Level of Service		D			B		C	B			B	
Approach Delay (s)		37.1			13.4			23.3			14.0	
Approach LOS		D			B			C			B	

Intersection Summary		
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.81	
Actuated Cycle Length (s)	75.5	Sum of lost time (s) 11.0
Intersection Capacity Utilization	91.8%	ICU Level of Service F
Analysis Period (min)	15	

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: N 15th Street & Hillsborough Ave

2033 - Background+Project Traffic PM.syn
 12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	9	100	1693	67	36	122	2161	56	103	273	73	95
Future Volume (vph)	9	100	1693	67	36	122	2161	56	103	273	73	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	1.00		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	5007			1752	5017		1752	1786		1752
Flt Permitted		0.05	1.00			0.06	1.00		0.33	1.00		0.23
Satd. Flow (perm)		101	5007			114	5017		610	1786		425
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)	9	105	1782	71	38	128	2275	59	108	287	77	100
RTOR Reduction (vph)	0	0	3	0	0	0	1	0	0	5	0	0
Lane Group Flow (vph)	0	114	1850	0	0	166	2333	0	108	359	0	100
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		85.3	85.3			101.3	101.3		48.1	48.1		48.1
Effective Green, g (s)		85.3	85.3			101.3	101.3		48.1	48.1		48.1
Actuated g/C Ratio		0.47	0.47			0.56	0.56		0.27	0.27		0.27
Clearance Time (s)		6.4	6.4			6.4	6.4		5.7	5.7		5.7
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		158	2372			319	2823		163	477		113
v/s Ratio Prot		0.05	c0.37			0.08	c0.46			0.20		
v/s Ratio Perm		0.29				0.21			0.18			c0.24
v/c Ratio		0.72	0.78			0.52	0.83		0.66	0.75		0.88
Uniform Delay, d1		45.6	39.5			50.0	32.2		58.7	60.5		63.3
Progression Factor		1.00	1.00			0.43	0.21		1.00	1.00		1.00
Incremental Delay, d2		12.9	2.6			0.5	2.0		9.7	6.6		50.2
Delay (s)		58.4	42.1			22.1	8.7		68.4	67.1		113.5
Level of Service		E	D			C	A		E	E		F
Approach Delay (s)			43.1				9.6			67.4		
Approach LOS			D				A			E		

Intersection Summary		
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.86	C
Actuated Cycle Length (s)	180.0	Sum of lost time (s)
Intersection Capacity Utilization	96.3%	18.5
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	⤴	
Traffic Volume (vph)	207	77
Future Volume (vph)	207	77
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1770	
Flt Permitted	1.00	
Satd. Flow (perm)	1770	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	218	81
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	292	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	48.1	
Effective Green, g (s)	48.1	
Actuated g/C Ratio	0.27	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	472	
v/s Ratio Prot	0.16	
v/s Ratio Perm		
v/c Ratio	0.62	
Uniform Delay, d1	57.9	
Progression Factor	1.00	
Incremental Delay, d2	2.4	
Delay (s)	60.3	
Level of Service	E	
Approach Delay (s)	73.6	
Approach LOS	E	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	40	70	1715	72	21	55	2181	46	66	110	29	131
Future Volume (vph)	40	70	1715	72	21	55	2181	46	66	110	29	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00		1.00
Frt		1.00	0.99			1.00	1.00			0.98		1.00
Flt Protected		0.95	1.00			0.95	1.00			0.98		0.95
Satd. Flow (prot)		1752	5005			1752	5020			1780		1752
Flt Permitted		0.03	1.00			0.08	1.00			0.58		0.48
Satd. Flow (perm)		64	5005			141	5020			1047		885
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)	42	74	1805	76	22	58	2296	48	69	116	31	138
RTOR Reduction (vph)	0	0	2	0	0	0	1	0	0	4	0	0
Lane Group Flow (vph)	0	116	1879	0	0	80	2343	0	0	212	0	138
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		128.9	116.9			120.9	112.9			36.1		36.1
Effective Green, g (s)		128.9	116.9			120.9	112.9			36.1		36.1
Actuated g/C Ratio		0.72	0.65			0.67	0.63			0.20		0.20
Clearance Time (s)		6.4	6.4			6.4	6.4			6.2		6.2
Vehicle Extension (s)		2.0	3.0			2.0	3.0			3.0		3.0
Lane Grp Cap (vph)		158	3250			166	3148			209		177
v/s Ratio Prot		c0.05	0.38			0.02	0.47					
v/s Ratio Perm		c0.48				0.30				c0.20		0.16
v/c Ratio		0.73	0.58			0.48	0.74			1.01		0.78
Uniform Delay, d1		51.7	17.7			39.2	23.5			72.0		68.2
Progression Factor		0.80	0.12			0.69	0.19			1.00		1.00
Incremental Delay, d2		10.2	0.5			0.1	0.1			66.0		19.2
Delay (s)		51.3	2.6			27.2	4.5			138.0		87.4
Level of Service		D	A			C	A			F		F
Approach Delay (s)			5.4				5.3			138.0		
Approach LOS			A				A			F		

Intersection Summary

HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	PT	
Traffic Volume (vph)	91	88
Future Volume (vph)	91	88
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1709	
Flt Permitted	1.00	
Satd. Flow (perm)	1709	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	96	93
RTOR Reduction (vph)	21	0
Lane Group Flow (vph)	168	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	36.1	
Effective Green, g (s)	36.1	
Actuated g/C Ratio	0.20	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	342	
v/s Ratio Prot	0.10	
v/s Ratio Perm		
v/c Ratio	0.49	
Uniform Delay, d1	63.8	
Progression Factor	1.00	
Incremental Delay, d2	1.1	
Delay (s)	64.9	
Level of Service	E	
Approach Delay (s)	74.4	
Approach LOS	E	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	175	1594	123	13	171	1903	125	197	322	126	160
Future Volume (vph)	4	175	1594	123	13	171	1903	125	197	322	126	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.96		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4982			1752	4989		1752	1767		1752
Flt Permitted		0.07	1.00			0.07	1.00		0.07	1.00		0.15
Satd. Flow (perm)		131	4982			131	4989		137	1767		277
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	184	1678	129	14	180	2003	132	207	339	133	168
RTOR Reduction (vph)	0	0	5	0	0	0	4	0	0	8	0	0
Lane Group Flow (vph)	0	188	1802	0	0	194	2131	0	207	464	0	168
Turn Type	custom	pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases		1	6		5	5	2		7	4		3
Permitted Phases	1	6			2	2			4			8
Actuated Green, G (s)		71.9	71.9			73.6	73.6		70.0	54.0		62.0
Effective Green, g (s)		71.9	71.9			73.6	73.6		70.0	54.0		62.0
Actuated g/C Ratio		0.40	0.40			0.41	0.41		0.39	0.30		0.34
Clearance Time (s)		6.4	6.4			6.4	6.4		6.0	6.0		6.0
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	4.0		3.0
Lane Grp Cap (vph)		192	1990			209	2039		196	530		193
v/s Ratio Prot		0.08	c0.36			0.09	c0.43		c0.09	c0.26		0.06
v/s Ratio Perm		0.30				0.29			c0.32			0.24
v/c Ratio		0.98	0.91			0.93	1.05		1.06	0.88		0.87
Uniform Delay, d1		77.4	50.9			56.0	53.2		56.9	59.8		48.1
Progression Factor		0.60	0.45			0.89	0.64		1.00	1.00		1.00
Incremental Delay, d2		52.3	6.2			27.3	28.0		79.9	15.4		32.0
Delay (s)		98.8	29.1			77.3	62.0		136.8	75.2		80.1
Level of Service		F	C			E	E		F	E		F
Approach Delay (s)			35.6				63.3			94.0		
Approach LOS			D				E			F		

Intersection Summary

HCM 2000 Control Delay	64.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	24.8
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑	
Traffic Volume (vph)	319	199
Future Volume (vph)	319	199
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	1.00	
Frt	0.94	
Flt Protected	1.00	
Satd. Flow (prot)	1739	
Flt Permitted	1.00	
Satd. Flow (perm)	1739	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	336	209
RTOR Reduction (vph)	12	0
Lane Group Flow (vph)	533	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	50.0	
Effective Green, g (s)	50.0	
Actuated g/C Ratio	0.28	
Clearance Time (s)	6.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	483	
v/s Ratio Prot	0.31	
v/s Ratio Perm		
v/c Ratio	1.10	
Uniform Delay, d1	65.0	
Progression Factor	1.00	
Incremental Delay, d2	72.0	
Delay (s)	137.0	
Level of Service	F	
Approach Delay (s)	123.6	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
4: N 30th Street & Hillsborough Ave

2033 - Background+Project Traffic PM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑			↔	↑↑↑		↔	↑	↔	↔
Traffic Volume (vph)	4	151	1735	106	2	64	1886	252	76	211	50	287
Future Volume (vph)	4	151	1735	106	2	64	1886	252	76	211	50	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.98		1.00	0.97		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1752	4992			1752	4947		1752	1791		1752
Flt Permitted		0.95	1.00			0.20	1.00		0.26	1.00		0.41
Satd. Flow (perm)		1752	4992			369	4947		484	1791		753
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	159	1826	112	2	67	1985	265	80	222	53	302
RTOR Reduction (vph)	0	0	4	0	0	0	10	0	0	5	0	0
Lane Group Flow (vph)	0	163	1934	0	0	69	2240	0	80	270	0	302
Turn Type	Prot	Prot	NA		custom	Prot	NA		Perm	NA		Perm
Protected Phases	1	1	6			5	2			4		
Permitted Phases					5				4			8
Actuated Green, G (s)		18.1	87.2			20.0	89.1		53.9	53.9		53.9
Effective Green, g (s)		18.1	87.2			20.0	89.1		53.9	53.9		53.9
Actuated g/C Ratio		0.10	0.48			0.11	0.49		0.30	0.30		0.30
Clearance Time (s)		6.4	6.4			6.4	6.4		6.1	6.1		6.1
Vehicle Extension (s)		2.0	3.0			2.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		176	2418			41	2448		144	536		225
v/s Ratio Prot		0.09	c0.39				c0.45			0.15		
v/s Ratio Perm						c0.19			0.17			c0.40
v/c Ratio		0.93	0.80			1.68	0.92		0.56	0.50		1.34
Uniform Delay, d1		80.3	39.1			80.0	42.0		53.0	52.0		63.0
Progression Factor		1.11	0.46			0.60	0.24		1.00	1.00		1.00
Incremental Delay, d2		29.2	1.5			366.4	4.6		4.6	0.7		180.7
Delay (s)		118.3	19.5			414.7	14.8		57.6	52.8		243.8
Level of Service		F	B			F	B		E	D		F
Approach Delay (s)			27.1				26.7			53.8		
Approach LOS			C				C			D		

Intersection Summary

HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	PT	
Traffic Volume (vph)	197	163
Future Volume (vph)	197	163
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.1	
Lane Util. Factor	1.00	
Frt	0.93	
Flt Protected	1.00	
Satd. Flow (prot)	1719	
Flt Permitted	1.00	
Satd. Flow (perm)	1719	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	207	172
RTOR Reduction (vph)	17	0
Lane Group Flow (vph)	362	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	53.9	
Effective Green, g (s)	53.9	
Actuated g/C Ratio	0.30	
Clearance Time (s)	6.1	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	514	
v/s Ratio Prot	0.21	
v/s Ratio Perm		
v/c Ratio	0.70	
Uniform Delay, d1	56.0	
Progression Factor	1.00	
Incremental Delay, d2	4.4	
Delay (s)	60.4	
Level of Service	E	
Approach Delay (s)	141.7	
Approach LOS	F	
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
5: N 34th Street & Hillsborough Ave

2033 - Background+Project Traffic PM.syn
12/01/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	10	37	1909	118	32	126	2023	94	131	162	73	56
Future Volume (vph)	10	37	1909	118	32	126	2023	94	131	162	73	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	1.00		
Frt		1.00	0.99			1.00	0.99		1.00	0.95		
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1752	4992			1752	5002		1752	1759		
Flt Permitted		0.04	1.00			0.04	1.00		0.45	1.00		
Satd. Flow (perm)		73	4992			74	5002		827	1759		
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)	11	39	2009	124	34	133	2129	99	138	171	77	59
RTOR Reduction (vph)	0	0	4	0	0	0	2	0	0	9	0	0
Lane Group Flow (vph)	0	50	2129	0	0	167	2226	0	138	239	0	0
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		112.9	100.8			123.3	106.0		42.7	42.7		
Effective Green, g (s)		112.9	100.8			123.3	106.0		42.7	42.7		
Actuated g/C Ratio		0.63	0.56			0.68	0.59		0.24	0.24		
Clearance Time (s)		6.5	6.5			6.5	6.5		6.2	6.2		
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		158	2795			211	2945		196	417		
v/s Ratio Prot		0.02	0.43			c0.08	0.44			0.14		
v/s Ratio Perm		0.18				c0.47			0.17			
v/c Ratio		0.32	0.76			0.79	0.76		0.70	0.57		
Uniform Delay, d1		57.1	30.4			54.2	27.4		62.9	60.6		
Progression Factor		0.69	0.13			1.19	0.74		1.00	1.00		
Incremental Delay, d2		0.6	1.1			1.9	0.2		10.9	1.9		
Delay (s)		40.3	5.0			66.4	20.5		73.8	62.5		
Level of Service		D	A			E	C		E	E		
Approach Delay (s)			5.8				23.7			66.5		
Approach LOS			A				C			E		

Intersection Summary

HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	19.2
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)	141	40
Future Volume (vph)	141	40
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.99	
Satd. Flow (prot)	1782	
Flt Permitted	0.57	
Satd. Flow (perm)	1028	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	148	42
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	245	0
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	42.7	
Effective Green, g (s)	42.7	
Actuated g/C Ratio	0.24	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	243	
v/s Ratio Prot		
v/s Ratio Perm	c0.24	
v/c Ratio	1.01	
Uniform Delay, d1	68.7	
Progression Factor	1.00	
Incremental Delay, d2	60.1	
Delay (s)	128.7	
Level of Service	F	
Approach Delay (s)	128.7	
Approach LOS	F	
Intersection Summary		



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↑↑↑			↔↔	↑↑↑		↔↔	↑↑	↔	↔↔
Traffic Volume (vph)	29	338	1443	260	13	165	1521	216	419	1112	337	282
Future Volume (vph)	29	338	1443	260	13	165	1521	216	419	1112	337	282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Lane Util. Factor		0.97	0.91			0.97	0.91		0.97	0.95	1.00	0.97
Frt		1.00	0.98			1.00	0.98		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)		3400	4920			3400	4942		3400	3505	1568	3400
Flt Permitted		0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)		3400	4920			3400	4942		3400	3505	1568	3400
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)	31	356	1519	274	14	174	1601	227	441	1171	355	297
RTOR Reduction (vph)	0	0	14	0	0	0	10	0	0	0	100	0
Lane Group Flow (vph)	0	387	1779	0	0	188	1818	0	441	1171	255	297
Turn Type	Prot	Prot	NA		Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases												4
Actuated Green, G (s)		18.2	69.1			11.3	62.2		21.2	57.1	57.1	15.3
Effective Green, g (s)		18.2	69.1			11.3	62.2		21.2	57.1	57.1	15.3
Actuated g/C Ratio		0.10	0.38			0.06	0.35		0.12	0.32	0.32	0.09
Clearance Time (s)		6.8	6.8			6.8	6.8		6.8	6.8	6.8	6.8
Vehicle Extension (s)		3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		343	1888			213	1707		400	1111	497	289
v/s Ratio Prot		0.11	c0.36			0.06	c0.37		c0.13	c0.33		0.09
v/s Ratio Perm												0.16
v/c Ratio		1.13	0.94			0.88	1.06		1.10	1.05	0.51	1.03
Uniform Delay, d1		80.9	53.5			83.7	58.9		79.4	61.5	50.1	82.3
Progression Factor		0.89	0.56			1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		79.3	7.7			32.0	41.4		75.6	42.4	0.9	60.3
Delay (s)		151.2	37.8			115.7	100.3		155.0	103.9	51.0	142.6
Level of Service		F	D			F	F		F	F	D	F
Approach Delay (s)			57.9			101.7			105.8			
Approach LOS			E			F			F			

Intersection Summary

HCM 2000 Control Delay	93.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	108.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1038	306
Future Volume (vph)	1038	306
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.8	6.8
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1093	322
RTOR Reduction (vph)	0	109
Lane Group Flow (vph)	1093	213
Turn Type	NA	Perm
Protected Phases	8	
Permitted Phases		8
Actuated Green, G (s)	51.2	51.2
Effective Green, g (s)	51.2	51.2
Actuated g/C Ratio	0.28	0.28
Clearance Time (s)	6.8	6.8
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	996	446
v/s Ratio Prot	0.31	
v/s Ratio Perm		0.14
v/c Ratio	1.10	0.48
Uniform Delay, d1	64.4	53.3
Progression Factor	1.00	1.00
Incremental Delay, d2	59.0	0.8
Delay (s)	123.4	54.1
Level of Service	F	D
Approach Delay (s)	113.7	
Approach LOS	F	
Intersection Summary		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	21	305	67	56	358	68	55	188	63	26	148	15
Future Volume (vph)	21	305	67	56	358	68	55	188	63	26	148	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1797			1799			1778			1812	
Flt Permitted		0.97			0.91			0.92			0.94	
Satd. Flow (perm)		1739			1649			1645			1708	
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)	22	321	71	59	377	72	58	198	66	27	156	16
RTOR Reduction (vph)	0	12	0	0	10	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	402	0	0	498	0	0	312	0	0	195	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0			37.0			37.0	
Effective Green, g (s)		29.0			29.0			37.0			37.0	
Actuated g/C Ratio		0.39			0.39			0.49			0.49	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		672			637			811			842	
v/s Ratio Prot												
v/s Ratio Perm		0.23			0.30			0.19			0.11	
v/c Ratio		0.60			0.78			0.38			0.23	
Uniform Delay, d1		18.3			20.2			11.9			10.9	
Progression Factor		1.00			0.91			1.00			1.00	
Incremental Delay, d2		1.4			0.6			1.4			0.6	
Delay (s)		19.8			19.0			13.3			11.5	
Level of Service		B			B			B			B	
Approach Delay (s)		19.8			19.0			13.3			11.5	
Approach LOS		B			B			B			B	

