REPORT
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HODGSON RUSS, LLP

CENTENNIAL PARK TRAFFIC IMPACT STUDY

Niagara Falls, New York, USA

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Executive Summary

EXECUTIVE SUMMARY

Introduction and Purpose

The Centennial Park Project is located in the City of Niagara Falls. The 12-acre site is bounded by John B Daly Boulevard on the west, Falls Street on the north, 10th Street on the east and the former Conrail Railroad on the south. The site is illustrated in Figure 1. The project will be developed in phases with an anticipated completion date of 2025. The purpose of this study is to identify potential traffic impacts associated with the Centennial Park project.

Project Description

The project site currently consists of vacant land. The Centennial Park project will consist of mixed uses. The Project will include construction of the following:

- 7,000 seat Arena Event Center
- 24,700 square feet of Multi-Purpose Recreational Space
- 57,000 square feet of Rooftop Event Space
- 480 space Parking Garage
- Outdoor Public Park

Access to the Centennial Park project site will be provided by enter/exit driveways on Falls Street and 10th Street. Vehicular drop off loops will be provided on John B. Daly Boulevard and Falls Street. Enter/exit ramps to the proposed parking garage will be provided from 10th Street. The proposed site is presented in Figure 1 of Section 2. The Study Area and Intersections that were included as part of this Traffic Impact Study are shown in Figure 2 of Section 2.

The proposed Centennial Park development without an event at the arena will generate a total of 78 morning peak hour trips and 130 evening peak hour trips associated with non-event traffic at Centennial Park. Centennial Park will generate a total of 118 Saturday non-event peak hour trips. During full capacity events at the arena, a total of 1,701 vehicular trips would be generated.

Traffic Impact Analysis Scenarios

Several scenarios were used to assess traffic impacts associated with the construction of the Centennial Park project. Scenarios used in Level of Service (LOS) and Queue traffic model simulations include the following:

- 2022 Existing Conditions
- 2025 Background Conditions without the Centennial Park Development
- 2025 Combined Build Conditions with construction of the Centennial Park Development without an Arena Event
- 2025 Combined Build Conditions associated with arrival and departure traffic during an Arena Event
- 2025 Combined Build Conditions associated with arrival and departure traffic during an Arena Event with construction of Proposed Mitigation Measures

TRAFFIC OPERATIONS

Without an Arena Event

Results of the 2025 Combined Build Analysis Without an Arena Event were compared to the 2025 Background Analysis to determine potential traffic impacts that would be attributable to the Centennial Park development without an event at the arena.

Detailed LOS simulation results for the Weekday Morning and Evening Peak Hours and Saturday Peak Hour can be seen in Tables 17, 18 and 19. Detailed Queue simulation results for the Weekday Morning and Evening Peak Hours and the Saturday Peak Hour can be seen in Tables 20, 21 and 22. As discussed earlier, LOS with a capitol letter such as A are indicative of results for a signalized intersection. LOS with a lower-case letter in parentheses such as (a) are indicative of results for an unsignalized intersection.

- Morning Peak Hour Levels of Service - For the morning peak hour, all intersection approaches and turning movements operate at LOS A (a) or LOS B (b). This includes the new signalized intersection at John B. Daly Boulevard and Falls Street.
- Evening Peak Hour Levels of Service – For the evening peak hour, most intersection approaches and turning movements operate at LOS A (a) or LOS B (b). The eastbound left turn movement at the John B. Daly Boulevard and Rainbow Boulevard intersection continues to operate at LOS C. With installation of the new traffic signal, all turning movements at the John B. Daly Boulevard and Falls Street intersection operate at LOS C or better with an overall intersection LOS B.
- Saturday Peak Hour Levels of Service – For the Saturday peak hour, most intersection approaches and turning movements operate at LOS A (a) or LOS B (b). With installation of the new traffic signal, all turning movements at the John B. Daly Boulevard and Falls Street intersection operate at LOS C or better with an overall intersection LOS B.
- Peak Hour Queue Analysis – For all Peak Hour Periods, there is sufficient storage to accommodate the queue lengths for all intersection approaches and turning movements.

2025 Build Non-Event Traffic Operations Summary

Comparing traffic operations for the 2025 Combined Build Analysis Without an Arena Event to 2025 Background Operations indicate that there are no significant impacts to traffic operations associated with development of Centennial Park. Intersection Levels of Service are within acceptable ranges with sufficient storage to accommodate the queue lengths. Therefore, no mitigation measures are warranted for this scenario.

With an Arena Event

A. LOS and Queue Analysis for 2025 Event Traffic Volumes

Traffic simulation models were developed for the 2025 Arrival and Departure Arena Event Traffic Scenarios associated with a full capacity event at the Centennial Park Arena. Detailed LOS simulation results for the Arrival Event Peak Hour and Departure Event Peak Hour can be seen in Table 24. Detailed Queue simulation results for the Arrival and Departure Event Peak Hours can

be seen in Table 25. As discussed earlier, LOS with a capitol letter such as A are indicative of results for a signalized intersection. LOS with a lower-case letter in parentheses such as (a) are indicative of results for an unsignalized intersection.

- Event Arrival Peak Hour Levels of Service – For the event arrival peak hour, most intersection approaches and turning movements operate at LOS A (a), LOS B (b) or LOS C (c). Several exceptions include:
  - The westbound movement at the John B. Daly Boulevard and Buffalo Avenue intersection operates at LOS E. This decline in LOS can be attributed to large volume of northbound event arrival through traffic on John B. Daly Boulevard. Overall, the intersection operates at LOS B with only 15 seconds of delay.
  - At the John B. Daly Boulevard and Rainbow Boulevard intersection, the eastbound left approach operates at LOS D. This decline in LOS can be attributed to large volume of event arrival traffic traveling north on John B. Daly Boulevard to access the arena and on-site parking. Overall, the intersection operates at LOS B with only 17 seconds of delay.
  - With the new traffic signal, the Falls Street approaches at the John B. Daly Boulevard and Falls Street intersection operate at LOS C. Overall, the intersection operates at LOS B with only 18 seconds of delay.

- Event Arrival Peak Hour Queue Analysis – During the peak arrival period, there is sufficient storage to accommodate the queue lengths at most intersection approaches. One exception includes:
  - The northbound left turn movement onto Rainbow Boulevard from John B. Daly Boulevard. As discussed in Paragraph C. Temporary Traffic Control During Arena Events of Section 7, temporary traffic control measures would be used at this intersection. These temporary measures would include repurposing the left northbound through lane to establish a second northbound left turn lane. Niagara Falls Police personnel would be assigned during the event arrival period to assist motorists and direct traffic at this location. With the use of these temporary measures, there is sufficient storage capacity to accommodate the queue lengths at this intersection approach.

- Evening Departure Peak Hour Levels of Service – During the event departure peak hour, most intersection approaches and turning movements operate at LOS A (a), LOS B (b) or LOS C (c). Several exceptions include:
  - The eastbound right turn and westbound left turn lane on Falls Street at the John B. Daly Boulevard operates at LOS E. This LOS can be attributed to the high volume of traffic exiting the Arena at this location following an event. Overall, the intersection operates at LOS D with only 54 seconds of delay.
  - The northbound left, through and right approaches at the 10th Street and Niagara Street intersection operate at LOS D. Overall, the intersection operates at LOS B with only 20 seconds of delay.

- Evening Departure Peak Hour Queue Analysis – During the peak departure period, there is sufficient storage to accommodate the queue lengths at all intersection approaches.

B. 2025 Build Event Traffic Operations Summary

Comparing traffic operations for the 2025 Combined Build Analysis with an Arena Event to 2025 Background Operations indicate that there are no significant impacts to traffic operations associated with development of Centennial Park. With the use of proposed temporary traffic control measures, intersection Levels of Service are within acceptable ranges with sufficient storage to accommodate anticipated queue lengths. Therefore, no mitigation measures are warranted for this scenario.

Conclusions and Recommendations

The Centennial Park Project consists of redeveloping an existing vacant site that is located at the intersection of Falls Street and John B. Daly Boulevard in the City of Niagara Falls. The project will be developed in phases with an anticipated completion date of 2025. The purpose of this study is to identify potential traffic impacts associated with the Centennial Park project.

The Project will include construction of the following:

- 7,000 seat Arena Event Center
- 24,700 square feet of Multi-Purpose Recreational Space
- 57,000 square feet of Rooftop Event Space
- 480 space Parking Garage
- Outdoor Public Park

Access to the Centennial Park project site will be provided by enter/exit driveways on Falls Street and 10th Street. Vehicular drop off loops will be provided on John B. Daly Boulevard and Falls Street. Enter/exit ramps to the proposed parking garage will be provided from 10th Street.

Scenarios used in Level of Service (LOS) and Queue traffic model simulations include the following:

- 2022 Existing Conditions
- 2025 Background Conditions without the Centennial Park Development
- 2025 Combined Build Conditions with construction of the Centennial Park Development without an Arena Event
- 2025 Combined Build Conditions associated with arrival and departure traffic during an Arena Event
- 2025 Combined Build Conditions associated with arrival and departure traffic during an Arena Event with construction of Proposed Mitigation Measures.

Comparing traffic operations for the 2025 Combined Build Analysis without an Arena Event to 2025 Background Operations indicate that there are no significant impacts to traffic operations associated with development of Centennial Park. Intersection Levels of Service are within acceptable ranges with sufficient storage to accommodate the queue lengths. Therefore, no mitigation measures are warranted for this scenario.

Comparing traffic operations for the 2025 Combined Build Analysis with an Arena Event to 2025 Background Operations indicate that there are no significant impacts to traffic operations associated with development of Centennial Park. With the use of proposed temporary traffic control measures,

intersection Levels of Service are within acceptable ranges with sufficient storage to accommodate the queue lengths. Therefore, no mitigation measures are warranted for this scenario.

Based on these conclusions, we recommend approval of the Centennial Park Development by the City of Niagara Falls.

Site Location

SITE LOCATION

The project site is in the City of Niagara Falls and bounded by Falls Street to the north, a former railroad right-of-way to the south, John B. Daly Boulevard to the west, and 10th Street to the East. The project site currently consists of vacant land. The location of the project site is depicted in Figure 1.

Figure 1: Centennial Park Project Location

Existing Roadway System

EXISTING ROADWAY SYSTEM

As shown in Figure 2, the study area includes intersections on John B. Daly Boulevard from Niagara Scenic Parkway to Niagara Street, Niagara Street from John B. Daly Boulevard to 10th Street, 10th Street from Ferry Avenue to Buffalo Avenue, Falls Street from John B. Daly Boulevard to Portage Road and Buffalo Avenue from John B. Daly Boulevard to Portage Road. These streets are under the jurisdiction of the City of Niagara Falls. The street sections can be described as follows:

- John B. Daly Boulevard – This urban major collector consists of approximately 70 feet of roadway consisting of two (2) 14-foot travel lane in each direction that are separated by a 14-foot landscaped median in a portion of this segment. Parking and standing are not permitted in this segment. Dedicated left turn lanes are provided at intersections. The posted speed limit is 30 MPH. Pedestrian elements include sidewalks on both sides of the street as well as a multi-use pathway for pedestrians and bicycles along the west side of the street.

- Niagara Street – Within the Study Area, this minor arterial generally consists of approximately 44 feet of pavement with one (1) 22-foot travel lane in each direction. Parking and standing are not permitted in this segment. The posted speed limit is 30 MPH. Pedestrian elements include sidewalks on both sides of the street.

- Falls Street – Within the Study Area, this street is classified as a local street and consists of approximately 30 feet of pavement with one (1) 15-foot travel lane in each direction. Parking and standing are permitted in this segment on the north side of the street except for overnight on Tuesday. Parking and standing is not permitted on the south side of the street. The posted speed limit is 30 MPH. Portions of the street have sidewalks. However, the sidewalks are not continuous.

- Rainbow Boulevard – Within the Study Area, this minor arterial generally consists of approximately 68 feet of pavement with two (2) 13-foot travel lanes in each direction as well as a 16-foot median. Dedicated left turn lanes are provided at intersections. Parking and standing are not permitted in this segment. The posted speed limit is 30 MPH. Pedestrian elements include sidewalks on both sides of the street.

- Buffalo Avenue – Within the Study Area, Buffalo Avenue is classified as a local street. West of John B. Daly Boulevard, Buffalo Avenue consists of approximately 30 feet of pavement with one (1) 12-foot travel lane in each direction. Parking and standing are not permitted in this segment. The posted speed limit is 30 MPH. Pedestrian elements include sidewalks on both sides of the street.

- 10th Street – South of Niagara Street, 10th Street is classified as a local street. Between Niagara Street and Ferry Street, 10th Street is classified as a major collector. North of Falls Street 10th Street consists of one (1) 12-foot travel lane and an 8-foot parking lane in the southbound direction. Parking and standing are permitted on west side of the street in this segment. South of Falls Street, 10th Street consists of approximately 26 feet of pavement with one (1) 13-foot travel lane in each direction. Parking and standing are not permitted south of Falls Street. The posted speed limit is 30 MPH. Portions of the street have sidewalks. However, the sidewalks are not continuous within the Study Area.

- 9th Street – Within the Study Area, 9th Street is one-way in the northbound direction from Falls Street to Niagara Street. 9th Street begins at a tee intersection with Falls Street. This street is not classified and consists of approximately 30 feet of pavement with one (1) undefined travel lane in the northbound direction. Parking and standing are permitted on both sides of the street in this segment. The posted speed limit is 30 MPH.

- Portage Road – Within the Study Area, this minor arterial generally consists of approximately 36 feet of pavement with one (1) 16-foot travel lane in the southbound direction and a 20-foot shared travel and parking lane in the northbound direction. Parking and standing are permitted on the east side of the street in portions of this segment. A portion of Portage Road consists of brick pavement. The posted speed limit is 30 MPH. Pedestrian elements include sidewalks on both sides of the street.

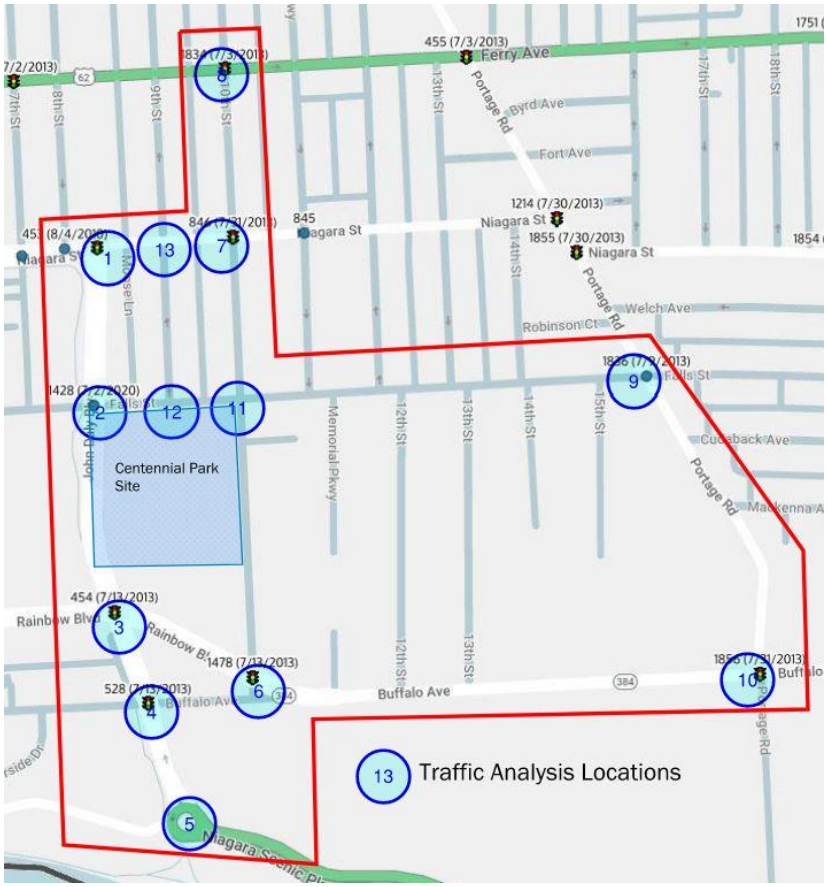


Figure 2: Study Area and Traffic Count Locations

Thirteen intersections were analyzed a part of the TIS:

- John B. Daly Boulevard and Niagara Street - This signalized intersection consists of three legs. There is a through lane and right lane for the eastbound Niagara Street approach and all traffic movements share one lane for the westbound Niagara Street approach. There is a right and left lane for the John B. Daly Boulevard northbound approach and no southbound approach since the John B. Daly Boulevard northbound terminus is at this intersection.

- John B. Daly Boulevard and Falls Street – This unsignalized intersection consists of four legs. This intersection is also the primary entrance for the Seneca Niagara Resort Casino. All traffic movements share one lane and are stop controlled for the eastbound and westbound Falls Street approaches. The northbound and southbound John B. Daly Boulevard approaches each consist of one through/right lane and one left/through lane.

- John B. Daly Boulevard and Rainbow Boulevard- This signalized intersection consists of four legs. There is a right/through, two through and a left lane for the Rainbow Boulevard westbound approach. There is a left lane, right lane, and two through lanes for the eastbound Rainbow Boulevard approach. The northbound John B. Daly Boulevard approach consists of a left lane, a through lane and a right/through lane. The southbound John B. Daly Boulevard approach consists of a left lane, a through lane, and a right/through lane.

- John B. Daly Boulevard and Buffalo Avenue – This signalized intersection consists of four legs. All traffic movements share one lane for the eastbound and westbound Buffalo Avenue approaches. The northbound John B. Daly approach consists of a right/through and a left/through lane. The southbound John B. Daly Boulevard approach consists of a left, through and right/through lane.

- John B. Daly Boulevard and Niagara Scenic Parkway - This multi-lane roundabout consists of three legs and provides access to Niagara Falls State Park as well as the City of Niagara Falls, NY.

- Rainbow Boulevard/Buffalo Avenue and 10th Street – This signalized intersection is the eastbound terminus of Rainbow Boulevard and the continuation of eastbound Buffalo Avenue. In addition, the intersection includes north and south bound approaches for 10th Street. The combined intersection consists of six approach legs. At the signal, the Rainbow Boulevard and Buffalo Avenue approaches include a right/through, through and dedicated left turn lane. The northbound and southbound 10th Street approaches consist of a single left/through/right lane.

- Niagara Street and 10th Street - This signalized intersection consists of four legs. All traffic movements share one lane for the northbound and southbound 10th Street approaches as well as the eastbound and westbound Niagara Street approaches.

- Ferry Avenue and 10th Street – This signalized intersection consists of four legs. All traffic movements share one lane for the northbound and southbound 10th Street approaches. There is no westbound Ferry Avenue approach since Ferry Avenue is one-way heading east. There is a right/through and a left/through lane for the Ferry Avenue eastbound approach.

- Portage Road and Falls Street – This unsignalized intersection consists of four legs. All traffic movements share one lane for the eastbound and westbound Falls Street approaches as well as the northbound and southbound Portage Road approaches. All four legs of this intersection are stop controlled.

- Portage Road and Buffalo Avenue – This unsignalized intersection consists of four legs. All traffic movements share one lane for the northbound and southbound Portage Road approaches as well as the eastbound and westbound Buffalo Avenue approaches. The Portage Road approaches are stop controlled.

- Falls Street and 10th Street – This unsignalized intersection consists of four legs. All traffic movements share one lane for the northbound and southbound 10th Street approaches as well as the eastbound and westbound Falls Street approaches. All four legs of this intersection are stop controlled.

- Falls Street and 9th Street – This unsignalized intersection consists of three legs. All traffic movements share one lane for the eastbound and westbound Falls Street approaches. There is no southbound approach since 9th Street is one-way heading north. There is no northbound approach since the 9th Street southern terminus is at this intersection.

- Niagara Street and 9th Street – This unsignalized intersection consists of four legs. All traffic movements share one lane for the northbound 9th Street approach. There is no southbound approach since 9th Street is one-way. All traffic movements share one lane for the eastbound and westbound Niagara Street approaches.

Section 4

Traffic Modeling Approach

TRAFFIC MODELING APPROACH

Synchro Version 11 and Vissim Version 11 traffic modeling software was used to analyze traffic operations. Synchro is based on methodologies presented in the 2010 Highway Capacity Manual that describe the operation of both signalized and unsignalized intersections as well as Highway Capacity Manual 6th Edition: A Guide for Multimodal Mobility Analysis. Although the 2010 Highway Capacity Manual considers the effects of adjacent traffic signals on overall operations, Synchro provides a more refined process to account for signal actuation, progression between signals and impacts of traffic queues. This program is an industry accepted standard and was used to determine the Levels of Service (LOS) for traffic traveling through the study area intersections.

The LOS for both signalized and unsignalized intersections are defined in terms of control delay. Control delay is a measure of the total travel time lost and includes slowing delay, stopped delay, queue move up time and start up lost time. LOS thresholds are defined as average delay in seconds per vehicle over a fifteen-minute analysis period and range from LOS A to LOS F for both signalized and unsignalized intersections. LOS A represents operating conditions of freely flowing traffic with little or no delay. LOS F represents operating conditions of highly congested traffic with forced (breakdown) flow and substantial delays. The following provides a summary of the Level of Service thresholds as defined in the 2010 Highway Capacity Manual.

Table 1: Level of Service Thresholds

Level of Service Thresholds	Signalized Intersections (seconds of delay)	Unsignalized Intersections (seconds of delay)
A – Little or no delay	Less than 10.0 seconds	Less than 10.0 seconds
B – Minor, short delays	10.1 to 20.0 seconds	10.1 to 15.0 seconds
C – Average delays	20.1 to 35.0 seconds	15.1 to 25.0 seconds
D – Long but acceptable delays	35.1 to 55.0 seconds	25.1 to 35.0 seconds
E – Long, near unacceptable delays	55.1 to 80.0 seconds	35.1 to 50.0 seconds
F – Unacceptable delays	More than 80.0 seconds	More than 50.0 seconds

An overall intersection LOS E or better is generally considered acceptable at a signalized intersection. An overall intersection LOS (e) or better is considered acceptable at unsignalized intersections.

Traffic operations for the roundabout at Niagara Scenic Parkway, John B. Daly Boulevard and the Riverway entrance to Niagara Falls State Park were modeled using Vissim Version 11. Vissim is an industry leader in advance traffic simulation and is an accepted worldwide standard for the simulation and analysis of traffic systems including local streets and intersection, expressways,

interchanges, ramps, and roundabouts. It provides the ability to model local streets as well as adjacent freeways and interchanges in one seamless model with the flexibility to model more complex intersections and roundabouts. The program is used to accurately determine the Levels of Service, queues and lane densities for traffic traveling through the study area. Vissim Level of Service results use the same Level of Service Thresholds set forth in Table 1.

The TIS utilizes accepted traffic impact study processes and methodologies, as accepted by the City of Niagara Falls and New York State Department of Transportation.

Peak Intervals for Analysis

The functional characteristics of the Project Area Street Network include commuter and commercial retail traffic. The proposed development will consist of an arena, multi-use recreation center and soccer complex, rooftop event center, outdoor public park and parking garage uses. The peak hours of traffic generation for these uses coincides with the commuter peak hours. This is due the volume of background traffic that occurs on the adjacent street network during commuter peak hours relative to the traffic generated by the proposed development. Therefore, the peak hours selected for analysis are the weekday morning and evening commuter peak hours. Generally, the combination of site generated traffic and peak hour commuter traffic produces the greatest demand during morning and evening commuter peak hour time periods. In addition, a weekend peak hour was analyzed to reflect peak hour traffic on a typical Saturday mid-day.

The exceptions are arena events which would be scheduled during evenings and weekends. Typical events would include performances, minor league hockey and minor league basketball. The City anticipates the use of promoter to solicit and schedule events. Use of the arena would be coordinated with the Seneca Niagara Resort and Casino. Therefore, the peak hours for arena events were selected based on traffic arriving near the start of the event around 7:00 PM and departing immediately following the event around 10:30 PM. Traffic would begin arriving at the event between 4:00 and 6:30 PM and depart immediately following the event between 10:00 and 11:00 PM.

Existing Traffic Conditions

EXISTING TRAFFIC CONDITIONS

A. *Existing Traffic Volume Data*

Manual traffic counts were obtained for the Morning and Evening Peak Hours for all intersections within the study area. Turning movement traffic counts were collected in 15-minute increments and include all vehicles by turn movement, heavy vehicles by approach, and pedestrians/bicyclists. Traffic counts were obtained from July 12, 2022 to July 16, 2022. Generally, video counts were taken for this period. This count data was processed to obtain weekday turning movement counts for a 2-hour Morning period beginning at 7:00 AM and ending at 9:00 AM, a 2-hour Evening period beginning at 4:00 PM and ending at 6:00 PM as well as weekend turning movement counts for a 2-hour period for Saturday beginning at 11:00 AM and ending at 1:00 PM. Turning movement counts were developed at the following locations:

- John B. Daly Boulevard and Niagara Street
- John B. Daly Boulevard and Falls Street
- John B. Daly Boulevard and Rainbow Boulevard
- John B. Daly Boulevard and Buffalo Avenue
- John B. Daly Boulevard, Niagara Scenic Parkway and Riverway (Roundabout)
- Buffalo Avenue and 10th Street
- Niagara Street and 10th
- Ferry Avenue and 10th Street
- Portage Road and Falls Street
- Portage Road and Buffalo Avenue
- Falls Street and 10th Street
- Falls Street and 9th Street
- Niagara Street and 9th Street

These counts were used as the basis of the LOS and queue analyses that are presented later in this Study. Traffic Count Results for existing weekday Morning and Evening Peak Hour Volumes are shown in Figure 3. Appendix A, Traffic Count Summary presents the results of the manual traffic counts.

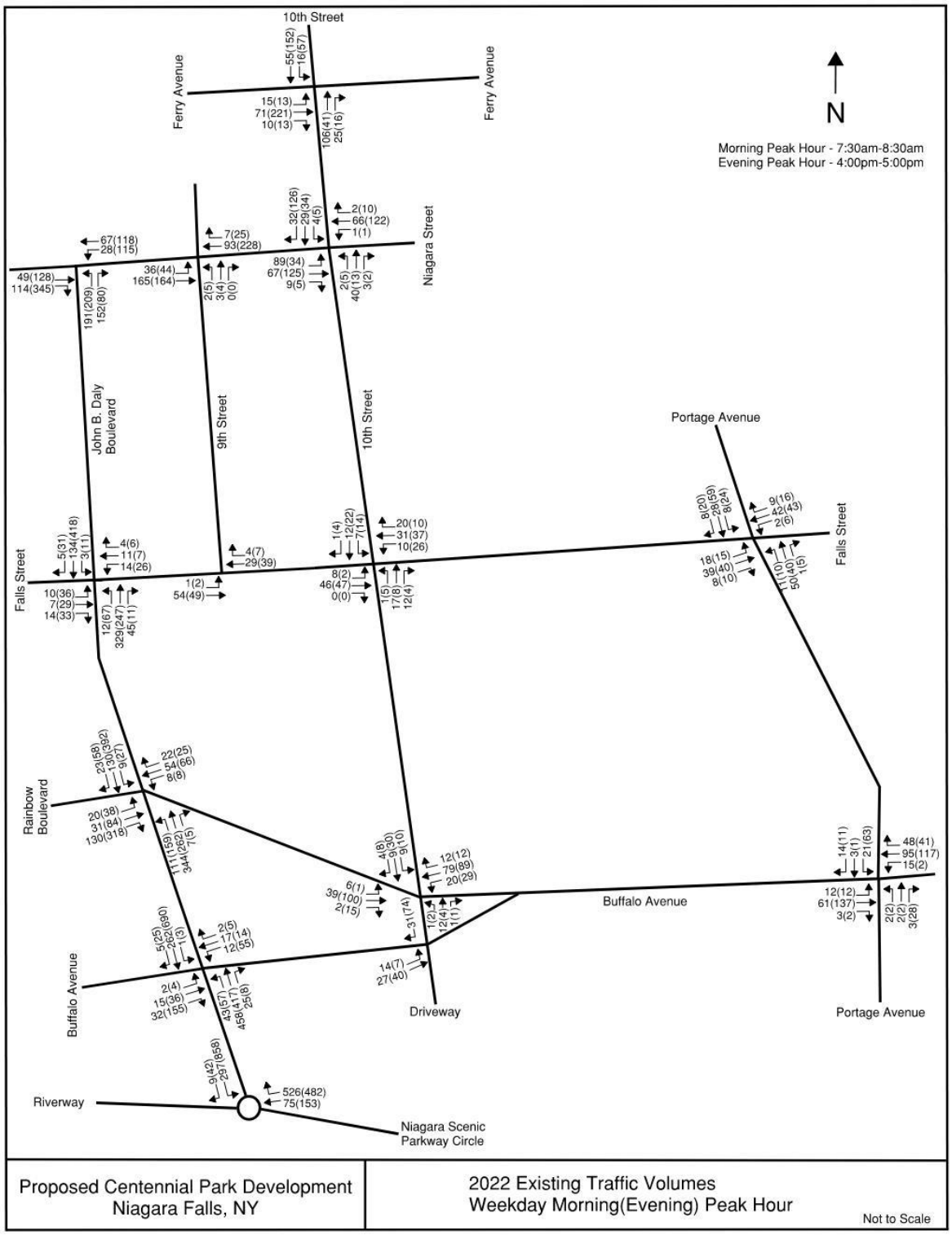


Figure 3: Existing Morning and Evening Weekday Traffic Volumes

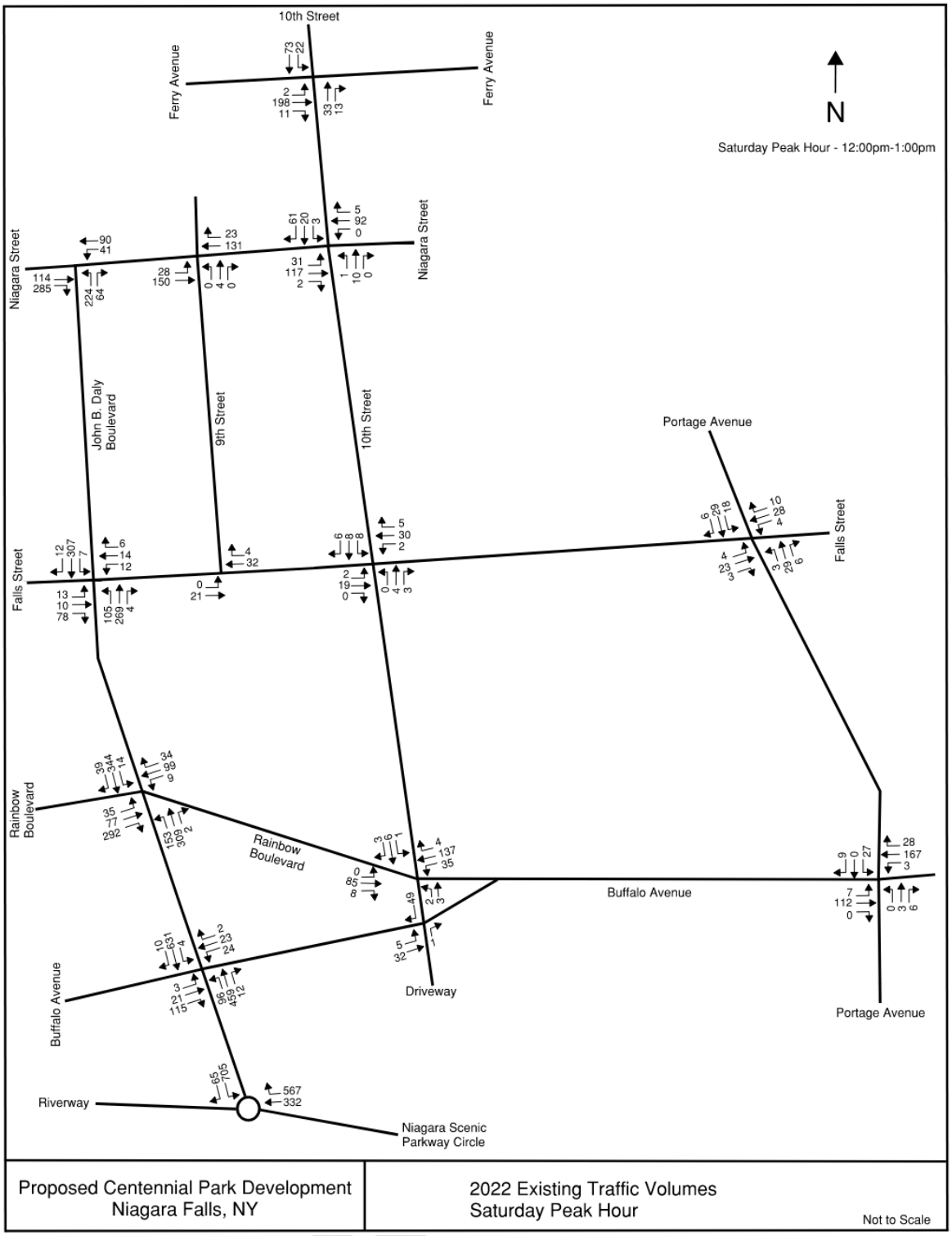


Figure 4: Existing Saturday Traffic Volumes

Table 2: 2022 Existing Condition Level of Service Summary –Morning Peak Hour

Intersection	2022 Existing
Niagara Scenic Parkway @ John Daly Boulevard*	
WB Approach	a(4)
SB Approach	a(1)
John Daly Boulevard @ Buffalo Avenue	**A(5)**
EB Left/Through/Right	A(7)
WB Left/Through/Right	B(11)
NB Left/Through/Right	A(5)
SB Left	A(5)
SB Through/Right	A(5)
Rainbow Boulevard / Buffalo Avenue @ 10th Street	**A(3)**
EB Left	A(3)
EB Through/Right	A(2)
WB Left	A(3)
WB Through/Right	A(2)
NB Left/Through/Right	A(8)
SB Left/Through/Right	A(8)
Buffalo Avenue @ Portage Road	
EB Left/Through/Right	a(1)
WB Left/Through/Right	a(1)
NB Left/Through/Right	b(11)
SB Left/Through/Right	b(11)
John Daly Boulevard @ Rainbow Boulevard	**A(9)**
EB Left	B(14)
EB Through	B(13)
EB Right	A(5)
WB Left	B(14)
WB Through/Right	B(11)
NB Left	A(6)
NB Through/Right	A(8)
SB Left	A(6)
SB Through/Right	B(14)
John Daly Boulevard @ Falls Street	
EB Left/Through/Right	b(12)
WB Left/Through/Right	b(13)
NB Left/Through/Right	a(1)
SB Left/Through/Right	a(1)
Falls Street @ 9th Street	
EB Left/Through	a(0)
WB Through/Right	a(0)
Falls Street @ 10th Street	
EB Left/Through/Right	a(8)
WB Left/Through/Right	a(8)
NB Left/Through/Right	a(7)