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)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.8%	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)	30	412	37	132	478	135	38	419	121	59	342	13
Future Volume (vph)	30	412	37	132	478	135	38	419	121	59	342	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.97			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1820			1784			1787			1824	
Flt Permitted		0.93			0.80			0.95			0.76	
Satd. Flow (perm)		1699			1433			1699			1394	
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)	32	434	39	139	503	142	40	441	127	62	360	14
RTOR Reduction (vph)	0	4	0	0	11	0	0	13	0	0	1	0
Lane Group Flow (vph)	0	501	0	0	773	0	0	595	0	0	435	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		37.3			37.3			26.3			26.3	
Effective Green, g (s)		37.3			37.3			26.3			26.3	
Actuated g/C Ratio		0.50			0.50			0.35			0.35	
Clearance Time (s)		5.7			5.7			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		844			712			595			488	
v/s Ratio Prot												
v/s Ratio Perm		0.29			0.54			0.35			0.31	
v/c Ratio		0.59			1.09			1.00			0.89	
Uniform Delay, d1		13.4			18.9			24.4			23.0	
Progression Factor		1.00			1.02			1.00			1.00	
Incremental Delay, d2		1.1			58.1			36.9			21.1	
Delay (s)		14.6			77.4			61.3			44.1	
Level of Service		B			E			E			D	
Approach Delay (s)		14.6			77.4			61.3			44.1	
Approach LOS		B			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	53.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	117.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N 30th Street & Hanna Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	416	130	77	386	109	117	379	118	85	440	98
Future Volume (vph)	118	416	130	77	386	109	117	379	118	85	440	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1779		1752	1784		1752	1779		1752	1794	
Flt Permitted	0.25	1.00		0.19	1.00		0.29	1.00		0.33	1.00	
Satd. Flow (perm)	462	1779		356	1784		536	1779		606	1794	
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)	124	438	137	81	406	115	123	399	124	89	463	103
RTOR Reduction (vph)	0	16	0	0	14	0	0	14	0	0	10	0
Lane Group Flow (vph)	124	559	0	81	507	0	123	509	0	89	556	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	28.4	28.4		28.4	28.4		35.2	35.2		35.2	35.2	
Effective Green, g (s)	28.4	28.4		28.4	28.4		35.2	35.2		35.2	35.2	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.47	0.47		0.47	0.47	
Clearance Time (s)	5.7	5.7		5.7	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	174	673		134	675		251	834		284	841	
v/s Ratio Prot		c0.31			0.28			0.29			c0.31	
v/s Ratio Perm	0.27			0.23			0.23			0.15		
v/c Ratio	0.71	0.83		0.60	0.75		0.49	0.61		0.31	0.66	
Uniform Delay, d1	19.8	21.1		18.8	20.2		13.7	14.8		12.4	15.3	
Progression Factor	0.90	0.92		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.1	7.4		7.5	4.7		6.7	3.3		2.9	4.1	
Delay (s)	29.0	26.9		26.3	24.9		20.4	18.1		15.2	19.4	
Level of Service	C	C		C	C		C	B		B	B	
Approach Delay (s)		27.3			25.1			18.5			18.8	
Approach LOS		C			C			B			B	

Intersection Summary		
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.74	
Actuated Cycle Length (s)	75.0	Sum of lost time (s) 11.4
Intersection Capacity Utilization	94.6%	ICU Level of Service F
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)	16	506	95	50	563	16	141	61	75	16	44	2
Future Volume (vph)	16	506	95	50	563	16	141	61	75	16	44	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.7			5.7	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			1.00			0.96			1.00	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		1804			1831			1733			1813	
Flt Permitted		0.98			0.91			0.81			0.89	
Satd. Flow (perm)		1768			1681			1432			1642	
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)	17	533	100	53	593	17	148	64	79	17	46	2
RTOR Reduction (vph)	0	9	0	0	1	0	0	20	0	0	2	0
Lane Group Flow (vph)	0	641	0	0	662	0	0	271	0	0	63	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		41.5			41.5			16.8			16.8	
Effective Green, g (s)		41.5			41.5			16.8			16.8	
Actuated g/C Ratio		0.59			0.59			0.24			0.24	
Clearance Time (s)		6.0			6.0			5.7			5.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1048			996			343			394	
v/s Ratio Prot												
v/s Ratio Perm		0.36			c0.39			c0.19			0.04	
v/c Ratio		0.61			0.66			0.79			0.16	
Uniform Delay, d1		9.1			9.6			25.0			21.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.7			3.5			11.7			0.2	
Delay (s)		11.8			13.1			36.7			21.2	
Level of Service		B			B			D			C	
Approach Delay (s)		11.8			13.1			36.7			21.2	
Approach LOS		B			B			D			C	

Intersection Summary		
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.70	B
Actuated Cycle Length (s)	70.0	Sum of lost time (s)
Intersection Capacity Utilization	86.8%	11.7
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
13: N 22nd Street & Sligh Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	424	159	216	352	54	239	65	280	43	39	38
Future Volume (vph)	14	424	159	216	352	54	239	65	280	43	39	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		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.88		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1769		1752	1808		1752	1620		1752	1708	
Flt Permitted	0.46	1.00		0.34	1.00		0.70	1.00		0.27	1.00	
Satd. Flow (perm)	857	1769		625	1808		1299	1620		500	1708	
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)	15	446	167	227	371	57	252	68	295	45	41	40
RTOR Reduction (vph)	0	8	0	0	3	0	0	143	0	0	30	0
Lane Group Flow (vph)	15	605	0	227	425	0	252	220	0	45	51	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	65.8	65.8		65.8	65.8		27.3	27.3		27.3	27.3	
Effective Green, g (s)	65.8	65.8		65.8	65.8		27.3	27.3		27.3	27.3	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.26	0.26		0.26	0.26	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	537	1108		391	1133		337	421		130	444	
v/s Ratio Prot		0.34			0.23			0.14			0.03	
v/s Ratio Perm	0.02			0.36			0.19			0.09		
v/c Ratio	0.03	0.55		0.58	0.37		0.75	0.52		0.35	0.12	
Uniform Delay, d1	7.4	11.1		11.5	9.6		35.7	33.3		31.6	29.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.9		6.2	0.9		8.8	1.2		1.6	0.1	
Delay (s)	7.5	13.1		17.7	10.5		44.4	34.4		33.2	29.8	
Level of Service	A	B		B	B		D	C		C	C	
Approach Delay (s)		12.9			13.0			38.5			31.0	
Approach LOS		B			B			D			C	

Intersection Summary

HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	364	351	409	329	418	187
Future Volume (vph)	364	351	409	329	418	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1845	1734		1752	1568
Flt Permitted	0.12	1.00	1.00		0.95	1.00
Satd. Flow (perm)	218	1845	1734		1752	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	383	369	431	346	440	197
RTOR Reduction (vph)	0	0	36	0	0	148
Lane Group Flow (vph)	383	369	741	0	440	49
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	3	2	2		8	8
Permitted Phases	2					
Actuated Green, G (s)	46.7	33.8	33.8		19.8	19.8
Effective Green, g (s)	46.7	33.8	33.8		19.8	19.8
Actuated g/C Ratio	0.58	0.42	0.42		0.25	0.25
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	374	779	732		433	388
v/s Ratio Prot	c0.16	0.20	0.43		c0.25	0.03
v/s Ratio Perm	c0.43					
v/c Ratio	1.02	0.47	1.01		1.02	0.13
Uniform Delay, d1	23.2	16.7	23.1		30.1	23.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	52.8	2.1	36.2		47.4	0.1
Delay (s)	76.1	18.7	59.3		77.5	23.5
Level of Service	E	B	E		E	C
Approach Delay (s)		47.9	59.3		60.8	
Approach LOS		D	E		E	

Intersection Summary			
HCM 2000 Control Delay	55.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 16: Sligh Ave at 30th St

2033 - Background+Project Traffic PM.syn
 12/28/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	35	234	500	25	180	1	456	79	71	14	98	102
Future Volume (vph)	35	234	500	25	180	1	456	79	71	14	98	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5			5.5			5.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.91			1.00			0.98			0.94	
Flt Protected		1.00			0.99			0.96			1.00	
Satd. Flow (prot)		1679			1832			1750			1720	
Flt Permitted		0.98			0.86			0.66			0.95	
Satd. Flow (perm)		1645			1591			1203			1640	
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)	37	246	526	26	189	1	480	83	75	15	103	107
RTOR Reduction (vph)	0	103	0	0	0	0	0	7	0	0	50	0
Lane Group Flow (vph)	0	706	0	0	216	0	0	631	0	0	175	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		25.5			25.5			28.5			28.5	
Effective Green, g (s)		25.5			25.5			28.5			28.5	
Actuated g/C Ratio		0.39			0.39			0.44			0.44	
Clearance Time (s)		5.5			5.5			5.5			5.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		645			624			527			719	
v/s Ratio Prot												
v/s Ratio Perm		c0.43			0.14			c0.52			0.11	
v/c Ratio		1.10			0.35			1.20			0.24	
Uniform Delay, d1		19.8			13.9			18.2			11.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		64.2			1.5			105.9			0.8	
Delay (s)		83.9			15.4			124.2			12.3	
Level of Service		F			B			F			B	
Approach Delay (s)		83.9			15.4			124.2			12.3	
Approach LOS		F			B			F			B	

Intersection Summary			
HCM 2000 Control Delay	81.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 16: Sligh Ave at 30th St

2033 - Background+Project Traffic PM.syn
 12/28/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Volume (vph)	35	234	500	25	180	1	456	79	71	14	98	102
Future Volume (vph)	35	234	500	25	180	1	456	79	71	14	98	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5			5.5	
Lane Util. Factor		1.00			1.00		1.00	1.00			1.00	
Frt		0.91			1.00		1.00	0.93			0.94	
Flt Protected		1.00			0.99		0.95	1.00			1.00	
Satd. Flow (prot)		1679			1832		1752	1713			1720	
Flt Permitted		0.98			0.89		0.63	1.00			0.98	
Satd. Flow (perm)		1646			1632		1163	1713			1690	
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)	37	246	526	26	189	1	480	83	75	15	103	107
RTOR Reduction (vph)	0	103	0	0	0	0	0	44	0	0	50	0
Lane Group Flow (vph)	0	706	0	0	216	0	480	114	0	0	175	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		27.5			27.5		26.5	26.5			26.5	
Effective Green, g (s)		27.5			27.5		26.5	26.5			26.5	
Actuated g/C Ratio		0.42			0.42		0.41	0.41			0.41	
Clearance Time (s)		5.5			5.5		5.5	5.5			5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		696			690		474	698			689	
v/s Ratio Prot								0.07				
v/s Ratio Perm		c0.43			0.13		c0.41				0.10	
v/c Ratio		1.01			0.31		1.01	0.16			0.25	
Uniform Delay, d1		18.8			12.5		19.2	12.2			12.7	
Progression Factor		1.00			1.00		1.00	1.00			1.00	
Incremental Delay, d2		37.9			1.2		44.5	0.5			0.9	
Delay (s)		56.6			13.7		63.8	12.7			13.6	
Level of Service		E			B		E	B			B	
Approach Delay (s)		56.6			13.7			51.1			13.6	
Approach LOS		E			B			D			B	

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX N

Future HCS

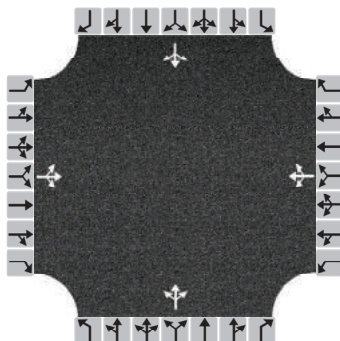
Reports

Background Traffic

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2023	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2023 AM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	14	213	52	42	254	14	34	97	25	29	184	27
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	294			326			164			253		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.261			0.290			0.146			0.225		
Final Departure Headway, hd (s)	5.78			5.82			6.28			6.08		
Final Degree of Utilization, x	0.472			0.527			0.286			0.427		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.78			3.82			4.28			4.08		

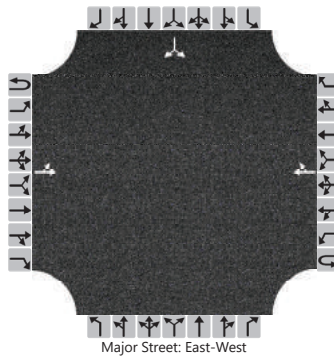
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	294			326			164			253		
Capacity	622			619			573			592		
95% Queue Length, Q ₉₅ (veh)	2.6			3.3			1.2			2.2		
Control Delay (s/veh)	13.9			15.3			11.8			13.6		
Level of Service, LOS	B			C			B			B		
Approach Delay (s/veh)	13.9			15.3			11.8			13.6		
Approach LOS	B			C			B			B		
Intersection Delay, s/veh LOS	13.9						B					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2023			North/South Street	N 24th St		
Time Analyzed	Background 2023 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		27	289				396	51						47		72
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

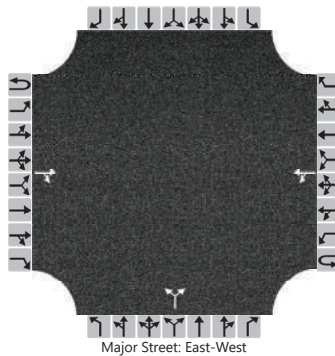
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		28													125		
Capacity, c (veh/h)		1045													443		
v/c Ratio		0.03													0.28		
95% Queue Length, Q ₉₅ (veh)		0.1													1.2		
Control Delay (s/veh)		8.5													16.3		
Level of Service (LOS)		A													C		
Approach Delay (s/veh)		1.0												16.3			
Approach LOS														C			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Background 2023 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			379	51		68	520			48		30				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

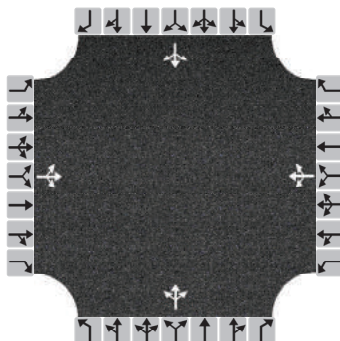
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						72						82				
Capacity, c (veh/h)						1103						279				
v/c Ratio						0.06						0.29				
95% Queue Length, Q ₉₅ (veh)						0.2						1.2				
Control Delay (s/veh)						8.5						23.3				
Level of Service (LOS)						A						C				
Approach Delay (s/veh)					1.7				23.3							
Approach LOS									C							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2021	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Existing AM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	53	139	373	3	135	2	306	63	2	4	62	32
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	595			147			391			103		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

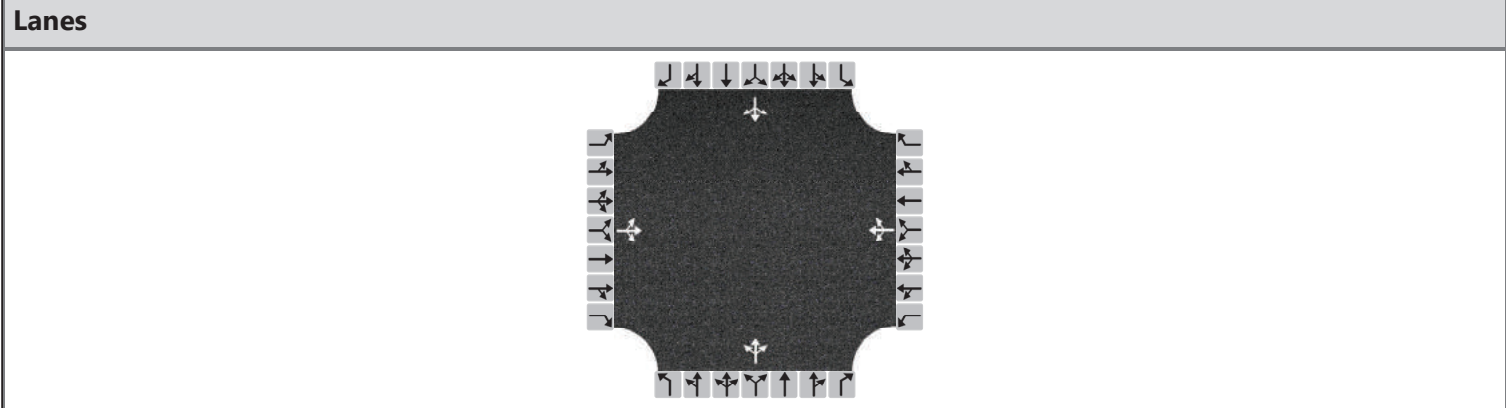
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.529			0.131			0.347			0.092		
Final Departure Headway, hd (s)	5.62			6.89			6.60			7.07		
Final Degree of Utilization, x	0.929			0.282			0.716			0.202		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.62			4.89			4.60			5.07		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	595			147			391			103		
Capacity	640			523			546			509		
95% Queue Length, Q ₉₅ (veh)	20.6			1.2			6.9			0.8		
Control Delay (s/veh)	60.7			12.6			25.7			11.9		
Level of Service, LOS	F			B			D			B		
Approach Delay (s/veh)	60.7			12.6			25.7			11.9		
Approach LOS	F			B			D			B		
Intersection Delay, s/veh LOS	39.8						E					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2023	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2023 PM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	16	242	50	35	270	28	46	158	48	16	124	12
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	324			351			265			160		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.288			0.312			0.236			0.142		
Final Departure Headway, hd (s)	5.99			5.99			6.31			6.64		
Final Degree of Utilization, x	0.539			0.583			0.465			0.295		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.99			3.99			4.31			4.64		

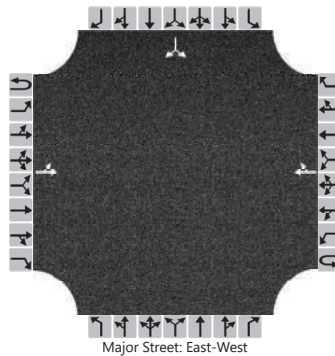
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	324			351			265			160		
Capacity	601			601			570			542		
95% Queue Length, Q ₉₅ (veh)	3.4			4.1			2.6			1.2		
Control Delay (s/veh)	15.9			17.3			14.8			12.4		
Level of Service, LOS	C			C			B			B		
Approach Delay (s/veh)	15.9			17.3			14.8			12.4		
Approach LOS	C			C			B			B		
Intersection Delay, s/veh LOS	15.6						C					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2023			North/South Street	N 24th St		
Time Analyzed	Background 2023 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		33	379				364	37						34		41
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

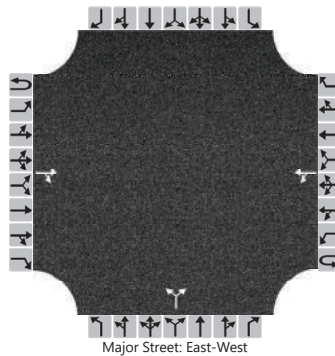
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		35													79		
Capacity, c (veh/h)		1103													417		
v/c Ratio		0.03													0.19		
95% Queue Length, Q ₉₅ (veh)		0.1													0.7		
Control Delay (s/veh)		8.4													15.6		
Level of Service (LOS)		A													C		
Approach Delay (s/veh)		1.0												15.6			
Approach LOS														C			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Background 2023 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			570	53		22	470			44		26				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

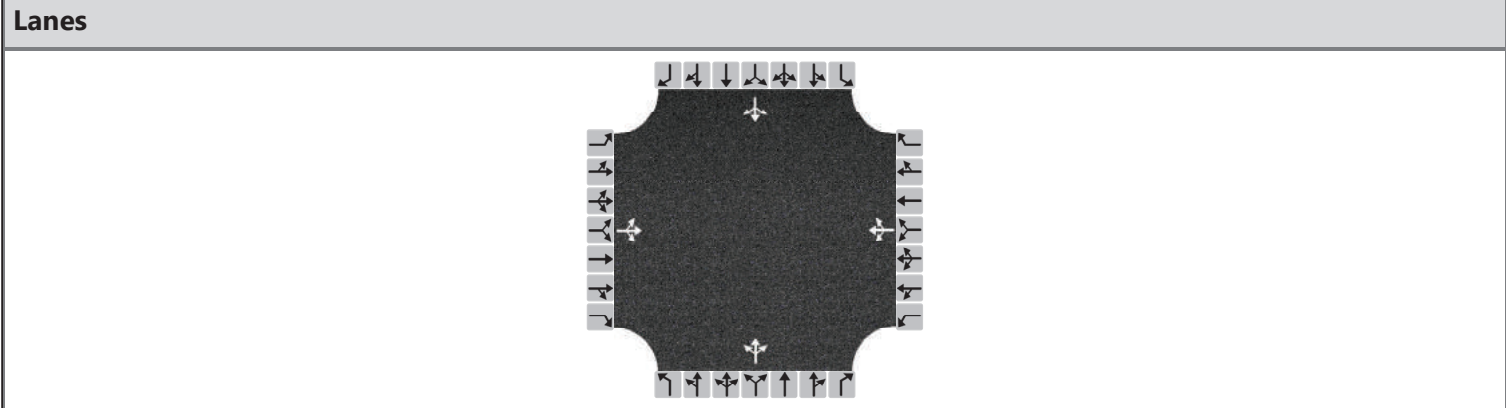
Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					23						74					
Capacity, c (veh/h)					927						261					
v/c Ratio					0.02						0.28					
95% Queue Length, Q ₉₅ (veh)					0.1						1.2					
Control Delay (s/veh)					9.0						24.2					
Level of Service (LOS)					A						C					
Approach Delay (s/veh)					0.7				24.2							
Approach LOS									C							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2021	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2023 PM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	29	183	428	21	151	1	366	59	50	11	75	85
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	674			182			500			180		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.599			0.162			0.444			0.160		
Final Departure Headway, hd (s)	6.69			8.04			7.09			7.77		
Final Degree of Utilization, x	1.251			0.407			0.984			0.389		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.69			6.04			5.09			5.77		

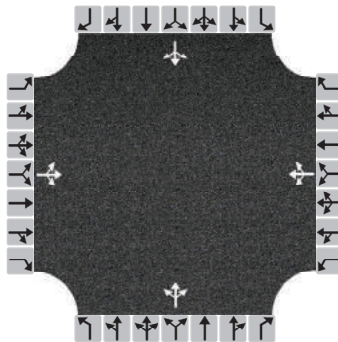
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	674			182			500			180		
Capacity	538			448			508			463		
95% Queue Length, Q ₉₅ (veh)	80.3			2.0			25.4			1.9		
Control Delay (s/veh)	493.4			16.5			108.7			15.7		
Level of Service, LOS	F			C			F			C		
Approach Delay (s/veh)	493.4			16.5			108.7			15.7		
Approach LOS	F			C			F			C		
Intersection Delay, s/veh LOS	255.6						F					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2023	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2028 AM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	16	253	61	49	295	17	38	106	27	33	202	30
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	347			380			180			279		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.309			0.338			0.160			0.248		
Final Departure Headway, hd (s)	6.32			6.34			7.01			6.71		
Final Degree of Utilization, x	0.610			0.669			0.350			0.520		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.32			4.34			5.01			4.71		

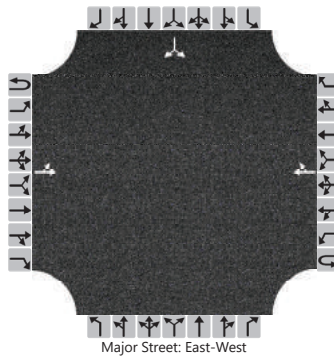
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	347			380			180			279		
Capacity	570			568			514			536		
95% Queue Length, Q ₉₅ (veh)	4.5			5.7			1.6			3.2		
Control Delay (s/veh)	19.0			21.9			13.8			16.9		
Level of Service, LOS	C			C			B			C		
Approach Delay (s/veh)	19.0			21.9			13.8			16.9		
Approach LOS	C			C			B			C		
Intersection Delay, s/veh LOS	18.7						C					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2023			North/South Street	N 24th St		
Time Analyzed	Background 2028 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		31	344				467	60						54		83
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

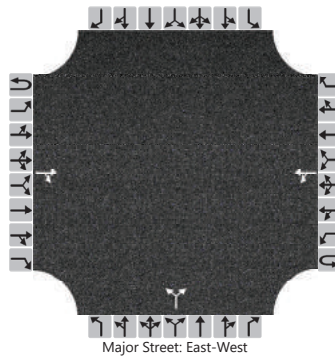
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		33														144	
Capacity, c (veh/h)		973														377	
v/c Ratio		0.03														0.38	
95% Queue Length, Q ₉₅ (veh)		0.1														1.8	
Control Delay (s/veh)		8.8														20.5	
Level of Service (LOS)		A														C	
Approach Delay (s/veh)		1.1												20.5			
Approach LOS														C			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Background 2028 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			415	63		74	572			54		37				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

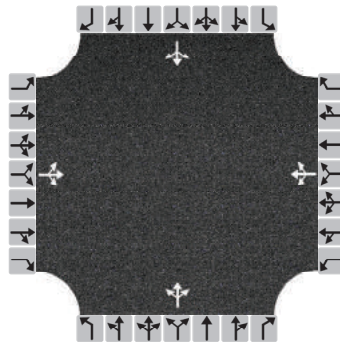
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						78						96				
Capacity, c (veh/h)						1056						244				
v/c Ratio						0.07						0.39				
95% Queue Length, Q ₉₅ (veh)						0.2						1.9				
Control Delay (s/veh)						8.7						29.2				
Level of Service (LOS)						A						D				
Approach Delay (s/veh)					1.8				29.2							
Approach LOS									D							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2021	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2028 AM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	58	156	409	3	148	2	342	71	2	5	71	35
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	656			161			437			117		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

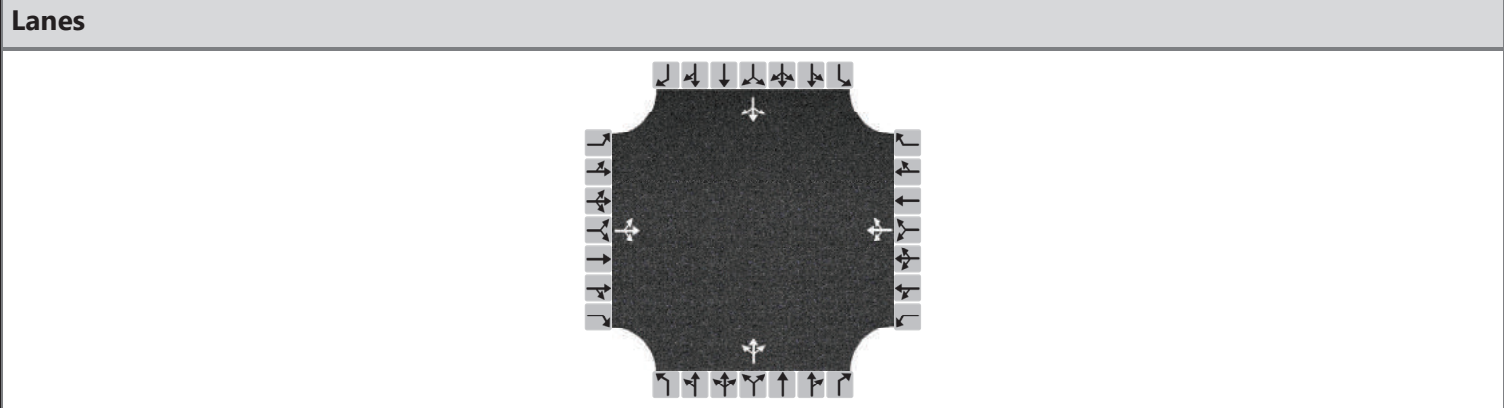
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.583			0.143			0.388			0.104		
Final Departure Headway, hd (s)	5.99			7.26			6.77			7.40		
Final Degree of Utilization, x	1.091			0.325			0.822			0.240		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.99			5.26			4.77			5.40		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	656			161			437			117		
Capacity	601			496			532			486		
95% Queue Length, Q ₉₅ (veh)	47.9			1.4			11.2			0.9		
Control Delay (s/veh)	226.9			13.7			38.4			12.7		
Level of Service, LOS	F			B			E			B		
Approach Delay (s/veh)	226.9			13.7			38.4			12.7		
Approach LOS	F			B			E			B		
Intersection Delay, s/veh LOS	123.5						F					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2023	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2028 PM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	19	268	59	41	314	31	50	173	52	17	136	14
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	364			406			289			176		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.324			0.361			0.257			0.156		
Final Departure Headway, hd (s)	6.49			6.46			6.88			7.30		
Final Degree of Utilization, x	0.657			0.729			0.553			0.356		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.49			4.46			4.88			5.30		

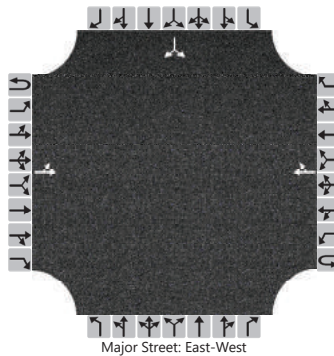
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	364			406			289			176		
Capacity	555			558			523			493		
95% Queue Length, Q ₉₅ (veh)	5.4			7.3			3.6			1.6		
Control Delay (s/veh)	21.7			26.2			18.3			14.3		
Level of Service, LOS	C			D			C			B		
Approach Delay (s/veh)	21.7			26.2			18.3			14.3		
Approach LOS	C			D			C			B		
Intersection Delay, s/veh LOS	21.3						C					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2023			North/South Street	N 24th St		
Time Analyzed	Background 2028 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		39	440				423	44						38		44
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

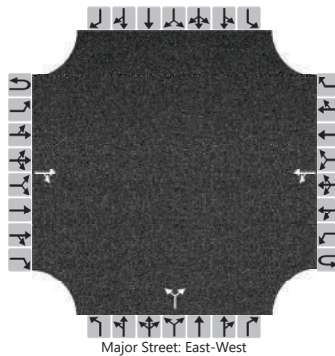
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		41														86	
Capacity, c (veh/h)		1040														350	
v/c Ratio		0.04														0.25	
95% Queue Length, Q ₉₅ (veh)		0.1														1.0	
Control Delay (s/veh)		8.6														18.6	
Level of Service (LOS)		A														C	
Approach Delay (s/veh)		1.1												18.6			
Approach LOS														C			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Background 2028 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			625	58		24	515			51		32				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

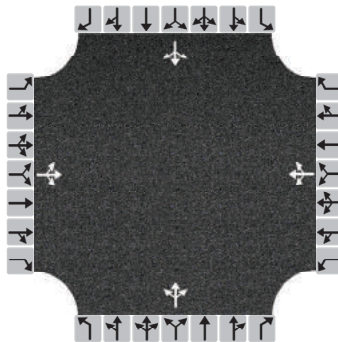
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					25						87					
Capacity, c (veh/h)					878						228					
v/c Ratio					0.03						0.38					
95% Queue Length, Q ₉₅ (veh)					0.1						1.8					
Control Delay (s/veh)					9.2						30.6					
Level of Service (LOS)					A						D					
Approach Delay (s/veh)					0.8				30.6							
Approach LOS									D							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2021	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2028 PM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	32	201	470	23	165	1	402	69	61	13	82	93
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	740			199			560			198		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.658			0.177			0.498			0.176		
Final Departure Headway, hd (s)	6.76			8.17			7.24			7.91		
Final Degree of Utilization, x	1.391			0.452			1.126			0.435		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.76			6.17			5.24			5.91		

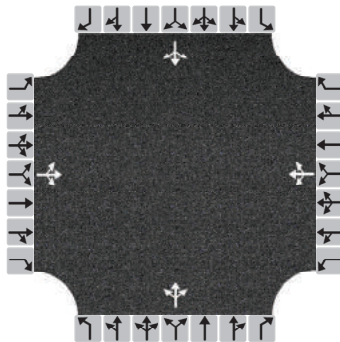
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	740			199			560			198		
Capacity	532			441			497			455		
95% Queue Length, Q ₉₅ (veh)	113.7			2.4			48.6			2.3		
Control Delay (s/veh)	736.1			17.9			289.4			17.0		
Level of Service, LOS	F			C			F			C		
Approach Delay (s/veh)	736.1			17.9			289.4			17.0		
Approach LOS	F			C			F			C		
Intersection Delay, s/veh LOS	420.6						F					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2023	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2033 AM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	18	285	70	55	337	19	41	115	30	40	219	32
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	393			433			196			306		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.349			0.385			0.174			0.272		
Final Departure Headway, hd (s)	7.02			7.01			7.93			7.50		
Final Degree of Utilization, x	0.766			0.842			0.431			0.638		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.02			5.01			5.93			5.50		

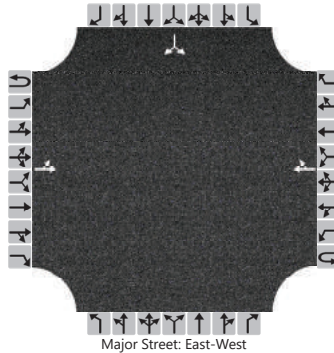
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	393			433			196			306		
Capacity	513			514			454			480		
95% Queue Length, Q ₉₅ (veh)	8.6			12.3			2.2			5.0		
Control Delay (s/veh)	31.9			43.5			16.9			23.5		
Level of Service, LOS	D			E			C			C		
Approach Delay (s/veh)	31.9			43.5			16.9			23.5		
Approach LOS	D			E			C			C		
Intersection Delay, s/veh LOS	31.5						D					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2023			North/South Street	N 24th St		
Time Analyzed	Background 2033 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		38	393				531	68						59		94
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

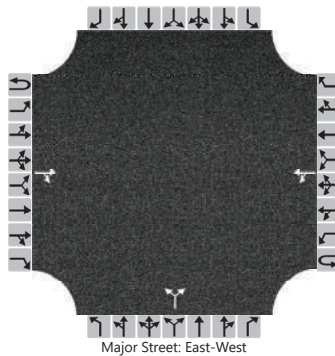
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		40														161	
Capacity, c (veh/h)		912														324	
v/c Ratio		0.04														0.50	
95% Queue Length, Q ₉₅ (veh)		0.1														2.9	
Control Delay (s/veh)		9.1														27.0	
Level of Service (LOS)		A														D	
Approach Delay (s/veh)		1.3												27.0			
Approach LOS														D			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Background 2033 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			451	72		81	622			59		47				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

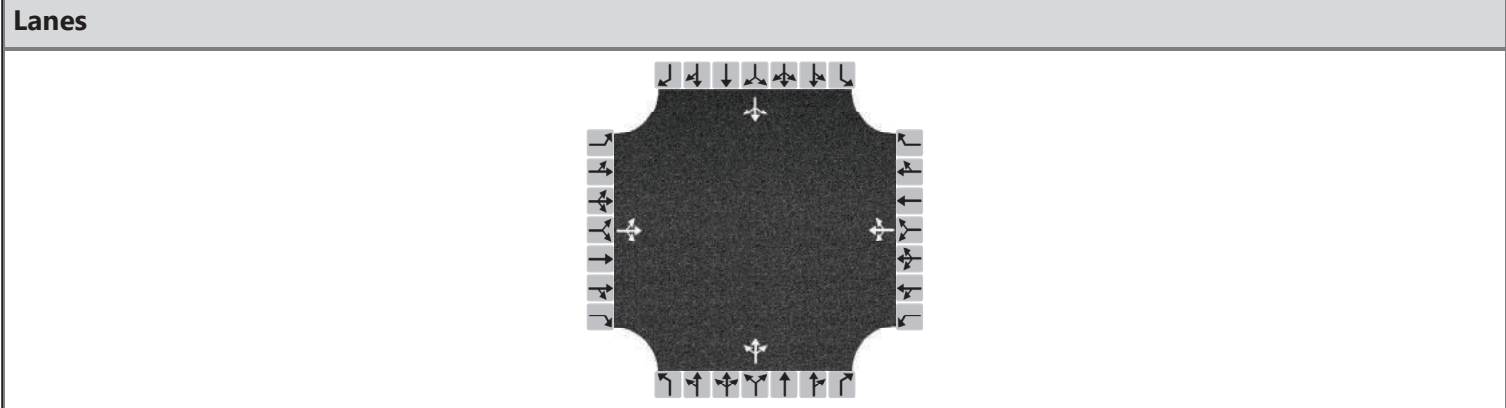
Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					85						112					
Capacity, c (veh/h)					1014						217					
v/c Ratio					0.08						0.51					
95% Queue Length, Q ₉₅ (veh)					0.3						3.0					
Control Delay (s/veh)					8.9						38.9					
Level of Service (LOS)					A						E					
Approach Delay (s/veh)					2.1				38.9							
Approach LOS									E							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2021	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2033 AM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	63	170	451	4	161	2	372	84	2	5	77	38
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	720			176			482			126		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

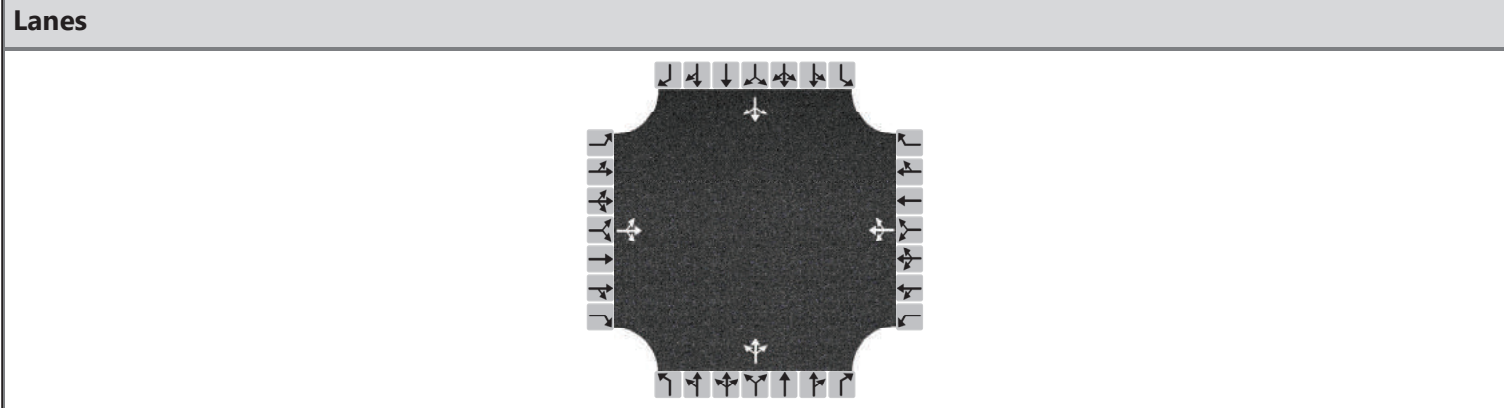
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.640			0.156			0.429			0.112		
Final Departure Headway, hd (s)	6.27			7.54			6.88			7.65		
Final Degree of Utilization, x	1.255			0.368			0.921			0.268		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.27			5.54			4.88			5.65		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	720			176			482			126		
Capacity	574			478			524			471		
95% Queue Length, Q ₉₅ (veh)	85.7			1.7			18.5			1.1		
Control Delay (s/veh)	496.8			14.9			67.0			13.5		
Level of Service, LOS	F			B			F			B		
Approach Delay (s/veh)	496.8			14.9			67.0			13.5		
Approach LOS	F			B			F			B		
Intersection Delay, s/veh LOS	262.2						F					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2023	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2033 PM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	21	305	67	47	358	36	55	188	57	21	148	15
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	414			464			316			194		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.368			0.413			0.281			0.172		
Final Departure Headway, hd (s)	7.40			7.32			7.90			8.51		
Final Degree of Utilization, x	0.851			0.943			0.693			0.458		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.40			5.32			5.90			6.51		