Intersection	2022 Existing
SB Left/Through/Right	a(8)
Falls Street @ Portage Road	
EB Left/Through/Right	a(8)
WB Left/Through/Right	a(8)
NB Left/Through/Right	a(8)
SB Left/Through/Right	a(8)
John Daly Boulevard @ Niagara Street	**A(7)**
EB Through	A(9)
EB Right	A(4)
WB Left/Through	A(8)
NB Left	B(11)
NB Right	A(3)
Niagara Street @ 9th Street	
EB Left/Through	a(1)
WB Through/Right	a(0)
NB Left/Through/Right	b(12)
Niagara Street @ 10th Street	**A(8)**
EB Left/Through/Right	A(6)
WB Left/Through/Right	A(5)
NB Left/Through/Right	B(16)
SB Left/Through/Right	B(11)
Ferry Avenue @ 10th Street	
EB Left/Through/Right	a(8)
NB Through/Right	a(8)
SB Left/Through	a(8)

Table 3: 2022 Existing Condition Level of Service Summary – Evening Peak Hour

Intersection	2022 Existing
Niagara Scenic Parkway @ John Daly Boulevard*	
WB Approach	a(5)
SB Approach	a(5)
John Daly Boulevard @ Buffalo Avenue	**A(9)**
EB Left/Through/Right	A(6)
WB Left/Through/Right	B(14)
NB Left/Through/Right	A(9)
SB Left	A(6)
SB Through/Right	A(9)
Rainbow Boulevard / Buffalo Avenue @ 10th Street	**A(3)**
EB Left	A(4)
EB Through/Right	A(2)
WB Left	A(3)
WB Through/Right	A(2)
NB Left/Through/Right	A(7)
SB Left/Through/Right	A(7)
Buffalo Avenue @ Portage Road	
EB Left/Through/Right	a(1)
WB Left/Through/Right	a(1)
NB Left/Through/Right	a(10)
SB Left/Through/Right	b(13)
John Daly Boulevard @ Rainbow Boulevard	**B(13)**
EB Left	C(21)
EB Through	B(19)
EB Right	A(7)
WB Left	B(19)
WB Through/Right	B(14)
NB Left	A(6)
NB Through/Right	A(9)
SB Left	A(6)
SB Through/Right	B(19)
John Daly Boulevard @ Falls Street	
EB Left/Through/Right	d(29)
WB Left/Through/Right	c(24)
NB Left/Through/Right	a(2)
SB Left/Through/Right	a(1)
Falls Street @ 9th Street	
EB Left/Through	a(0)
WB Through/Right	a(0)
Falls Street @ 10th Street	
EB Left/Through/Right	a(8)
WB Left/Through/Right	a(8)

Intersection	2022 Existing
NB Left/Through/Right	a(8)
SB Left/Through/Right	a(8)
Falls Street @ Portage Road	
EB Left/Through/Right	a(8)
WB Left/Through/Right	a(8)
NB Left/Through/Right	a(8)
SB Left/Through/Right	a(8)
John Daly Boulevard @ Niagara Street	**A(7)**
EB Through	A(9)
EB Right	A(4)
WB Left/Through	A(9)
NB Left	B(12)
NB Right	A(4)
Niagara Street @ 9th Street	
EB Left/Through	a(2)
WB Through/Right	a(0)
NB Left/Through/Right	b(15)
Niagara Street @ 10th Street	**A(7)**
EB Left/Through/Right	A(6)
WB Left/Through/Right	A(5)
NB Left/Through/Right	B(15)
SB Left/Through/Right	A(9)
Ferry Avenue @ 10th Street	
EB Left/Through/Right	a(10)
NB Through/Right	a(9)
SB Left/Through	b(11)

Table 4: 2022 Existing Condition Level of Service Summary – Saturday Peak Hour

Intersection	2022 Existing
Niagara Scenic Parkway @ John Daly Boulevard*	
WB Approach	b(11)
SB Approach	b(11)
John Daly Boulevard @ Buffalo Avenue	**A(8)**
EB Left/Through/Right	A(5)
WB Left/Through/Right	B(11)
NB Left/Through/Right	A(8)
SB Left	A(5)
SB Through/Right	A(8)
Rainbow Boulevard / Buffalo Avenue @ 10th Street	**A(2)**
EB Left	A(0)
EB Through/Right	A(2)
WB Left	A(2)
WB Through/Right	A(2)
NB Left/Through/Right	B(11)
SB Left/Through/Right	A(10)
Buffalo Avenue @ Portage Road	
EB Left/Through/Right	a(1)
WB Left/Through/Right	a(1)
NB Left/Through/Right	b(11)
SB Left/Through/Right	b(11)
John Daly Boulevard @ Rainbow Boulevard	**B(11)**
EB Left	B(18)
EB Through	B(16)
EB Right	A(7)
WB Left	B(16)
WB Through/Right	B(12)
NB Left	A(6)
NB Through/Right	A(7)
SB Left	A(6)
SB Through/Right	B(18)
John Daly Boulevard @ Falls Street	
EB Left/Through/Right	b(13)
WB Left/Through/Right	c(20)
NB Left/Through/Right	a(3)
SB Left/Through/Right	a(1)
Falls Street @ 9th Street	
EB Left/Through	a(0)
WB Through/Right	a(0)
Falls Street @ 10th Street	
EB Left/Through/Right	a(7)
WB Left/Through/Right	a(7)
NB Left/Through/Right	a(7)

Intersection	2022 Existing
SB Left/Through/Right	a(7)
Falls Street @ Portage Road	
EB Left/Through/Right	a(8)
WB Left/Through/Right	a(7)
NB Left/Through/Right	a(7)
SB Left/Through/Right	a(8)
John Daly Boulevard @ Niagara Street	**A(7)**
EB Through	A(9)
EB Right	A(4)
WB Left/Through	A(9)
NB Left	B(11)
NB Right	A(3)
Niagara Street @ 9th Street	
EB Left/Through	a(1)
WB Through/Right	a(0)
NB Left/Through/Right	a(1)
Niagara Street @ 10th Street	**A(7)**
EB Left/Through/Right	A(5)
WB Left/Through/Right	A(5)
NB Left/Through/Right	B(16)
SB Left/Through/Right	A(9)
Ferry Avenue @ 10th Street	
EB Left/Through/Right	a(9)
NB Through/Right	a(8)
SB Left/Through	a(8)

Table 5: 2022 Existing Condition Queue Summary – Morning Peak Hour

Intersection	Available Storage	2022 Existing
Niagara Scenic Parkway @ John Daly Boulevard*		
WB Approach	-	50
SB Approach	525	75
John Daly Boulevard @ Buffalo Avenue		
EB Left/Through/Right	-	15
WB Left/Through/Right	511	17
NB Left/Through/Right	525	52
SB Left	45	1
SB Through/Right	468	27
Rainbow Boulevard / Buffalo Avenue @ 10th Street		
EB Left	175	4
EB Through/Right	746	5
WB Left	125	8
WB Through/Right	-	10
NB Left/Through/Right	-	9
SB Left/Through/Right	1374	12
Buffalo Avenue @ Portage Road		
EB Left/Through/Right	-	0
WB Left/Through/Right	-	0
NB Left/Through/Right	-	3
SB Left/Through/Right	1634	5
John Daly Boulevard @ Rainbow Boulevard		
EB Left	255	18
EB Through	-	12
EB Right	140	32
WB Left	240	10
WB Through/Right	746	12
NB Left	235	27
NB Through/Right	468	63
SB Left	200	5
SB Through/Right	1035	33
John Daly Boulevard @ Falls Street		
EB Left/Through/Right	609	5
WB Left/Through/Right	365	15
NB Left/Through/Right	1035	0
SB Left/Through/Right	777	0
Falls Street @ 9th Street		
EB Left/Through	365	0
WB Through/Right	347	0
Falls Street @ 10th Street		
EB Left/Through/Right	347	8
WB Left/Through/Right	1995	8
NB Left/Through/Right	1374	5

Intersection	Available Storage	2022 Existing
SB Left/Through/Right	792	3
Falls Street @ Portage Road		
EB Left/Through/Right	1995	10
WB Left/Through/Right	-	8
NB Left/Through/Right	1634	8
SB Left/Through/Right	-	5
John Daly Boulevard @ Niagara Street		
EB Through	-	19
EB Right	-	12
WB Left/Through	311	15
NB Left	777	48
NB Right	777	14
Niagara Street @ 9th Street		
EB Left/Through	311	3
WB Through/Right	353	0
NB Left/Through/Right	784	3
Niagara Street @ 10th Street		
EB Left/Through/Right	353	42
WB Left/Through/Right	-	18
NB Left/Through/Right	792	30
SB Left/Through/Right	830	27
Ferry Avenue @ 10th Street		
EB Left/Through/Right	-	8
NB Through/Right	830	20
SB Left/Through	-	10

Table 6: 2022 Existing Condition Queue Summary – Evening Peak Hour

Intersection	Available Storage	2022 Existing
Niagara Scenic Parkway @ John Daly Boulevard*		
WB Approach	-	180
SB Approach	525	177
John Daly Boulevard @ Buffalo Avenue		
EB Left/Through/Right	-	41
WB Left/Through/Right	511	34
NB Left/Through/Right	525	75
SB Left	45	3
SB Through/Right	468	108
Rainbow Boulevard / Buffalo Avenue @ 10th Street		
EB Left	175	1
EB Through/Right	746	12
WB Left	125	10
WB Through/Right	-	11
NB Left/Through/Right	-	4
SB Left/Through/Right	1374	15
Buffalo Avenue @ Portage Road		
EB Left/Through/Right	-	0
WB Left/Through/Right	-	0
NB Left/Through/Right	-	5
SB Left/Through/Right	1634	23
John Daly Boulevard @ Rainbow Boulevard		
EB Left	255	37
EB Through	-	33
EB Right	140	60
WB Left	240	13
WB Through/Right	746	20
NB Left	235	49
NB Through/Right	468	57
SB Left	200	12
SB Through/Right	1035	116
John Daly Boulevard @ Falls Street		
EB Left/Through/Right	609	53
WB Left/Through/Right	365	25
NB Left/Through/Right	1035	5
SB Left/Through/Right	777	0
Falls Street @ 9th Street		
EB Left/Through	365	0
WB Through/Right	347	0
Falls Street @ 10th Street		
EB Left/Through/Right	347	5
WB Left/Through/Right	1995	15
NB Left/Through/Right	1374	3

Intersection	Available Storage	2022 Existing
SB Left/Through/Right	792	8
Falls Street @ Portage Road		
EB Left/Through/Right	1995	13
WB Left/Through/Right	-	8
NB Left/Through/Right	1634	8
SB Left/Through/Right	-	13
John Daly Boulevard @ Niagara Street		
EB Through	-	41
EB Right	-	25
WB Left/Through	311	33
NB Left	777	70
NB Right	777	17
Niagara Street @ 9th Street		
EB Left/Through	311	5
WB Through/Right	353	0
NB Left/Through/Right	784	3
Niagara Street @ 10th Street		
EB Left/Through/Right	353	38
WB Left/Through/Right	-	34
NB Left/Through/Right	792	16
SB Left/Through/Right	830	41
Ferry Avenue @ 10th Street		
EB Left/Through/Right	-	18
NB Through/Right	830	10
SB Left/Through	-	48

Table 7: 2022 Existing Condition Queue Summary – Saturday Peak Hour

Intersection	Available Storage	2022 Existing
Niagara Scenic Parkway @ John Daly Boulevard*		
WB Approach	-	341
SB Approach	525	275
John Daly Boulevard @ Buffalo Avenue		
EB Left/Through/Right	-	27
WB Left/Through/Right	511	24
NB Left/Through/Right	525	61
SB Left	45	3
SB Through/Right	468	66
Rainbow Boulevard / Buffalo Avenue @ 10th Street		
EB Left	175	0
EB Through/Right	746	10
WB Left	125	11
WB Through/Right	-	14
NB Left/Through/Right	-	7
SB Left/Through/Right	1374	10
Buffalo Avenue @ Portage Road		
EB Left/Through/Right	-	0
WB Left/Through/Right	-	0
NB Left/Through/Right	-	3
SB Left/Through/Right	1634	8
John Daly Boulevard @ Rainbow Boulevard		
EB Left	255	30
EB Through	-	26
EB Right	140	43
WB Left	240	12
WB Through/Right	746	23
NB Left	235	44
NB Through/Right	468	64
SB Left	200	7
SB Through/Right	1035	91
John Daly Boulevard @ Falls Street		
EB Left/Through/Right	609	20
WB Left/Through/Right	365	13
NB Left/Through/Right	1035	8
SB Left/Through/Right	777	0
Falls Street @ 9th Street		
EB Left/Through	365	0
WB Through/Right	347	0
Falls Street @ 10th Street		
EB Left/Through/Right	347	3
WB Left/Through/Right	1995	5
NB Left/Through/Right	1374	0

Intersection	Available Storage	2022 Existing
SB Left/Through/Right	792	3
Falls Street @ Portage Road		
EB Left/Through/Right	1995	5
WB Left/Through/Right	-	5
NB Left/Through/Right	1634	5
SB Left/Through/Right	-	8
John Daly Boulevard @ Niagara Street		
EB Through	-	41
EB Right	-	32
WB Left/Through	311	22
NB Left	777	63
NB Right	777	12
Niagara Street @ 9th Street		
EB Left/Through	311	3
WB Through/Right	353	0
NB Left/Through/Right	784	0
Niagara Street @ 10th Street		
EB Left/Through/Right	353	38
WB Left/Through/Right	-	25
NB Left/Through/Right	792	11
SB Left/Through/Right	830	34
Ferry Avenue @ 10th Street		
EB Left/Through/Right	-	13
NB Through/Right	830	8
SB Left/Through	-	13

B. Level of Service and Queue Analysis

The results for the Level of Service (LOS) and Queue summaries for 2022 Existing Traffic Conditions are summarized below. Detailed results are presented in Tables 2, 3, 4, 5, 6 and 7. As discussed earlier, LOS with a capitol letter such as A are indicative of results for a signalized intersection. LOS with a lower-case letter in parentheses such as (a) are indicative of results for an unsignalized intersection.

- Morning Peak Hour Levels of Service - For the morning peak hour, all intersection approaches and turning movements operate at LOS A (a) or LOS B (b).

- Evening Peak Hour Levels of Service – For the evening peak hour, most intersection approaches and turning movements operate at LOS A (a) or LOS B (b). The eastbound left turn movement at the John B. Daly Boulevard and Rainbow Boulevard intersection operates at LOS C. At the John B. Daly Boulevard and Falls Street intersection, the eastbound approach operates at LOS d and the westbound approach operates at LOS c.

- Saturday Peak Hour Levels of Service – For the Saturday peak hour, most intersection approaches and turning movements operate at LOS A (a) or LOS B (b). At the John B. Daly Boulevard and Falls Street intersection, the westbound approach operates at LOS c.

- Peak Hour Queue Analysis – For all Peak Hour Periods, there is sufficient storage to accommodate the queue lengths for all intersection approaches and turning movements.

C. Pedestrian and Bicycle Facilities

To provide safety for pedestrians, there are sidewalks with crosswalk striping at all major intersections.

D. *Transit Bus*

The NFTA bus routes in the vicinity of the project area can be seen in Figure 4. The Route 50 Main Niagara Bus is the closest to Centennial Park with stops located along Niagara Street. The Route 40 Buffalo – Niagara Falls Bus provides regional service between the City of Niagara Falls and City of Buffalo. The closest bus stop is located on Rainbow Boulevard at 6th Street. Inbound bus service begins at the Metropolitan Transportation Center in downtown Buffalo and ends at the Niagara Falls Transit Center on Portage Road. Outbound bus service begins at the Niagara Falls Transit Center on Portage Road and ends at the Metropolitan Transportation Center in downtown Buffalo. In addition, the Niagara Falls Trolly circulates between numerous activity centers near the Falls, downtown, Little Italy and along Niagara Falls Boulevard.

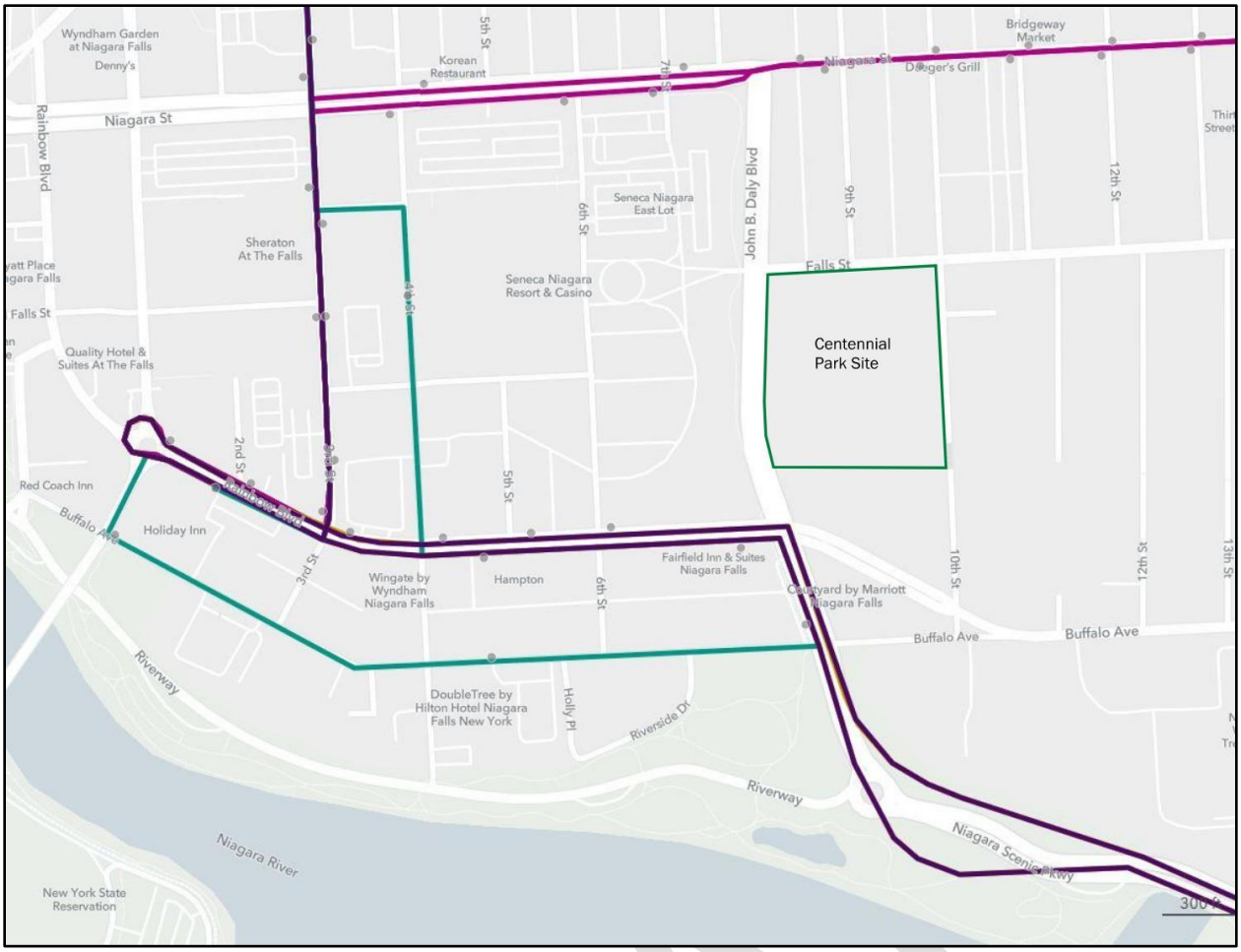


Figure 5: NFTA Bus Routes

E. <u>Parking</u>

The project includes a 5-story parking garage providing approximately 480 parking spaces. The parking garage will incorporate express ramps for quick exiting following arena events.

In addition to the on-site garage, there are other off-site garages and surface lots within a 5-minute walking distance that provide additional parking for Centennial Park patrons.

Section 6

Future Area Development and Background Traffic Growth

FUTURE AREA DEVELOPMENT AND BACKGROUND TRAFFIC GROWTH

A. *Background Traffic Growth*

The proposed Centennial Park development is expected to be completed over the next three years and has a completion date of 2025. Accordingly, this completion date was used to forecast the corresponding growth in background traffic. Historic counts for the surrounding street network were obtained using the New York State Department of Transportation (NYSDOT) Traffic Data Viewer. These historic counts were used to calculate Annualized Background Growth Rates for the Study Area Corridors.

Table 8: Annualized Growth Rates

Study Corridor	Average Growth Rate
John B. Daly Boulevard	-4.0%
Niagara Street	-1.8%
Buffalo Avenue	2.8%
Portage Road	0.7%
10th Street	1.1%

Between 2010 and 2019, NYSDOT average annual growth rates ranged from -4% to 2.8% for streets adjacent to the Project Site as seen in Table 6. Accordingly, based on a comparison of these growth rates, an annualized growth rate of 0.5% per year was selected to account for growth in background traffic. Using a simple growth factor approach, this rate was applied to the existing traffic data to obtain background traffic volumes for the build year of 2025. Therefore, the cumulative growth rate for the 2025 build year is 1.5%.

Background Traffic Volumes for the Weekday Morning, Weekday Evening and Saturday Peak Hours are presented in Figures 6 and 7.

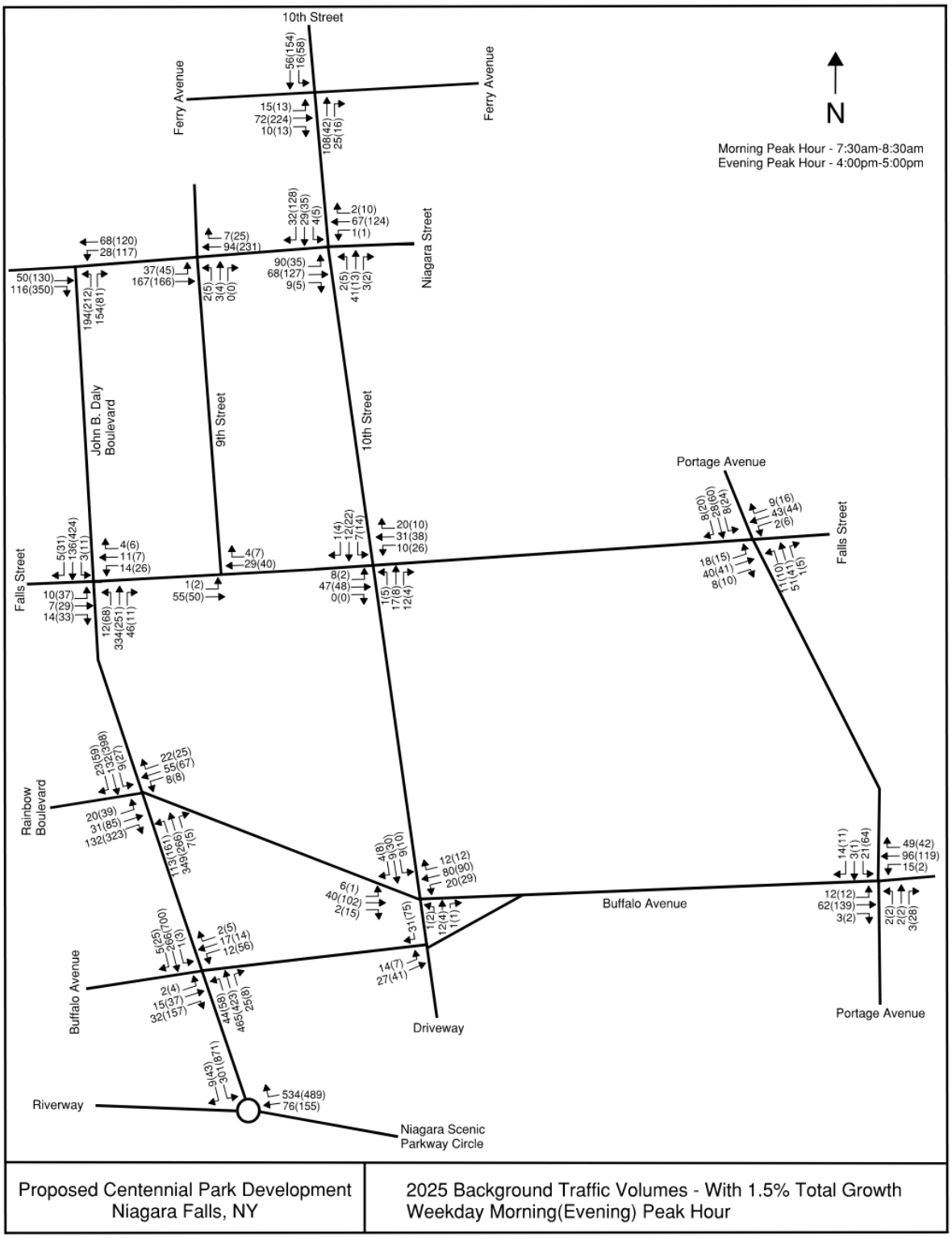


Figure 6: 2025 Background Morning and Evening Weekday Peak Hour Traffic Volumes

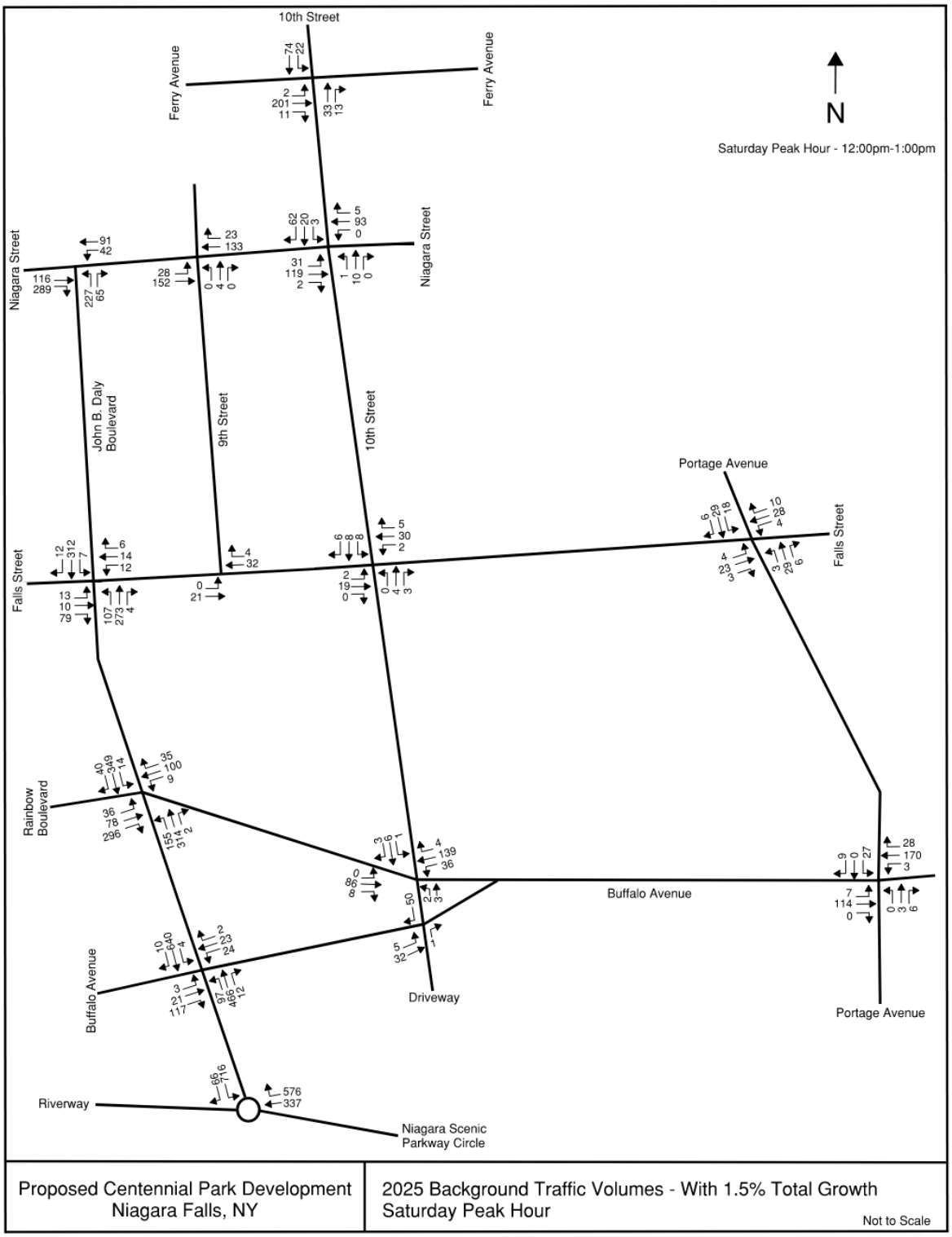


Figure 7: 2025 Background Saturday Peak Hour Traffic Volumes

B. LOS and Queue Analysis for 2025 Background Traffic Volumes

The results for the Level of Service (LOS) and Queue summaries for 2025 Background Traffic Conditions are summarized below. Detailed results are presented in Tables 9, 10, 11, 12, 13 and 14. As discussed earlier, LOS with a capitol letter such as A are indicative of results for a signalized intersection. LOS with a lower-case letter in parentheses such as (a) are indicative of results for an unsignalized intersection.