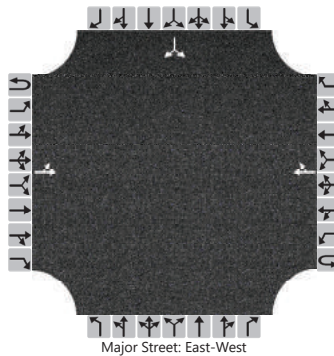
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	414			464			316			194		
Capacity	486			492			456			423		
95% Queue Length, Q ₉₅ (veh)	12.7			20.3			6.2			2.5		
Control Delay (s/veh)	47.4			81.9			28.2			18.7		
Level of Service, LOS	E			F			D			C		
Approach Delay (s/veh)	47.4			81.9			28.2			18.7		
Approach LOS	E			F			D			C		
Intersection Delay, s/veh LOS	50.6						F					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2023			North/South Street	N 24th St		
Time Analyzed	Background 2033 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		44	511				483	50						49		51
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

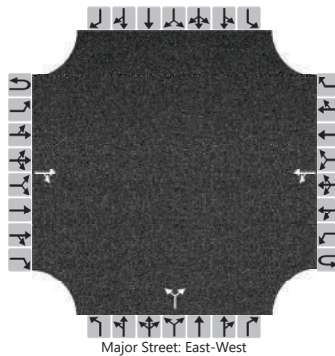
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		46														105	
Capacity, c (veh/h)		980														285	
v/c Ratio		0.05														0.37	
95% Queue Length, Q ₉₅ (veh)		0.1														1.7	
Control Delay (s/veh)		8.9														25.0	
Level of Service (LOS)		A														C	
Approach Delay (s/veh)		1.3												25.0			
Approach LOS														C			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Background 2033 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			681	66		34	562			60		34				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

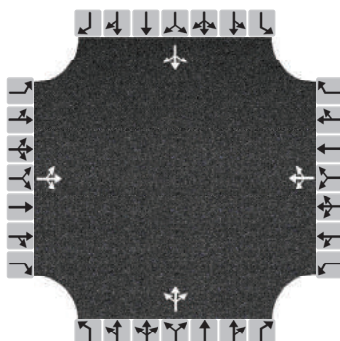
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					36						99					
Capacity, c (veh/h)					828						185					
v/c Ratio					0.04						0.54					
95% Queue Length, Q ₉₅ (veh)					0.1						3.2					
Control Delay (s/veh)					9.5						46.3					
Level of Service (LOS)					A						E					
Approach Delay (s/veh)						1.1					46.3					
Approach LOS											E					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2021	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Background 2033 PM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	35	234	495	25	180	1	437	79	71	14	98	102
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	804			217			618			225		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.715			0.193			0.549			0.200		
Final Departure Headway, hd (s)	7.01			8.35			7.46			8.06		
Final Degree of Utilization, x	1.565			0.503			1.280			0.504		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.01			6.35			5.46			6.06		

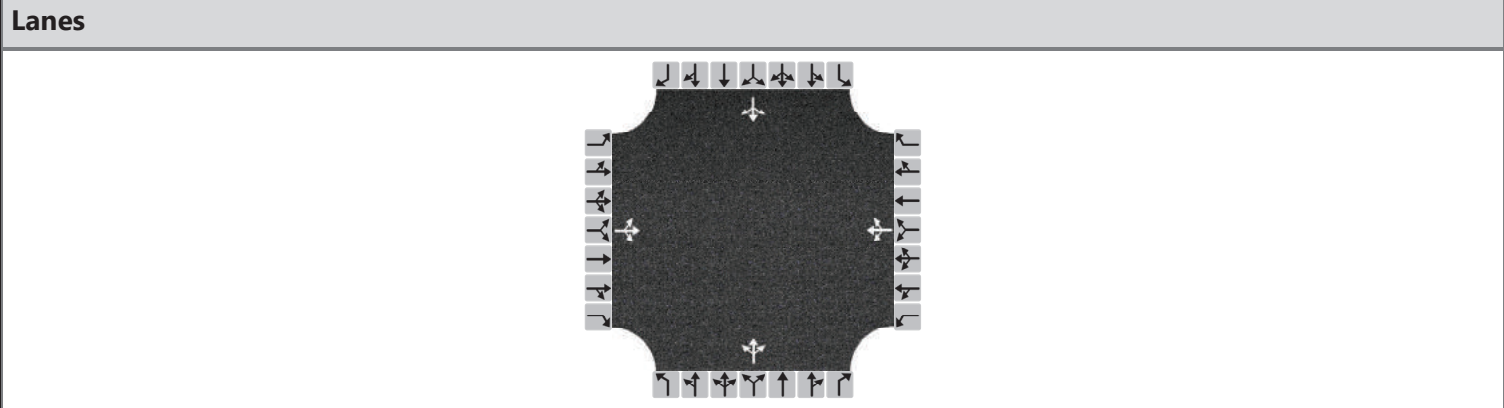
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	804			217			618			225		
Capacity	514			431			483			447		
95% Queue Length, Q ₉₅ (veh)	153.0			3.0			79.3			3.0		
Control Delay (s/veh)	1045.8			19.7			547.2			19.2		
Level of Service, LOS	F			C			F			C		
Approach Delay (s/veh)	1045.8			19.7			547.2			19.2		
Approach LOS	F			C			F			C		
Intersection Delay, s/veh LOS	637.1						F					

Total Project Traffic

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2023	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2023 AM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	14	213	52	42	254	14	34	97	37	78	184	27
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	294			326			177			304		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.261			0.290			0.157			0.270		
Final Departure Headway, hd (s)	5.68			5.72			6.01			5.15		
Final Degree of Utilization, x	0.463			0.518			0.295			0.494		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.14			4.17			4.54			4.31		

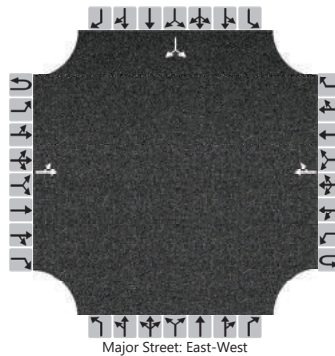
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	294			326			177			304		
Capacity	586			584			550			571		
95% Queue Length, Q ₉₅ (veh)	3.0			3.7			1.4			3.3		
Control Delay (s/veh)	15.3			16.9			12.6			16.4		
Level of Service, LOS	C			C			B			C		
Approach Delay (s/veh)	15.3			16.9			12.6			16.4		
Approach LOS	C			C			B			C		
Intersection Delay, s/veh LOS	15.7						C					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2023			North/South Street	N 24th St		
Time Analyzed	Total Project 2023 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		27	563				443	51						47		72
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

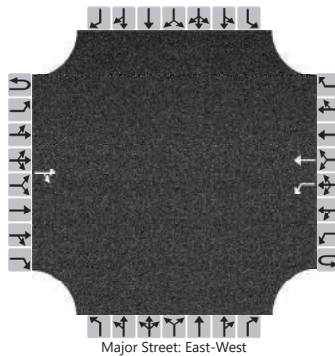
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		28														125	
Capacity, c (veh/h)		1002														326	
v/c Ratio		0.03														0.38	
95% Queue Length, Q ₉₅ (veh)		0.1														1.8	
Control Delay (s/veh)		8.7														22.9	
Level of Service (LOS)		A														C	
Approach Delay (s/veh)		0.7												22.9			
Approach LOS														C			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at Site		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2023			North/South Street	Proposed Site		
Time Analyzed	Total Project 2023 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	0	0		0	0	0
Configuration				TR		L	T									
Volume (veh/h)			336	274		134	494									
Percent Heavy Vehicles (%)						3										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.13										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.23										

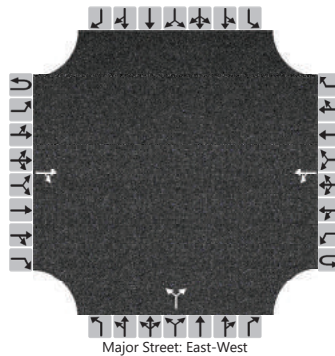
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						141										
Capacity, c (veh/h)						938										
v/c Ratio						0.15										
95% Queue Length, Q ₉₅ (veh)						0.5										
Control Delay (s/veh)						9.5										
Level of Service (LOS)						A										
Approach Delay (s/veh)					2.0											
Approach LOS																

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Total Project 2023 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			379	51		68	520			48		30				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

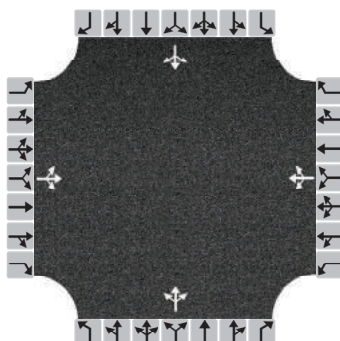
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						72						82				
Capacity, c (veh/h)						1103						279				
v/c Ratio						0.06						0.29				
95% Queue Length, Q ₉₅ (veh)						0.2						1.2				
Control Delay (s/veh)						8.5						23.3				
Level of Service (LOS)						A						C				
Approach Delay (s/veh)					1.7				23.3							
Approach LOS									C							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2021	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2023 AM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	53	139	397	3	135	2	313	63	2	4	62	32
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	620			147			398			103		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

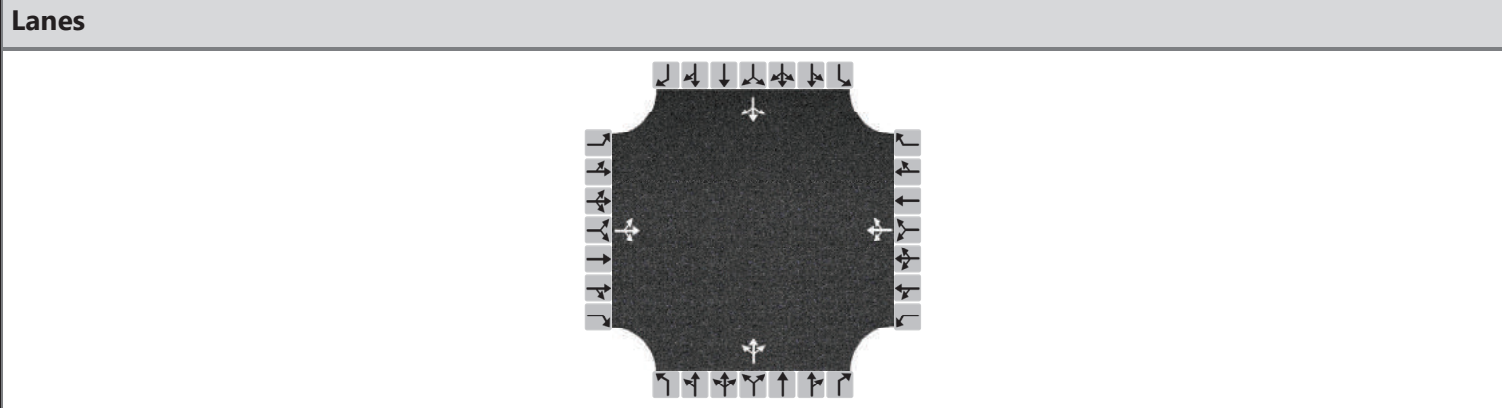
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.551			0.131			0.354			0.092		
Final Departure Headway, hd (s)	5.26			6.36			6.17			6.47		
Final Degree of Utilization, x	0.905			0.260			0.682			0.185		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.68			5.02			4.71			5.23		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	620			147			398			103		
Capacity	634			513			537			498		
95% Queue Length, Q ₉₅ (veh)	27.1			1.2			7.7			0.8		
Control Delay (s/veh)	90.4			12.9			28.2			12.1		
Level of Service, LOS	F			B			D			B		
Approach Delay (s/veh)	90.4			12.9			28.2			12.1		
Approach LOS	F			B			D			B		
Intersection Delay, s/veh LOS	55.5						F					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2023	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2023 PM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	16	242	50	44	270	60	46	158	54	21	124	12
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	324			394			272			165		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.288			0.350			0.241			0.147		
Final Departure Headway, hd (s)	5.69			5.60			5.98			5.39		
Final Degree of Utilization, x	0.512			0.612			0.451			0.288		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.19			4.06			4.50			4.88		

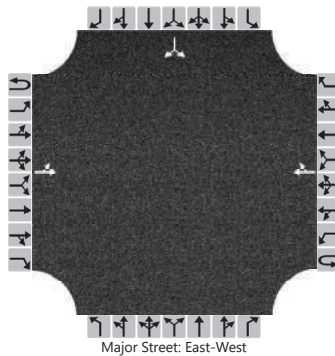
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	324			394			272			165		
Capacity	582			594			554			524		
95% Queue Length, Q ₉₅ (veh)	3.7			5.6			2.8			1.4		
Control Delay (s/veh)	16.9			20.8			15.7			13.0		
Level of Service, LOS	C			C			C			B		
Approach Delay (s/veh)	16.9			20.8			15.7			13.0		
Approach LOS	C			C			C			B		
Intersection Delay, s/veh LOS	17.4						C					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2023			North/South Street	N 24th St		
Time Analyzed	Project Total 2023 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		33	416				575	37						34		41
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

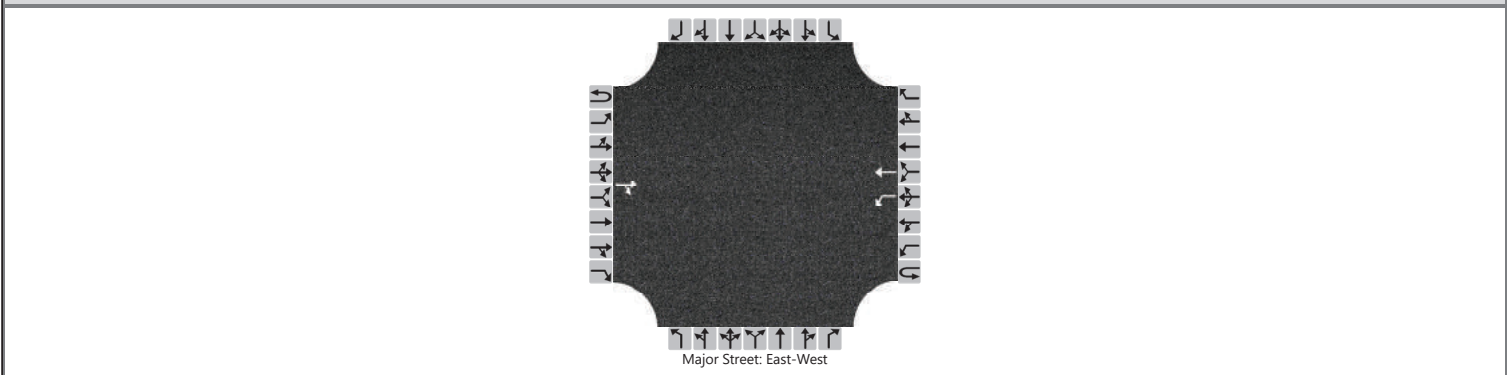
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		35														79	
Capacity, c (veh/h)		912														296	
v/c Ratio		0.04														0.27	
95% Queue Length, Q ₉₅ (veh)		0.1														1.1	
Control Delay (s/veh)		9.1														21.5	
Level of Service (LOS)		A														C	
Approach Delay (s/veh)		1.1												21.5			
Approach LOS														C			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB	Intersection	E Hanna Ave at Site				
Agency/Co.	HNTB	Jurisdiction					
Date Performed	11/16/2021	East/West Street	E Hanna Ave				
Analysis Year	2023	North/South Street	Proposed Site				
Time Analyzed	Total Project 2023 PM	Peak Hour Factor	0.95				
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00				
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	0	0		0	0	0
Configuration				TR		L	T									
Volume (veh/h)			413	37		68	612									
Percent Heavy Vehicles (%)						3										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.13										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.23										

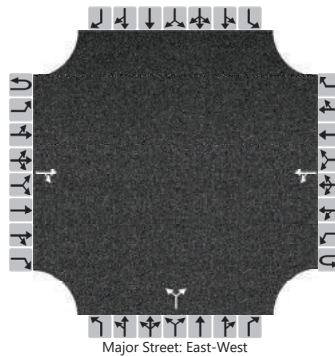
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						72										
Capacity, c (veh/h)						1083										
v/c Ratio						0.07										
95% Queue Length, Q ₉₅ (veh)						0.2										
Control Delay (s/veh)						8.6										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.9											
Approach LOS																

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2021			North/South Street	N 24th St		
Time Analyzed	Total Project 2023 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			570	53		22	470			44		26				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

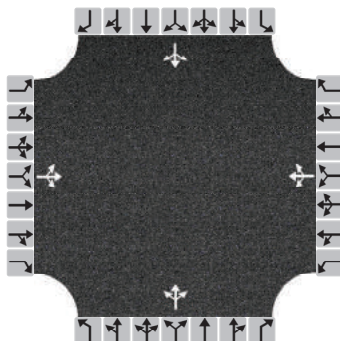
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					23						74					
Capacity, c (veh/h)					927						261					
v/c Ratio					0.02						0.28					
95% Queue Length, Q ₉₅ (veh)					0.1						1.2					
Control Delay (s/veh)					9.0						24.2					
Level of Service (LOS)					A						C					
Approach Delay (s/veh)						0.7					24.2					
Approach LOS											C					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2021	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2023 PM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	29	183	433	21	151	1	385	59	50	11	75	85
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	679			182			520			180		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