- Morning Peak Hour Levels of Service - For the morning peak hour, most intersection approaches and turning movements operate at LOS A (a) or LOS B (b). At the John B. Daly Boulevard and Falls Street intersection, the westbound approach operates at LOS (c).

- Evening Peak Hour Levels of Service – For the evening peak hour, most intersection approaches and turning movements operate at LOS A (a) or LOS B (b). The eastbound left turn movement at the John B. Daly Boulevard and Rainbow Boulevard intersection operates at LOS C. At the John B. Daly Boulevard and Falls Street intersection, the eastbound approach operates at LOS (d) and the westbound approach operates at LOS (c).

- Saturday Peak Hour Levels of Service – For the Saturday peak hour, most intersection approaches and turning movements operate at LOS A (a) or LOS B (b). At the John B. Daly Boulevard and Falls Street intersection, the westbound approach operates at LOS (c).

- Peak Hour Queue Analysis – For all Peak Hour Periods, there is sufficient storage to accommodate the queue lengths for all intersection approaches and turning movements.

Table 9: LOS Simulation – 2025 Background Morning Peak Hour

Intersection	2022 Existing	2025 Background
Niagara Scenic Parkway @ John Daly Boulevard*		
WB Approach	a(4)	a(4)
SB Approach	a(1)	a(1)
John Daly Boulevard @ Buffalo Avenue	**A(5)**	**A(5)**
EB Left/Through/Right	A(7)	A(7)
WB Left/Through/Right	B(11)	B(11)
NB Left/Through/Right	A(5)	A(5)
SB Left	A(5)	A(5)
SB Through/Right	A(5)	A(5)
Rainbow Boulevard @ Buffalo Avenue / 10th Street	**A(3)**	**A(3)**
EB Left	A(3)	A(3)
EB Through/Right	A(2)	A(2)
WB Left	A(3)	A(3)
WB Through/Right	A(2)	A(2)
NB Left/Through/Right	A(8)	A(8)
SB Left/Through/Right	A(8)	A(8)
Buffalo Avenue @ Portage Road		
EB Left/Through/Right	a(1)	a(1)
WB Left/Through/Right	a(1)	a(1)
NB Left/Through/Right	b(11)	b(11)
SB Left/Through/Right	b(11)	b(11)
John Daly Boulevard @ Rainbow Boulevard	**A(9)**	**A(9)**
EB Left	B(14)	B(14)
EB Through	B(13)	B(14)
EB Right	A(5)	A(5)
WB Left	B(14)	B(14)
WB Through/Right	B(11)	B(11)
NB Left	A(6)	A(6)
NB Through/Right	A(8)	A(8)
SB Left	A(6)	A(7)
SB Through/Right	B(14)	B(14)
John Daly Boulevard @ Falls Street		
EB Left/Through/Right	b(12)	b(12)
WB Left/Through/Right	b(13)	c(15)
NB Left/Through/Right	a(1)	a(1)
SB Left/Through/Right	a(1)	a(1)
Falls Street @ 9th Street		
EB Left/Through	a(0)	a(0)
WB Through/Right	a(0)	a(0)
Falls Street @ 10th Street		
EB Left/Through/Right	a(8)	a(8)
WB Left/Through/Right	a(8)	a(8)
NB Left/Through/Right	a(7)	a(7)

Intersection	2022 Existing	2025 Background
SB Left/Through/Right	a(8)	a(8)
Falls Street @ Portage Road		
EB Left/Through/Right	a(8)	a(8)
WB Left/Through/Right	a(8)	a(8)
NB Left/Through/Right	a(8)	a(8)
SB Left/Through/Right	a(8)	a(8)
John Daly Boulevard @ Niagara Street	**A(7)**	**A(7)**
EB Through	A(9)	A(9)
EB Right	A(4)	A(4)
WB Left/Through	A(8)	A(8)
NB Left	B(11)	B(11)
NB Right	A(3)	A(3)
Niagara Street @ 9th Street		
EB Left/Through	a(1)	a(1)
WB Through/Right	a(0)	a(0)
NB Left/Through/Right	b(12)	b(12)
Niagara Street @ 10th Street	**A(8)**	**A(8)**
EB Left/Through/Right	A(6)	A(6)
WB Left/Through/Right	A(5)	A(5)
NB Left/Through/Right	B(16)	B(16)
SB Left/Through/Right	B(11)	B(11)
Ferry Avenue @ 10th Street		
EB Left/Through/Right	a(8)	a(8)
NB Through/Right	a(8)	a(8)
SB Left/Through	a(8)	a(8)

Table 10: LOS Simulation – 2025 Background Evening Peak Hour

Intersection	2022 Existing	2025 Background
Niagara Scenic Parkway @ John Daly Boulevard*		
WB Approach	a(5)	a(5)
SB Approach	a(5)	a(5)
John Daly Boulevard @ Buffalo Avenue	**A(9)**	**A(9)**
EB Left/Through/Right	A(6)	A(6)
WB Left/Through/Right	B(14)	B(14)
NB Left/Through/Right	A(9)	A(9)
SB Left	A(6)	A(6)
SB Through/Right	A(9)	A(9)
Rainbow Boulevard @ Buffalo Avenue / 10th Street	**A(3)**	**A(3)**
EB Left	A(4)	A(4)
EB Through/Right	A(2)	A(2)
WB Left	A(3)	A(3)
WB Through/Right	A(2)	A(2)
NB Left/Through/Right	A(7)	A(7)
SB Left/Through/Right	A(7)	A(7)
Buffalo Avenue @ Portage Road		
EB Left/Through/Right	a(1)	a(1)
WB Left/Through/Right	a(1)	a(1)
NB Left/Through/Right	a(10)	a(10)
SB Left/Through/Right	b(13)	b(13)
John Daly Boulevard @ Rainbow Boulevard	**B(13)**	**B(13)**
EB Left	C(21)	C(21)
EB Through	B(19)	B(19)
EB Right	A(7)	A(7)
WB Left	B(19)	B(19)
WB Through/Right	B(14)	B(15)
NB Left	A(6)	A(6)
NB Through/Right	A(9)	A(9)
SB Left	A(6)	A(6)
SB Through/Right	B(19)	B(19)
John Daly Boulevard @ Falls Street		
EB Left/Through/Right	d(29)	d(30)
WB Left/Through/Right	c(24)	c(25)
NB Left/Through/Right	a(2)	a(2)
SB Left/Through/Right	a(1)	a(1)
Falls Street @ 9th Street		
EB Left/Through	a(0)	a(0)
WB Through/Right	a(0)	a(0)
Falls Street @ 10th Street		
EB Left/Through/Right	a(8)	a(8)
WB Left/Through/Right	a(8)	a(8)
NB Left/Through/Right	a(8)	a(8)

Intersection	2022 Existing	2025 Background
SB Left/Through/Right	a(8)	a(8)
Falls Street @ Portage Road		
EB Left/Through/Right	a(8)	a(8)
WB Left/Through/Right	a(8)	a(8)
NB Left/Through/Right	a(8)	a(8)
SB Left/Through/Right	a(8)	a(8)
John Daly Boulevard @ Niagara Street	**A(7)**	**A(7)**
EB Through	A(9)	A(9)
EB Right	A(4)	A(4)
WB Left/Through	A(9)	A(9)
NB Left	B(12)	B(12)
NB Right	A(4)	A(4)
Niagara Street @ 9th Street		
EB Left/Through	a(2)	a(2)
WB Through/Right	a(0)	a(0)
NB Left/Through/Right	b(15)	b(15)
Niagara Street @ 10th Street	**A(7)**	**A(7)**
EB Left/Through/Right	A(6)	A(6)
WB Left/Through/Right	A(5)	A(5)
NB Left/Through/Right	B(15)	B(15)
SB Left/Through/Right	A(9)	A(9)
Ferry Avenue @ 10th Street		
EB Left/Through/Right	a(10)	a(10)
NB Through/Right	a(9)	a(9)
SB Left/Through	b(11)	b(11)

Table 11: LOS Simulation – 2025 Background Saturday Peak Hour

Intersection	2022 Existing	2025 Background
Niagara Scenic Parkway @ John Daly Boulevard*		
WB Approach	b(11)	b(11)
SB Approach	b(11)	b(11)
John Daly Boulevard @ Buffalo Avenue	**A(8)**	**A(8)**
EB Left/Through/Right	A(5)	A(5)
WB Left/Through/Right	B(11)	B(11)
NB Left/Through/Right	A(8)	A(8)
SB Left	A(5)	A(5)
SB Through/Right	A(8)	A(8)
Rainbow Boulevard @ Buffalo Avenue / 10th Street	**A(2)**	**A(2)**
EB Left	A(0)	A(0)
EB Through/Right	A(2)	A(2)
WB Left	A(2)	A(2)
WB Through/Right	A(2)	A(2)
NB Left/Through/Right	B(11)	B(11)
SB Left/Through/Right	A(10)	A(10)
Buffalo Avenue @ Portage Road		
EB Left/Through/Right	a(1)	a(1)
WB Left/Through/Right	a(1)	a(1)
NB Left/Through/Right	b(11)	b(11)
SB Left/Through/Right	b(11)	b(12)
John Daly Boulevard @ Rainbow Boulevard	**B(11)**	**B(11)**
EB Left	B(18)	B(18)
EB Through	B(16)	B(16)
EB Right	A(7)	A(7)
WB Left	B(16)	B(16)
WB Through/Right	B(12)	B(13)
NB Left	A(6)	A(6)
NB Through/Right	A(7)	A(8)
SB Left	A(6)	A(6)
SB Through/Right	B(18)	B(18)
John Daly Boulevard @ Falls Street		
EB Left/Through/Right	b(13)	b(14)
WB Left/Through/Right	c(20)	c(21)
NB Left/Through/Right	a(3)	a(3)
SB Left/Through/Right	a(1)	a(1)
Falls Street @ 9th Street		
EB Left/Through	a(0)	a(0)
WB Through/Right	a(0)	a(0)
Falls Street @ 10th Street		
EB Left/Through/Right	a(7)	a(7)
WB Left/Through/Right	a(7)	a(7)
NB Left/Through/Right	a(7)	a(7)

Intersection	2022 Existing	2025 Background
SB Left/Through/Right	a(7)	a(7)
Falls Street @ Portage Road		
EB Left/Through/Right	a(8)	a(8)
WB Left/Through/Right	a(7)	a(7)
NB Left/Through/Right	a(7)	a(7)
SB Left/Through/Right	a(8)	a(8)
John Daly Boulevard @ Niagara Street	**A(7)**	**A(7)**
EB Through	A(9)	A(9)
EB Right	A(4)	A(4)
WB Left/Through	A(9)	A(9)
NB Left	B(11)	B(11)
NB Right	A(3)	A(3)
Niagara Street @ 9th Street		
EB Left/Through	a(1)	a(1)
WB Through/Right	a(0)	a(0)
NB Left/Through/Right	a(1)	a(1)
Niagara Street @ 10th Street	**A(7)**	**A(7)**
EB Left/Through/Right	A(5)	A(6)
WB Left/Through/Right	A(5)	A(5)
NB Left/Through/Right	B(16)	B(16)
SB Left/Through/Right	A(9)	A(9)
Ferry Avenue @ 10th Street		
EB Left/Through/Right	a(9)	a(9)
NB Through/Right	a(8)	a(8)
SB Left/Through	a(8)	a(8)

Table 12: Queue Simulation – 2025 Background Morning Peak Hour

Intersection	Available Storage	2022 Existing	2025 Background
Niagara Scenic Parkway @ John Daly Boulevard*			
WB Approach	-	50	70
SB Approach	525	75	68
John Daly Boulevard @ Buffalo Avenue			
EB Left/Through/Right	-	15	15
WB Left/Through/Right	511	17	17
NB Left/Through/Right	525	52	53
SB Left	45	1	1
SB Through/Right	468	27	27
Rainbow Boulevard @ Buffalo Avenue / 10th Street			
EB Left	175	4	4
EB Through/Right	746	5	6
WB Left	125	8	8
WB Through/Right	-	10	10
NB Left/Through/Right	-	9	9
SB Left/Through/Right	1374	12	12
Buffalo Avenue @ Portage Road			
EB Left/Through/Right	-	0	0
WB Left/Through/Right	-	0	0
NB Left/Through/Right	-	3	3
SB Left/Through/Right	1634	5	5
John Daly Boulevard @ Rainbow Boulevard			
EB Left	255	18	18
EB Through	-	12	12
EB Right	140	32	32
WB Left	240	10	10
WB Through/Right	746	12	12
NB Left	235	27	28
NB Through/Right	468	63	64
SB Left	200	5	5
SB Through/Right	1035	33	34
John Daly Boulevard @ Falls Street			
EB Left/Through/Right	609	5	5
WB Left/Through/Right	365	15	8
NB Left/Through/Right	1035	0	0
SB Left/Through/Right	777	0	0
Falls Street @ 9th Street			
EB Left/Through	365	0	0
WB Through/Right	347	0	0
Falls Street @ 10th Street			
EB Left/Through/Right	347	8	8
WB Left/Through/Right	1995	8	8
NB Left/Through/Right	1374	5	5

Intersection	Available Storage	2022 Existing	2025 Background
SB Left/Through/Right	792	3	3
Falls Street @ Portage Road			
EB Left/Through/Right	1995	10	10
WB Left/Through/Right	-	8	8
NB Left/Through/Right	1634	8	8
SB Left/Through/Right	-	5	5
John Daly Boulevard @ Niagara Street			
EB Through	-	19	19
EB Right	-	12	13
WB Left/Through	311	15	16
NB Left	777	48	48
NB Right	777	14	14
Niagara Street @ 9th Street			
EB Left/Through	311	3	3
WB Through/Right	353	0	0
NB Left/Through/Right	784	3	3
Niagara Street @ 10th Street			
EB Left/Through/Right	353	42	42
WB Left/Through/Right	-	18	19
NB Left/Through/Right	792	30	30
SB Left/Through/Right	830	27	27
Ferry Avenue @ 10th Street			
EB Left/Through/Right	-	8	8
NB Through/Right	830	20	20
SB Left/Through	-	10	10

Table 13: Queue Simulation – 2025 Background Evening Peak Hour

Intersection	Available Storage	2022 Existing	2025 Background
Niagara Scenic Parkway @ John Daly Boulevard*			
WB Approach	-	180	138
SB Approach	525	177	190
John Daly Boulevard @ Buffalo Avenue			
EB Left/Through/Right	-	41	44
WB Left/Through/Right	511	34	35
NB Left/Through/Right	525	75	78
SB Left	45	3	3
SB Through/Right	468	108	112
Rainbow Boulevard @ Buffalo Avenue / 10th Street			
EB Left	175	1	1
EB Through/Right	746	12	12
WB Left	125	10	10
WB Through/Right	-	11	11
NB Left/Through/Right	-	4	4
SB Left/Through/Right	1374	15	15
Buffalo Avenue @ Portage Road			
EB Left/Through/Right	-	0	0
WB Left/Through/Right	-	0	0
NB Left/Through/Right	-	5	5
SB Left/Through/Right	1634	23	25
John Daly Boulevard @ Rainbow Boulevard			
EB Left	255	37	38
EB Through	-	33	33
EB Right	140	60	61
WB Left	240	13	13
WB Through/Right	746	20	20
NB Left	235	49	49
NB Through/Right	468	57	58
SB Left	200	12	12
SB Through/Right	1035	116	120
John Daly Boulevard @ Falls Street			
EB Left/Through/Right	609	53	58
WB Left/Through/Right	365	25	25
NB Left/Through/Right	1035	5	8
SB Left/Through/Right	777	0	0
Falls Street @ 9th Street			
EB Left/Through	365	0	0
WB Through/Right	347	0	0
Falls Street @ 10th Street			
EB Left/Through/Right	347	5	5
WB Left/Through/Right	1995	15	15
NB Left/Through/Right	1374	3	3

Intersection	Available Storage	2022 Existing	2025 Background
SB Left/Through/Right	792	8	8
Falls Street @ Portage Road			
EB Left/Through/Right	1995	13	13
WB Left/Through/Right	-	8	8
NB Left/Through/Right	1634	8	8
SB Left/Through/Right	-	13	13
John Daly Boulevard @ Niagara Street			
EB Through	-	41	44
EB Right	-	25	27
WB Left/Through	311	33	36
NB Left	777	70	71
NB Right	777	17	17
Niagara Street @ 9th Street			
EB Left/Through	311	5	5
WB Through/Right	353	0	0
NB Left/Through/Right	784	3	3
Niagara Street @ 10th Street			
EB Left/Through/Right	353	38	39
WB Left/Through/Right	-	34	34
NB Left/Through/Right	792	16	16
SB Left/Through/Right	830	41	42
Ferry Avenue @ 10th Street			
EB Left/Through/Right	-	18	18
NB Through/Right	830	10	10
SB Left/Through	-	48	48

Table 14: Queue Simulation – 2025 Background Saturday Peak Hour

Intersection	Available Storage	2022 Existing	2025 Background
Niagara Scenic Parkway @ John Daly Boulevard*			
WB Approach	-	341	401
SB Approach	525	275	273
John Daly Boulevard @ Buffalo Avenue			
EB Left/Through/Right	-	27	27
WB Left/Through/Right	511	24	24
NB Left/Through/Right	525	61	62
SB Left	45	3	3
SB Through/Right	468	66	67
Rainbow Boulevard @ Buffalo Avenue / 10th Street			
EB Left	175	0	0
EB Through/Right	746	10	10
WB Left	125	11	11
WB Through/Right	-	14	14
NB Left/Through/Right	-	7	7
SB Left/Through/Right	1374	10	10
Buffalo Avenue @ Portage Road			
EB Left/Through/Right	-	0	0
WB Left/Through/Right	-	0	0
NB Left/Through/Right	-	3	3
SB Left/Through/Right	1634	8	8
John Daly Boulevard @ Rainbow Boulevard			
EB Left	255	30	31
EB Through	-	26	26
EB Right	140	43	43
WB Left	240	12	12
WB Through/Right	746	23	24
NB Left	235	44	47
NB Through/Right	468	64	67
SB Left	200	7	8
SB Through/Right	1035	91	95
John Daly Boulevard @ Falls Street			
EB Left/Through/Right	609	20	20
WB Left/Through/Right	365	13	13
NB Left/Through/Right	1035	8	8
SB Left/Through/Right	777	0	0
Falls Street @ 9th Street			
EB Left/Through	365	0	0
WB Through/Right	347	0	0
Falls Street @ 10th Street			
EB Left/Through/Right	347	3	3
WB Left/Through/Right	1995	5	5
NB Left/Through/Right	1374	0	0

Intersection	Available Storage	2022 Existing	2025 Background
SB Left/Through/Right	792	3	0
Falls Street @ Portage Road			
EB Left/Through/Right	1995	5	5
WB Left/Through/Right	-	5	5
NB Left/Through/Right	1634	5	5
SB Left/Through/Right	-	8	8
John Daly Boulevard @ Niagara Street			
EB Through	-	41	42
EB Right	-	32	32
WB Left/Through	311	22	22
NB Left	777	63	65
NB Right	777	12	12
Niagara Street @ 9th Street			
EB Left/Through	311	3	3
WB Through/Right	353	0	0
NB Left/Through/Right	784	0	0
Niagara Street @ 10th Street			
EB Left/Through/Right	353	38	39
WB Left/Through/Right	-	25	25
NB Left/Through/Right	792	11	11
SB Left/Through/Right	830	34	34
Ferry Avenue @ 10th Street			
EB Left/Through/Right	-	13	15
NB Through/Right	830	8	8
SB Left/Through	-	13	13

Proposed Development

PROPOSED DEVELOPMENT

A. *Site Layout*

The Centennial Park development site is located in the City of Niagara Falls, bounded by Falls Street to the north, a former railroad right-of-way to the south, John B. Daly Boulevard to the west, and 10th Street to the east. The development will consist of an arena/event center; indoor ice rink and soccer field; public park with water feature, skating rink and activities; and parking garage that features a rooftop for seasonal activities and beer garden.

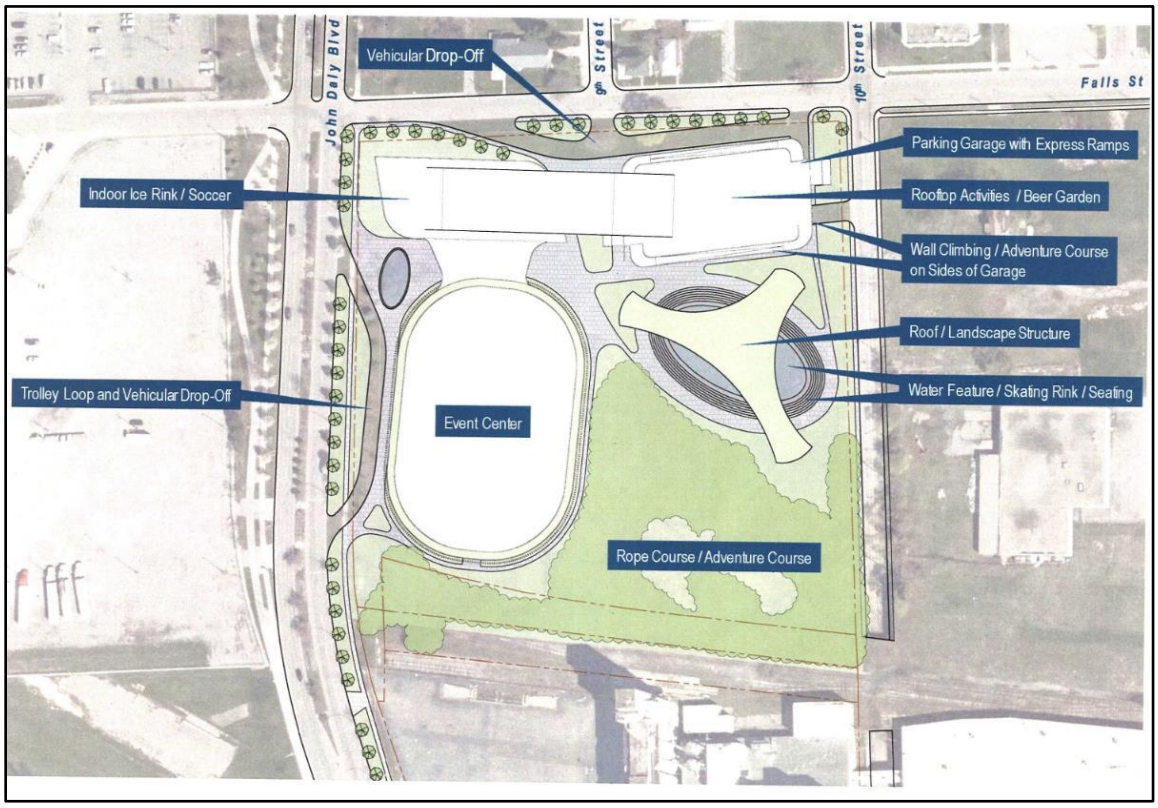


Figure 8: Proposed Development

B. *Street and Intersection Modifications*

Falls Street

As part of the Centennial Park Development, Falls Street from John B. Daly Boulevard to 10th Street in front of the proposed Arena will be reconstructed and widened. This segment of Falls Street will increase from two travel lanes to four travel lanes.

Falls Street and John B. Daly Boulevard

The intersection of Falls Street and John B. Daly Boulevard will be reconstructed to provide dedicated turn lanes for the westbound approach. Recently, the New York State Department of Transportation has constructed dedicated left turn lanes on John B. Daly Boulevard in the northbound and southbound directions. The Seneca Gaming Corporation is in the process of widening the eastbound approach for the Seneca Niagara Resort Casino Entrance (formerly Falls Street). The new casino entrance will have two entrance lanes and two exit lanes for a total of four lanes. The exit lanes will be configured to provide a dedicated right turn lane and a shared left turn/through lane. Accordingly as part of the Centennial Park Project, the eastern approach on Falls Street will be widened to mirror the four lanes on the Casino side of the intersection. The new widened approach will have two eastbound exit lanes to accept left and right turning vehicles as well as through traffic from the Casino. The two westbound approach lanes will include a dedicated left turn lane and a shared through/right turn lane.

Given the number of lanes and anticipated traffic volumes at this intersection associated with both Centennial Park and the Seneca Niagara Resort Casino Entrance, this intersection would be converted from an unsignalized intersection to a signalized intersection. The westbound approach on Falls Street and the eastbound approach from the Casino Entrance (formerly Falls Street) will operate separately on their own phase. The signal system would include the following phasing:

- John B Daly Boulevard North and South – Protected left turns with permitted right turn on red for westbound Falls Street and a protected overlap right turn on the Casino Entrance.
- John B Daly Boulevard North and South – Permissive left turns, green through movements and permitted right turns on red for Falls Street and the Casino Entrance.
- Fall Street Westbound Approach – Protected left and right turns and through movements. Permitted right turns on red for John B. Daly Boulevard and the Casino Entrance.
- Casino Entrance Eastbound Approach (formerly Falls Street) - Protected left and right turns and through movements. Permitted right turns on red for John B. Daly Boulevard and Falls Street.

Falls Street and 9th Street

At this intersection, Falls Street would be widened from two lanes to four lanes. No other modifications would be implemented. 9th Street would remain as is with a northbound one-way travel lane.

Falls Street and 10th Street

At this intersection, the west approach of Falls Street would be widened from two lanes to four lanes. The west approach would now consist of a dedicated right turn lane and shared through/left turn lane. The two lane east approach on Falls Street would remain. No other modifications would be implemented at this intersection and 10th Street would remain as is with a single travel lane in the northbound and southbound direction.

These intersection configurations and signal phases were used for the LOS and Queue Analyses for the 2025 Build Non-Event and Event Traffic Operations that are presented later in this Report.

C. *Temporary Traffic Control During Arena Events*

As with other event centers in the Niagara Frontier Region and City of Niagara Falls, temporary traffic control measures would be used to supplement permanent traffic control measures during events. Temporary measures would include the use of traffic control devices that are typically used for construction work zones to repurpose travel and turn lanes. In addition, Niagara Falls Police Traffic Personnel would be deployed on a temporary basis to direct traffic at these intersections.

For the Centennial Park Event Center, temporary traffic control measures would include repurposing the left northbound through lane to provide a second northbound left turn lane on John B. Daly Boulevard at Rainbow Boulevard. Niagara Falls Police personnel would be assigned to assist motorists and direct traffic at this location. Temporary measures would be used to assist arriving event traffic make the left turn onto Rainbow Boulevard to access off-site parking.

D. *Non-Event Trip Generation*

Trip generation for the Niagara Falls Centennial Park was compiled by using trip generation rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. The number of trips that enter and exit differing kinds of activities or land uses comprise the trip generation estimate for the overall development. The two ITE Land Uses that apply to the Niagara Falls Centennial Park development include:

- Public Park ITE Land Use 411
- Ice Rink ITE Land Use 465
- Operation and Maintenance Staff

The number of trips is calculated by multiplying the Gross Floor Area (GFA) in square feet for each proposed land use type by the trip generation rate associated with that land use type. The trip generation rate for Weekday AM and PM Peak hour of the adjacent street traffic was selected for this analysis. This rate when added to the external or background commuter traffic, facilitates a worst-case scenario for analysis of traffic impacts associated with the development.

The ice rink is included in a multi-use building where an ice rink or soccer field will be used seasonally. The ice rink was chosen based on the calculation of a greater number of trips when compared to trip generation rates associated with the soccer field.

The proposed arena, public park and ice rink/soccer field will be staffed with full time personnel associated with facility operations and maintenance. For the purposes of trip generation, full time personnel were assumed to contribute 100 additional trips to the site generated trips set forth in the referenced Land Uses. Ten percent of these trips would utilize public transportation. Therefore, ninety percent or 90 trips will utilize single occupant vehicles. Accordingly, 90 staff trips were added to the Weekday Morning and Evening Peak Hour trip generation volumes and 25 trips were added to the Weekend Peak Hour trip generation volumes.

Centennial Park is an infill development surrounded by other attractions such as Niagara Falls, Seneca Niagara Resort and Casino as well as numerous hotels, restaurants, and other entertainment venues. Therefore, the total number of trips was reduced to account for multi-modal trips associated with transit, walking and bicycle usage; as well as charter buses that would be used to access the development.

The number of trips generated for each project component during the weekday AM and PM peak hours are summarized in Table 15. The number of trips generated for each project component during the Saturday peak hour of 10:30 and 11:30 AM is summarized in Table 16. These Tables provide the total trips that are generated by each project component as well as the reduction for multi-modal transportation usage.

Table 15 Weekday Trip Generation

Trip Generation Summary						
	AM Peak Hour			PM Peak Hour		
Project Component:	**Total Trips**	**Entering**	**Exiting**	**Total Trips**	**Entering**	**Exiting**
Land Use 411 - Public Park	32	19	13	25	14	11
Land Use 465 - Ice Skating Rink	5	2	3	61	34	27
Arena Employees	75	68	7	100	10	90
Total Trips Generated	**112**	**89**	**23**	**186**	**58**	**128**
Public Transit and Local Trolley Use 10% Reduction	-11	-9	-2	-19	-6	-13
Charter Bus Use 5% Reduction	-6	-4	-1	-9	-3	-6
Pedestrian/Bicycle Access from Adjoining Facilities 15% Reduction	-17	-13	-3	-28	-9	-19
Total Trips Generated After Reduction	**78**	**62**	**16**	**130**	**40**	**90**

Table 16 Saturday Trip Generation

Trip Generation Summary			
	Saturday Peak Hour		
Project Component:	**Total Trips**	**Entering**	**Exiting**
Land Use 411 - Public Park	32	18	14
Land Use 465 - Ice Skating Rink	111	59	52
Arena Employees	25	25	0
Total Trips Generated	**168**	**102**	**66**
Public Transit and Local Trolley Use 10% Reduction	-17	-10	-7
Charter Bus Use 5% Reduction	-8	-5	-3
Pedestrian/Bicycle Access from Adjoining Facilities 15% Reduction	-25	-15	-10
Total Trips Generated After Reduction	**118**	**72**	**46**

The percentage of trips that are generated by each land use during a weekday is summarized in Figure 9. The percentage of trips that are generated by each land use during a Saturday is summarized in Figure 10.

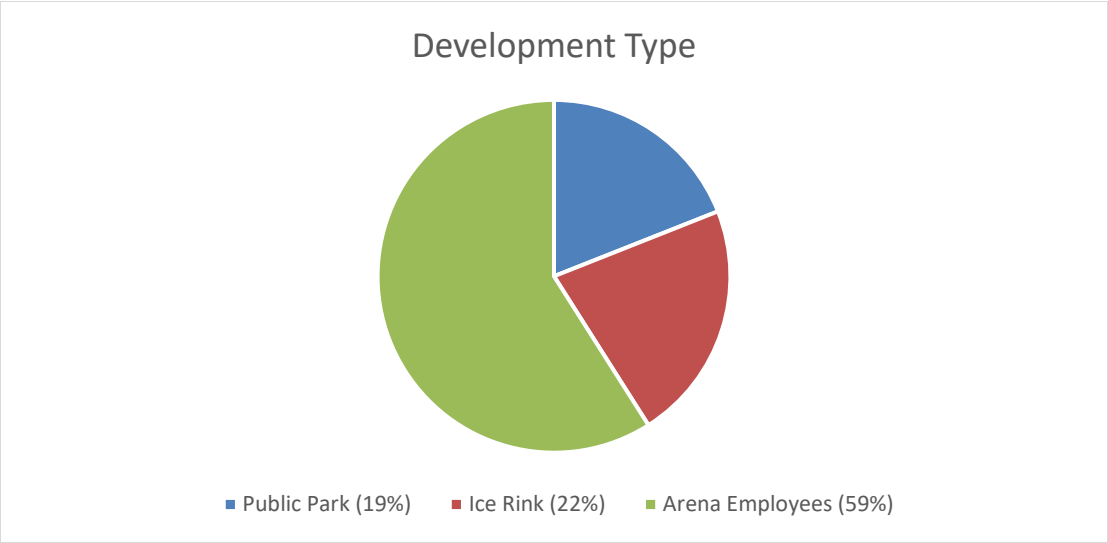


Figure 9: Weekday Trip Generation Summary

The percentage of trips that are generated by each land use on Saturday is summarized in Figure 2.

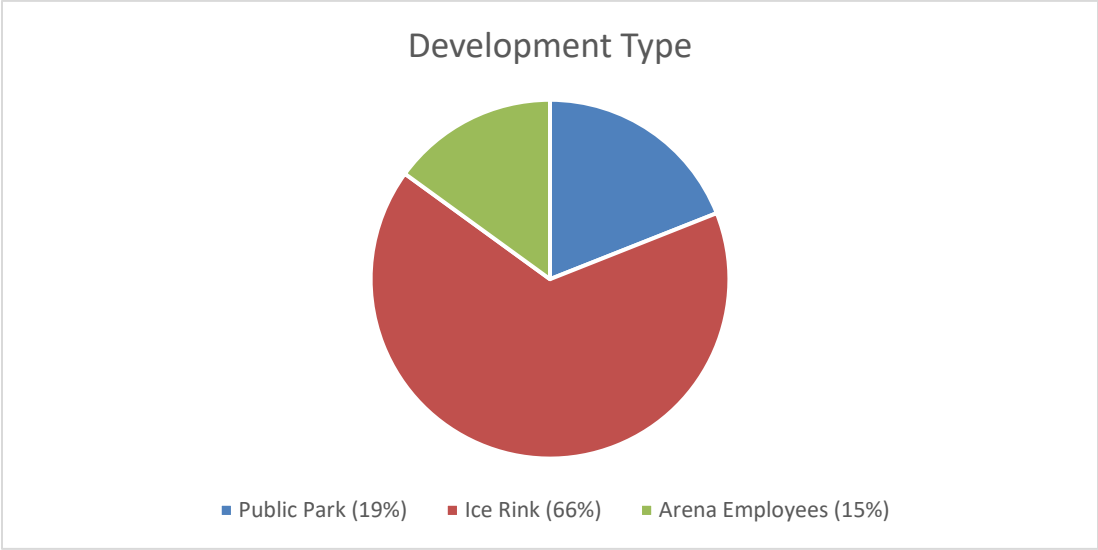


Figure 10: Saturday Trip Generation Summary

E. Trip Distribution

The non-event site generated trips were distributed throughout the Centennial Park development and adjacent street network based on the following origin and destination scenarios.

- Proposed Parking Garage – Non-event site generated traffic will use the proposed 480 space parking garage.

- Drop-Off/Pick-Up – Ride share, taxi, trolley, and charter bus services will utilize the drop-off/pick-up locations on John B. Daly Boulevard and Falls Street.

These origin and destination scenarios were utilized to distribute the total site generated trips to the adjacent street network. Results of this trip distribution as well as trip volumes for the 2025 Combined Build Scenario without an event at the arena are presented in following Figures.