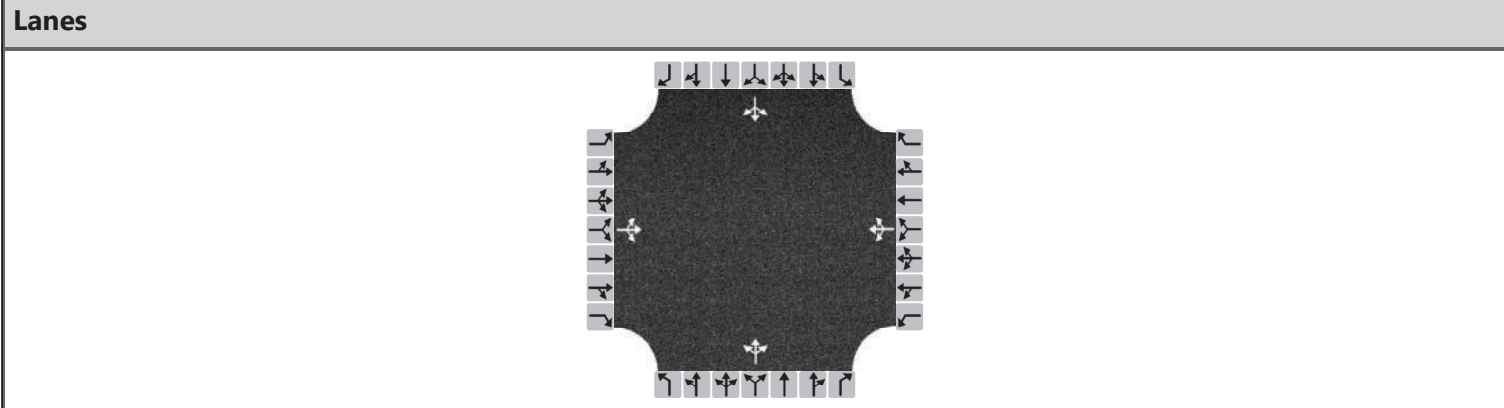
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.604			0.162			0.462			0.160		
Final Departure Headway, hd (s)	5.99			7.39			6.70			7.19		
Final Degree of Utilization, x	1.000			0.374			0.968			0.359		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.61			6.06			5.10			5.80		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	679			182			520			180		
Capacity	544			447			507			461		
95% Queue Length, Q ₉₅ (veh)	80.0			2.0			31.4			1.9		
Control Delay (s/veh)	485.8			16.6			150.0			15.8		
Level of Service, LOS	F			C			F			C		
Approach Delay (s/veh)	485.8			16.6			150.0			15.8		
Approach LOS	F			C			F			C		
Intersection Delay, s/veh LOS	265.0						F					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2028	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2028 AM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	16	253	61	49	295	17	38	106	39	82	202	30
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	347			380			193			331		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.309			0.338			0.171			0.294		
Final Departure Headway, hd (s)	6.78			6.79			7.41			7.03		
Final Degree of Utilization, x	0.654			0.717			0.397			0.645		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.78			4.79			5.41			5.03		

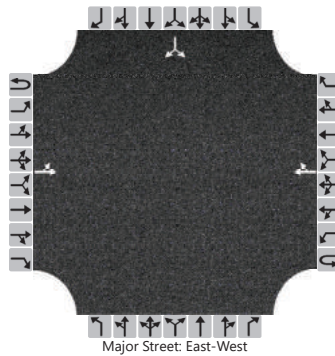
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	347			380			193			331		
Capacity	531			530			486			512		
95% Queue Length, Q ₉₅ (veh)	5.4			6.9			1.9			5.2		
Control Delay (s/veh)	22.4			26.4			15.3			22.5		
Level of Service, LOS	C			D			C			C		
Approach Delay (s/veh)	22.4			26.4			15.3			22.5		
Approach LOS	C			D			C			C		
Intersection Delay, s/veh LOS	22.5						C					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2028			North/South Street	N 24th St		
Time Analyzed	Total Project 2028 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		31	618				514	60						54		83
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

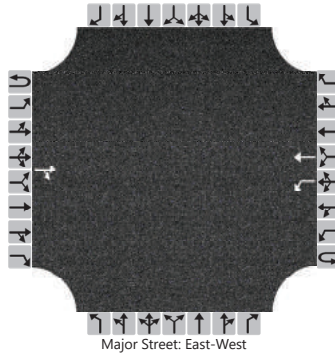
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		33													144	
Capacity, c (veh/h)		932													273	
v/c Ratio		0.03													0.53	
95% Queue Length, Q ₉₅ (veh)		0.1													3.2	
Control Delay (s/veh)		9.0													32.7	
Level of Service (LOS)		A													D	
Approach Delay (s/veh)	0.9												32.7			
Approach LOS													D			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB	Intersection	E Hanna Ave at Site				
Agency/Co.	HNTB	Jurisdiction					
Date Performed	11/16/2021	East/West Street	E Hanna Ave				
Analysis Year	2028	North/South Street	Proposed Site				
Time Analyzed	Total Project 2028 AM	Peak Hour Factor	0.95				
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00				
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	0	0		0	0	0
Configuration				TR		L	T									
Volume (veh/h)			398	274		134	574									
Percent Heavy Vehicles (%)						3										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.13										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.23										

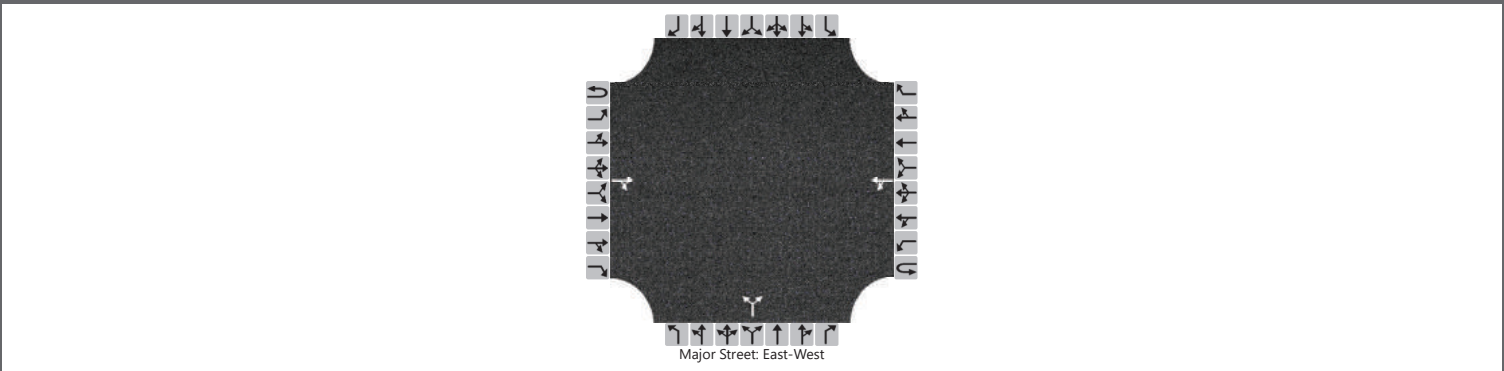
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						141										
Capacity, c (veh/h)						887										
v/c Ratio						0.16										
95% Queue Length, Q ₉₅ (veh)						0.6										
Control Delay (s/veh)						9.8										
Level of Service (LOS)						A										
Approach Delay (s/veh)					1.9											
Approach LOS																

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2028			North/South Street	N 24th St		
Time Analyzed	Total Project 2028 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			415	63		74	572			54		37				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

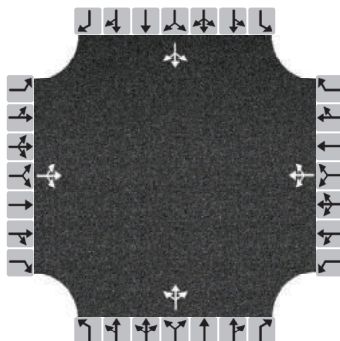
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						78						96				
Capacity, c (veh/h)						1056						244				
v/c Ratio						0.07						0.39				
95% Queue Length, Q ₉₅ (veh)						0.2						1.9				
Control Delay (s/veh)						8.7						29.2				
Level of Service (LOS)						A						D				
Approach Delay (s/veh)					1.8				29.2							
Approach LOS									D							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2028	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2028 AM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	58	156	433	3	148	2	349	71	2	5	71	35
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	681			161			444			117		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

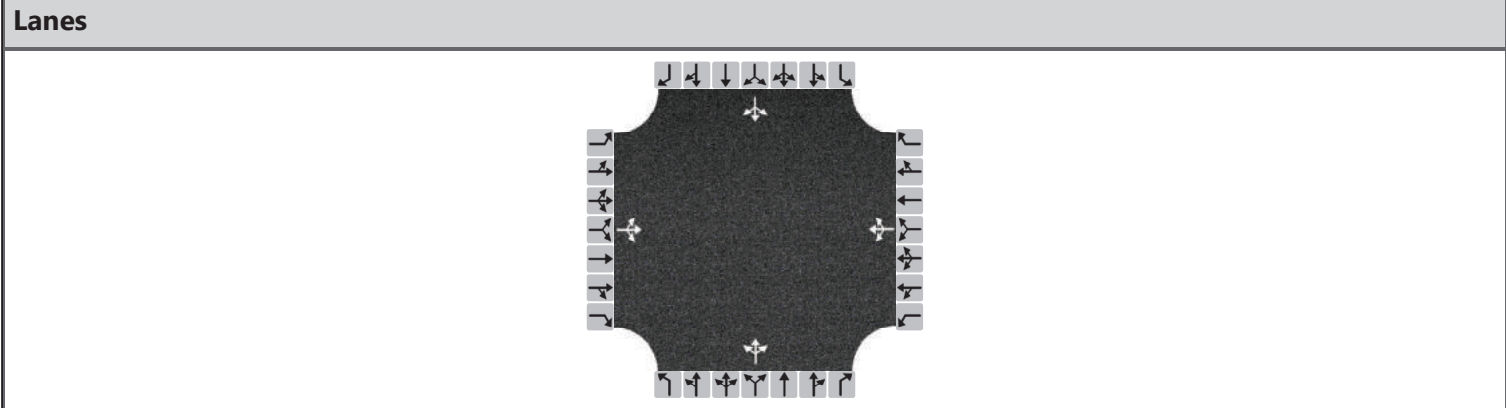
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.605			0.143			0.395			0.104		
Final Departure Headway, hd (s)	5.98			7.26			6.77			7.41		
Final Degree of Utilization, x	1.132			0.325			0.835			0.241		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.98			5.26			4.77			5.41		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	681			161			444			117		
Capacity	602			496			532			486		
95% Queue Length, Q ₉₅ (veh)	57.4			1.4			12.0			0.9		
Control Delay (s/veh)	289.6			13.7			40.9			12.8		
Level of Service, LOS	F			B			E			B		
Approach Delay (s/veh)	289.6			13.7			40.9			12.8		
Approach LOS	F			B			E			B		
Intersection Delay, s/veh LOS	156.1						F					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2028	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2028 PM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	19	268	59	50	314	63	50	173	58	22	136	14
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	364			449			296			181		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.324			0.400			0.263			0.161		
Final Departure Headway, hd (s)	6.81			6.62			7.20			7.69		
Final Degree of Utilization, x	0.689			0.827			0.592			0.387		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.81			4.62			5.20			5.69		

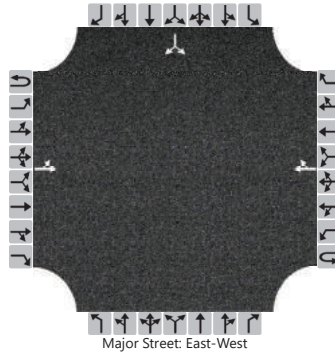
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	364			449			296			181		
Capacity	528			543			500			468		
95% Queue Length, Q ₉₅ (veh)	6.2			11.5			4.2			1.9		
Control Delay (s/veh)	24.5			38.6			20.5			15.5		
Level of Service, LOS	C			E			C			C		
Approach Delay (s/veh)	24.5			38.6			20.5			15.5		
Approach LOS	C			E			C			C		
Intersection Delay, s/veh LOS	27.2						D					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2028			North/South Street	N 24th St		
Time Analyzed	Total Project 2028 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		39	477				634	44						38		44
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

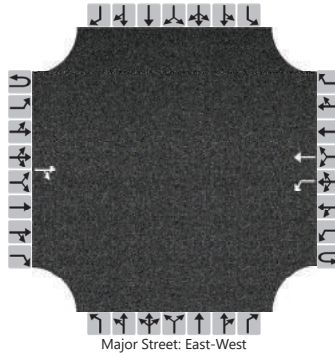
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		41													86	
Capacity, c (veh/h)		860													247	
v/c Ratio		0.05													0.35	
95% Queue Length, Q ₉₅ (veh)		0.2													1.6	
Control Delay (s/veh)		9.4													27.3	
Level of Service (LOS)		A													D	
Approach Delay (s/veh)	1.3												27.3			
Approach LOS													D			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at Site		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2028			North/South Street	Proposed Site		
Time Analyzed	Total Project 2028 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	0	0		0	0	0
Configuration				TR		L	T									
Volume (veh/h)			478	37		68	678									
Percent Heavy Vehicles (%)						3										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.13										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.23										

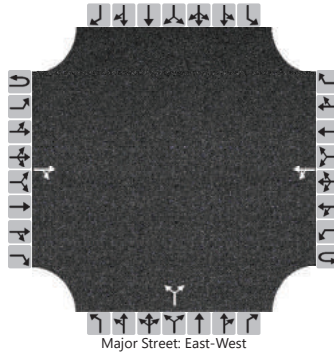
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						72										
Capacity, c (veh/h)						1022										
v/c Ratio						0.07										
95% Queue Length, Q ₉₅ (veh)						0.2										
Control Delay (s/veh)						8.8										
Level of Service (LOS)						A										
Approach Delay (s/veh)						0.8										
Approach LOS																

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2028			North/South Street	N 24th St		
Time Analyzed	Total Project 2028 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			625	58		24	515			51		32				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

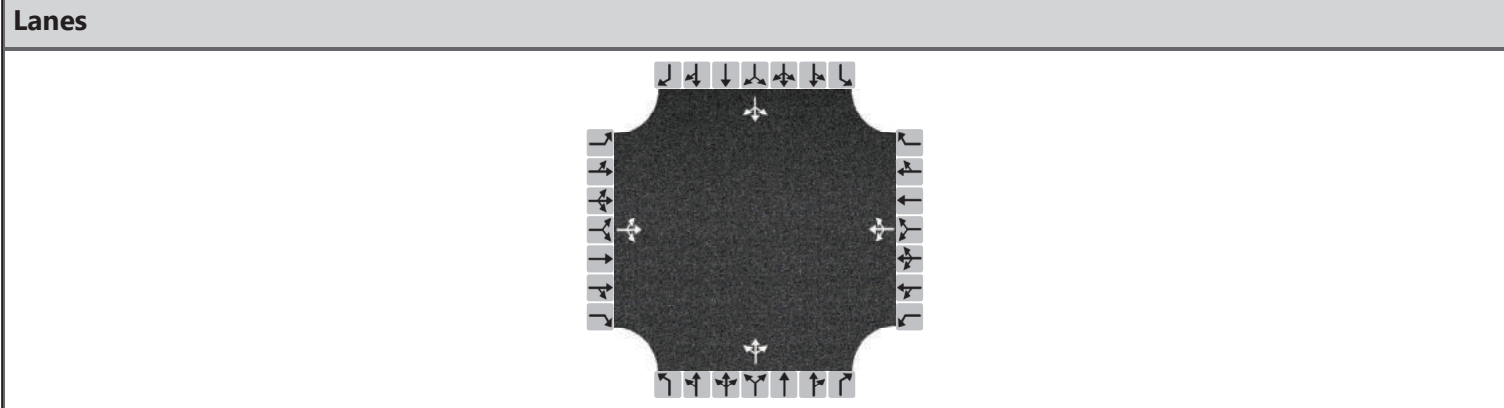
Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						25					87					
Capacity, c (veh/h)						878					228					
v/c Ratio						0.03					0.38					
95% Queue Length, Q ₉₅ (veh)						0.1					1.8					
Control Delay (s/veh)						9.2					30.6					
Level of Service (LOS)						A					D					
Approach Delay (s/veh)					0.8				30.6							
Approach LOS									D							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2028	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2028 PM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	32	201	475	23	165	1	421	69	61	13	82	93
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	745			199			580			198		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

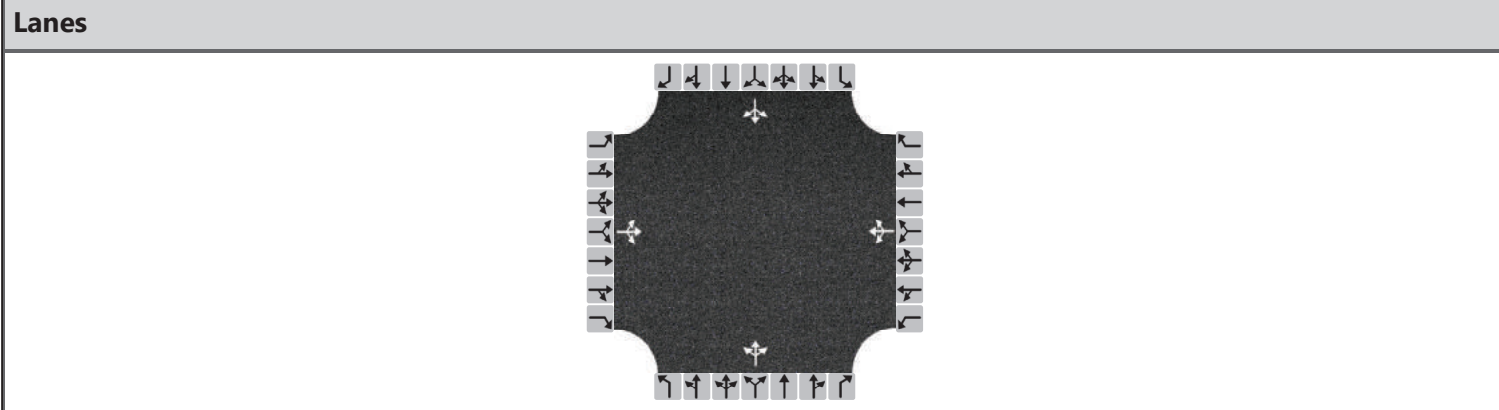
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.662			0.177			0.516			0.176		
Final Departure Headway, hd (s)	6.77			8.17			7.24			7.91		
Final Degree of Utilization, x	1.401			0.452			1.167			0.435		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.77			6.17			5.24			5.91		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	745			199			580			198		
Capacity	532			440			497			455		
95% Queue Length, Q ₉₅ (veh)	116.2			2.4			56.8			2.3		
Control Delay (s/veh)	753.8			17.9			355.2			17.0		
Level of Service, LOS	F			C			F			C		
Approach Delay (s/veh)	753.8			17.9			355.2			17.0		
Approach LOS	F			C			F			C		
Intersection Delay, s/veh LOS	449.8						F					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2033	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2033 AM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments												
Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	18	285	70	55	337	19	41	115	42	89	219	32
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	393			433			208			358		
Percent Heavy Vehicles	3			3			3			3		

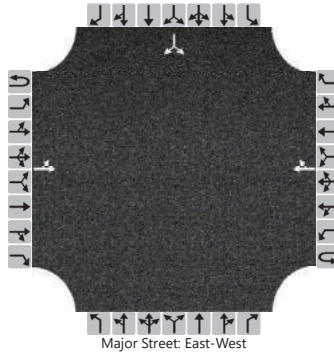
Departure Headway and Service Time												
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.349			0.385			0.185			0.318		
Final Departure Headway, hd (s)	7.68			7.64			8.57			7.97		
Final Degree of Utilization, x	0.837			0.918			0.496			0.792		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.68			5.64			6.57			5.97		

Capacity, Delay and Level of Service												
Flow Rate, v (veh/h)	393			433			208			358		
Capacity	469			471			420			452		
95% Queue Length, Q ₉₅ (veh)	11.8			17.6			2.9			9.5		
Control Delay (s/veh)	46.0			71.4			19.9			39.2		
Level of Service, LOS	E			F			C			E		
Approach Delay (s/veh)	46.0			71.4			19.9			39.2		
Approach LOS	E			F			C			E		
Intersection Delay, s/veh LOS	48.2						E					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2033			North/South Street	N 24th St		
Time Analyzed	Total Project 2033 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		38	667				578	68						59		94
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