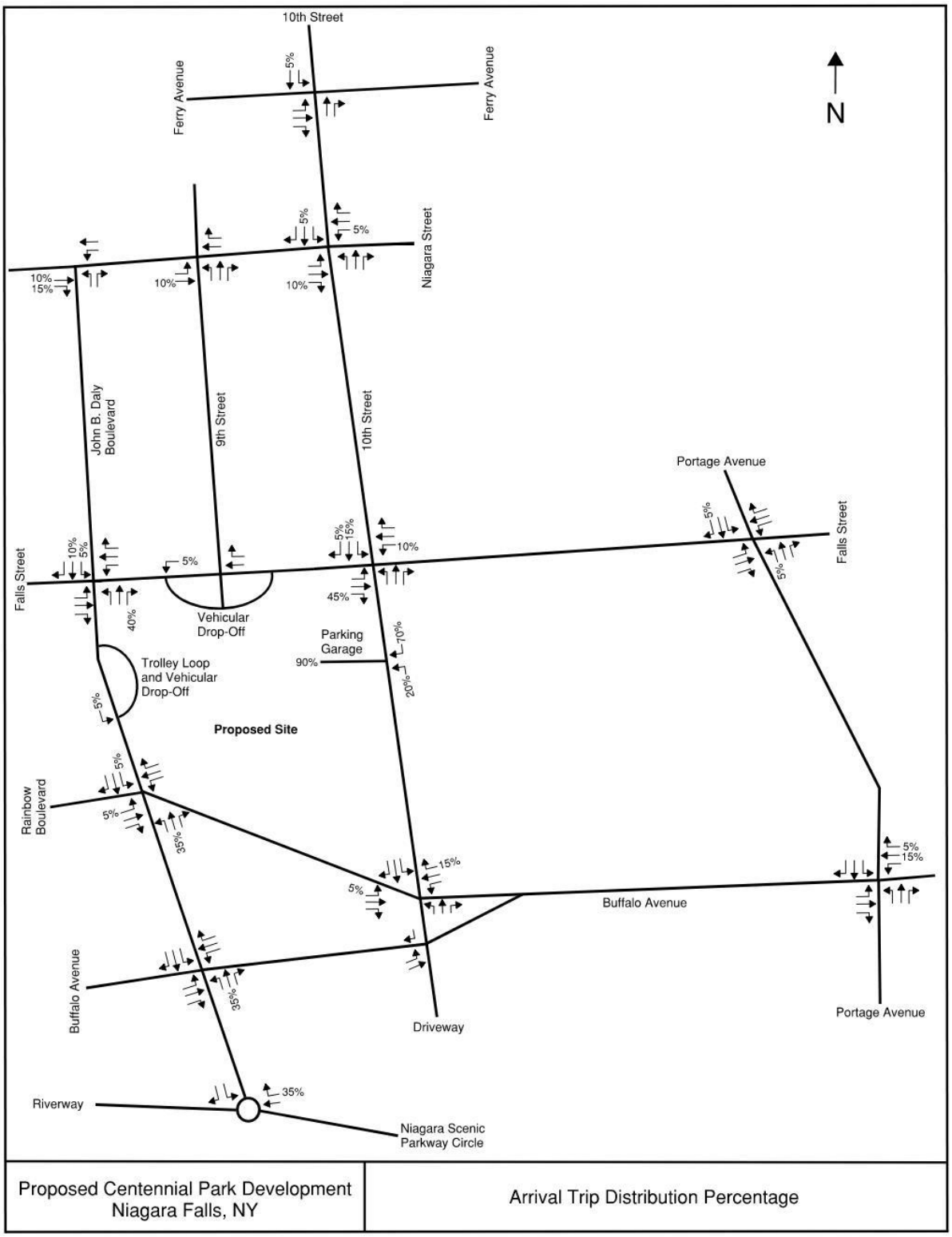


Figure 11: Non-Event Arrival Trip Distribution

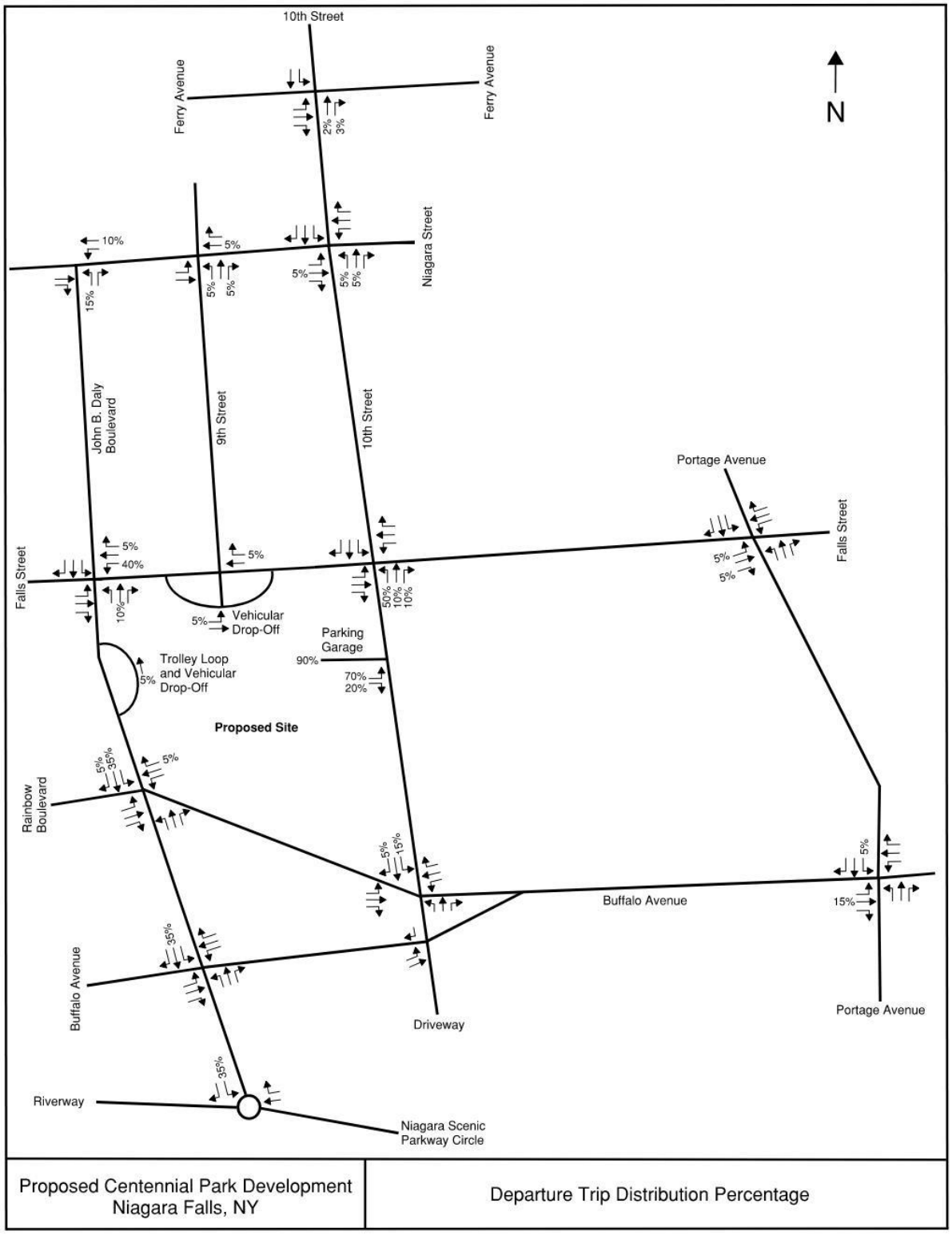


Figure 12: Non-Event Departure Trip Distribution

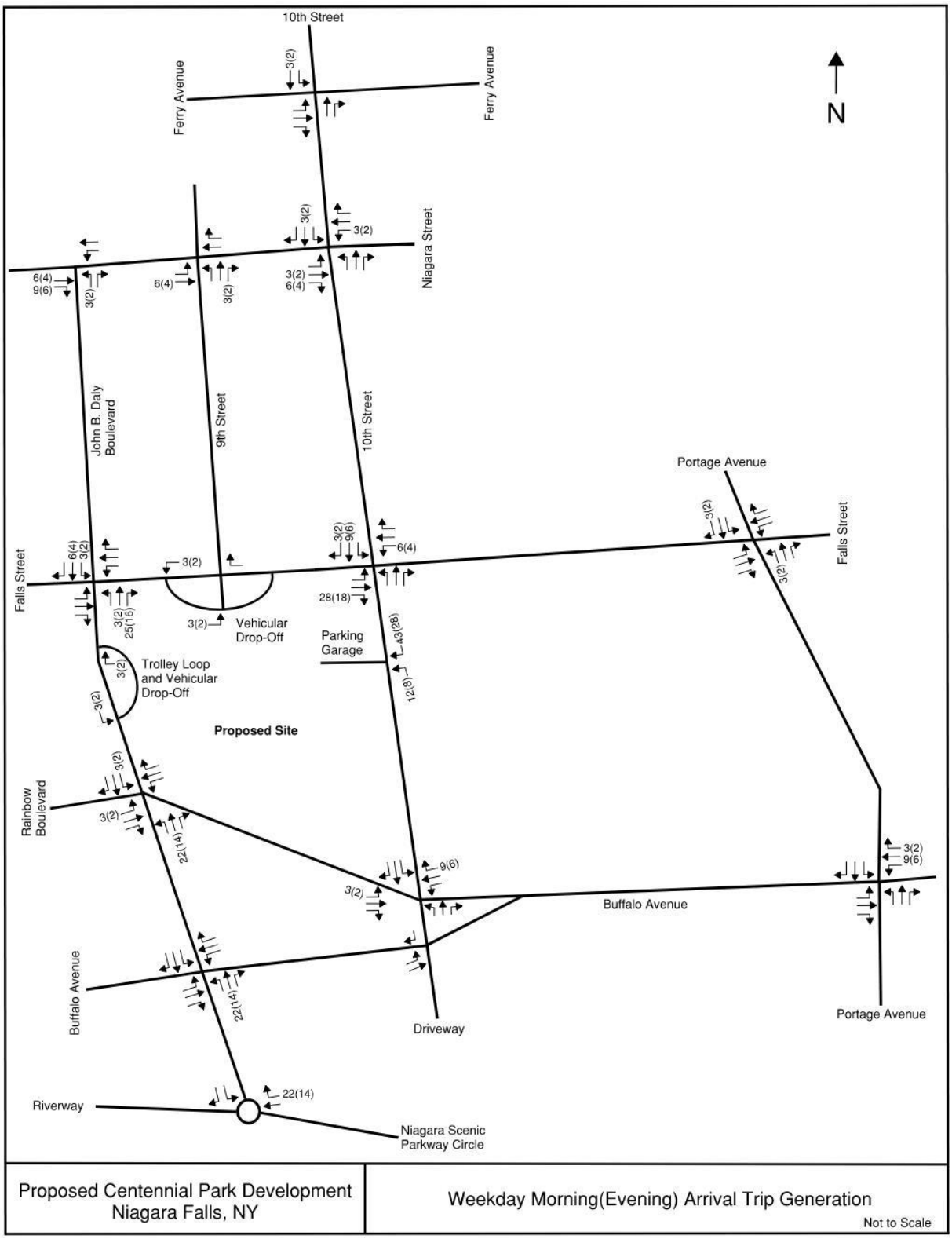


Figure 13: Weekday Morning and Evening Non-Event Arrival Trip Generation

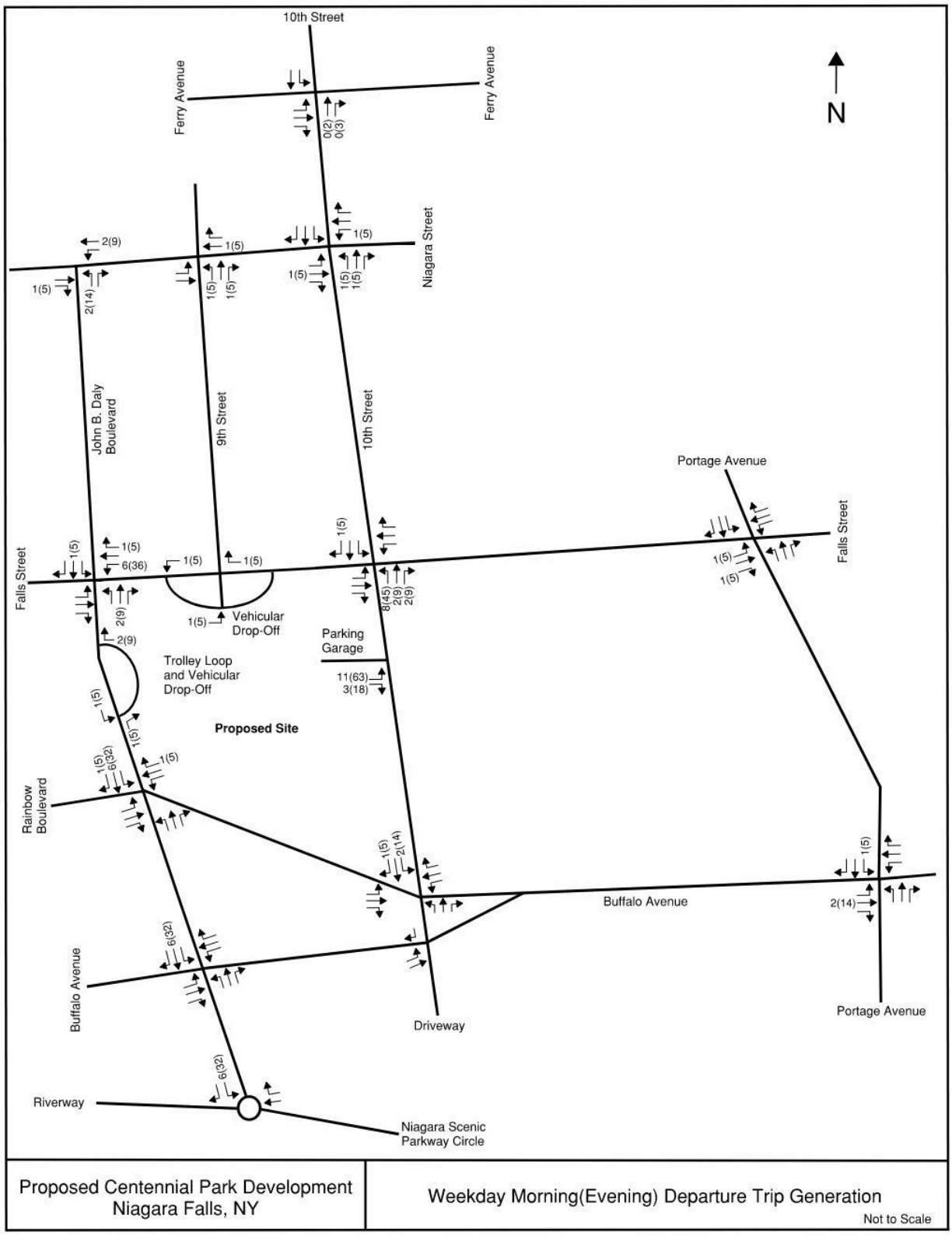


Figure 14: Weekday Morning and Evening Non-Event Departure Trip Generation

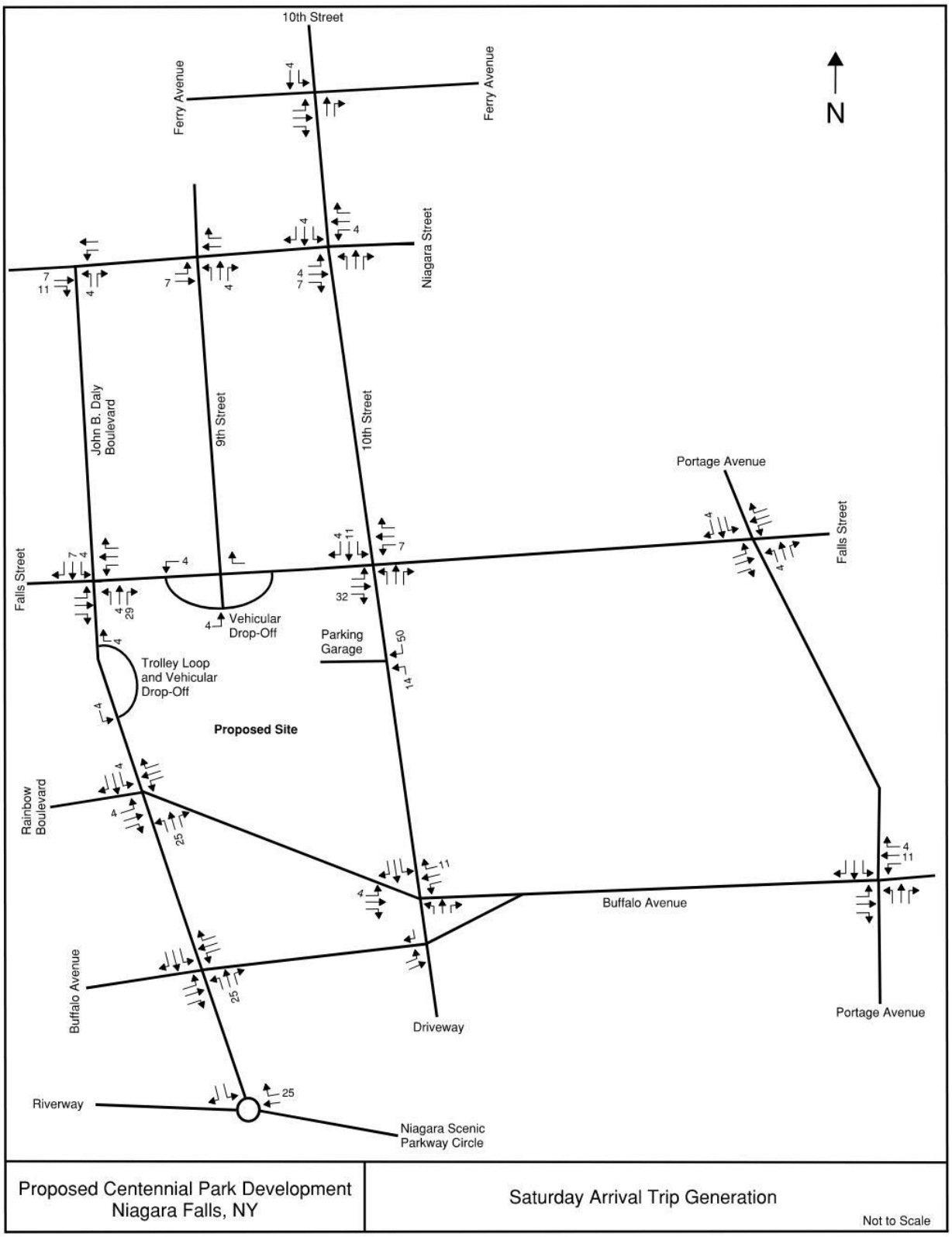


Figure 15: Saturday Non-Event Arrival Trip Generation

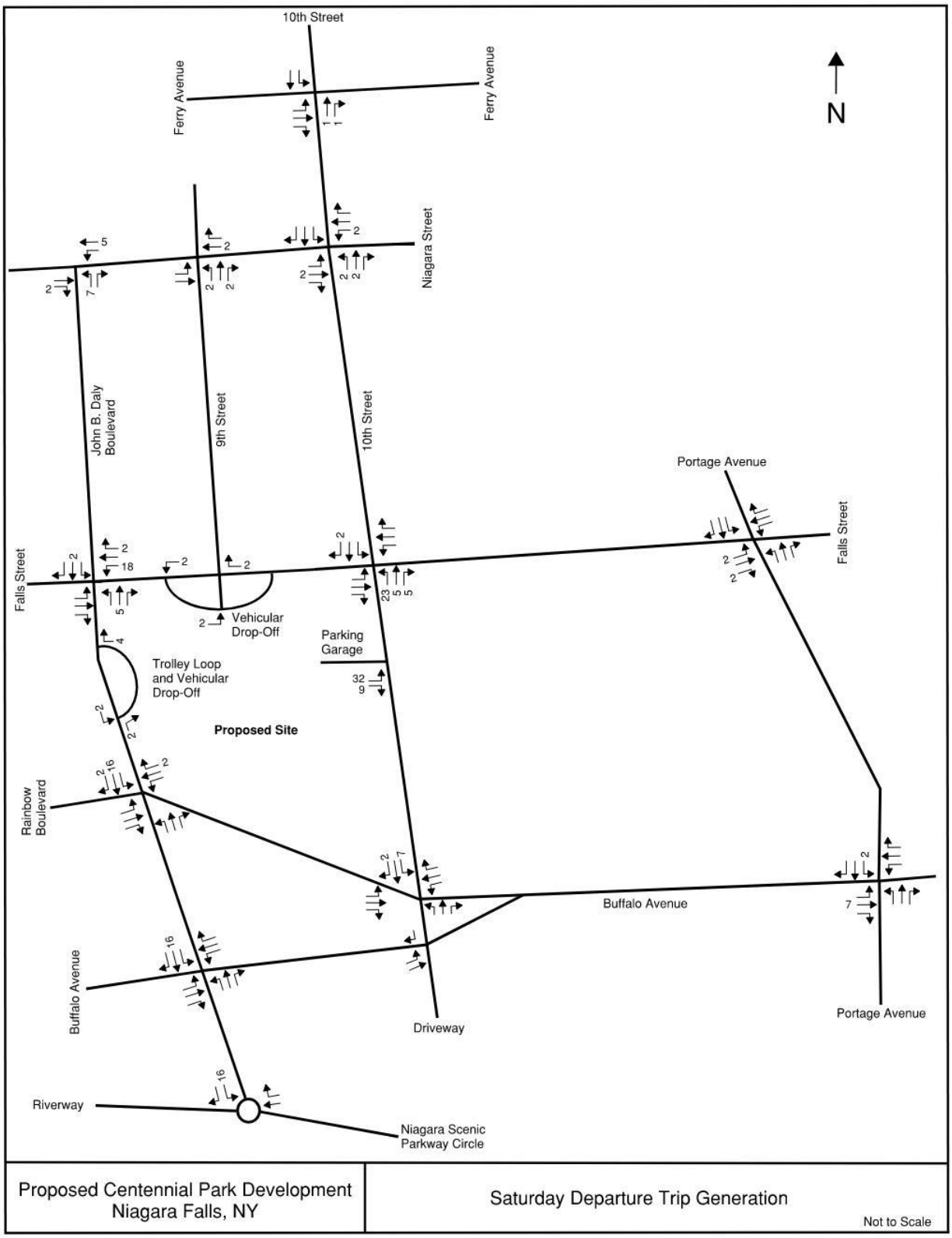


Figure 16: Saturday Non-Event Departure Trip Generation

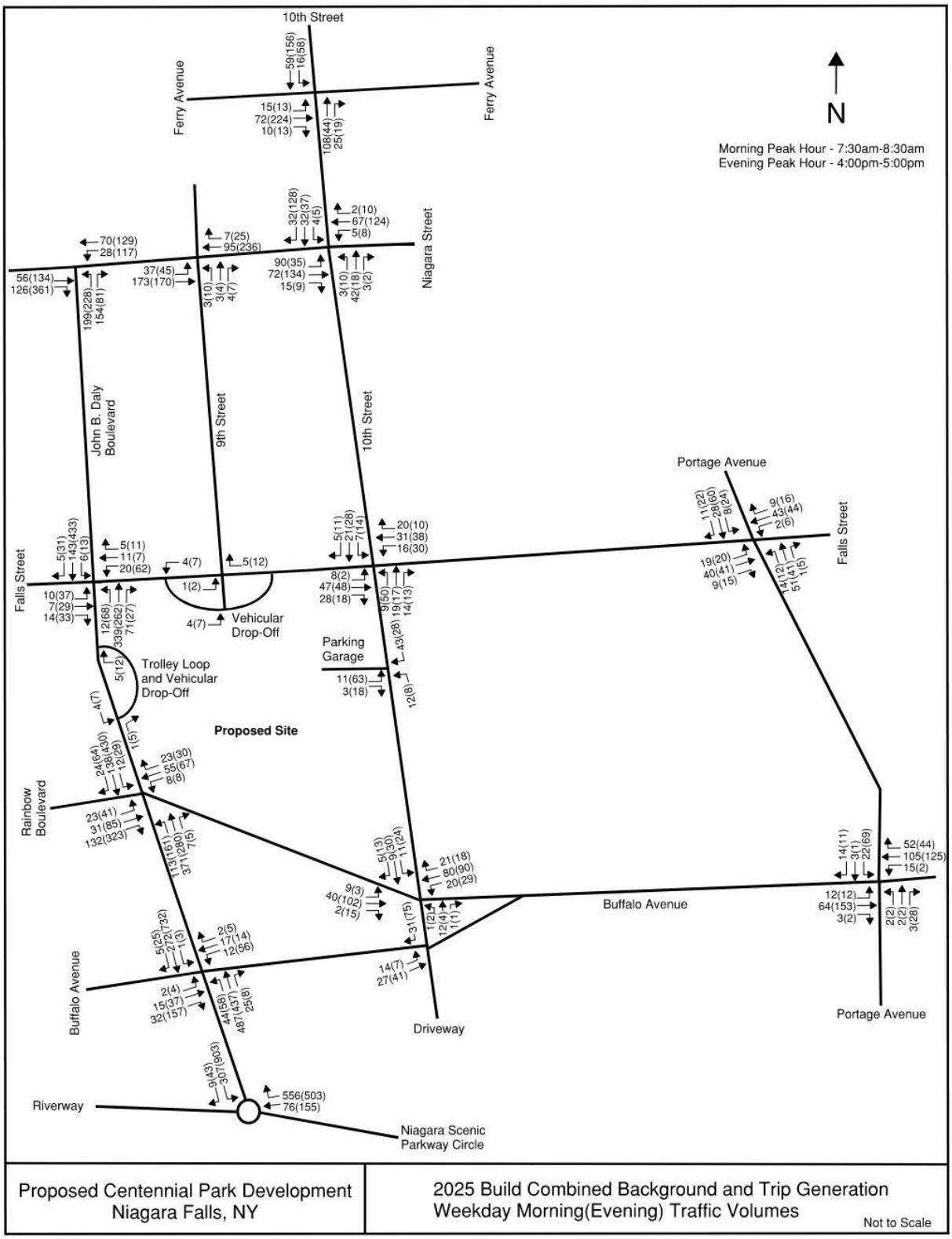


Figure 17: 2025 Build Weekday Morning and Evening Non-Event Traffic Volumes

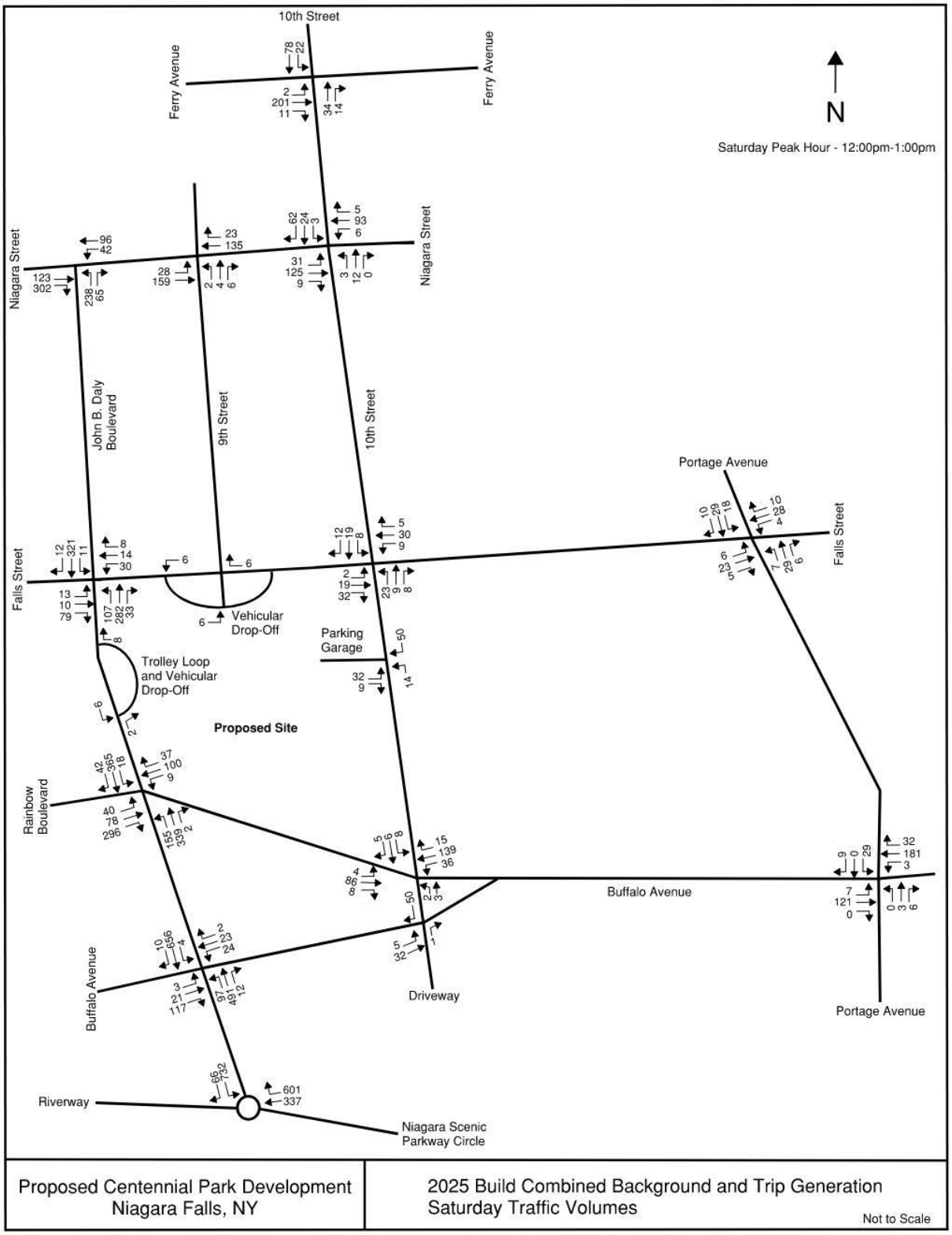


Figure 18: 2025 Build Saturday Non-Event Traffic Volumes

F. Combined LOS and Queue Analysis for 2025 Build Non-Event Traffic Operations

Detailed LOS simulation results for the Weekday Morning and Evening Peak Hours and Saturday Peak Hour without an event at the arena can be seen in Tables 17, 18 and 19. Detailed Queue simulation results for the Weekday Morning and Evening Peak Hours and the Saturday Peak Hour can be seen in Tables 20, 21 and 22. As discussed earlier, LOS with a capitol letter such as A are indicative of results for a signalized intersection. LOS with a lower-case letter in parentheses such as (a) are indicative of results for an unsignalized intersection.

- Morning Peak Hour Levels of Service - For the morning peak hour, all intersection approaches and turning movements operate at LOS A (a) or LOS B (b). This includes the new signalized intersection at John B. Daly Boulevard and Falls Street.
- Evening Peak Hour Levels of Service – For the evening peak hour, most intersection approaches and turning movements operate at LOS A (a) or LOS B (b). The eastbound left turn movement at the John B. Daly Boulevard and Rainbow Boulevard intersection continues to operate at LOS C. With installation of the new traffic signal, all turning movements at the John B. Daly Boulevard and Falls Street intersection operate at LOS C or better with an overall intersection LOS B.
- Saturday Peak Hour Levels of Service – For the Saturday peak hour, most intersection approaches and turning movements operate at LOS A (a) or LOS B (b). With installation of the new traffic signal, all turning movements at the John B. Daly Boulevard and Falls Street intersection operate at LOS C or better with an overall intersection LOS B.
- Peak Hour Queue Analysis – For all Peak Hour Periods, there is sufficient storage to accommodate the queue lengths for all intersection approaches and turning movements.

G. 2025 Build Non-Event Traffic Operations Summary

Comparing traffic operations for the 2025 Combined Build Analysis Without an Arena Event to 2025 Background Operations indicate that there are no significant impacts to traffic operations associated with development of Centennial Park. Intersection Levels of Service are within acceptable ranges with sufficient storage to accommodate the queue lengths. Therefore, no mitigation measures are warranted for this scenario.

Table 17: LOS Simulation – 2025 Build Morning Peak Hour Without an Arena Event

Intersection	2022 Existing	2025 Background	2025 Build
Niagara Scenic Parkway @ John Daly Boulevard*			
WB Approach	a(4)	a(4)	a(5)
SB Approach	a(1)	a(1)	a(1)
John Daly Boulevard @ Buffalo Avenue	**A(5)**	**A(5)**	**A(5)**
EB Left/Through/Right	A(7)	A(7)	A(7)
WB Left/Through/Right	B(11)	B(11)	B(11)
NB Left/Through/Right	A(5)	A(5)	A(5)
SB Left	A(5)	A(5)	A(5)
SB Through/Right	A(5)	A(5)	A(4)
Rainbow Boulevard @ Buffalo Avenue / 10th Street	**A(3)**	**A(3)**	**A(3)**
EB Left	A(3)	A(3)	A(3)
EB Through/Right	A(2)	A(2)	A(3)
WB Left	A(3)	A(3)	A(3)
WB Through/Right	A(2)	A(2)	A(2)
NB Left/Through/Right	A(8)	A(8)	A(8)
SB Left/Through/Right	A(8)	A(8)	A(8)
Buffalo Avenue @ Portage Road			
EB Left/Through/Right	a(1)	a(1)	a(1)
WB Left/Through/Right	a(1)	a(1)	a(1)
NB Left/Through/Right	b(11)	b(11)	b(11)
SB Left/Through/Right	b(11)	b(11)	b(11)
John Daly Boulevard @ Rainbow Boulevard	**A(9)**	**A(9)**	**A(9)**
EB Left	B(14)	B(14)	B(14)
EB Through	B(13)	B(14)	B(14)
EB Right	A(5)	A(5)	A(5)
WB Left	B(14)	B(14)	B(14)
WB Through/Right	B(11)	B(11)	B(11)
NB Left	A(6)	A(6)	A(6)
NB Through/Right	A(8)	A(8)	A(8)
SB Left	A(6)	A(6)	A(6)
SB Through/Right	B(14)	B(14)	B(14)
John Daly Boulevard @ Falls Street			**A(8)**
EB Left/Through/(Right)	b(12)	b(14)	B(18)
EB Right	-	a(9)	A(1)
WB Left	-	-	B(18)
WB (Left)/Through/Right	b(13)	c(15)	B(16)
NB Left	-	a(8)	A(6)
NB (Left)/Through/Right	a(1)	a(0)	A(7)
SB Left	-	a(8)	A(6)
SB (Left)/Through/Right	a(1)	a(0)	A(9)
Falls Street @ 9th Street			
EB Left/Through	a(0)	a(0)	a(0)
WB Through/Right	a(0)	a(0)	a(0)
Falls Street @ 10th Street			

Intersection	2022 Existing	2025 Background	2025 Build
EB Left/Through/(Right)	a(8)	a(8)	a(8)
EB Right	-	-	a(7)
WB Left/Through/Right	a(8)	a(8)	a(8)
NB Left/Through/Right	a(7)	a(7)	a(8)
SB Left/Through/Right	a(8)	a(8)	a(8)
Falls Street @ Portage Road			
EB Left/Through/Right	a(8)	a(8)	a(8)
WB Left/Through/Right	a(8)	a(8)	a(8)
NB Left/Through/Right	a(8)	a(8)	a(8)
SB Left/Through/Right	a(8)	a(8)	a(8)
John Daly Boulevard @ Niagara Street	**A(7)**	**A(7)**	**A(7)**
EB Through	A(9)	A(9)	A(9)
EB Right	A(4)	A(4)	A(4)
WB Left/Through	A(8)	A(8)	A(8)
NB Left	B(11)	B(11)	B(11)
NB Right	A(3)	A(3)	A(3)
Niagara Street @ 9th Street			
EB Left/Through	a(1)	a(1)	a(1)
WB Through/Right	a(0)	a(0)	a(0)
NB Left/Through/Right	b(12)	b(12)	b(11)
Niagara Street @ 10th Street	**A(8)**	**A(8)**	**A(8)**
EB Left/Through/Right	A(6)	A(6)	A(6)
WB Left/Through/Right	A(5)	A(5)	A(5)
NB Left/Through/Right	B(16)	B(16)	B(17)
SB Left/Through/Right	B(11)	B(11)	B(12)
Ferry Avenue @ 10th Street			
EB Left/Through/Right	a(8)	a(8)	a(8)
NB Through/Right	a(8)	a(8)	a(8)
SB Left/Through	a(8)	a(8)	a(8)

A(9) – Signalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro
* - Roundabout Analyzed Using Vissim11

Table 18: LOS Simulation – 2025 Build Evening Peak Hour Without an Arena Event

Intersection	2022 Existing	2025 Background	2025 Build
Niagara Scenic Parkway @ John Daly Boulevard*			
WB Approach	a(5)	a(5)	a(5)
SB Approach	a(5)	a(5)	a(5)
John Daly Boulevard @ Buffalo Avenue	**A(9)**	**A(9)**	**A(9)**
EB Left/Through/Right	A(6)	A(6)	A(7)
WB Left/Through/Right	B(14)	B(14)	B(14)
NB Left/Through/Right	A(9)	A(9)	A(9)
SB Left	A(6)	A(6)	A(6)
SB Through/Right	A(9)	A(9)	A(9)
Rainbow Boulevard @ Buffalo Avenue / 10th Street	**A(3)**	**A(3)**	**A(5)**
EB Left	A(4)	A(4)	A(5)
EB Through/Right	A(2)	A(2)	A(5)
WB Left	A(3)	A(3)	A(6)
WB Through/Right	A(2)	A(2)	A(4)
NB Left/Through/Right	A(7)	A(7)	A(8)
SB Left/Through/Right	A(7)	A(7)	A(8)
Buffalo Avenue @ Portage Road			
EB Left/Through/Right	a(1)	a(1)	a(1)
WB Left/Through/Right	a(1)	a(1)	a(1)
NB Left/Through/Right	a(10)	a(10)	a(10)
SB Left/Through/Right	b(13)	b(13)	b(14)
John Daly Boulevard @ Rainbow Boulevard	**B(13)**	**B(13)**	**B(13)**
EB Left	C(21)	C(21)	C(22)
EB Through	B(19)	B(19)	B(20)
EB Right	A(7)	A(7)	A(8)
WB Left	B(19)	B(19)	B(20)
WB Through/Right	B(14)	B(15)	B(15)
NB Left	A(6)	A(6)	A(6)
NB Through/Right	A(9)	A(9)	A(8)
SB Left	A(6)	A(6)	A(6)
SB Through/Right	B(19)	B(19)	B(19)
John Daly Boulevard @ Falls Street			**B(18)**
EB Left/Through/(Right)	d(29)	d(34)	C(31)
EB Right	-	b(11)	A(1)
WB Left	-	-	C(31)
WB (Left)/Through/Right	c(24)	c(24)	B(18)
NB Left	-	a(9)	B(11)
NB (Left)/Through/Right	a(2)	a(0)	B(12)
SB Left	-	a(8)	B(11)
SB (Left)/Through/Right	a(1)	a(0)	C(21)
Falls Street @ 9th Street			
EB Left/Through	a(0)	a(0)	a(0)
WB Through/Right	a(0)	a(0)	a(0)
Falls Street @ 10th Street			

Intersection	2022 Existing	2025 Background	2025 Build
EB Left/Through/(Right)	a(8)	a(8)	a(8)
EB Right	-	-	a(7)
WB Left/Through/Right	a(8)	a(8)	a(9)
NB Left/Through/Right	a(8)	a(8)	a(8)
SB Left/Through/Right	a(8)	a(8)	a(8)
Falls Street @ Portage Road			
EB Left/Through/Right	a(8)	a(8)	a(8)
WB Left/Through/Right	a(8)	a(8)	a(8)
NB Left/Through/Right	a(8)	a(8)	a(8)
SB Left/Through/Right	a(8)	a(8)	a(8)
John Daly Boulevard @ Niagara Street	**A(7)**	**A(7)**	**A(7)**
EB Through	A(9)	A(9)	A(9)
EB Right	A(4)	A(4)	A(4)
WB Left/Through	A(9)	A(9)	A(9)
NB Left	B(12)	B(12)	B(12)
NB Right	A(4)	A(4)	A(4)
Niagara Street @ 9th Street			
EB Left/Through	a(2)	a(2)	a(2)
WB Through/Right	a(0)	a(0)	a(0)
NB Left/Through/Right	b(15)	b(15)	b(13)
Niagara Street @ 10th Street	**A(7)**	**A(7)**	**A(7)**
EB Left/Through/Right	A(6)	A(6)	A(6)
WB Left/Through/Right	A(5)	A(5)	A(5)
NB Left/Through/Right	B(15)	B(15)	B(16)
SB Left/Through/Right	A(9)	A(9)	A(9)
Ferry Avenue @ 10th Street			
EB Left/Through/Right	a(10)	a(10)	a(10)
NB Through/Right	a(9)	a(9)	a(9)
SB Left/Through	b(11)	b(11)	b(11)

A(9) – Signalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro
* - Roundabout Analyzed Using Vissim11

Table 19: LOS Simulation – 2025 Build Saturday Peak Hour Without an Arena Event

Intersection	2022 Existing	2025 Background	2025 Build
Niagara Scenic Parkway @ John Daly Boulevard*			
WB Approach	b(11)	b(11)	b(13)
SB Approach	b(11)	b(11)	b(12)
John Daly Boulevard @ Buffalo Avenue	**A(8)**	**A(8)**	**A(8)**
EB Left/Through/Right	A(5)	A(5)	A(5)
WB Left/Through/Right	B(11)	B(11)	B(11)
NB Left/Through/Right	A(8)	A(8)	A(8)
SB Left	A(5)	A(5)	A(5)
SB Through/Right	A(8)	A(8)	A(8)
Rainbow Boulevard @ Buffalo Avenue / 10th Street	**A(2)**	**A(2)**	**A(2)**
EB Left	A(0)	A(0)	A(3)
EB Through/Right	A(2)	A(2)	A(2)
WB Left	A(2)	A(2)	A(2)
WB Through/Right	A(2)	A(2)	A(2)
NB Left/Through/Right	B(11)	B(11)	B(11)
SB Left/Through/Right	A(10)	A(10)	A(10)
Buffalo Avenue @ Portage Road			
EB Left/Through/Right	a(1)	a(1)	a(1)
WB Left/Through/Right	a(1)	a(1)	a(1)
NB Left/Through/Right	b(11)	b(11)	b(11)
SB Left/Through/Right	b(11)	b(12)	b(12)
John Daly Boulevard @ Rainbow Boulevard	**B(11)**	**B(11)**	**B(11)**
EB Left	B(18)	B(18)	B(18)
EB Through	B(16)	B(16)	B(16)
EB Right	A(7)	A(7)	A(7)
WB Left	B(16)	B(16)	B(17)
WB Through/Right	B(12)	B(13)	B(13)
NB Left	A(6)	A(6)	A(6)
NB Through/Right	A(7)	A(8)	A(8)
SB Left	A(6)	A(6)	A(6)
SB Through/Right	B(18)	B(18)	B(18)
John Daly Boulevard @ Falls Street			**B(11)**
EB Left/Through/(Right)	b(13)	c(21)	C(21)
EB Right	-	a(10)	A(4)
WB Left	-	-	B(20)
WB (Left)/Through/Right	c(20)	c(21)	B(16)
NB Left	-	a(8)	A(6)
NB (Left)/Through/Right	a(3)	a(0)	A(7)
SB Left	-	a(8)	A(7)
SB (Left)/Through/Right	a(1)	a(0)	B(14)
Falls Street @ 9th Street			
EB Left/Through	a(0)	a(0)	a(0)
WB Through/Right	a(0)	a(0)	a(0)
Falls Street @ 10th Street			

Intersection	2022 Existing	2025 Background	2025 Build
EB Left/Through/(Right)	a(7)	a(7)	a(8)
EB Right	-	-	a(7)
WB Left/Through/Right	a(7)	a(7)	a(8)
NB Left/Through/Right	a(7)	a(7)	a(8)
SB Left/Through/Right	a(7)	a(7)	a(7)
Falls Street @ Portage Road			
EB Left/Through/Right	a(8)	a(8)	a(8)
WB Left/Through/Right	a(7)	a(7)	a(8)
NB Left/Through/Right	a(7)	a(7)	a(8)
SB Left/Through/Right	a(8)	a(8)	a(8)
John Daly Boulevard @ Niagara Street	**A(7)**	**A(7)**	**A(8)**
EB Through	A(9)	A(9)	A(10)
EB Right	A(4)	A(4)	A(4)
WB Left/Through	A(9)	A(9)	A(9)
NB Left	B(11)	B(11)	B(12)
NB Right	A(3)	A(3)	A(3)
Niagara Street @ 9th Street			
EB Left/Through	a(1)	a(1)	a(1)
WB Through/Right	a(0)	a(0)	a(0)
NB Left/Through/Right	a(1)	a(1)	a(10)
Niagara Street @ 10th Street	**A(7)**	**A(7)**	**A(7)**
EB Left/Through/Right	A(5)	A(6)	A(5)
WB Left/Through/Right	A(5)	A(5)	A(5)
NB Left/Through/Right	B(16)	B(16)	B(17)
SB Left/Through/Right	A(9)	A(9)	A(9)
Ferry Avenue @ 10th Street			
EB Left/Through/Right	a(9)	a(9)	a(9)
NB Through/Right	a(8)	a(8)	a(8)
SB Left/Through	a(8)	a(8)	a(8)

A(9) – Signalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro
* - Roundabout Analyzed Using Vissim11

Table 20: Queue Simulation – 2025 Build Morning Peak Hour Without an Arena Event

Intersection	Available Storage	2022 Existing	2025 Background	2025 Build
Niagara Scenic Parkway @ John Daly Boulevard*				
WB Approach	-	50	70	54
SB Approach	525	75	68	81
John Daly Boulevard @ Buffalo Avenue				
EB Left/Through/Right	-	15	15	16
WB Left/Through/Right	511	17	17	17
NB Left/Through/Right	525	52	53	55
SB Left	45	1	1	1
SB Through/Right	468	27	27	28
Rainbow Boulevard @ Buffalo Avenue / 10th Street				
EB Left	175	4	4	5
EB Through/Right	746	5	6	6
WB Left	125	8	8	8
WB Through/Right	-	10	10	10
NB Left/Through/Right	-	9	9	9
SB Left/Through/Right	1374	12	12	12
Buffalo Avenue @ Portage Road				
EB Left/Through/Right	-	0	0	0
WB Left/Through/Right	-	0	0	0
NB Left/Through/Right	-	3	3	3
SB Left/Through/Right	1634	5	5	5
John Daly Boulevard @ Rainbow Boulevard				
EB Left	255	18	18	20
EB Through	-	12	12	12
EB Right	140	32	32	32
WB Left	240	10	10	10
WB Through/Right	746	12	12	13
NB Left	235	27	28	27
NB Through/Right	468	63	64	67
SB Left	200	5	5	6
SB Through/Right	1035	33	34	35
John Daly Boulevard @ Falls Street				
EB Left/Through/(Right)	609	5	3	22
EB Right	609	-	3	0
WB Left	365	-	-	23
WB (Left)/Through/Right	365	15	8	18
NB Left	100	-	0	9
NB (Left)/Through/Right	1035	0	0	97
SB Left	100	-	0	6
SB (Left)/Through/Right	777	0	0	42
Falls Street @ 9th Street				
EB Left/Through	365	0	0	0
WB Through/Right	347	0	0	0
Falls Street @ 10th Street				

Intersection	Available Storage	2022 Existing	2025 Background	2025 Build
EB Left/Through/(Right)	347	8	8	10
EB Right	-	-	-	5
WB Left/Through/Right	1995	8	8	8
NB Left/Through/Right	1374	5	5	8
SB Left/Through/Right	792	3	3	5
Falls Street @ Portage Road				
EB Left/Through/Right	1995	10	10	10
WB Left/Through/Right	-	8	8	8
NB Left/Through/Right	1634	8	8	10
SB Left/Through/Right	-	5	5	5
John Daly Boulevard @ Niagara Street				
EB Through	-	19	19	21
EB Right	-	12	13	13
WB Left/Through	311	15	16	16
NB Left	777	48	48	50
NB Right	777	14	14	14
Niagara Street @ 9th Street				
EB Left/Through	311	3	3	3
WB Through/Right	353	0	0	0
NB Left/Through/Right	784	3	3	3
Niagara Street @ 10th Street				
EB Left/Through/Right	353	42	42	44
WB Left/Through/Right	-	18	19	20
NB Left/Through/Right	792	30	30	31
SB Left/Through/Right	830	27	27	29
Ferry Avenue @ 10th Street				
EB Left/Through/Right	-	8	8	8
NB Through/Right	830	20	20	20
SB Left/Through	-	10	10	10

Maximum Queues Taken From Synchro Analysis = 95th Percentile Queues in Feet
* - Roundabout Analyzed Using Vissim11

Table 21: Queue Simulation – 2025 Build Evening Peak Hour Without an Arena Event

Intersection	Available Storage	2022 Existing	2025 Background	2025 Build
Niagara Scenic Parkway @ John Daly Boulevard*				
WB Approach	-	180	138	206
SB Approach	525	177	190	203
John Daly Boulevard @ Buffalo Avenue				
EB Left/Through/Right	-	41	44	48
WB Left/Through/Right	511	34	35	36
NB Left/Through/Right	525	75	78	81
SB Left	45	3	3	3
SB Through/Right	468	108	112	119
Rainbow Boulevard @ Buffalo Avenue / 10th Street				
EB Left	175	1	1	2
EB Through/Right	746	12	12	12
WB Left	125	10	10	10
WB Through/Right	-	11	11	11
NB Left/Through/Right	-	4	4	4
SB Left/Through/Right	1374	15	15	18
Buffalo Avenue @ Portage Road				
EB Left/Through/Right	-	0	0	0
WB Left/Through/Right	-	0	0	0
NB Left/Through/Right	-	5	5	8
SB Left/Through/Right	1634	23	25	28
John Daly Boulevard @ Rainbow Boulevard				
EB Left	255	37	38	41
EB Through	-	33	33	34
EB Right	140	60	61	62
WB Left	240	13	13	14
WB Through/Right	746	20	20	21
NB Left	235	49	49	50
NB Through/Right	468	57	58	62
SB Left	200	12	12	12
SB Through/Right	1035	116	120	131
John Daly Boulevard @ Falls Street				
EB Left/Through/(Right)	609	53	43	69
EB Right	609	-	5	3
WB Left	365	-	-	60
WB (Left)/Through/Right	365	25	25	16
NB Left	100	-	8	41
NB (Left)/Through/Right	1035	5	0	90
SB Left	100	-	0	12
SB (Left)/Through/Right	777	0	0	150
Falls Street @ 9th Street				
EB Left/Through	365	0	0	0
WB Through/Right	347	0	0	0
Falls Street @				

Intersection	Available Storage	2022 Existing	2025 Background	2025 Build
10th Street				
EB Left/Through/(Right)	347	5	5	8
EB Right	347	-	-	3
WB Left/Through/Right	1995	15	15	18
NB Left/Through/Right	1374	3	3	10
SB Left/Through/Right	792	8	8	10
Falls Street @ Portage Road				
EB Left/Through/Right	1995	13	13	13
WB Left/Through/Right	-	8	8	8
NB Left/Through/Right	1634	8	8	8
SB Left/Through/Right	-	13	13	13
John Daly Boulevard @ Niagara Street				
EB Through	-	41	44	47
EB Right	-	25	27	29
WB Left/Through	311	33	36	39
NB Left	777	70	71	81
NB Right	777	17	17	18
Niagara Street @ 9th Street				
EB Left/Through	311	5	5	5
WB Through/Right	353	0	0	0
NB Left/Through/Right	784	3	3	8
Niagara Street @ 10th Street				
EB Left/Through/Right	353	38	39	41
WB Left/Through/Right	-	34	34	36
NB Left/Through/Right	792	16	16	21
SB Left/Through/Right	830	41	42	42
Ferry Avenue @ 10th Street				
EB Left/Through/Right	-	18	18	18
NB Through/Right	830	10	10	10
SB Left/Through	-	48	48	50

Maximum Queues Taken From Synchro Analysis = 95th Percentile Queues in Feet
* - Roundabout Analyzed Using Vissim11

Table 22: Queue Simulation – 2025 Saturday Peak Hour Without an Arena Event

Intersection	Available Storage	2022 Existing	2025 Background	2025 Build
Niagara Scenic Parkway @ John Daly Boulevard*				
WB Approach	-	341	401	338
SB Approach	525	275	273	279
John Daly Boulevard @ Buffalo Avenue				
EB Left/Through/Right	-	27	27	28
WB Left/Through/Right	511	24	24	25
NB Left/Through/Right	525	61	62	65
SB Left	45	3	3	3
SB Through/Right	468	66	67	70
Rainbow Boulevard @ Buffalo Avenue / 10th Street				
EB Left	175	0	0	3
EB Through/Right	746	10	10	10
WB Left	125	11	11	11
WB Through/Right	-	14	14	15
NB Left/Through/Right	-	7	7	7
SB Left/Through/Right	1374	10	10	15
Buffalo Avenue @ Portage Road				
EB Left/Through/Right	-	0	0	0
WB Left/Through/Right	-	0	0	0
NB Left/Through/Right	-	3	3	3
SB Left/Through/Right	1634	8	8	8
John Daly Boulevard @ Rainbow Boulevard				
EB Left	255	30	31	34
EB Through	-	26	26	26
EB Right	140	43	43	43
WB Left	240	12	12	12
WB Through/Right	746	23	24	24
NB Left	235	44	47	47
NB Through/Right	468	64	67	73
SB Left	200	7	8	9
SB Through/Right	1035	91	95	100
John Daly Boulevard @ Falls Street				
EB Left/Through/(Right)	609	20	10	26
EB Right	609	-	10	12
WB Left	365	-	-	31
WB (Left)/Through/Right	365	13	13	22
NB Left	100	-	8	47
NB (Left)/Through/Right	1035	8	0	81
SB Left	100	-	0	9
SB (Left)/Through/Right	777	0	0	89
Falls Street @ 9th Street				
EB Left/Through	365	0	0	0
WB Through/Right	347	0	0	0
Falls Street @ 10th Street				

Intersection	Available Storage	2022 Existing	2025 Background	2025 Build
EB Left/Through/(Right)	347	3	3	3
EB Right	347	-	-	5
WB Left/Through/Right	1995	5	5	5
NB Left/Through/Right	1374	0	0	8
SB Left/Through/Right	792	3	3	5
Falls Street @ Portage Road				
EB Left/Through/Right	1995	5	5	5
WB Left/Through/Right	-	5	5	5
NB Left/Through/Right	1634	5	5	5
SB Left/Through/Right	-	8	8	8
John Daly Boulevard @ Niagara Street				
EB Through	-	41	42	46
EB Right	-	32	32	35
WB Left/Through	311	22	22	24
NB Left	777	63	65	73
NB Right	777	12	12	13
Niagara Street @ 9th Street				
EB Left/Through	311	3	3	3
WB Through/Right	353	0	0	0
NB Left/Through/Right	784	0	0	3
Niagara Street @ 10th Street				
EB Left/Through/Right	353	38	39	41
WB Left/Through/Right	-	25	25	26
NB Left/Through/Right	792	11	11	15
SB Left/Through/Right	830	34	34	36
Ferry Avenue @ 10th Street				
EB Left/Through/Right	-	13	15	15
NB Through/Right	830	8	8	8
SB Left/Through	-	13	13	13

Maximum Queues Taken From Synchro Analysis = 95th Percentile Queues in Feet
* - Roundabout Analyzed Using Vissim11

H. Arena Event Trip Generation

The Arena Trip Generation ITE Land Use Code 460 from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition only included one study from over four decades ago. Since the individual study did not include peak hour or weekend data, and the information was no longer an accurate representation of trip generation rates for the arena Land Use this ITE Study was not used for this TIS.