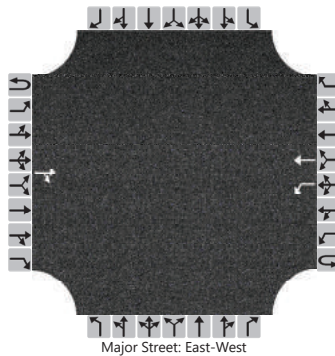
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		40													161		
Capacity, c (veh/h)		874													231		
v/c Ratio		0.05													0.70		
95% Queue Length, Q ₉₅ (veh)		0.1													5.9		
Control Delay (s/veh)		9.3													54.2		
Level of Service (LOS)		A													F		
Approach Delay (s/veh)		1.2												54.2			
Approach LOS														F			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at Site		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2033			North/South Street	Proposed Site		
Time Analyzed	Total Project 2033 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	0	0		0	0	0
Configuration				TR		L	T									
Volume (veh/h)			452	274		134	646									
Percent Heavy Vehicles (%)						3										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.13										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.23										

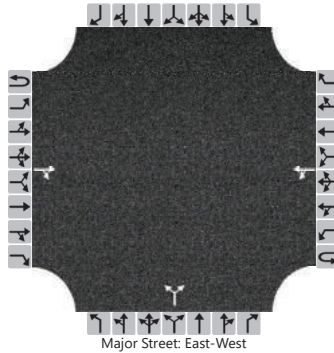
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						141										
Capacity, c (veh/h)						844										
v/c Ratio						0.17										
95% Queue Length, Q ₉₅ (veh)						0.6										
Control Delay (s/veh)						10.1										
Level of Service (LOS)						B										
Approach Delay (s/veh)					1.7											
Approach LOS																

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2033			North/South Street	N 24th St		
Time Analyzed	Total Project 2033 AM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			451	72		81	622			59		47				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

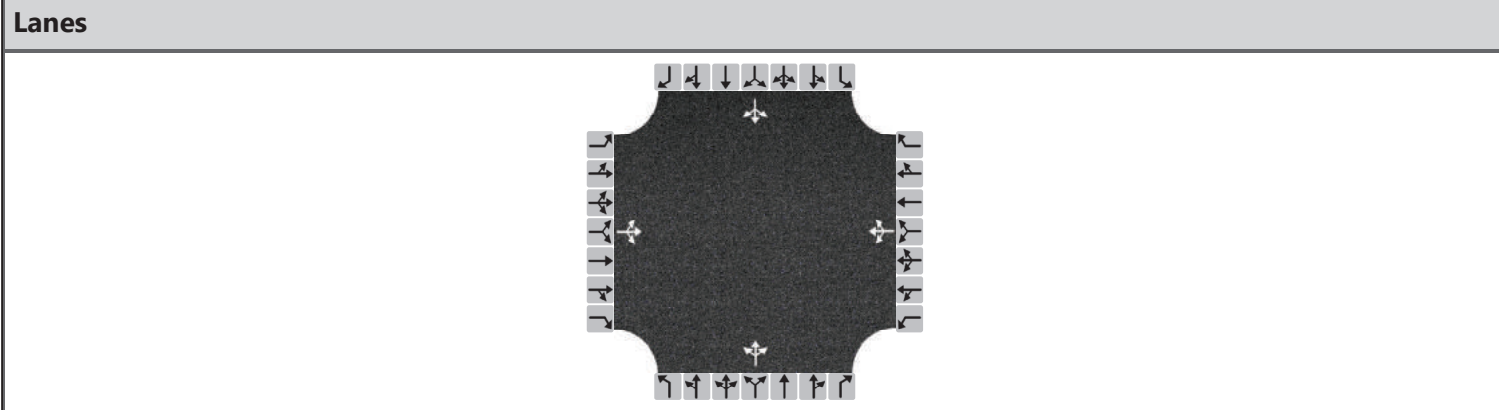
Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						85						112				
Capacity, c (veh/h)						1014						217				
v/c Ratio						0.08						0.51				
95% Queue Length, Q ₉₅ (veh)						0.3						3.0				
Control Delay (s/veh)						8.9						38.9				
Level of Service (LOS)						A						E				
Approach Delay (s/veh)					2.1				38.9							
Approach LOS									E							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2033	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2033 AM		
Project Description	E. Hanna Ave Traffic Impact Study		



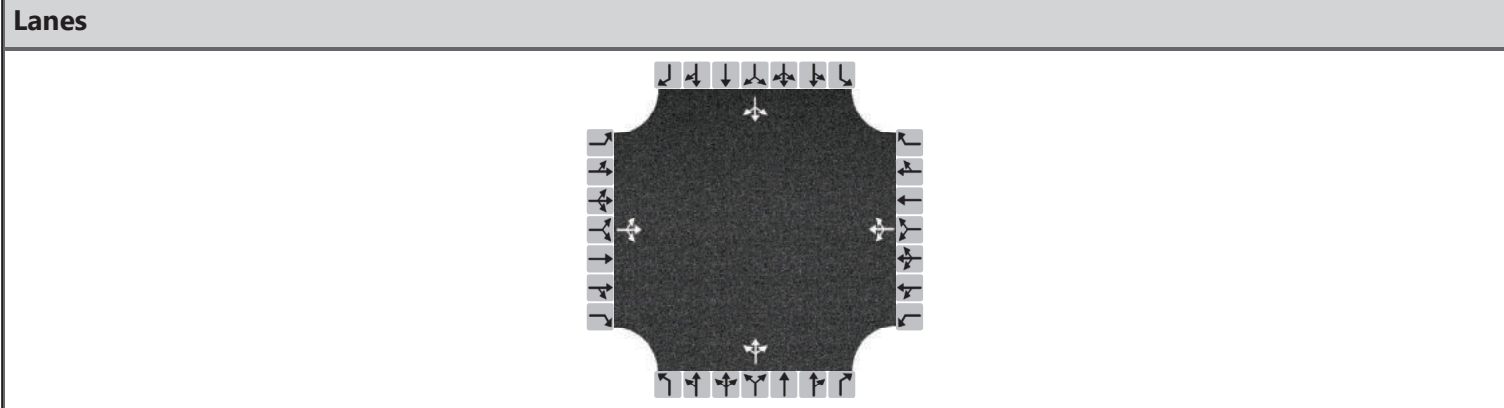
Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	63	170	475	4	161	2	379	84	2	5	77	38
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	745			176			489			126		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time												
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.662			0.156			0.435			0.112		
Final Departure Headway, hd (s)	6.31			7.58			6.89			7.69		
Final Degree of Utilization, x	1.306			0.370			0.936			0.270		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.31			5.58			4.89			5.69		

Capacity, Delay and Level of Service												
Flow Rate, v (veh/h)	745			176			489			126		
Capacity	571			475			523			468		
95% Queue Length, Q ₉₅ (veh)	98.6			1.7			20.0			1.1		
Control Delay (s/veh)	585.1			15.0			74.5			13.5		
Level of Service, LOS	F			C			F			B		
Approach Delay (s/veh)	585.1			15.0			74.5			13.5		
Approach LOS	F			C			F			B		
Intersection Delay, s/veh LOS	310.3						F					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Hanna Ave at N 15th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Hanna Ave
Analysis Year	2033	North/South Street	N 15th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2033 PM		
Project Description	E. Hanna Ave Traffic Impact Study		



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	21	305	67	56	358	68	55	188	63	26	148	15
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	414			507			322			199		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.368			0.451			0.286			0.177		
Final Departure Headway, hd (s)	7.43			7.33			7.86			8.48		
Final Degree of Utilization, x	0.853			1.032			0.703			0.469		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.43			5.33			5.86			6.48		

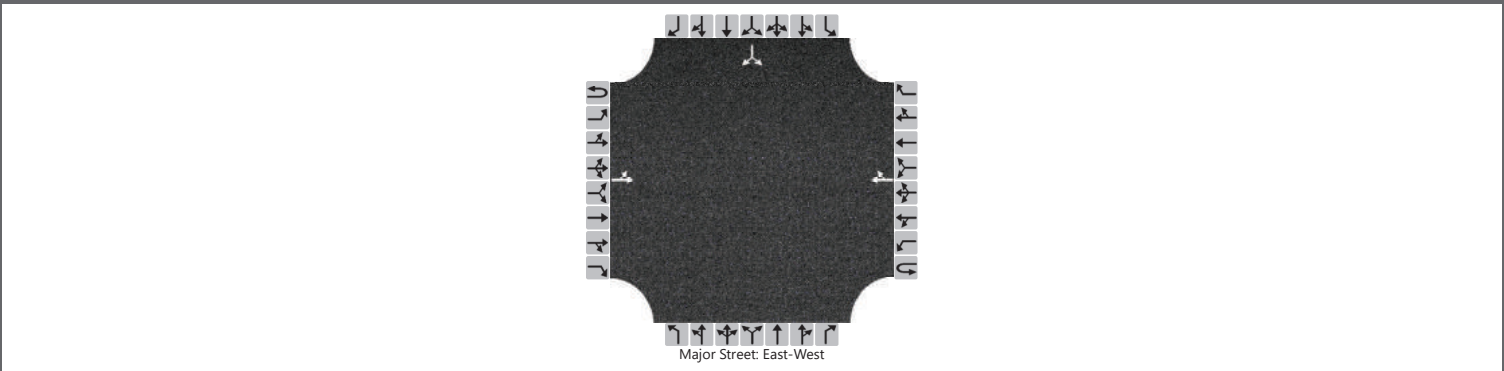
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	414			507			322			199		
Capacity	485			491			458			424		
95% Queue Length, Q ₉₅ (veh)	12.8			31.9			6.5			2.6		
Control Delay (s/veh)	48.3			159.8			28.9			18.9		
Level of Service, LOS	E			F			D			C		
Approach Delay (s/veh)	48.3			159.8			28.9			18.9		
Approach LOS	E			F			D			C		
Intersection Delay, s/veh LOS	79.1						F					

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2033			North/South Street	N 24th St		
Time Analyzed	Total Project 2033 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		44	548				694	50						49		51
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

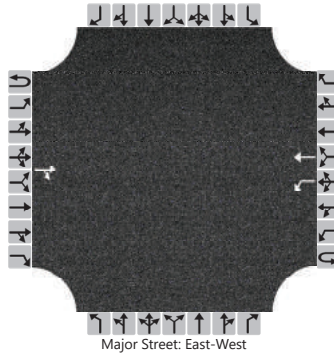
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		46													105		
Capacity, c (veh/h)		810													199		
v/c Ratio		0.06													0.53		
95% Queue Length, Q ₉₅ (veh)		0.2													3.2		
Control Delay (s/veh)		9.7													43.0		
Level of Service (LOS)		A													E		
Approach Delay (s/veh)		1.5												43.0			
Approach LOS														E			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Hanna Ave at Site		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Hanna Ave		
Analysis Year	2033			North/South Street	Proposed Site		
Time Analyzed	Total Project 2033 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	0	0		0	0	0
Configuration				TR		L	T									
Volume (veh/h)			560	37		68	744									
Percent Heavy Vehicles (%)						3										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.13										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.23										

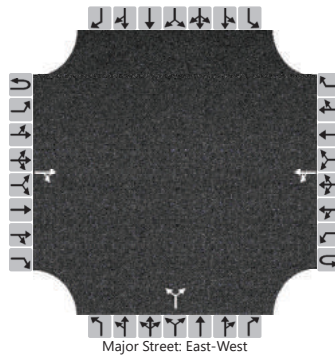
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						72										
Capacity, c (veh/h)						949										
v/c Ratio						0.08										
95% Queue Length, Q ₉₅ (veh)						0.2										
Control Delay (s/veh)						9.1										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.8											
Approach LOS																

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	HNTB			Intersection	E Sligh Ave at N 24th St		
Agency/Co.	HNTB			Jurisdiction			
Date Performed	11/16/2021			East/West Street	E Sligh Ave		
Analysis Year	2033			North/South Street	N 24th St		
Time Analyzed	Total Project 2033 PM			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	E. Hanna Avenue Traffic Impact Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			681	66		34	562			60		34				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

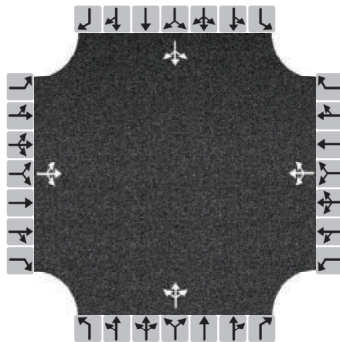
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					36						99					
Capacity, c (veh/h)					828						185					
v/c Ratio					0.04						0.54					
95% Queue Length, Q ₉₅ (veh)					0.1						3.2					
Control Delay (s/veh)					9.5						46.3					
Level of Service (LOS)					A						E					
Approach Delay (s/veh)					1.1				46.3							
Approach LOS									E							

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	HNTB	Intersection	E Sligh Ave at N 30th St
Agency/Co.	HNTB	Jurisdiction	
Date Performed	11/16/2021	East/West Street	E Sligh Ave
Analysis Year	2033	North/South Street	N 30th St
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.95
Time Analyzed	Total Project 2033 PM		
Project Description	E. Hanna Ave Traffic Impact Study		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume	35	234	500	25	180	1	456	79	71	14	98	102
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	809			217			638			225		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.720			0.193			0.567			0.200		
Final Departure Headway, hd (s)	7.00			8.35			7.46			8.06		
Final Degree of Utilization, x	1.575			0.503			1.323			0.504		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.00			6.35			5.46			6.06		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	809			217			638			225		
Capacity	514			431			482			447		
95% Queue Length, Q ₉₅ (veh)	155.5			3.0			88.6			3.0		
Control Delay (s/veh)	1063.6			19.7			620.2			19.2		
Level of Service, LOS	F			C			F			C		
Approach Delay (s/veh)	1063.6			19.7			620.2			19.2		
Approach LOS	F			C			F			C		
Intersection Delay, s/veh LOS	669.6						F					

APPENDIX O

Future Operations Analysis

Future Background Traffic Conditions

Corridor	Intersecting Roadway	2023												2028												2033											
		Eastbound			Westbound			Northbound			Southbound			Eastbound			Westbound			Northbound			Southbound			Eastbound			Westbound			Northbound			Southbound		
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)				
E. Hillsborough Avenue	N. 15th Street	B	12.9	B	17.6	F	130.9	E	78.4	B	15.2	B	18.6	F	145.5	E	77	B	18.4	C	20.3	F	135.4	E	72.2	B	18.4	C	20.3	F	135.4	E	72.2				
	N. 18th Street	A	6.2	B	17	F	220.3	F	99.3	A	6.5	B	19.6	F	207.7	F	96.6	A	7.6	C	22.1	C	184.5	F	88.9	D	46.2	E	77.1	F	122.9	E	57.7	F	107.1		
	N. 22nd Street	D	46.2	E	77.1	D	51.9	E	75.7	D	47.8	F	103.8	D	53.5	F	84.4	D	46.9	D	39.4	F	90.6	F	90.8	D	43.1	D	36	E	84.4	E	57.7	F	107.1		
	N. 30th Street	D	43.1	D	36	E	71.1	F	88.3	E	58.5	D	37.2	F	81.8	F	91.7	E	66	D	39.4	F	90.6	F	90.8	D	43.1	D	36	E	84.4	E	57.7	F	107.1		
	N. 34th Street	B	12	A	8.8	F	83.2	F	118.5	B	14.9	B	12.5	F	84.3	F	124.1	B	16.5	B	13.8	F	105.1	F	169.1	D	49.8	D	53	E	67	F	121.6	E	59.4	F	166.4
E. Hanna Avenue	N. 18th Street*	B	13.9	C	15.3	B	118	B	13.6	C	19	C	21.9	B	13.8	C	16.9	D	31.9	E	43.5	C	16.9	C	23.5	B	15.1	D	37.1	B	12.8	B	18	C	27.5		
	N. 22nd Street*	B	15.1	D	37.1	B	12.8	B	16.1	B	13.6	B	42.5	B	15.6	C	21.3	B	12.9	E	59	B	18	C	27.5	B	15.1	D	37.1	B	12.8	B	18	C	27.5		
	N. 24th Street*	-	-	-	-	-	-	-	16.3	-	-	-	-	-	-	-	20.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	N. 30th Street*	C	20.4	C	22.2	B	10.6	B	11.2	B	18.4	C	23.1	B	12.5	B	13.4	B	18.1	C	26.8	B	14.2	B	15.4	C	20.4	C	22.2	B	10.6	B	11.2	B	18.4	C	23.1
	N. 15th Street	A	5.3	A	6.4	C	30	C	27.7	A	6	A	7.5	C	30.4	C	27.4	A	7.9	B	10.7	C	27.6	C	25.1	A	5.3	A	6.4	C	30	C	27.7	A	6	A	
E. Sligh Avenue	N. 22nd Street	A	5.3	A	5.2	D	44.2	D	41.1	A	6.1	A	6.1	D	44.5	D	40.2	A	6.9	A	7	D	45.5	D	39.7	A	5.3	A	5.2	D	44.2	D	41.1	A	6.1		
	N. 24th Street*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Rowlett Park Drive	B	14.3	B	17.6	-	23.3	-	24.3	B	16.4	C	20.8	-	29.2	-	29.2	-	19.3	B	19.3	C	25.4	-	-	-	-	-	-	-	-	-	-	-	-	-	
	N. 30th Street*	F	60.7	B	12.6	D	25.7	B	11.9	F	228.9	B	13.7	E	38.4	-	38.4	-	496.8	B	14.9	F	67	B	13.5	-	-	-	-	-	-	-	-	-	-	-	
	N. 15th Street	B	17.6	C	33.6	F	87.2	F	114.5	C	23.7	C	31.8	C	31.8	E	77.8	F	97.9	C	33	D	35.3	E	64.6	B	17.6	C	33.6	F	87.2	F	114.5	C	23.7		
E. Hillsborough Avenue	N. 18th Street	A	9.4	A	8.5	F	185.5	F	89.7	B	10.6	B	12.1	F	157.1	F	81.9	B	12.6	B	15.9	D	63	E	64.6	D	40.6	D	50.8	E	74.5	F	89.4	D	41.7	E	
	N. 22nd Street	D	40.6	D	19	E	57.8	E	87.1	C	21.9	C	23.3	D	53.7	D	83.4	C	21.5	C	31.4	E	66	F	101.8	C	20.9	B	19	E	57.8	E	87.1	C	21.9		
	N. 30th Street	C	20.9	B	17.6	E	79.4	F	171.7	A	5	C	22.5	E	72.4	E	148.2	A	7.4	C	26.5	E	66.5	F	128.7	A	4.3	B	17.6	E	79.4	F	171.7	A	5		
	N. 34th Street	A	4.3	B	17.6	E	62.5	F	82.6	E	67.2	E	67.8	F	126.4	F	102.8	E	70.2	E	76.4	F	163.7	F	132.8	A	70.5	E	62.5	F	82.6	E	67.2	E	67.8		
	N. 40th Street	C	15.9	C	17.3	B	14.8	B	12.4	C	21.7	D	26.2	C	18.3	B	14.3	E	47.4	F	81.9	D	89	B	13.5	C	15.9	C	17.3	B	14.8	B	12.4	C	21.7		
E. Hanna Avenue	N. 15th Street*	-	-	-	-	-	-	-	15.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	N. 22nd Street*	C	28.7	D	39.1	B	11.9	B	10.5	C	32.4	D	50.8	B	14.2	B	12.2	B	42.9	F	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	N. 24th Street*	-	-	-	-	-	-	-	15.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	N. 30th Street	C	34.6	C	28.1	A	9.9	B	10.5	C	34.2	C	28.7	B	12	B	12.7	B	35.6	C	30.9	B	14.3	B	14.9	C	34.6	C	28.1	A	9.9	B	10.5	C	34.2		
	N. 15th Street	A	8.4	A	8.2	C	29	C	22.9	A	9.4	A	9.2	C	30.3	C	22.5	B	10.6	B	10.5	C	31.8	C	22	A	8.4	A	8.2	C	29	C	22.9	A	9.4		
E. Sligh Avenue	N. 22nd Street*	-	-	-	-	-	-	-	45.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	N. 24th Street*	-	-	-	-	-	-	-	24.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Rowlett Park Drive	C	27	C	34.9	-	108.7	C	34	C	33.4	E	60	-	30.6	-	35.8	D	38.1	F	107.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	N. 30th Street*	F	493.4	C	16.5	F	108.7	C	15.7	C	798.1	C	17.9	F	289.4	C	17	F	1045.8	C	19.7	F	547.2	C	19.2	-	-	-	-	-	-	-	-	-	-	-	
	N. 15th Street	B	17.6	C	33.6	F	87.2	F	114.5	C	23.7	C	31.8	C	31.8	E	77.8	F	97.9	C	33	D	35.3	E	64.6	B	17.6	C	33.6	F	87.2	F	114.5	C	23.7		