Trip generation for the Niagara Falls Centennial Park Arena was compiled using arena trip generation vehicle occupancy data rates from the Allentown Arena and City Center Development Traffic Analysis by Traffic Planning and Design, Inc. in Allentown, PA. The data from the Allentown Arena Traffic Analysis contains information from an arena that has a similar capacity for event seating to the proposed arena at Centennial Park and is in a location with similar adjacent land uses.

The number of person trips entering and exiting the arena is based on the available seating of 7000. The number of person trips that enter are based on the randomly occurring arrival times within a few hours before an event. The number of person trips that exit from the arena is based on the departures within thirty minutes from the conclusion of an event.

Person Trips entering and exiting the event are reduced by the alternative transportation modes that will service the arena. A 10% reduction was made for the use of public transit and the local trolley, resulting in a decrease of 700 trips. A 5% reduction was made for the use of charter buses to and from the arena, resulting in a decrease of 350 trips. A 15% reduction was made for pedestrians that will access events from adjoining venues and hotels resulting in a decrease of 1050 trips. Combining the alternative transportation modes results in a total reduction of 2,100 vehicular trips. Therefore, the remaining volume of person trips associated with vehicles is 4,900 trips.

Based on the vehicle occupancy data from the Allentown Arena Traffic Analysis, the vehicle occupancy rate was an average of 2.88 persons per car. Therefore, applying this vehicle occupancy rate to the total volume of person trips associated with vehicles, results in a total of 1,701 vehicles entering and exiting the arena.

Arena employees would arrive during their normal working hours. Accordingly, employee trips are accounted for in the previous peak hour analyses and are not included in this Arena Event Analysis. Employee departures will occur well after the departure of patrons during periods of non-peak traffic operations. Therefore, no analysis was prepared for employee departures.

Results of this arena event trip generation are presented in Table 23 below.

Arena Trip Generation Estimate

NF Centennial Park: **Arena**

Arena - Vehicle Occupancy Rate **2.88 Persons/Car**

Arena Trip Generation		
	Event Related Trips	
Development	**Entering**	**Exiting**
Arena	7000	7000
SUBTOTAL FOR ARENA	**7000**	**7000**
Public Transit and Local Trolley Use 10% Reduction	-700	-700
Charter Bus Use 5% Reduction	-350	-350
Pedestrian Access from Adjoining Facilities 15% Reduction	-1050	-1050
SUBTOTAL FOR ARENA AFTER REDUCTION	**4900**	**4900**
*Vehicle Occupancy Rate**	2.88	2.88
TOTAL VEHICLES	1701	1701

*Reference the Trip Generation Study from the Allentown Arena and City Center Development Traffic Analysis by Traffic Planning and Design, Inc. in Allentown, PA

Table 23 Arena Trip Generation

I. Arena Event Background Traffic

Arena traffic will arrive several hours prior to the event. For the purposes of the event traffic arrival simulation, arriving traffic will coincide with Evening Weekday Peak Hour Background traffic. Therefore, the 2025 Background Evening Weekday Peak Hour Traffic Volumes shown on Figure 6 were used to determine the combined event arrival traffic.

Arena traffic will depart within 30 minutes following the conclusion of the event. For the purposes of the event traffic operations simulation, traffic will depart after the Evening Weekday Peak Hour Background traffic has occurred. Therefore, it was necessary to reduce the Evening Weekday Peak Hour Background traffic volumes for use in the combined event traffic operations simulation associated with departing traffic.

Reduction of Evening Weekday Peak Hour Background traffic volumes was calculated in the following manner. The Greater Buffalo Niagara Regional Transportation Council (GBNRTC) performed 24-hour traffic counts for John B. Daly Boulevard and Niagara Street. Results of these counts provide an hourly distribution for traffic volumes on these streets. This distribution can be shown as an hourly percentage of the total 24-hour traffic. To determine background traffic during the event departure period, the percentage of traffic between 10:00 and 11:00 PM was compared to the percentage of traffic during the evening peak hour. This ratio was applied to Evening Weekday Peak Hour Background traffic volumes to determine post-event background traffic. Results of this calculation are presented in Figure 19.

J. Arena Event Combined Traffic Volumes

Arena event generated trips were distributed throughout the Centennial Park development and adjacent street network using the origin and destination scenarios presented in Figures 20 and 21. Based on these arrival and departure percentages, trip volumes associated with arena events are presented in Figure 22 and 23.

Arrival and departure trip volumes associated with arena traffic were added to the arrival and departure period background volumes to determine the combined event traffic volumes. These combined Event Traffic Volumes are shown in Figure 24.

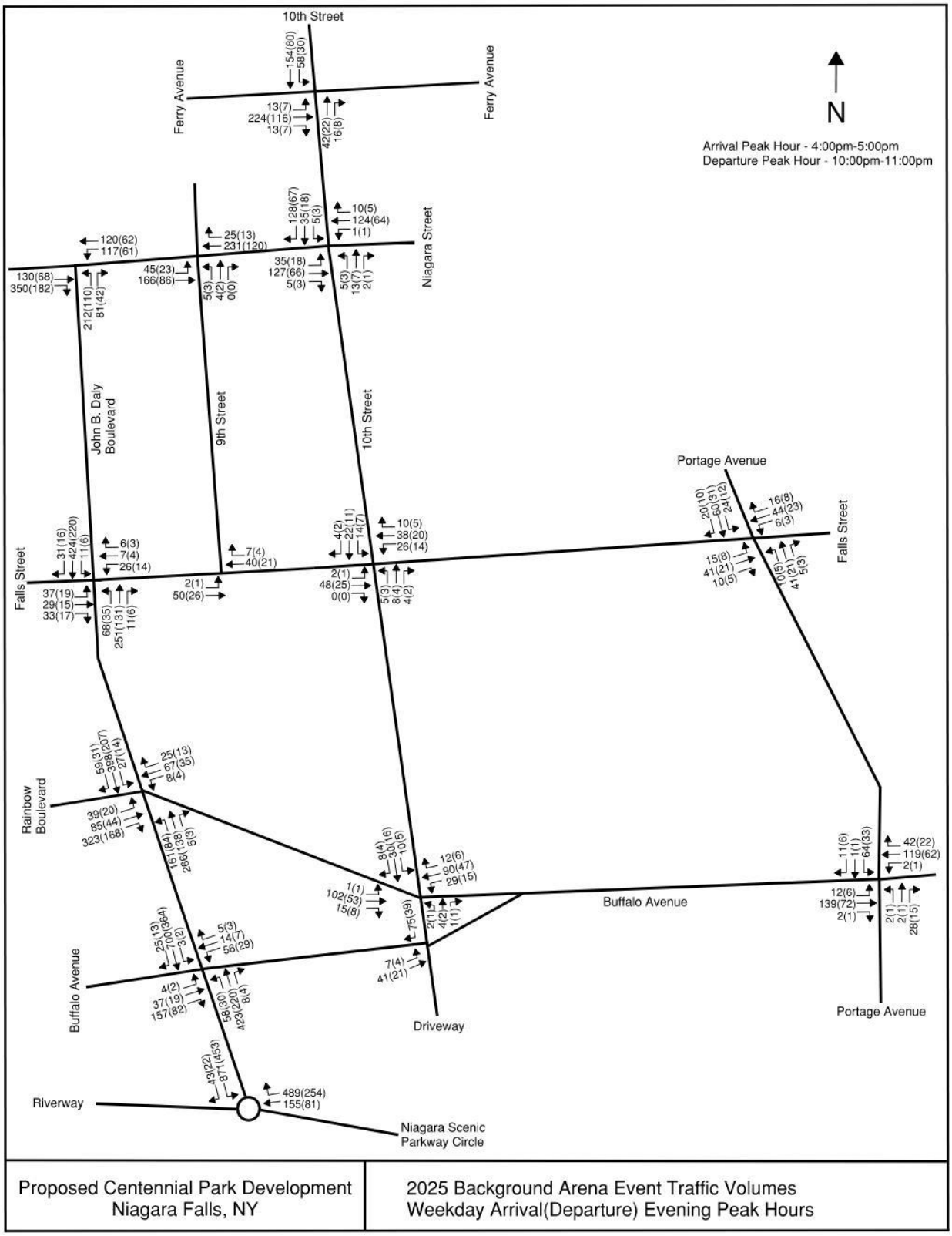


Figure 19: 2025 Background Arena Event Traffic Volumes

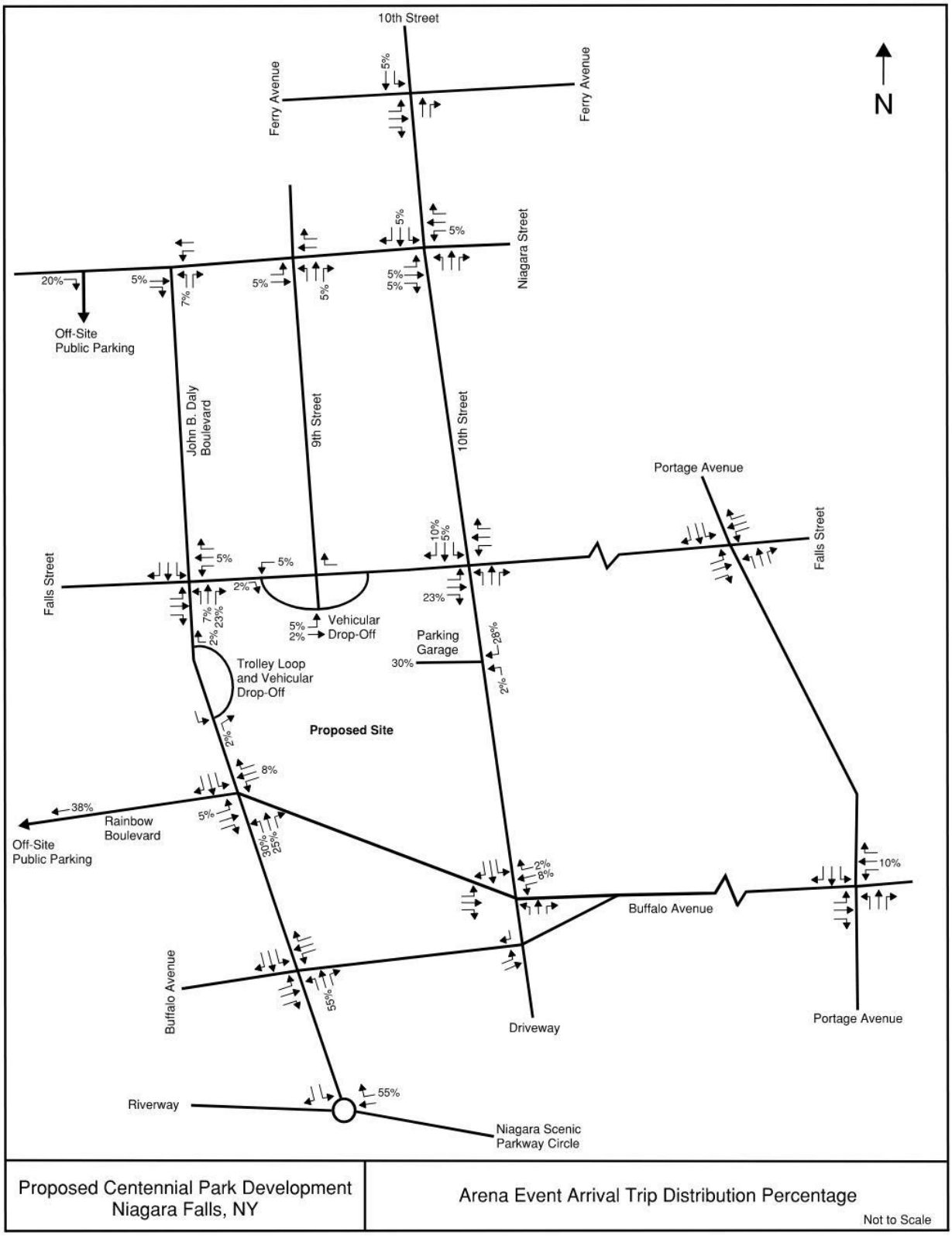


Figure 20: Arena Event Arrival Trip Distribution

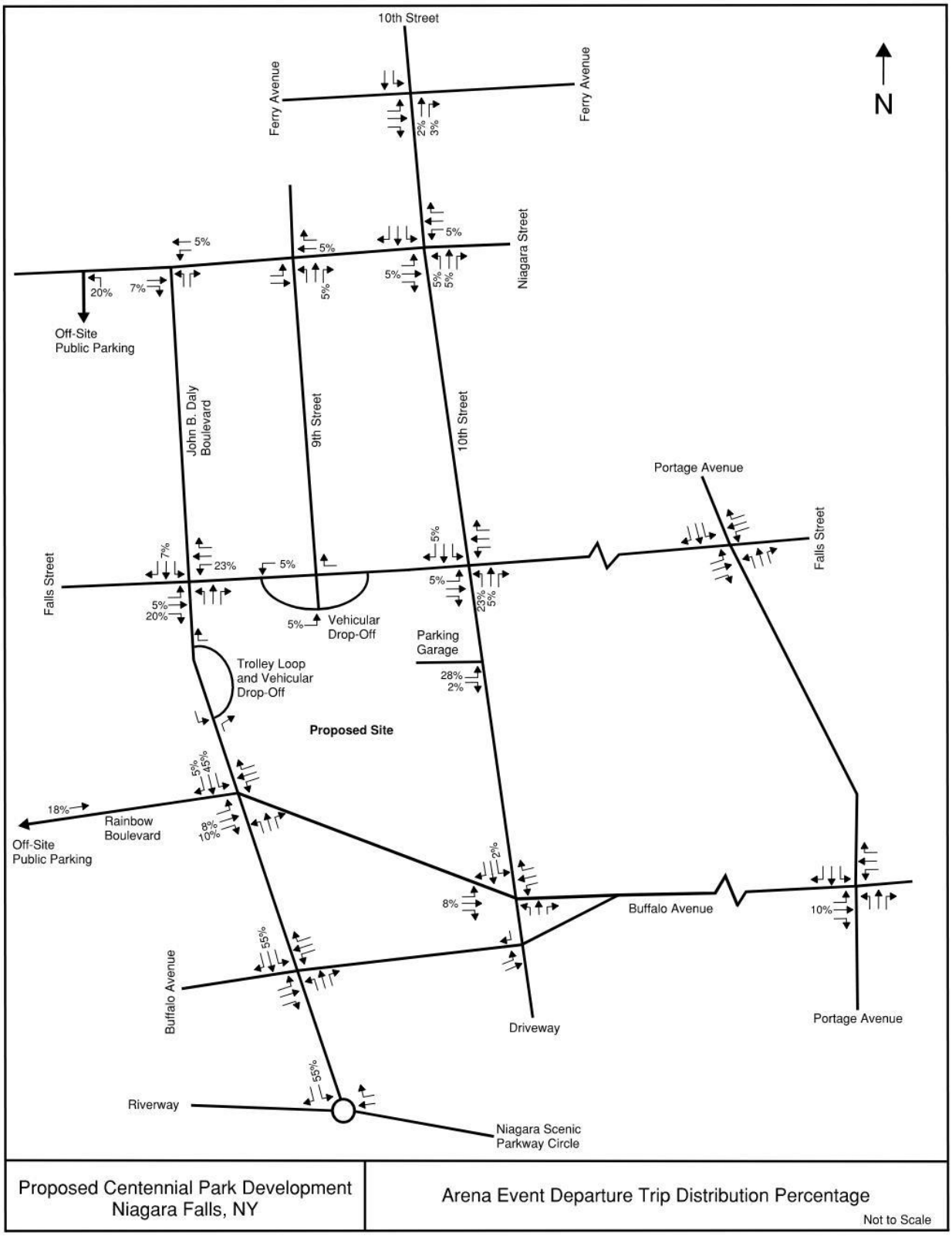


Figure 21: Arena Event Departure Trip Distribution

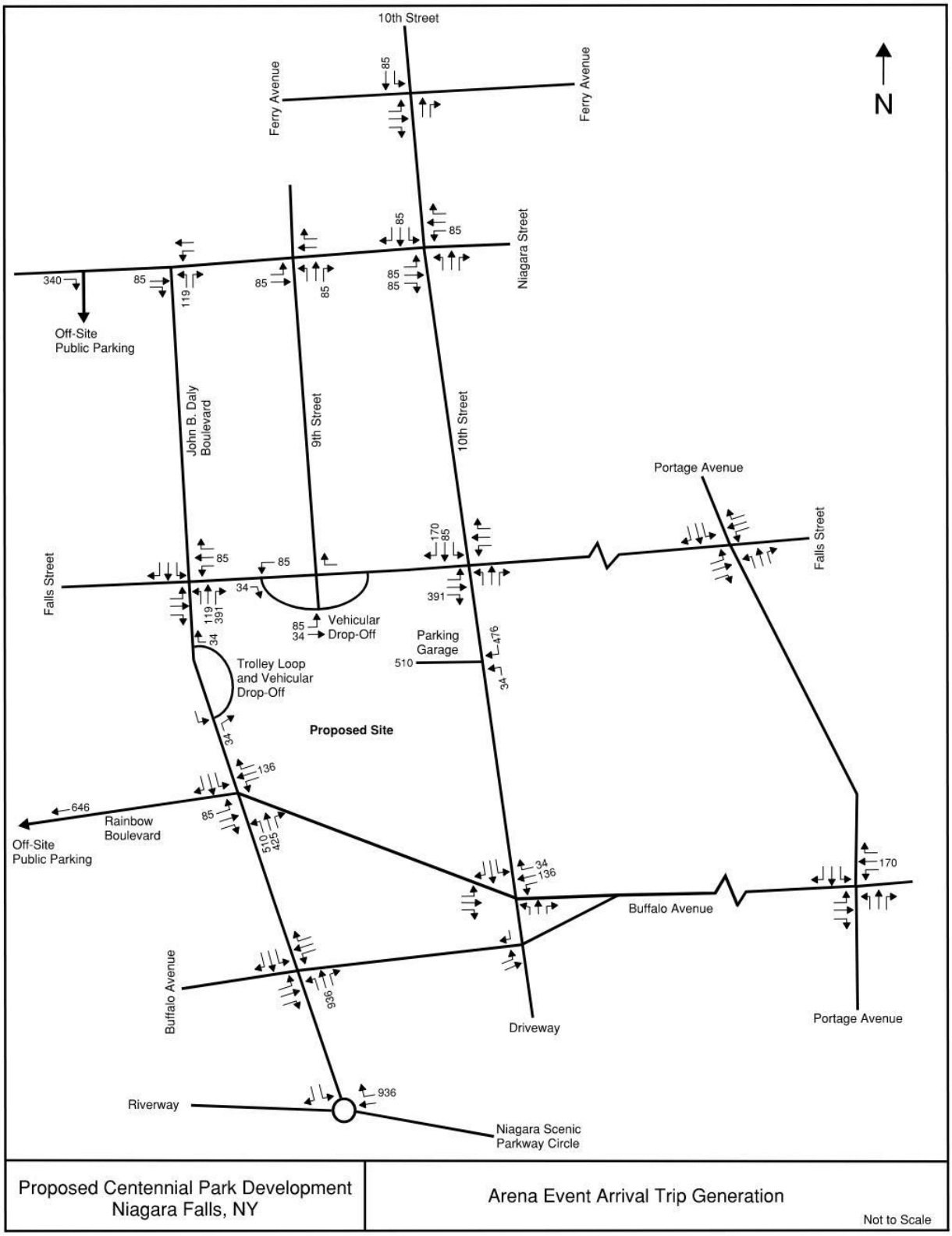


Figure 22: Arena Event Arrival Trip Generation

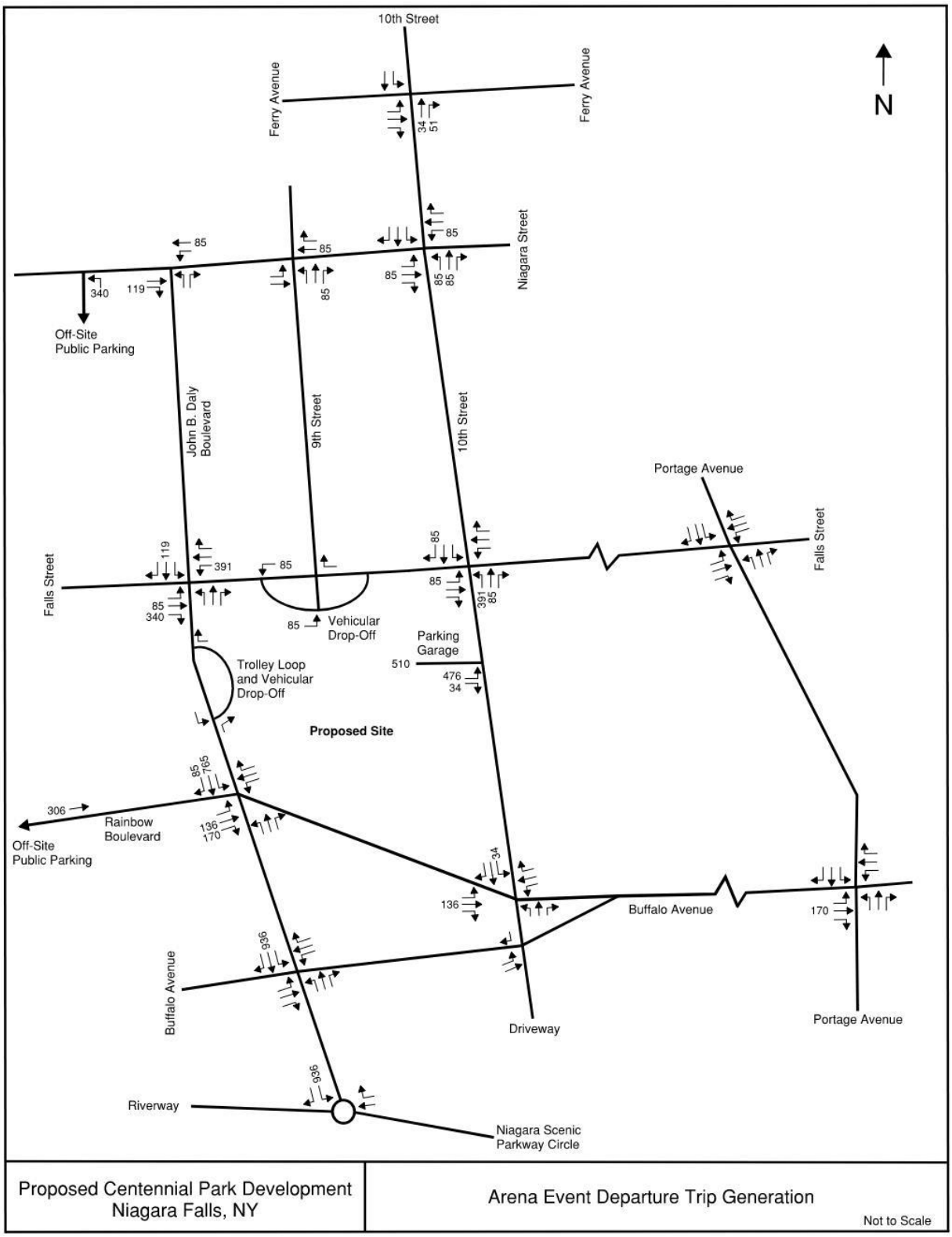
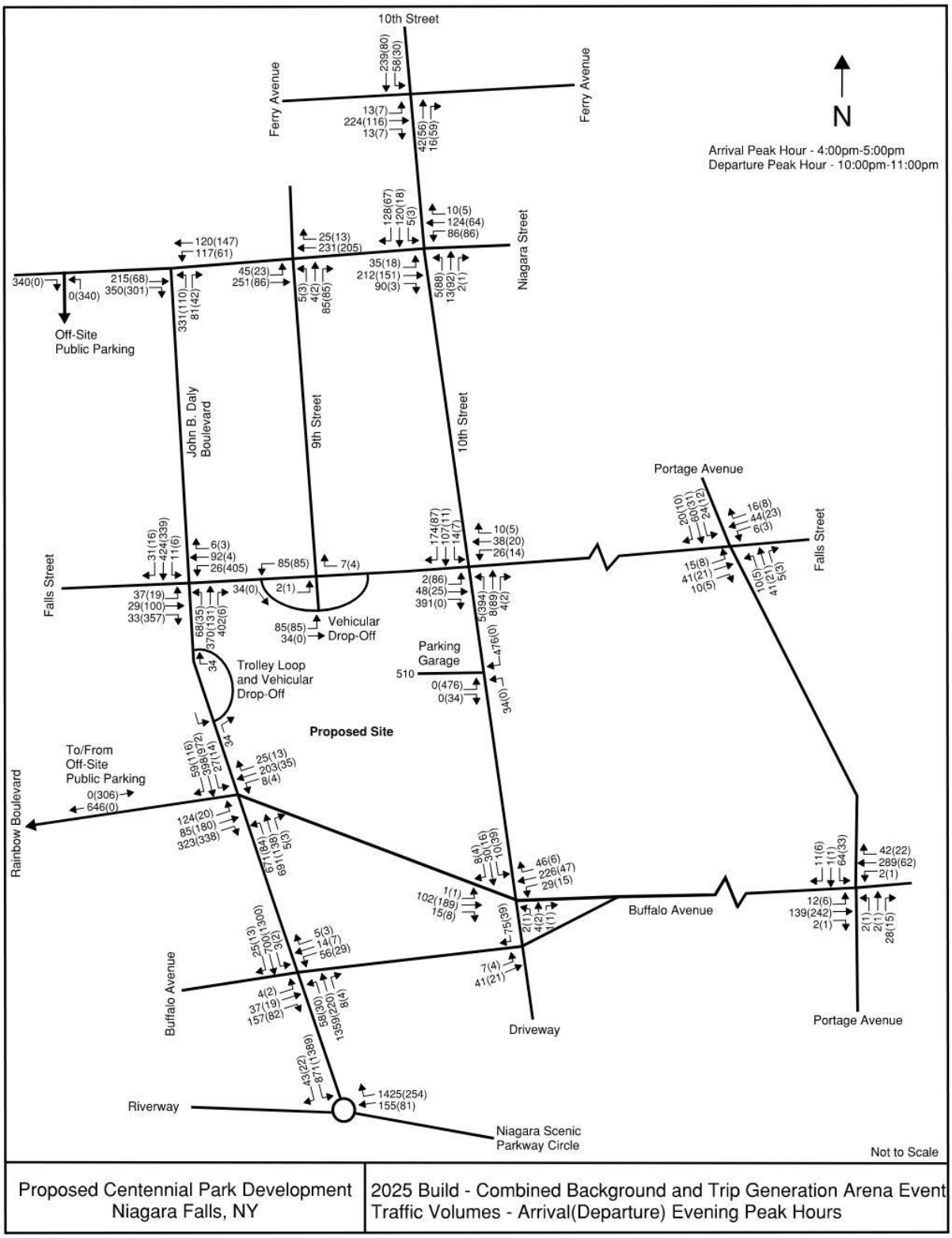


Figure 23: Arena Event Departure Trip Generation



Proposed Centennial Park Development Niagara Falls, NY	2025 Build - Combined Background and Trip Generation Arena Event Traffic Volumes - Arrival(Departure) Evening Peak Hours

Figure 24: 2025 Build Arena Event Traffic Volumes

K. LOS and Queue Analysis for 2025 Event Traffic Volumes

Traffic simulation models were developed for the 2025 Arrival and Departure Arena Event Traffic Scenarios associated with a full capacity event at the Centennial Park Arena. Detailed LOS simulation results for the Arrival Event Peak Hour and Departure Event Peak Hour can be seen in Table 24. Detailed Queue simulation results for the Arrival and Departure Event Peak Hours can be seen in Table 25. As discussed earlier, LOS with a capitol letter such as A are indicative of results for a signalized intersection. LOS with a lower-case letter in parentheses such as (a) are indicative of results for an unsignalized intersection.

- Event Arrival Peak Hour Levels of Service – For the arrival event peak hour, most intersection approaches and turning movements operate at LOS A (a), LOS B (b) or LOS C (c). Several exceptions include:
  - The westbound movement at the John B. Daly Boulevard and Buffalo Avenue intersection operates at LOS E. This decline in LOS can be attributed to large volume of northbound event arrival through traffic on John B. Daly Boulevard. Overall the intersection operates at LOS B with only 15 seconds of delay.
  - At the John B. Daly Boulevard and Rainbow Boulevard intersection, the eastbound left approach operates at LOS D. This decline in LOS can be attributed to large volume of event arrival traffic traveling north on John B. Daly Boulevard to access the arena and on-site parking. Overall the intersection operates at LOS B with only 17 seconds of delay.
  - With the new traffic signal, the Falls Street approaches at the John B. Daly Boulevard and Falls Street intersection operate at LOS C. Overall the intersection operates at LOS B with only 18 seconds of delay.

- Event Arrival Peak Hour Queue Analysis – During peak arrival period, there is sufficient storage to accommodate the queue lengths at most intersection approaches. One exception includes:
  - The northbound left turn movement onto Rainbow Boulevard from John B. Daly Boulevard. As discussed earlier, temporary traffic control measures would be used at this intersection. These temporary measures would include repurposing the left northbound through lane to provide a second northbound left turn lane. Niagara Falls Police personnel would be assigned to assist motorists and direct traffic at this location. With the use of these temporary measures at this intersection, there is sufficient storage to accommodate the queue lengths at this intersection approach.

- Event Departure Peak Hour Levels of Service – For the event departure peak hour, most intersection approaches and turning movements operate at LOS A (a), LOS B (b) or LOS C (c). Several exceptions include:
  - The eastbound right turn and westbound left turn lane on Falls Street at the John B. Daly Boulevard operates at LOS E. This LOS can be attributed to the high volume of traffic exiting the Arena at this location following an event. Overall the intersection operates at LOS D with 54 seconds of delay.
  - The northbound left, through and right approaches at the 10th Street and Niagara Street intersection operate at LOS D. Overall the intersection operates at LOS B with only 20 seconds of delay.

- Event Departure Peak Hour Queue Analysis – During the event peak departure period, there is sufficient storage to accommodate the queue lengths at all intersection approaches.

L. 2025 Build with an Arena Event Traffic Operations Summary

Comparing traffic operations for the 2025 Combined Build Analysis with an Arena Event to 2025 Background Operations indicate that there are no significant impacts to traffic operations associated with development of Centennial Park. With the use of proposed temporary traffic control measures, intersection Levels of Service are within acceptable ranges with sufficient storage to accommodate the queue lengths. Therefore, no mitigation measures are warranted for this scenario.

Table 24: LOS Simulation – 2025 Arena Event Evening Peak Hours

Intersection	2022 Existing	2025 Background	2025 Build	2025 Build Event Arrival	2025 Build Event Departure
Niagara Scenic Parkway @ John Daly Boulevard*					
WB Approach	a(5)	a(5)	a(5)	c(20)	a(2)
SB Approach	a(5)	a(5)	a(5)	a(4)	a(6)
John Daly Boulevard @ Buffalo Avenue	**A(9)**	**A(9)**	**A(9)**	**B(15)**	**A(8)**
EB Left/Through/Right	A(6)	A(6)	A(7)	B(12)	B(18)
WB Left/Through/Right	B(14)	B(14)	B(14)	E(57)	C(21)
NB Left/Through/Right	A(9)	A(9)	A(9)	B(15)	A(4)
SB Left	A(6)	A(6)	A(6)	A(7)	A(4)
SB Through/Right	A(9)	A(9)	A(9)	A(7)	A(7)
Rainbow Boulevard @ Buffalo Avenue / 10th Street	**A(3)**	**A(3)**	**A(5)**	**A(3)**	**A(5)**
EB Left	A(4)	A(4)	A(5)	A(4)	A(5)
EB Through/Right	A(2)	A(2)	A(5)	A(2)	A(4)
WB Left	A(3)	A(3)	A(6)	A(3)	A(5)
WB Through/Right	A(2)	A(2)	A(4)	A(2)	A(4)
NB Left/Through/Right	A(7)	A(7)	A(8)	A(7)	A(7)
SB Left/Through/Right	A(7)	A(7)	A(8)	A(7)	A(8)
Buffalo Avenue @ Portage Road					
EB Left/Through/Right	a(1)	a(1)	a(1)	a(1)	a(1)
WB Left/Through/Right	a(1)	a(1)	a(1)	a(1)	a(1)
NB Left/Through/Right	a(10)	a(10)	a(10)	b(11)	b(11)
SB Left/Through/Right	b(13)	b(13)	b(14)	c(17)	b(12)
John Daly Boulevard @ Rainbow Boulevard	**B(13)**	**B(13)**	**B(13)**	**B(17)**	**B(17)**
EB Left	C(21)	C(21)	C(22)	D(36)	C(28)
EB Through	B(19)	B(19)	B(20)	C(23)	C(30)
EB Right	A(7)	A(7)	A(8)	A(7)	A(10)
WB Left	B(19)	B(19)	B(20)	C(23)	C(27)
WB Through/Right	B(14)	B(15)	B(15)	C(21)	C(21)
NB Left	A(6)	A(6)	A(6)	A(9)	A(7)
NB Through/Right	A(9)	A(9)	A(8)	C(23)	A(5)
SB Left	A(6)	A(6)	A(6)	A(9)	A(4)
SB Through/Right	B(19)	B(19)	B(19)	C(21)	B(18)
John Daly Boulevard @ Falls Street			**B(18)**	**B(18)**	**D(54)**

Intersection	2022 Existing	2025 Background	2025 Build	2025 Build Event Arrival	2025 Build Event Departure
EB Left/Through/(Right)	d(29)	d(34)	C(31)	C(33)	D(47)
EB Right	-	b(11)	A(1)	A(1)	E(62)
WB Left	-	-	C(31)	C(27)	E(61)
WB (Left)/Through/Right	c(24)	c(24)	B(18)	C(32)	B(16)
NB Left	-	a(9)	B(11)	B(12)	C(24)
NB (Left)/Through/Right	a(2)	a(0)	B(12)	B(11)	C(26)
SB Left	-	a(8)	B(11)	B(12)	C(24)
SB (Left)/Through/Right	a(1)	a(0)	C(21)	C(22)	D(51)
Falls Street @ 9th Street					
EB Left/Through	a(0)	a(0)	a(0)	a(0)	a(0)
WB Through/Right	a(0)	a(0)	a(0)	a(0)	a(0)
Falls Street @ 10th Street					
EB Left/Through/(Right)	a(8)	a(8)	a(8)	a(10)	b(12)
EB Right	-	-	a(7)	c(24)	a(9)
WB Left/Through/Right	a(8)	a(8)	a(9)	b(12)	b(11)
NB Left/Through/Right	a(8)	a(8)	a(8)	b(11)	c(20)
SB Left/Through/Right	a(8)	a(8)	a(8)	c(23)	a(10)
Falls Street @ Portage Road					
EB Left/Through/Right	a(8)	a(8)	a(8)	a(8)	a(7)
WB Left/Through/Right	a(8)	a(8)	a(8)	a(8)	a(7)
NB Left/Through/Right	a(8)	a(8)	a(8)	a(8)	a(7)
SB Left/Through/Right	a(8)	a(8)	a(8)	a(8)	a(7)
John Daly Boulevard @ Niagara Street	**A(7)**	**A(7)**	**A(7)**	**A(9)**	**A(5)**
EB Through	A(9)	A(9)	A(9)	B(12)	A(7)
EB Right	A(4)	A(4)	A(4)	A(4)	A(2)
WB Left/Through	A(9)	A(9)	A(9)	B(11)	A(7)
NB Left	B(12)	B(12)	B(12)	B(13)	B(11)
NB Right	A(4)	A(4)	A(4)	A(3)	A(4)
Niagara Street @ 9th Street					
EB Left/Through	a(2)	a(2)	a(2)	a(1)	a(2)
WB Through/Right	a(0)	a(0)	a(0)	a(0)	a(0)
NB Left/Through/Right	b(15)	b(15)	b(13)	b(13)	a(10)
Niagara Street @ 10th Street	**A(7)**	**A(7)**	**A(7)**	**B(12)**	**B(20)**
EB Left/Through/Right	A(6)	A(6)	A(6)	A(8)	A(6)
WB Left/Through/Right	A(5)	A(5)	A(5)	A(7)	A(6)
NB Left/Through/Right	B(15)	B(15)	B(16)	B(15)	D(46)
SB Left/Through/Right	A(9)	A(9)	A(9)	C(24)	A(9)
Ferry Avenue @ 10th Street					
EB Left/Through/Right	a(10)	a(10)	a(10)	a(10)	a(9)
NB Through/Right	a(9)	a(9)	a(9)	a(9)	a(8)
SB Left/Through	b(11)	b(11)	b(11)	b(14)	a(9)

A(9) – Signalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro
* - Roundabout Analyzed Using Vissim11

Table 25: Queue Simulation – 2025 Arena Event Evening Peak Hours

Intersection	Available Storage	2022 Existing	2025 Background	2025 Build	2025 Build Event Arrival	2025 Build Event Departure
Niagara Scenic Parkway @ John Daly Boulevard*						
WB Approach	-	180	138	206	890	132
SB Approach	525	177	190	203	163	316
John Daly Boulevard @ Buffalo Avenue						
EB Left/Through/Right	-	41	44	48	69	68
WB Left/Through/Right	511	34	35	36	65	32
NB Left/Through/Right	525	75	78	81	440	31
SB Left	45	3	3	3	4	2
SB Through/Right	468	108	112	119	140	205
Rainbow Boulevard @ Buffalo Avenue / 10th Street						
EB Left	175	1	1	2	1	1
EB Through/Right	746	12	12	12	12	19
WB Left	125	10	10	10	10	6
WB Through/Right	-	11	11	11	23	6
NB Left/Through/Right	-	4	4	4	4	3
SB Left/Through/Right	1374	15	15	18	15	16
Buffalo Avenue @ Portage Road						
EB Left/Through/Right	-	0	0	0	0	0
WB Left/Through/Right	-	0	0	0	0	0
NB Left/Through/Right	-	5	5	8	8	3
SB Left/Through/Right	1634	23	25	28	35	10
John Daly Boulevard @ Rainbow Boulevard						
EB Left	255	37	38	41	115	28
EB Through	-	33	33	34	37	75
EB Right	140	60	61	62	61	71
WB Left	240	13	13	14	14	10
WB Through/Right	746	20	20	21	53	16
NB Left	235	49	49	50	128	32
NB Through/Right	468	57	58	62	597	32
SB Left	200	12	12	12	16	7
SB Through/Right	1035	116	120	131	154	316
John Daly Boulevard @ Falls Street						
EB Left/Through/(Right)	609	53	43	69	74	127
EB Right	609	-	5	3	3	218
WB Left	365	-	-	60	31	325
WB (Left)/Through/Right	365	25	25	16	87	10
NB Left	100	-	8	41	45	41
NB (Left)/Through/Right	1035	5	0	90	201	70
SB Left	100	-	0	12	12	12
SB (Left)/Through/Right	777	0	0	150	156	170
Falls Street @ 9th Street						
EB Left/Through	365	0	0	0	0	0
WB Through/Right	347	0	0	0	0	0
Falls Street @ 10th Street						

Intersection	Available Storage	2022 Existing	2025 Background	2025 Build	2025 Build Event Arrival	2025 Build Event Departure
EB Left/Through/(Right)	347	5	5	8	10	28
EB Right	347	-	-	3	175	0
WB Left/Through/Right	1995	15	15	18	25	10
NB Left/Through/Right	1374	3	3	10	3	158
SB Left/Through/Right	792	8	8	10	165	23
Falls Street @ Portage Road						
EB Left/Through/Right	1995	13	13	13	13	5
WB Left/Through/Right	-	8	8	8	8	5
NB Left/Through/Right	1634	8	8	8	8	3
SB Left/Through/Right	-	13	13	13	13	5
John Daly Boulevard @ Niagara Street						
EB Through	-	41	44	47	83	20
EB Right	-	25	27	29	30	19
WB Left/Through	311	33	36	39	44	23
NB Left	777	70	71	81	131	34
NB Right	777	17	17	18	19	11
Niagara Street @ 9th Street						
EB Left/Through	311	5	5	5	5	3
WB Through/Right	353	0	0	0	0	0
NB Left/Through/Right	784	3	3	8	25	15
Niagara Street @ 10th Street						
EB Left/Through/Right	353	38	39	41	70	40
WB Left/Through/Right	-	34	34	36	62	43
NB Left/Through/Right	792	16	16	21	16	96
SB Left/Through/Right	830	41	42	42	104	29
Ferry Avenue @ 10th Street						
EB Left/Through/Right	-	18	18	18	20	8
NB Through/Right	830	10	10	10	10	18
SB Left/Through	-	48	48	50	88	18

Section 8

Conclusions and Recommendations

CONCLUSIONS AND RECOMMENDATIONS

The Centennial Park Project consists of redeveloping an existing vacant site that is located at the intersection of Falls Street and John B. Daly Boulevard in the City of Niagara Falls. The project will be developed in phases with an anticipated completion date of 2025. The purpose of this study is to identify potential traffic impacts associated with the Centennial Park project.

The Project will include construction of the following:

- 7,000 seat Arena Event Center
- 24,700 square feet of Multi-Purpose Recreational Space
- 57,000 square feet of Rooftop Event Space
- 480 space Parking Garage
- Outdoor Public Park

Access to the Centennial Park project site will be provided by enter/exit driveways on Falls Street and 10th Street. Vehicular drop off loops will be provided on John B. Daly Boulevard and Falls Street. Enter/exit ramps to the proposed parking garage will be provided from 10th Street.

Scenarios used in Level of Service (LOS) and Queue traffic model simulations include the following:

- 2022 Existing Conditions
- 2025 Background Conditions without the Centennial Park Development
- 2025 Combined Build Conditions with construction of the Centennial Park Development without an Arena Event
- 2025 Combined Build Conditions associated with arrival and departure traffic during an Arena Event

Comparing traffic operations for the 2025 Combined Build Analysis without an Arena Event to 2025 Background Operations indicate that there are no significant impacts to traffic operations associated with development of Centennial Park. Intersection Levels of Service are within acceptable ranges with sufficient storage to accommodate the queue lengths. Therefore, no mitigation measures are warranted for this scenario.

Comparing traffic operations for the 2025 Combined Build Analysis with an Arena Event to 2025 Background Operations indicate that there are no significant impacts to traffic operations associated with development of Centennial Park. With the use of proposed temporary traffic control measures, intersection Levels of Service are within acceptable ranges with sufficient storage to accommodate the queue lengths. Therefore, no mitigation measures are warranted for this scenario.

Based on these conclusions, we recommend approval of the Centennial Park Development by the City of Niagara Falls.

Traffic Count Summary

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/16/2022

Turning Movement Data

Start Time	John Daly Blvd Southbound						Falls St Westbound						John Daly Blvd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	1	43	0	0	0	44	2	6	8	0	0	16	0	89	20	0	0	109	13	3	3	0	0	19	188
11:15 AM	3	53	0	0	1	56	3	3	6	0	2	12	1	68	15	0	2	84	14	4	7	0	0	25	177
11:30 AM	6	72	0	0	2	78	2	4	3	0	0	9	1	83	29	1	0	114	20	1	2	0	1	23	224
11:45 AM	3	59	0	0	1	62	1	6	0	0	0	7	2	94	30	0	0	126	8	1	2	0	0	11	206
Hourly Total	13	227	0	0	4	240	8	19	17	0	2	44	4	334	94	1	2	433	55	9	14	0	1	78	795
12:00 PM	1	79	0	0	0	80	2	6	2	0	0	10	3	53	26	0	0	82	16	4	4	0	2	24	196
12:15 PM	4	70	3	0	0	77	2	2	1	0	0	5	0	77	29	0	0	106	17	3	3	0	0	23	211
12:30 PM	3	78	1	0	0	82	2	2	6	0	0	10	0	60	22	0	0	82	19	2	3	0	1	24	198
12:45 PM	4	76	3	0	0	83	0	4	3	0	0	7	1	79	28	1	1	109	26	1	3	0	0	30	229
Hourly Total	12	303	7	0	0	322	6	14	12	0	0	32	4	269	105	1	1	379	78	10	13	0	3	101	834
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	25	530	7	0	4	562	14	33	29	0	2	76	8	603	199	2	3	812	133	19	27	0	4	179	1629
Approach %	4.4	94.3	1.2	0.0	-	-	18.4	43.4	38.2	0.0	-	-	1.0	74.3	24.5	0.2	-	-	74.3	10.6	15.1	0.0	-	-	-
Total %	1.5	32.5	0.4	0.0	-	34.5	0.9	2.0	1.8	0.0	-	4.7	0.5	37.0	12.2	0.1	-	49.8	8.2	1.2	1.7	0.0	-	11.0	-
Motorcycles	0	1	0	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	2
% Motorcycles	0.0	0.2	0.0	-	-	0.2	0.0	0.0	0.0	-	-	0.0	0.0	0.2	0.0	0.0	-	0.1	0.0	0.0	0.0	-	-	0.0	0.1
Cars & Light Goods	25	526	7	0	-	558	14	33	29	0	-	76	8	595	199	2	-	804	132	19	26	0	-	177	1615
% Cars & Light Goods	100.0	99.2	100.0	-	-	99.3	100.0	100.0	100.0	-	-	100.0	100.0	98.7	100.0	100.0	-	99.0	99.2	100.0	96.3	-	-	98.9	99.1
Other Vehicles	0	3	0	0	-	3	0	0	0	0	-	0	0	7	0	0	-	7	1	0	1	0	-	2	12
% Other Vehicles	0.0	0.6	0.0	-	-	0.5	0.0	0.0	0.0	-	-	0.0	0.0	1.2	0.0	0.0	-	0.9	0.8	0.0	3.7	-	-	1.1	0.7
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
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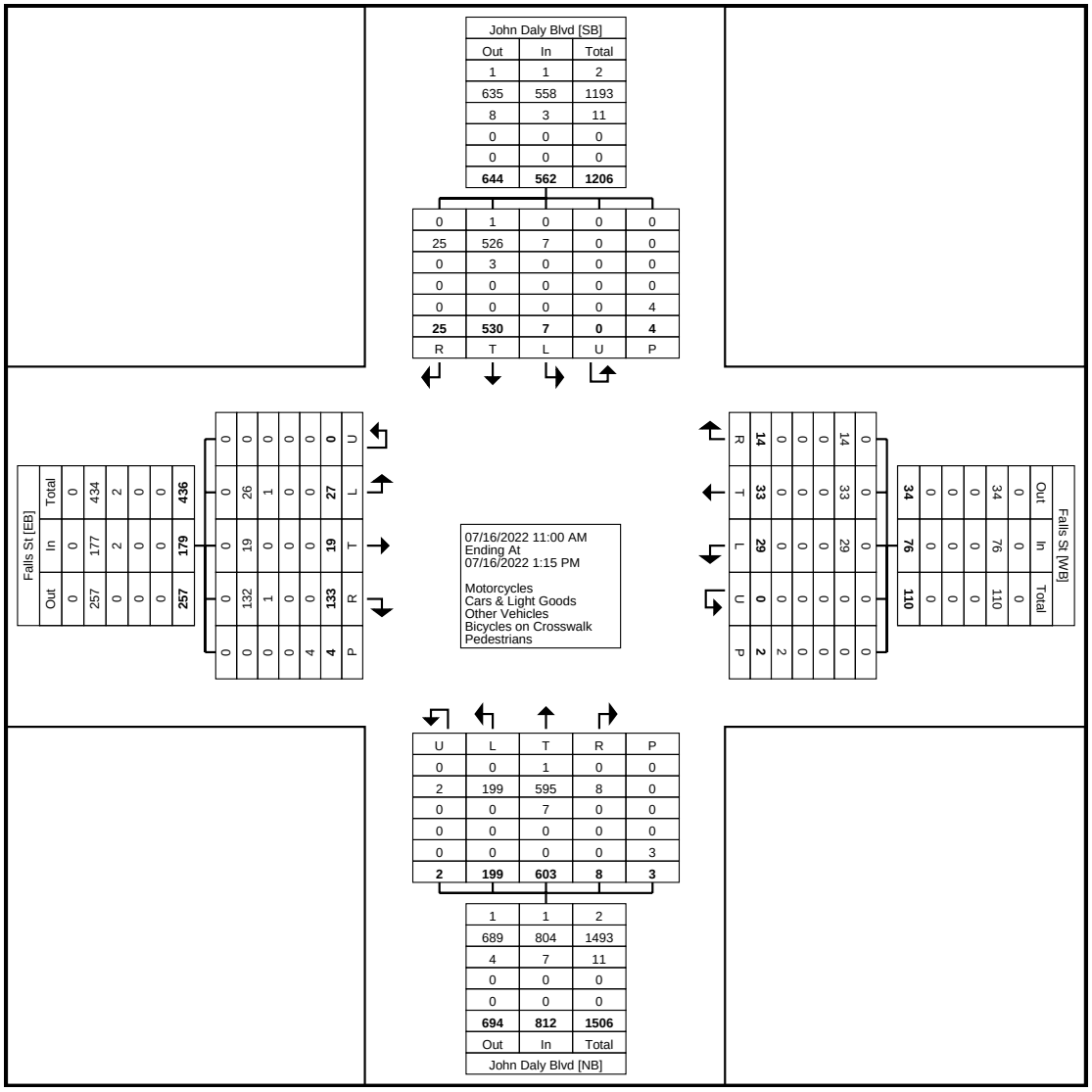
Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/16/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

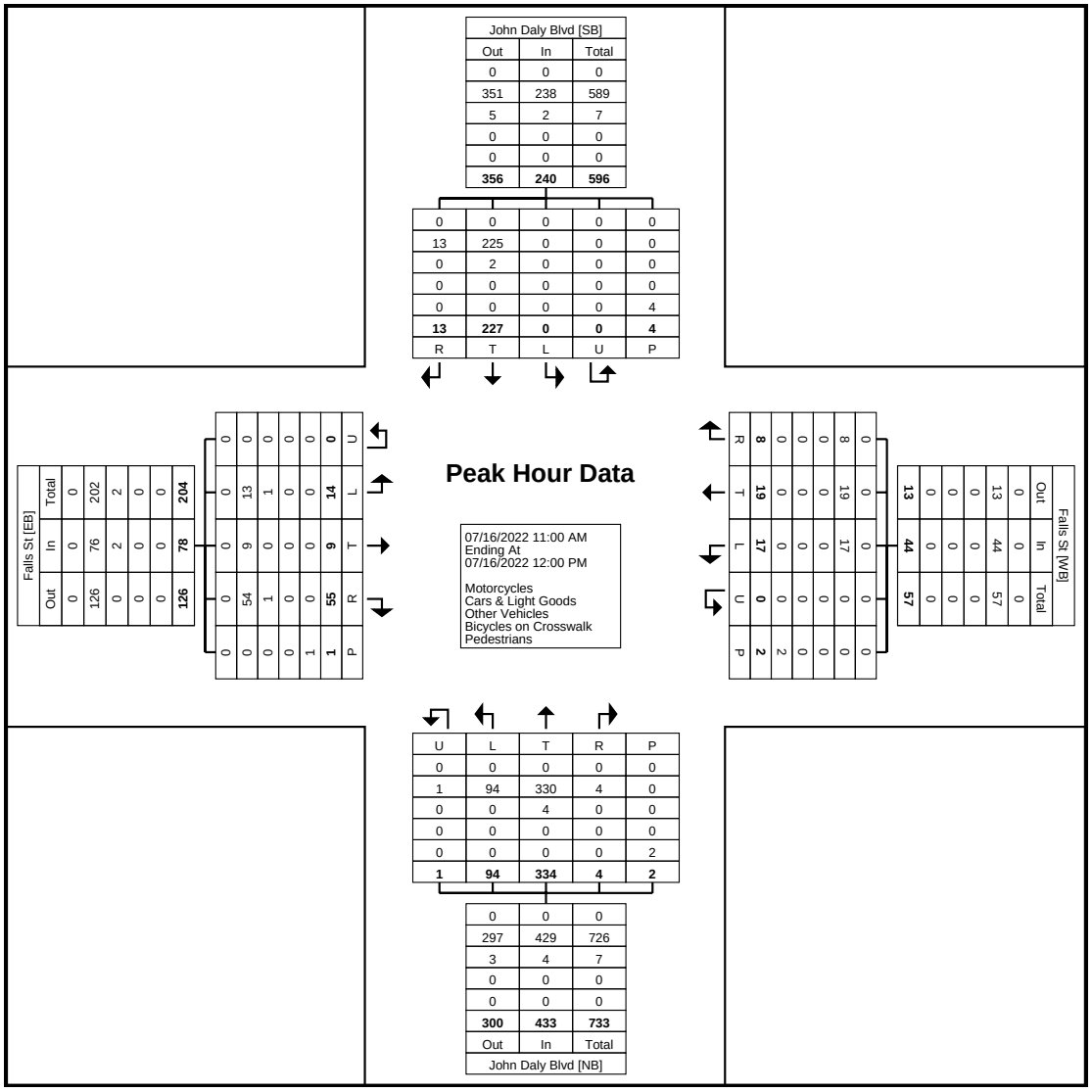
Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (11:00 AM)

Start Time	John Daly Blvd Southbound						Falls St Westbound						John Daly Blvd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	1	43	0	0	0	44	2	6	8	0	0	16	0	89	20	0	0	109	13	3	3	0	0	19	188
11:15 AM	3	53	0	0	1	56	3	3	6	0	2	12	1	68	15	0	2	84	14	4	7	0	0	25	177
11:30 AM	6	72	0	0	2	78	2	4	3	0	0	9	1	83	29	1	0	114	20	1	2	0	1	23	224
11:45 AM	3	59	0	0	1	62	1	6	0	0	0	7	2	94	30	0	0	126	8	1	2	0	0	11	206
Total	13	227	0	0	4	240	8	19	17	0	2	44	4	334	94	1	2	433	55	9	14	0	1	78	795
Approach %	5.4	94.6	0.0	0.0	-	-	18.2	43.2	38.6	0.0	-	-	0.9	77.1	21.7	0.2	-	-	70.5	11.5	17.9	0.0	-	-	-
Total %	1.6	28.6	0.0	0.0	-	30.2	1.0	2.4	2.1	0.0	-	5.5	0.5	42.0	11.8	0.1	-	54.5	6.9	1.1	1.8	0.0	-	9.8	-
PHF	0.542	0.788	0.000	0.000	-	0.769	0.667	0.792	0.531	0.000	-	0.688	0.500	0.888	0.783	0.250	-	0.859	0.688	0.563	0.500	0.000	-	0.780	0.887
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	13	225	0	0	-	238	8	19	17	0	-	44	4	330	94	1	-	429	54	9	13	0	-	76	787
% Cars & Light Goods	100.0	99.1	-	-	-	99.2	100.0	100.0	100.0	-	-	100.0	100.0	98.8	100.0	100.0	-	99.1	98.2	100.0	92.9	-	-	97.4	99.0
Other Vehicles	0	2	0	0	-	2	0	0	0	0	-	0	0	4	0	0	-	4	1	0	1	0	-	2	8
% Other Vehicles	0.0	0.9	-	-	-	0.8	0.0	0.0	0.0	-	-	0.0	0.0	1.2	0.0	0.0	-	0.9	1.8	0.0	7.1	-	-	2.6	1.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/16/2022



Peak Hour Data

07/16/2022 11:00 AM
Ending At
07/16/2022 12:00 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

John Daly Blvd [SB]		
Out	In	Total
0	0	0
351	238	589
5	2	7
0	0	0
0	0	0
356	**240**	**596**

R	T	L	U	P
0	0	0	0	0
13	225	0	0	0
0	2	0	0	0
0	0	0	0	0
0	0	0	0	4
13	**227**	**0**	**0**	**4**

Falls St [EB]		
Total	In	Out
0	0	0
202	76	126
2	2	0
0	0	0
0	0	0
204	**78**	**126**

U	L	T	R	P
0	0	0	0	0
0	13	9	54	0
0	1	0	1	0
0	0	0	0	0
0	0	0	0	1
0	**14**	**9**	**55**	**1**

R	T	L	U	P
0	0	0	0	0
8	19	17	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	2
8	**19**	**17**	**0**	**2**

Falls St [WB]		
Out	In	Total
0	0	0
13	44	57
0	0	0
0	0	0
0	0	0
13	**44**	**57**

U	L	T	R	P
0	0	0	0	0
1	94	330	4	0
0	0	4	0	0
0	0	0	0	0
0	0	0	0	2
1	**94**	**334**	**4**	**2**

0	0	0
297	429	726
3	4	7
0	0	0
0	0	0
300	**433**	**733**
Out	In	Total
John Daly Blvd [NB]		

Turning Movement Peak Hour Data Plot (11:00 AM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (12:00 PM)

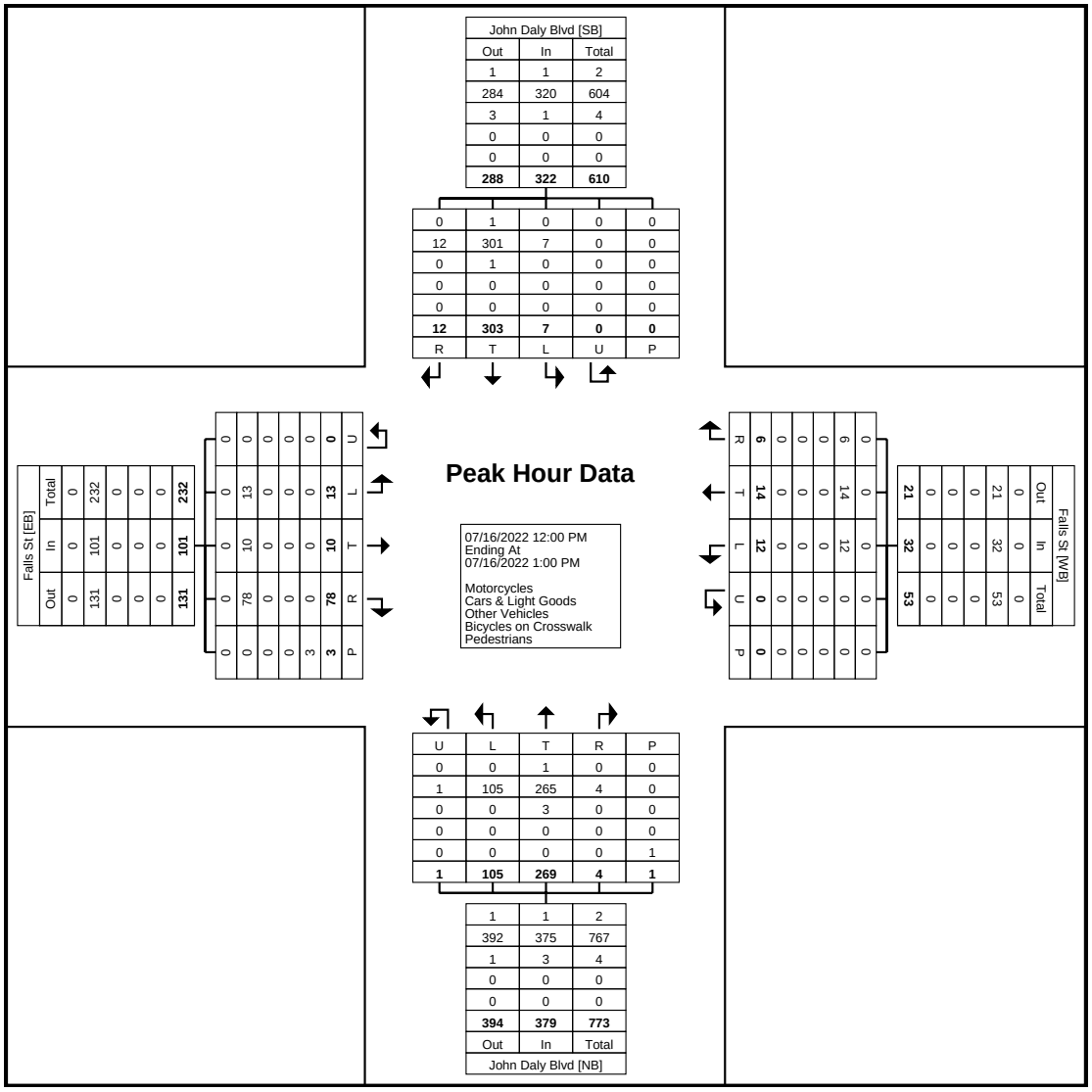
Start Time	John Daly Blvd Southbound						Falls St Westbound						John Daly Blvd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	1	79	0	0	0	80	2	6	2	0	0	10	3	53	26	0	0	82	16	4	4	0	2	24	196
12:15 PM	4	70	3	0	0	77	2	2	1	0	0	5	0	77	29	0	0	106	17	3	3	0	0	23	211
12:30 PM	3	78	1	0	0	82	2	2	6	0	0	10	0	60	22	0	0	82	19	2	3	0	1	24	198
12:45 PM	4	76	3	0	0	83	0	4	3	0	0	7	1	79	28	1	1	109	26	1	3	0	0	30	229
Total	12	303	7	0	0	322	6	14	12	0	0	32	4	269	105	1	1	379	78	10	13	0	3	101	834
Approach %	3.7	94.1	2.2	0.0	-	-	18.8	43.8	37.5	0.0	-	-	1.1	71.0	27.7	0.3	-	-	77.2	9.9	12.9	0.0	-	-	-
Total %	1.4	36.3	0.8	0.0	-	38.6	0.7	1.7	1.4	0.0	-	3.8	0.5	32.3	12.6	0.1	-	45.4	9.4	1.2	1.6	0.0	-	12.1	-
PHF	0.750	0.959	0.583	0.000	-	0.970	0.750	0.583	0.500	0.000	-	0.800	0.333	0.851	0.905	0.250	-	0.869	0.750	0.625	0.813	0.000	-	0.842	0.910
Motorcycles	0	1	0	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	2
% Motorcycles	0.0	0.3	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	0.4	0.0	0.0	-	0.3	0.0	0.0	0.0	-	-	0.0	0.2
Cars & Light Goods	12	301	7	0	-	320	6	14	12	0	-	32	4	265	105	1	-	375	78	10	13	0	-	101	828
% Cars & Light Goods	100.0	99.3	100.0	-	-	99.4	100.0	100.0	100.0	-	-	100.0	100.0	98.5	100.0	100.0	-	98.9	100.0	100.0	100.0	-	-	100.0	99.3
Other Vehicles	0	1	0	0	-	1	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	0	-	0	4
% Other Vehicles	0.0	0.3	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	1.1	0.0	0.0	-	0.8	0.0	0.0	0.0	-	-	0.0	0.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/16/2022