*Unsignalized Intersection

Future Total Traffic Conditions

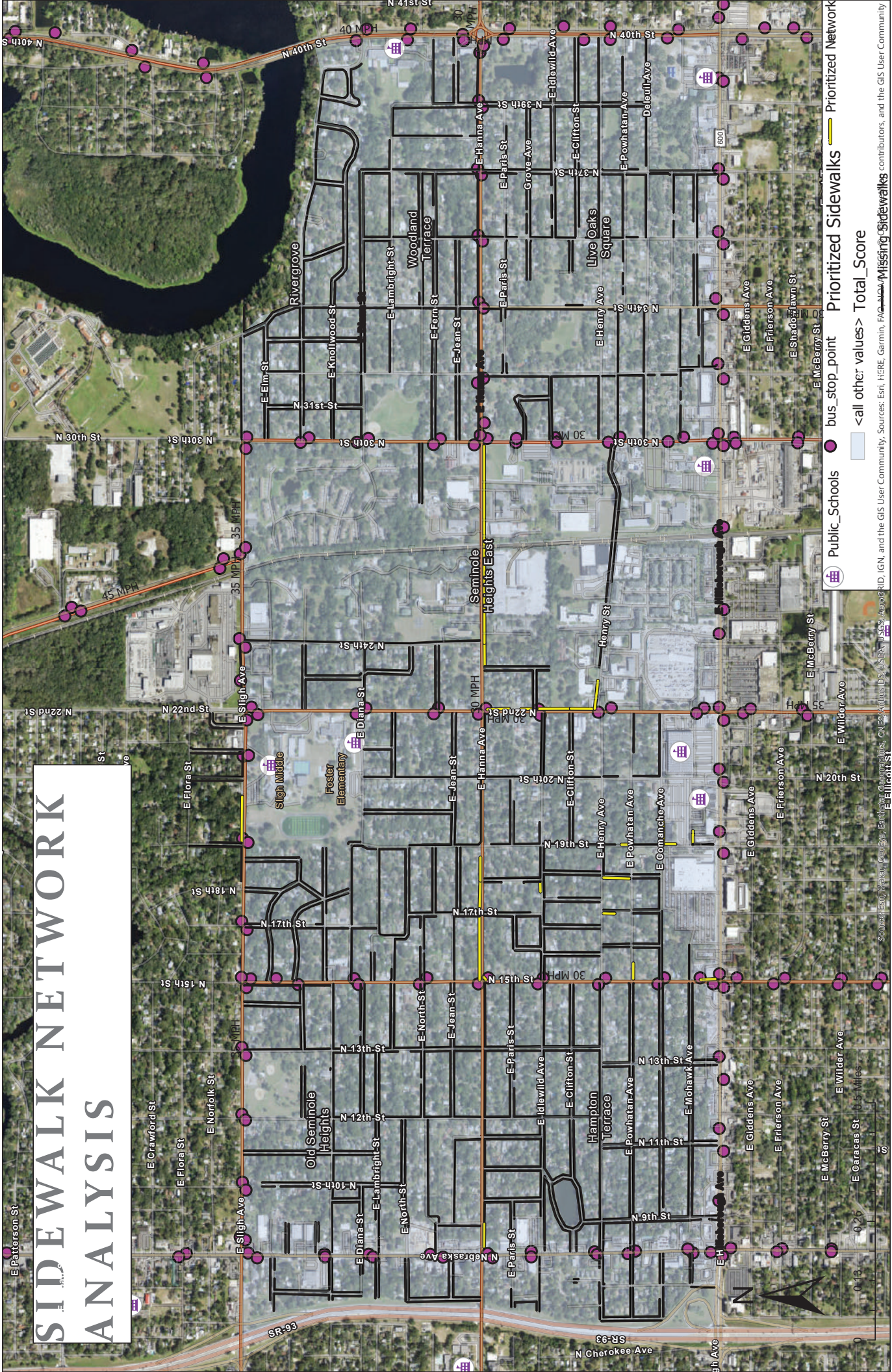
Corridor	Intersecting Roadway	2023						2028						2033												
		Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound		
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	
E. Hillsborough Avenue	N. 15th Street	C	20.1	A	4.8	A	130.9	E	78.4	C	23.9	A	5.5	A	137.2	E	75.9	C	27.1	A	6.4	F	135.4	E	72.2	
	N. 19th Street	A	3.5	A	2.5	F	220.3	F	98.3	A	5.6	A	3.4	A	213.2	F	99.1	A	4.1	A	3.5	F	184.5	F	88.9	
	N. 22nd Street	C	33	C	34	E	73.1	F	88.8	D	38.1	D	44.8	D	85.2	F	106.4	D	42	E	58.7	F	91.8	F	124	
	N. 30th Street	D	51.9	B	18.5	F	83.1	F	90.5	E	66.7	B	18.7	B	106.8	F	96	E	74	C	24.6	F	167.2	F	109	
	N. 34th Street	A	5.9	A	7.1	F	83.2	F	113.5	A	7.3	A	9.5	A	84.3	F	124.1	A	7.8	A	9.2	E	75.4	F	111.9	
E. Hanna Avenue	N. 40th Street	D	43.4	E	59.7	E	62	E	70.7	D	48.6	E	70.1	E	66.1	E	74.1	E	57.7	F	71.4	F	89.4	F	84.6	
	N. 15th Street *	C	15.3	C	16.9	B	12.6	C	16.4	C	22.4	D	26.4	C	15.3	C	22.5	C	46	F	156.1	B	18.7	F	39.2	
	N. 22nd Street	B	15.1	D	49.6	B	15.3	D	37.3	B	14.7	F	82.7	B	17.6	B	76.2	B	15.7	F	156.1	B	18.7	F	114.3	
	N. 24th Street*	-	-	-	-	-	-	-	22.9	-	-	-	-	-	-	-	32.7	-	-	-	-	-	-	-	54.2	
	N. 30th Street	B	17.8	C	21.5	B	12.5	B	13.1	B	18.9	C	23.5	B	14.9	B	15.5	B	16.5	C	27.2	C	18.2	B	18.4	
E. Sligh Avenue	N. 15th Street	A	6.6	A	7	C	30	C	27.7	A	7.5	A	8.4	C	30.4	C	27.4	B	10.3	B	12.2	C	27.6	C	25	
	N. 19th Street	A	7	A	6.3	D	44.3	D	39	A	8	A	7.4	D	44.5	D	38.1	A	9.1	A	8.9	D	45	D	37.5	
	N. 22nd Street	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	N. 24th Street*	B	14.9	B	18.4	C	23.3	C	24.7	B	12.9	C	20.4	C	29.2	D	29.2	C	14.4	C	23.4	-	-	-	-	29.2
	Rowlett Park Drive	F	90.4	B	12.9	D	28.2	B	12.1	F	289.6	B	13.7	E	40.9	B	12.8	F	585.1	C	15	F	74.5	B	13.5	
E. Hillsborough Avenue	N. 15th Street	C	28.8	A	10	F	91.1	F	118.2	C	23.9	A	5.5	F	137.2	E	75.9	D	43.1	A	9.6	E	67.4	E	73.6	
	N. 19th Street	A	6.8	A	3.6	F	154.3	F	87.9	A	5.6	A	3.4	A	213.2	F	99.1	A	5.4	A	5.3	F	138	E	74.4	
	N. 22nd Street	C	33.2	D	39.6	E	71.7	F	87.6	D	38.1	D	44.8	D	85.2	F	106.4	D	35.6	E	63.3	F	94	F	123.6	
	N. 30th Street	C	27.9	B	18.4	D	51.6	F	82.3	E	66.7	B	18.7	B	106.8	F	96	C	27.1	C	26.7	D	53.8	F	141.7	
	N. 34th Street	A	4.5	A	6.4	F	80.5	F	176.2	A	7.3	A	9.5	A	84.3	F	124.1	A	5.8	C	23.7	E	66.5	F	128.7	
E. Hanna Avenue	N. 40th Street	D	55	E	69.5	E	75	F	84.3	D	48.6	E	70.1	E	66.1	E	74.1	E	57.9	F	101.7	F	105.8	F	113.7	
	N. 15th Street *	C	16.9	C	20.8	C	15.7	B	13	C	24.5	E	38.6	C	20.5	C	15.5	C	48.3	F	159.8	D	28.9	C	18.9	
	N. 22nd Street	B	14.5	D	37.2	C	26.5	C	22.4	B	14.7	F	82.7	B	17.6	B	76.2	B	14.6	E	77.4	E	61.3	D	44.1	
	N. 24th Street*	-	-	-	-	-	-	-	21.5	-	-	-	-	-	-	-	27.3	-	-	-	-	-	-	-	43	
	N. 30th Street	C	24.4	C	22.6	B	13	B	13.8	B	18.9	C	23.5	B	14.9	B	15.5	C	27.3	C	25.1	C	18.5	B	18.8	
E. Sligh Avenue	N. 15th Street	A	9.5	B	10.1	C	31.1	C	21.8	A	7.5	A	8.4	C	30.4	C	27.4	B	11.8	B	13.1	D	36.7	C	21.2	
	N. 19th Street	A	9.6	A	8.9	D	41	C	33.1	A	8	A	7.4	D	44.5	D	38.1	B	12.9	B	13	D	38.5	C	31	
	N. 22nd Street	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	N. 24th Street*	B	19.5	C	27.2	-	24.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Rowlett Park Drive	F	485.8	C	16.6	F	150	C	15.8	C	753.8	C	17.9	C	355.2	C	17	F	1063.6	C	19.7	F	620.2	C	19.2	

* Unsignalized Intersection

APPENDIX P

Sidewalk Network Analysis

SIDEWALK NETWORK ANALYSIS



Public_Schools ● bus_stop_point Prioritized Sidewalks <all other values> Total_Score

Legend:
 Purple circle: Public_Schools
 Orange circle: bus_stop_point
 Yellow line: Prioritized Sidewalks
 Orange line: <all other values>
 Light blue line: Total_Score

Scale: 0, 0.13, 0.26, 0.5 Miles
 North arrow pointing up.

Solved, Esri, Garmin, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, IGN, Intermap, iDB, NITRS, OpenStreetMap contributors, and the GIS User Community

Memo

To: City of Tampa Mobility Department

From: HNTB Corporation

Date: November 24, 2021

Re: Curb Ramp Prioritization

The traffic impact analysis study for the project bounded by E Hillsborough Ave. on the south, E Sligh Ave. to the north, I-275 to the west, and N 40th St. to the east, assessed the pedestrian infrastructures for the Americans with Disabilities Act (ADA) compliance. The assessment includes curb ramps, sidewalks, and pedestrian push buttons, inspected according to the Public Right of Way Accessibility Guide (PROWAG) standards governed by the United States Department of Justice.

The following corridors were inspected:

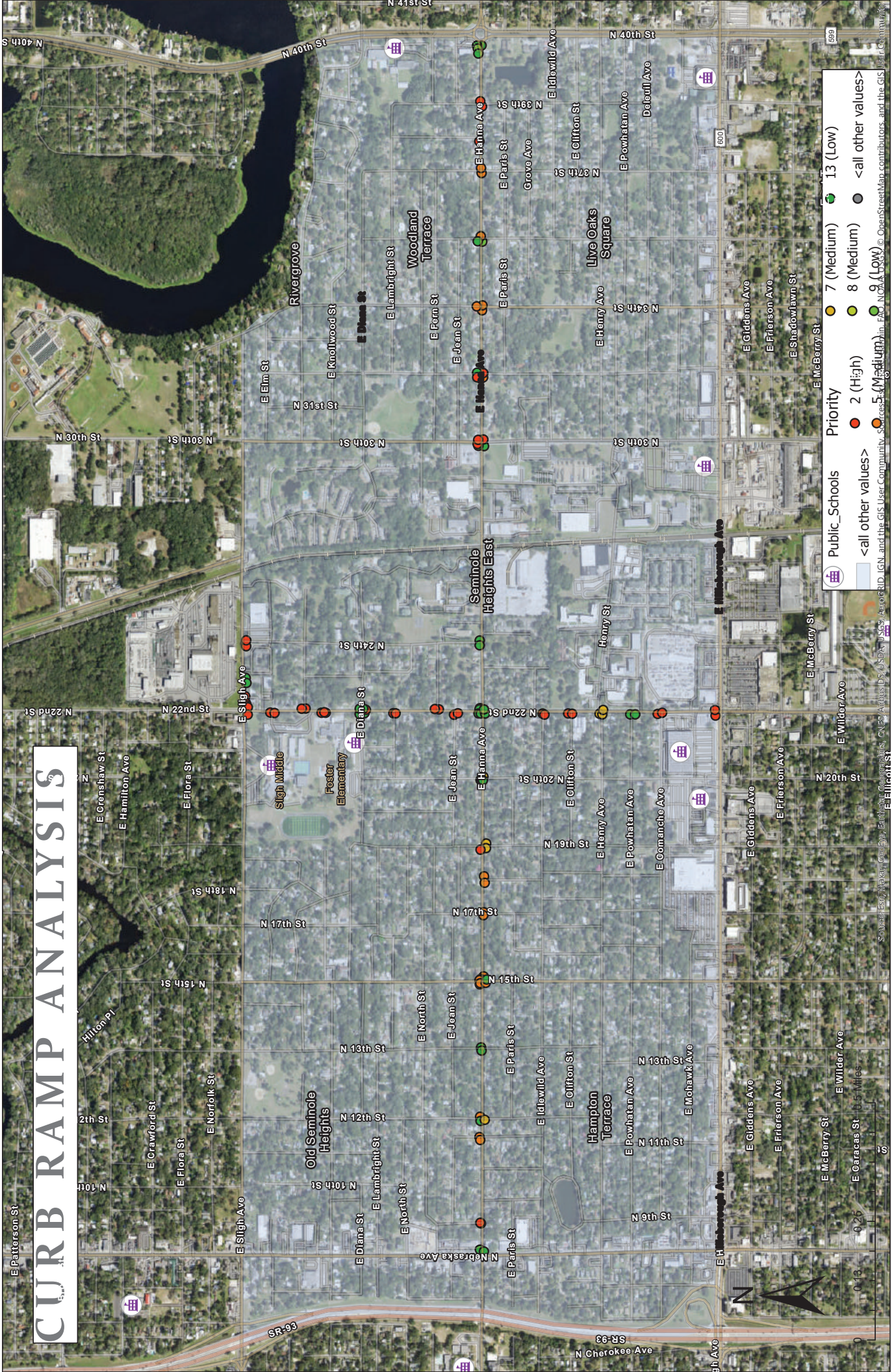
- Hanna Ave. from N Nebraska Ave. to N 40th St.
- N 22nd St. from E Hillsborough Ave. to E Sligh Ave.
- N 24th St. from E Hanna Ave. to E Sligh Ave.
- N 23rd St. from E Idlewild Ave. to E Hanna Ave.

The City has over 47,000 intersections – signalized and unsignalized – that comprises of a sizeable network of curb ramps. To prioritize the curb ramps for repair, external of any resurfacing projects which require that the curb ramps are improved to meet ADA compliance, the following prioritization methodology is proposed:

Curb Ramp Prioritization Memorandum

Priority	Criteria
1 (high)	<ul style="list-style-type: none"> Intersection has a known accident/injury at site.
2 (high)	<ul style="list-style-type: none"> Existing curb ramp with any of the following conditions: <ul style="list-style-type: none"> Running slope > 12% Cross slope > 7% Obstruction to or in the ramp or landing Level change > ¼ inch at the bottom of the curb ramp No detectable warnings <p>AND within a couple of blocks of a hospital, retirement facility, medical facility, parking garage, major employer, disability service provider, event facility, bus/transit stop, school, government facility, public facility, park, library, or church, based on field observations.</p>
3 (high)	<ul style="list-style-type: none"> No curb ramp where sidewalk or pedestrian path exists <p>AND within a couple of blocks of a hospital, retirement facility, medical facility, parking garage, major employer, disability service provider, event facility, bus/transit stop, school, government facility, public facility, park, library, or church, based on field observations.</p>
4 (high)	<ul style="list-style-type: none"> No curb ramps but striped crosswalk exists
5 (medium)	<ul style="list-style-type: none"> Existing curb ramp with any of the following conditions: <ul style="list-style-type: none"> Running slope > 12% Cross slope > 7% Obstruction to or in the ramp or landing Level change > ¼ inch at the bottom of the curb ramp No detectable warnings <p>AND NOT within a couple of blocks of a hospital, retirement facility, medical facility, parking garage, major employer, disability service provider, event facility, bus/transit stop, school, government facility, public facility, park, library, or church, based on field observations.</p>
6 (medium)	<ul style="list-style-type: none"> No curb ramp where sidewalk or pedestrian path exists <p>AND NOT within a couple of blocks of a hospital, retirement facility, medical facility, parking garage, major employer, disability service provider, event facility, bus/transit stop, school, government facility, public facility, park, library, or church, based on field observations.</p>
7 (medium)	<ul style="list-style-type: none"> One curb ramp per corner and another is needed to serve the other crossing direction.
8 (medium)	<ul style="list-style-type: none"> Existing curb ramp with any of the following conditions: <ul style="list-style-type: none"> Cross slope > 5% Width < 36 inches Median/island crossings that are inaccessible
9 (low)	<ul style="list-style-type: none"> Existing curb ramp with either running slope between 8.3% and 11.9% or insufficient landing.
10 (low)	<ul style="list-style-type: none"> Existing diagonal curb ramp without a 48-inch extension in the crosswalk.
11 (low)	<ul style="list-style-type: none"> Existing pedestrian push button is not accessible from the sidewalk and/or curb ramp.
12 (low)	<ul style="list-style-type: none"> Existing curb ramp with returned curbs where pedestrian travel across the curb is not protected.
13 (low)	<ul style="list-style-type: none"> All other intersections not prioritized above including missing curb ramps.

CURB RAMP ANALYSIS



Public_Schools **Priority**

- 2 (High)
- 5 (Medium)
- 7 (Medium)
- 8 (Medium)
- 9 (Low)
- 13 (Low)
- <all other values>

Solved by: [Mapbox](#), [OpenStreetMap](#), [IGN](#), and the [GIS User Community](#).
 © 2023 Mapbox, © 2023 OpenStreetMap contributors, and the [GIS User Community](#).

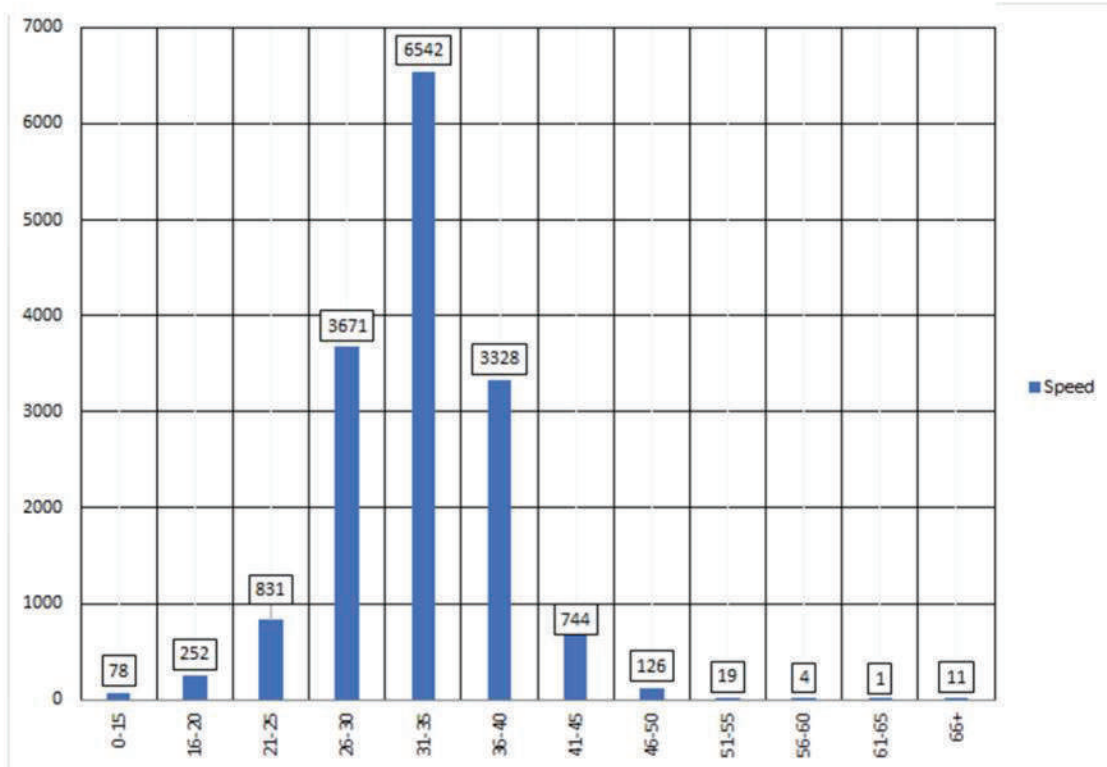


APPENDIX Q

Speed Study

Hanna Avenue: 15th Street to 40th Street

Date : 10/11/2021 12:00 AM
 Report Start Date : 10/05/2021 12:00 AM
 Report End Date : 10/07/2021 12:00 AM
 Time Interval : 15 minutes
 Speed Interval : 5 mph
 Posted Speed Limit : 30 mph
 Average Speed : 33 mph
 Highest Speed : 115 mph
 50th Percentile : 32 mph
 85th Percentile : 37 mph
 Number Above Speed Limit : 10775
 Total Number of Vehicles : 15607

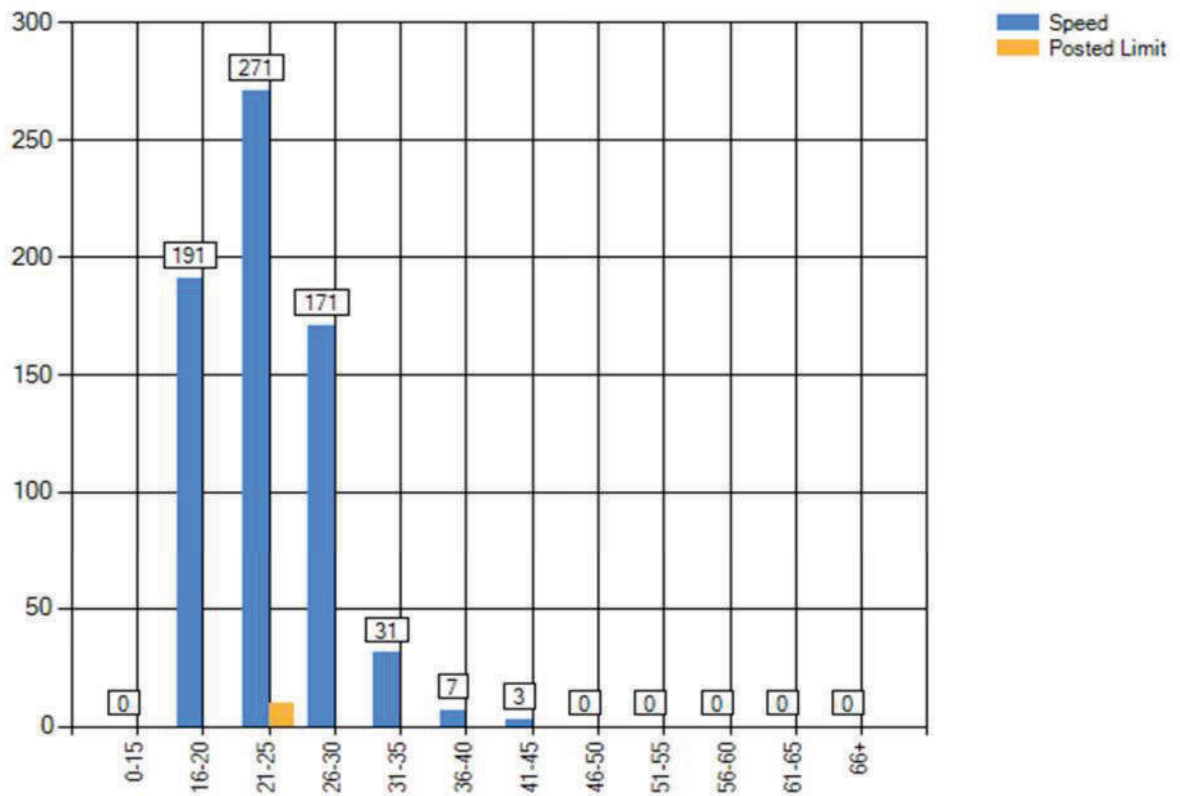


23rd Street South of Hanna Avenue

Date: 10/11/2021 12:00 AM
 Report Start Date: 10/05/2021 12:00 AM
 Report End Date: 10/07/2021 12:00 AM
 Time Interval: 15 minutes
 Speed Interval: 5 mph
 Posted Speed Limit: 25 mph
 Average Speed: 23 mph
 Highest Speed: 45 mph
 50th Percentile: 23 mph
 85th Percentile: 28 mph
 Number Above Speed Limit: 212
 Total Number of Vehicles: 674

Show Counts

Comments:

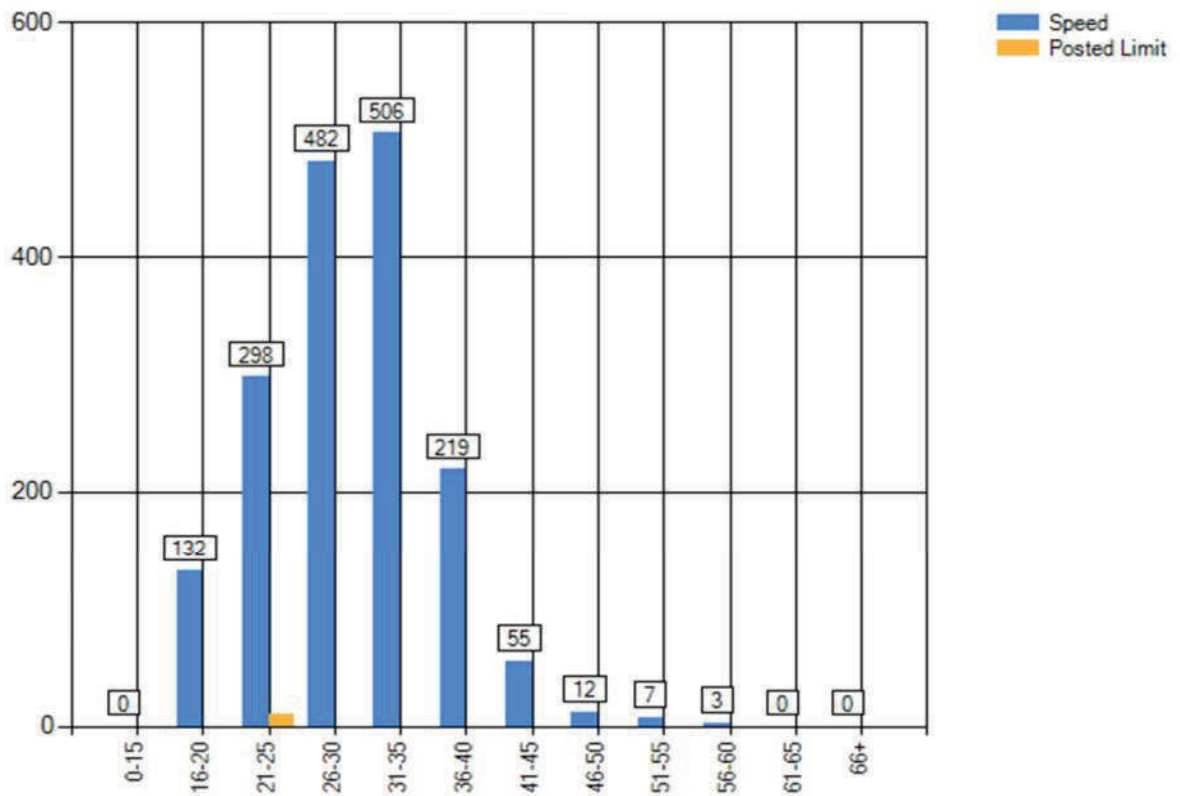


24th Street from Sligh Avenue to Hanna Avenue

Date: 10/11/2021 12:00 AM
 Report Start Date: 10/05/2021 12:00 AM
 Report End Date: 10/07/2021 12:00 AM
 Time Interval: 15 minutes
 Speed Interval: 5 mph
 Posted Speed Limit: 25 mph
 Average Speed: 29 mph
 Highest Speed: 58 mph
 50th Percentile: 30 mph
 85th Percentile: 36 mph
 Number Above Speed Limit: 1284
 Total Number of Vehicles: 1714

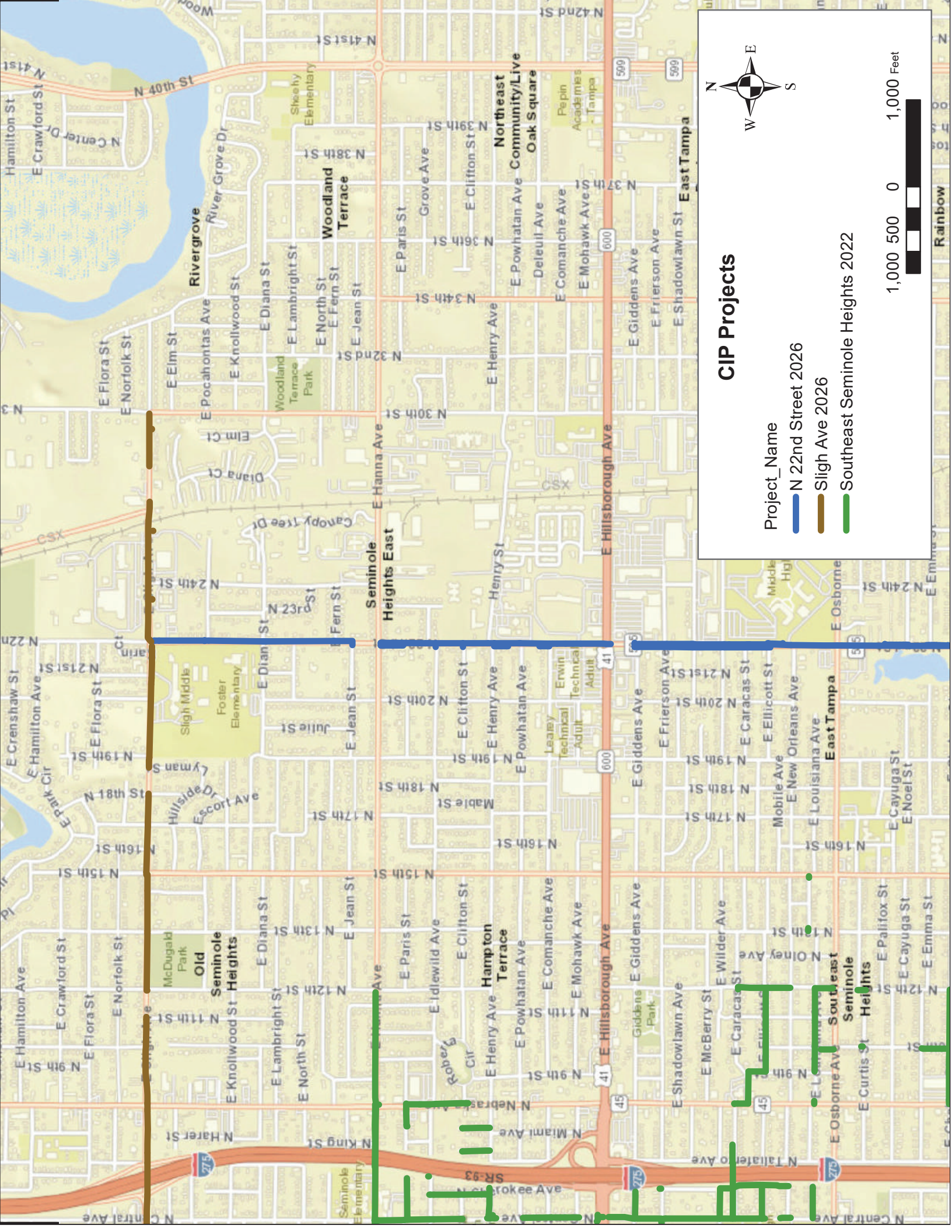
Show Counts

Comments:



APPENDIX R


Utility Conflicts




CIP Projects

Project_Name

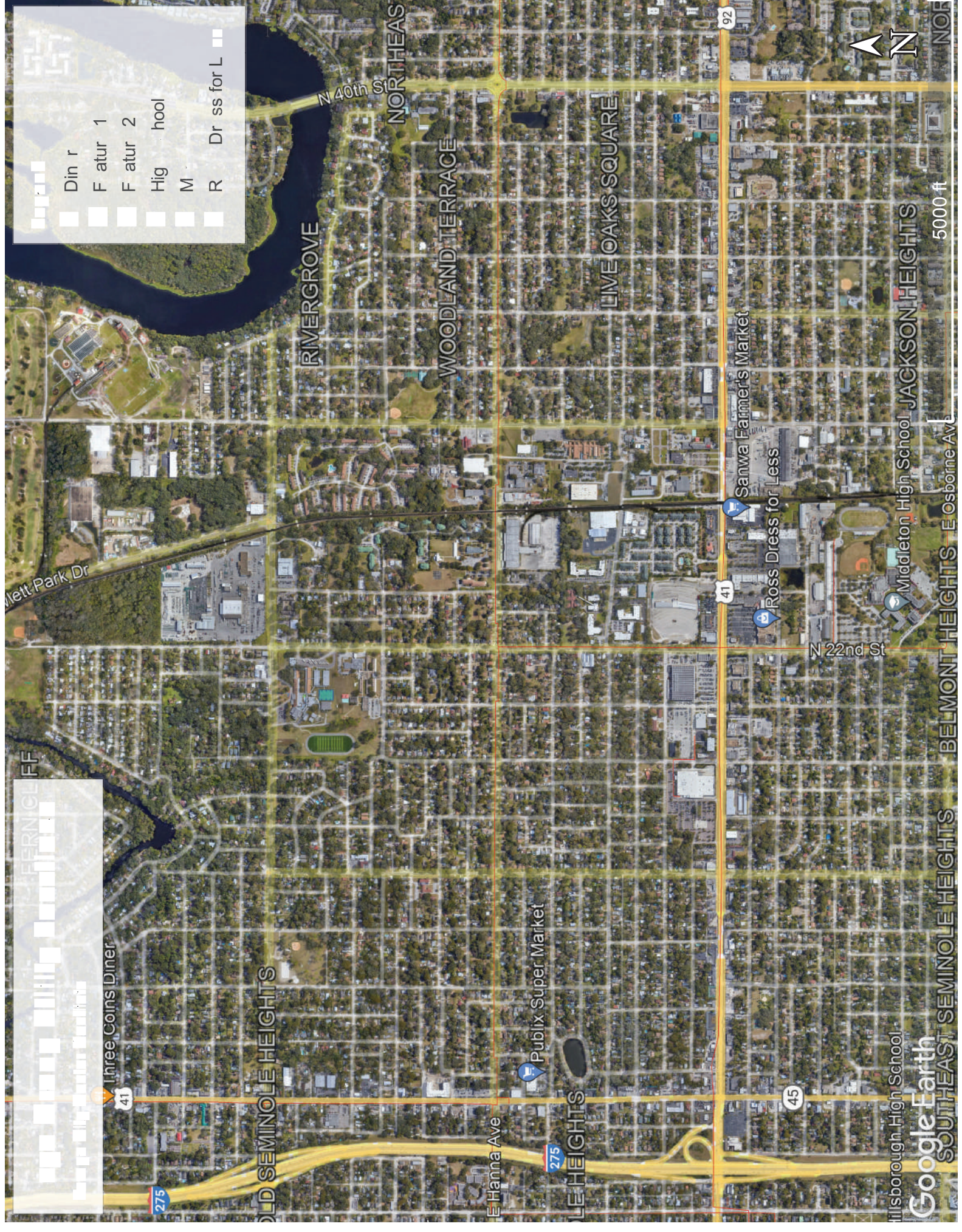
- N 22nd Street 2026
- Sligh Ave 2026
- Southeast Seminole Heights 2022



1,000 500 0 1,000 Feet



Din r
 F atur 1
 F atur 2
 Hig hool
 M
 R Dr ss for L



Google Earth
 SOUTH-EAST SEMINOLE HEIGHTS
 BELMONT HEIGHTS
 JACKSON HEIGHTS
 5000 ft