Peak Hour Data

07/16/2022 12:00 PM
Ending At
07/16/2022 1:00 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

John Daly Blvd [SB]

Out	In	Total
1	1	2
284	320	604
3	1	4
0	0	0
0	0	0
288	**322**	**610**

R	T	L	U	P
0	1	0	0	0
12	301	7	0	0
0	1	0	0	0
0	0	0	0	0
0	0	0	0	0
12	**303**	**7**	**0**	**0**

Falls St [WB]

R	T	L	U	P
0	0	0	0	0
6	14	12	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
6	**14**	**12**	**0**	**0**

Out	In	Total
0	0	0
21	32	53
0	0	0
0	0	0
0	0	0
21	**32**	**53**

Falls St [EB]

Out	In	Total
0	0	0
131	101	232
0	0	0
0	0	0
0	0	0
131	**101**	**232**

U	L	T	R	P
0	0	0	0	0
0	13	10	78	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	3
0	**13**	**10**	**78**	**3**

U	L	T	R	P
0	0	1	0	0
1	105	265	4	0
0	0	3	0	0
0	0	0	0	0
0	0	0	0	1
1	**105**	**269**	**4**	**1**

Out	In	Total
1	1	2
392	375	767
1	3	4
0	0	0
0	0	0
394	**379**	**773**

John Daly Blvd [NB]

Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/14/2022

Turning Movement Data

Start Time	John Daly Blvd Southbound						Niagara Scenic Parkway Circle Westbound						John Daly Blvd Northbound						Riverway Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	3	0	49	0	0	52	45	10	0	0	0	55	0	0	0	0	0	0	0	0	0	0	0	0	107
7:15 AM	1	0	56	1	0	58	80	11	0	1	0	92	0	0	0	0	0	0	0	0	0	0	0	0	150
7:30 AM	3	0	76	1	0	80	123	17	0	0	0	140	0	0	0	0	0	0	0	0	0	0	0	0	220
7:45 AM	1	0	65	0	0	66	185	17	0	2	0	204	0	0	0	0	0	0	0	0	0	0	0	0	270
Hourly Total	8	0	246	2	0	256	433	55	0	3	0	491	0	0	0	0	0	0	0	0	0	0	0	0	747
8:00 AM	1	0	90	0	0	91	112	19	0	0	0	131	0	0	0	0	0	0	0	0	0	0	0	0	222
8:15 AM	4	0	64	0	0	68	106	22	0	2	0	130	0	0	0	0	0	0	0	0	0	0	0	0	198
8:30 AM	6	0	70	1	0	77	110	22	0	0	0	132	0	0	0	0	0	0	0	0	0	0	0	0	209
8:45 AM	1	0	91	0	0	92	131	29	0	1	0	161	0	0	0	0	0	0	0	0	0	0	0	0	253
Hourly Total	12	0	315	1	0	328	459	92	0	3	0	554	0	0	0	0	0	0	0	0	0	0	0	0	882
9:00 AM	8	0	96	2	0	106	81	26	0	0	0	107	0	0	0	0	0	0	0	0	0	0	0	0	213
9:15 AM	3	0	103	0	0	106	73	21	0	1	0	95	0	0	0	0	0	0	0	0	0	0	0	0	201
9:30 AM	7	0	103	1	0	111	69	34	0	0	0	103	0	0	0	0	0	0	0	0	0	0	0	0	214
9:45 AM	4	0	89	0	0	93	96	40	0	3	0	139	0	0	0	0	0	0	0	0	0	0	0	0	232
Hourly Total	22	0	391	3	0	416	319	121	0	4	0	444	0	0	0	0	0	0	0	0	0	0	0	0	860
10:00 AM	3	0	126	2	0	131	82	48	0	0	0	130	0	0	0	0	0	0	0	0	0	0	0	0	261
10:15 AM	7	0	129	0	0	136	82	42	0	2	0	126	0	0	0	0	0	0	0	0	0	0	0	0	262
10:30 AM	11	0	104	1	0	116	102	61	0	0	0	163	0	0	0	0	0	0	0	0	0	0	0	0	279
10:45 AM	10	0	126	1	0	137	97	67	0	3	0	167	0	0	0	0	0	0	0	0	0	0	0	0	304
Hourly Total	31	0	485	4	0	520	363	218	0	5	0	586	0	0	0	0	0	0	0	0	0	0	0	0	1106
11:00 AM	8	0	141	2	0	151	100	56	0	0	0	156	0	0	0	0	0	0	0	0	0	0	0	0	307
11:15 AM	14	0	116	0	0	130	117	62	0	3	0	182	0	0	0	0	0	0	0	0	0	0	0	0	312
11:30 AM	13	0	126	1	0	140	114	64	0	0	0	178	0	0	0	0	0	0	0	0	0	0	0	0	318
11:45 AM	4	0	134	0	0	138	131	36	0	2	0	169	0	0	0	0	0	0	0	0	0	0	0	0	307
Hourly Total	39	0	517	3	0	559	462	218	0	5	0	685	0	0	0	0	0	0	0	0	0	0	0	0	1244
12:00 PM	9	0	166	1	0	176	125	58	0	0	0	183	0	0	0	0	0	0	0	0	0	0	0	0	359
12:15 PM	10	0	112	1	0	123	115	51	0	6	0	172	0	0	0	0	0	0	0	0	0	0	0	0	295
12:30 PM	9	0	132	2	0	143	130	56	0	0	0	186	0	0	0	0	0	0	0	0	0	0	0	0	329
12:45 PM	6	0	146	0	0	152	111	50	0	4	0	165	0	0	0	0	0	0	0	0	0	0	0	0	317
Hourly Total	34	0	556	4	0	594	481	215	0	10	0	706	0	0	0	0	0	0	0	0	0	0	0	0	1300
1:00 PM	2	0	126	2	0	130	104	36	0	0	0	140	0	0	0	0	0	0	0	0	0	0	0	0	270
1:15 PM	8	0	134	2	0	144	119	48	0	5	0	172	0	0	0	0	0	0	0	0	0	0	0	0	316
1:30 PM	7	0	163	0	0	170	115	38	0	0	0	153	0	0	0	0	0	0	0	0	0	0	0	0	323
1:45 PM	7	0	181	0	0	188	104	41	0	2	0	147	0	0	0	0	0	0	0	0	0	0	0	0	335
Hourly Total	24	0	604	4	0	632	442	163	0	7	0	612	0	0	0	0	0	0	0	0	0	0	0	0	1244
2:00 PM	10	0	156	0	0	166	117	44	0	0	0	161	0	0	0	0	0	0	0	0	0	0	0	0	327
2:15 PM	8	0	166	0	0	174	117	38	0	0	0	155	0	0	0	0	0	0	0	0	0	0	0	0	329
2:30 PM	6	0	178	0	0	184	114	37	0	0	0	151	0	0	0	0	0	0	0	0	0	0	0	0	335
2:45 PM	4	0	166	0	0	170	119	38	0	1	0	158	0	0	0	0	0	0	0	0	0	0	0	0	328
Hourly Total	28	0	666	0	0	694	467	157	0	1	0	625	0	0	0	0	0	0	0	0	0	0	0	0	1319
3:00 PM	7	0	242	2	0	251	100	53	0	0	0	153	0	0	0	0	0	0	0	0	0	0	0	0	404
3:15 PM	11	0	209	0	0	220	124	36	0	3	0	163	0	0	0	0	0	0	0	0	0	0	0	0	383
3:30 PM	10	0	210	1	0	221	117	30	0	0	0	147	0	0	0	0	0	0	0	0	0	0	0	0	368
3:45 PM	5	0	251	0	0	256	150	35	0	5	0	190	0	0	0	0	0	0	0	0	0	0	0	0	446
Hourly Total	33	0	912	3	0	948	491	154	0	8	0	653	0	0	0	0	0	0	0	0	0	0	0	0	1601
4:00 PM	8	0	258	3	0	269	132	43	0	0	0	175	0	0	0	0	0	0	0	0	0	0	0	0	444
4:15 PM	6	0	206	1	0	213	114	27	0	5	0	146	0	0	0	0	0	0	0	0	0	0	0	0	359
4:30 PM	10	0	179	2	0	191	107	37	0	0	0	144	0	0	0	0	0	0	0	0	0	0	0	0	335
4:45 PM	6	0	185	3	2	194	122	46	0	2	0	170	0	0	0	0	0	0	0	0	0	0	0	0	364
Hourly Total	30	0	828	9	2	867	475	153	0	7	0	635	0	0	0	0	0	0	0	0	0	0	0	0	1502
5:00 PM	4	0	219	1	0	224	105	22	0	0	0	127	0	0	0	0	0	0	0	0	0	0	0	0	351
5:15 PM	8	0	179	0	0	187	84	27	0	3	0	114	0	0	0	0	0	0	0	0	0	0	0	0	301
5:30 PM	4	0	179	1	0	184	86	33	0	0	0	119	0	0	0	0	0	0	0	0	0	0	0	0	303
5:45 PM	4	0	161	0	0	165	106	36	0	1	0	143	0	0	0	0	0	0	0	0	0	0	0	0	308
Hourly Total	20	0	738	2	0	760	381	118	0	4	0	503	0	0	0	0	0	0	0	0	0	0	0	0	1263
6:00 PM	2	0	161	1	0	164	93	35	0	0	0	128	0	0	0	0	0	0	0	0	0	0	0	0	292
6:15 PM	3	0	135	0	0	138	99	32	0	0	0	131	0	0	0	0	0	0	0	0	0	0	0	0	269
6:30 PM	1	0	154	0	0	155	120	37	0	1	0	158	0	0	0	0	0	0	0	0	0	0	0	0	313
6:45 PM	7	0	129	0	0	136	109	25	0	1	0	135	0	0	0	0	0	0	0	0	0	0	0	0	271
Hourly Total	13	0	579	1	0	593	421	129	0	2	0	552	0	0	0	0	0	0	0	0	0	0	0	0	1145

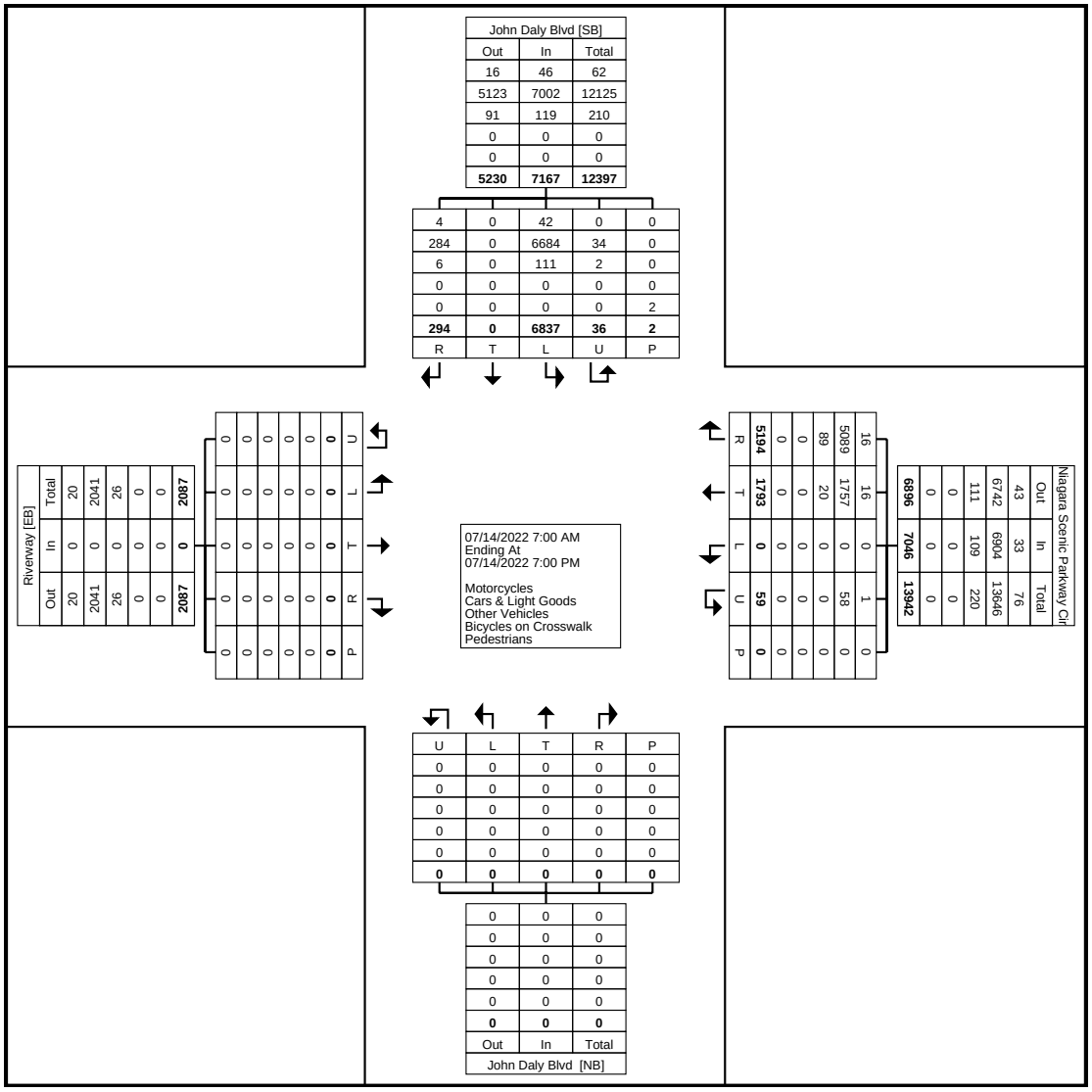
Grand Total	294	0	6837	36	2	7167	5194	1793	0	59	0	7046	0	0	0	0	0	0	0	0	0	0	0	0	14213
Approach %	4.1	0.0	95.4	0.5	-	-	73.7	25.4	0.0	0.8	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	2.1	0.0	48.1	0.3	-	50.4	36.5	12.6	0.0	0.4	-	49.6	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-
Motorcycles	4	0	42	0	-	46	16	16	0	1	-	33	0	0	0	0	-	0	0	0	0	0	-	0	79
% Motorcycles	1.4	-	0.6	0.0	-	0.6	0.3	0.9	-	1.7	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	0.6
Cars & Light Goods	284	0	6684	34	-	7002	5089	1757	0	58	-	6904	0	0	0	0	-	0	0	0	0	0	-	0	13906
% Cars & Light Goods	96.6	-	97.8	94.4	-	97.7	98.0	98.0	-	98.3	-	98.0	-	-	-	-	-	-	-	-	-	-	-	-	97.8
Other Vehicles	6	0	111	2	-	119	89	20	0	0	-	109	0	0	0	0	-	0	0	0	0	0	-	0	228
% Other Vehicles	2.0	-	1.6	5.6	-	1.7	1.7	1.1	-	0.0	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	1.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/14/2022
Page No: 3



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/14/2022
Page No: 4

Approach Data

Start Time	Sb Street Southbound						Wb Street Westbound						Nb Street Northbound						Eb Street Eastbound					
	Peds CCW	Peds CW	Circulating	Out	In	Next	Peds CCW	Peds CW	Circulating	Out	In	Next	Peds CCW	Peds CW	Circulating	Out	In	Next	Peds CCW	Peds CW	Circulating	Out	In	Next
7:00 AM	0	0	10	45	54	3	0	0	0	48	55	0	0	0	48	0	0	0	0	0	51	12	0	0
7:15 AM	0	0	12	81	55	1	0	0	1	58	92	0	0	0	59	0	0	0	0	0	54	12	0	0
7:30 AM	0	0	16	123	85	3	0	0	0	75	139	0	0	0	75	0	0	0	0	0	82	20	0	0
7:45 AM	0	0	19	185	64	1	0	0	0	69	204	0	0	0	70	0	0	0	0	0	64	20	0	0
Hourly Total	0	0	57	434	258	8	0	0	1	250	490	0	0	0	252	0	0	0	0	0	251	64	0	0
8:00 AM	0	0	19	112	94	1	0	0	0	89	131	0	0	0	89	0	0	0	0	0	94	19	0	0
8:15 AM	0	0	23	107	65	4	0	0	1	69	129	0	0	0	70	0	0	0	0	0	61	27	0	0
8:30 AM	0	0	22	110	80	6	0	0	0	68	132	0	0	0	68	0	0	0	0	0	74	28	0	0
8:45 AM	0	0	29	131	90	1	0	0	0	92	160	0	0	0	92	0	0	0	0	0	89	30	0	0
Hourly Total	0	0	93	460	329	12	0	0	1	318	552	0	0	0	319	0	0	0	0	0	318	104	0	0
9:00 AM	0	0	27	83	108	8	0	0	2	95	107	0	0	0	97	0	0	0	0	0	101	34	0	0
9:15 AM	0	0	21	73	104	3	0	0	1	105	93	0	0	0	104	0	0	0	0	0	101	25	0	0
9:30 AM	0	0	35	69	115	7	0	0	0	101	104	0	0	0	101	0	0	0	0	0	108	41	0	0
9:45 AM	0	0	42	96	89	4	0	0	0	94	138	0	0	0	94	0	0	0	0	0	85	45	0	0
Hourly Total	0	0	125	321	416	22	0	0	3	395	442	0	0	0	396	0	0	0	0	0	395	145	0	0
10:00 AM	0	0	50	83	139	3	0	0	1	123	132	0	0	0	125	0	0	0	0	0	138	50	0	0
10:15 AM	0	0	44	83	133	7	0	0	1	133	125	0	0	0	134	0	0	0	0	0	126	50	0	0
10:30 AM	0	0	61	102	121	11	0	0	0	102	163	0	0	0	102	0	0	0	0	0	110	72	0	0
10:45 AM	0	0	71	97	137	10	0	0	1	127	167	0	0	0	131	0	0	0	0	0	130	77	0	0
Hourly Total	0	0	226	365	530	31	0	0	3	485	587	0	0	0	492	0	0	0	0	0	504	249	0	0
11:00 AM	0	0	57	101	151	8	0	0	1	139	157	0	0	0	144	0	0	0	0	0	144	64	0	0
11:15 AM	0	0	63	117	125	14	0	0	0	122	180	0	0	0	119	0	0	0	0	0	111	77	0	0
11:30 AM	0	0	65	114	147	13	0	0	0	124	179	0	0	0	124	0	0	0	0	0	134	77	0	0
11:45 AM	0	0	37	132	134	4	0	0	1	137	168	0	0	0	140	0	0	0	0	0	130	42	0	0
Hourly Total	0	0	222	464	557	39	0	0	2	522	684	0	0	0	527	0	0	0	0	0	519	260	0	0
12:00 PM	0	0	59	125	184	9	0	0	0	163	184	0	0	0	163	0	0	0	0	0	177	66	0	0
12:15 PM	0	0	59	117	119	10	0	0	3	120	173	0	0	0	121	0	0	0	0	0	114	63	0	0
12:30 PM	0	0	59	130	151	9	0	0	1	128	188	0	0	0	130	0	0	0	0	0	143	64	0	0
12:45 PM	0	0	51	111	146	6	0	0	0	151	162	0	0	0	153	0	0	0	0	0	141	58	0	0
Hourly Total	0	0	228	483	600	34	0	0	4	562	707	0	0	0	567	0	0	0	0	0	575	251	0	0
1:00 PM	0	0	39	104	134	2	0	0	3	124	141	0	0	0	127	0	0	0	0	0	134	38	0	0
1:15 PM	0	0	52	120	141	8	0	0	2	138	171	0	0	0	144	0	0	0	0	0	136	57	0	0
1:30 PM	0	0	39	115	170	7	0	0	0	165	154	0	0	0	162	0	0	0	0	0	164	45	0	0
1:45 PM	0	0	42	104	186	7	0	0	0	183	146	0	0	0	188	0	0	0	0	0	179	49	0	0
Hourly Total	0	0	172	443	631	24	0	0	5	610	612	0	0	0	621	0	0	0	0	0	613	189	0	0
2:00 PM	0	0	44	117	171	10	0	0	0	155	161	0	0	0	151	0	0	0	0	0	162	54	0	0
2:15 PM	0	0	38	117	175	8	0	0	0	166	155	0	0	0	164	0	0	0	0	0	167	46	0	0
2:30 PM	0	0	37	114	189	6	0	0	0	180	151	0	0	0	170	0	0	0	0	0	183	43	0	0
2:45 PM	0	0	40	120	168	4	0	0	0	168	159	0	0	0	170	0	0	0	0	0	164	44	0	0
Hourly Total	0	0	159	468	703	28	0	0	0	669	626	0	0	0	655	0	0	0	0	0	676	187	0	0
3:00 PM	0	0	53	100	254	7	0	0	0	238	153	0	0	0	244	0	0	0	0	0	247	59	0	0
3:15 PM	0	0	38	125	215	11	0	0	1	215	162	0	0	0	215	0	0	0	0	0	205	49	0	0
3:30 PM	0	0	30	117	228	10	0	0	0	208	147	0	0	0	207	0	0	0	0	0	218	40	0	0
3:45 PM	0	0	38	150	251	5	0	0	0	259	188	0	0	0	257	0	0	0	0	0	248	41	0	0
Hourly Total	0	0	159	492	948	33	0	0	1	920	650	0	0	0	923	0	0	0	0	0	918	189	0	0
4:00 PM	0	0	43	132	282	8	0	0	1	253	175	0	0	0	254	0	0	0	0	0	274	51	0	0
4:15 PM	0	0	31	114	205	6	0	0	2	212	145	0	0	0	219	0	0	0	0	0	200	35	0	0
4:30 PM	0	0	37	107	198	10	0	0	0	175	144	0	0	0	177	0	0	0	0	0	189	47	0	0
4:45 PM	2	0	48	122	194	6	0	0	2	184	170	0	0	0	194	0	0	0	0	0	190	51	0	0
Hourly Total	2	0	159	475	879	30	0	0	5	824	634	0	0	0	844	0	0	0	0	0	853	184	0	0
5:00 PM	0	0	21	105	228	4	0	0	0	218	126	0	0	0	217	0	0	0	0	0	224	26	0	0
5:15 PM	0	0	29	84	181	8	0	0	0	185	113	0	0	0	185	0	0	0	0	0	173	37	0	0
5:30 PM	0	0	33	86	187	4	0	0	0	178	119	0	0	0	178	0	0	0	0	0	183	37	0	0
5:45 PM	0	0	37	106	163	4	0	0	0	163	143	0	0	0	165	0	0	0	0	0	159	41	0	0
Hourly Total	0	0	120	381	759	20	0	0	0	744	501	0	0	0	745	0	0	0	0	0	739	141	0	0
6:00 PM	0	0	35	94	163	2	0	0	1	160	128	0	0	0	162	0	0	0	0	0	161	38	0	0
6:15 PM	0	0	32	99	140	3	0	0	0	134	131	0	0	0	134	0	0	0	0	0	137	35	0	0
6:30 PM	0	0	38	120	153	1	0	0	0	157	158	0	0	0	154	0	0	0	0	0	153	38	0	0
6:45 PM	0	0	26	109	134	7	0	0	0	132	135	0	0	0	132	0	0	0	0	0	127	33	0	0
Hourly Total	0	0	131	422	590	13	0	0	1	583	552	0	0	0	582	0	0	0	0	0	578	144	0	0

Grand Total	2	0	1851	5208	7200	294	0	0	26	6882	7037	0	0	0	6923	0	0	0	0	0	6939	2107	0	0
Approach %	-	-	12.7	35.8	49.5	2.0	-	-	0.2	49.4	50.5	0.0	-	-	100.0	0.0	0.0	0.0	-	-	76.7	23.3	0.0	0.0
Total %	-	-	4.2	11.7	16.2	0.7	-	-	0.1	15.5	15.8	0.0	-	-	15.6	0.0	0.0	0.0	-	-	15.6	4.7	0.0	0.0
Motorcycles	-	-	19	16	46	4	-	-	0	41	35	0	-	-	43	0	0	0	-	-	43	20	0	0
% Motorcycles	-	-	1.0	0.3	0.6	1.4	-	-	0.0	0.6	0.5	-	-	-	0.6	-	-	-	-	-	0.6	0.9	-	-
Cars & Light Goods	-	-	1810	5102	7031	284	-	-	24	6727	6891	0	-	-	6765	0	0	0	-	-	6779	2060	0	0
% Cars & Light Goods	-	-	97.8	98.0	97.7	96.6	-	-	92.3	97.7	97.9	-	-	-	97.7	-	-	-	-	-	97.7	97.8	-	-
Other Vehicles	-	-	22	90	123	6	-	-	2	114	111	0	-	-	115	0	0	0	-	-	117	27	0	0
% Other Vehicles	-	-	1.2	1.7	1.7	2.0	-	-	7.7	1.7	1.6	-	-	-	1.7	-	-	-	-	-	1.7	1.3	-	-
Bicycles on Crosswalk	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-
% Bicycles on Crosswalk	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	2	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-
% Pedestrians	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (7:30 AM)

Start Time	John Daly Blvd Southbound						Niagara Scenic Parkway Circle Westbound						John Daly Blvd Northbound						Riverway Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	3	0	76	1	0	80	123	17	0	0	0	140	0	0	0	0	0	0	0	0	0	0	0	0	220
7:45 AM	1	0	65	0	0	66	185	17	0	2	0	204	0	0	0	0	0	0	0	0	0	0	0	0	270
8:00 AM	1	0	90	0	0	91	112	19	0	0	0	131	0	0	0	0	0	0	0	0	0	0	0	0	222
8:15 AM	4	0	64	0	0	68	106	22	0	2	0	130	0	0	0	0	0	0	0	0	0	0	0	0	198
Total	9	0	295	1	0	305	526	75	0	4	0	605	0	0	0	0	0	0	0	0	0	0	0	0	910
Approach %	3.0	0.0	96.7	0.3	-	-	86.9	12.4	0.0	0.7	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	1.0	0.0	32.4	0.1	-	33.5	57.8	8.2	0.0	0.4	-	66.5	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.563	0.000	0.819	0.250	-	0.838	0.711	0.852	0.000	0.500	-	0.741	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.000	0.843
Motorcycles	0	0	0	0	-	0	1	1	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	2
% Motorcycles	0.0	-	0.0	0.0	-	0.0	0.2	1.3	-	0.0	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	0.2
Cars & Light Goods	9	0	287	1	-	297	521	70	0	4	-	595	0	0	0	0	-	0	0	0	0	0	-	0	892
% Cars & Light Goods	100.0	-	97.3	100.0	-	97.4	99.0	93.3	-	100.0	-	98.3	-	-	-	-	-	-	-	-	-	-	-	-	98.0
Other Vehicles	0	0	8	0	-	8	4	4	0	0	-	8	0	0	0	0	-	0	0	0	0	0	-	0	16
% Other Vehicles	0.0	-	2.7	0.0	-	2.6	0.8	5.3	-	0.0	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	1.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
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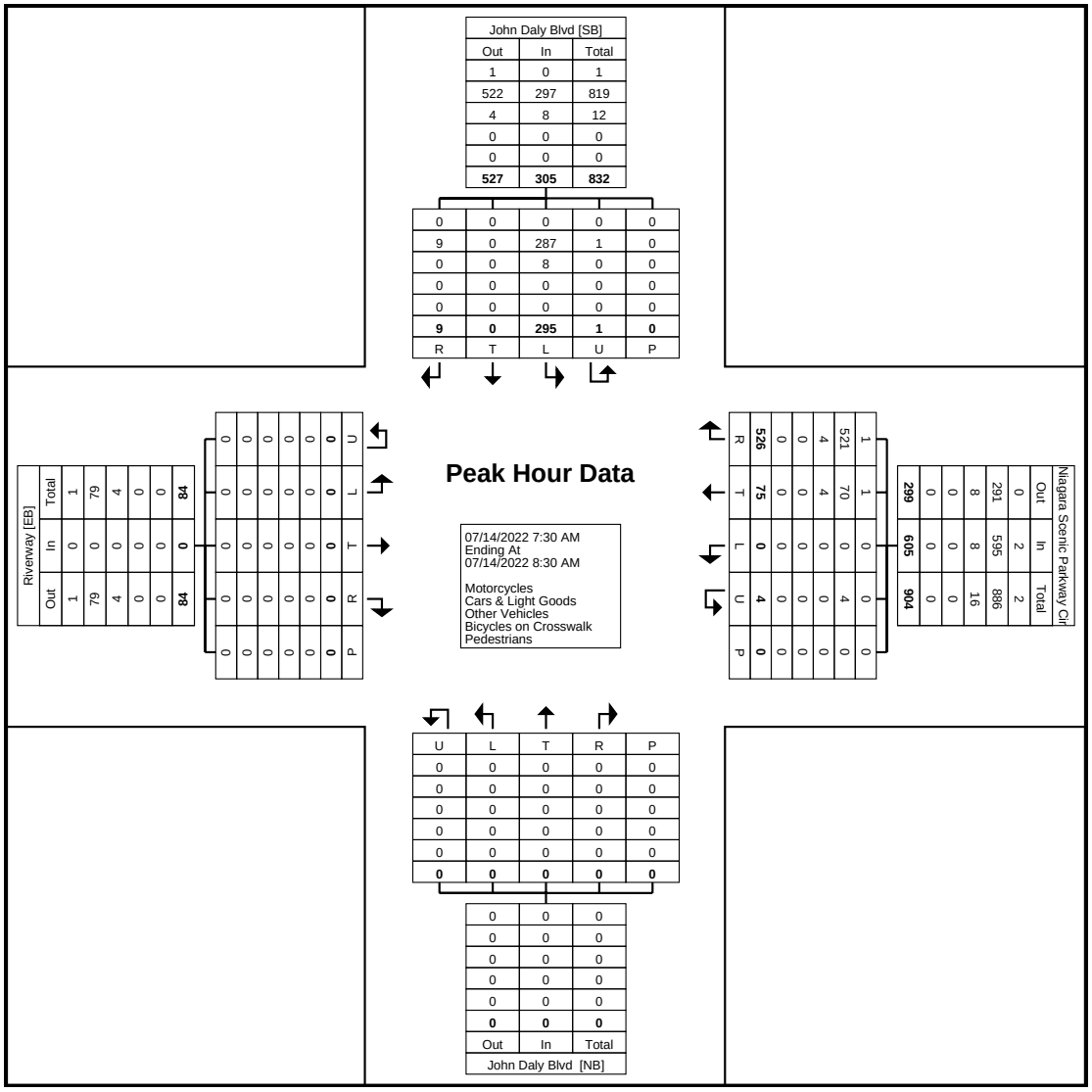
Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/14/2022
Page No: 7



Turning Movement Peak Hour Data Plot (7:30 AM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (12:00 PM)

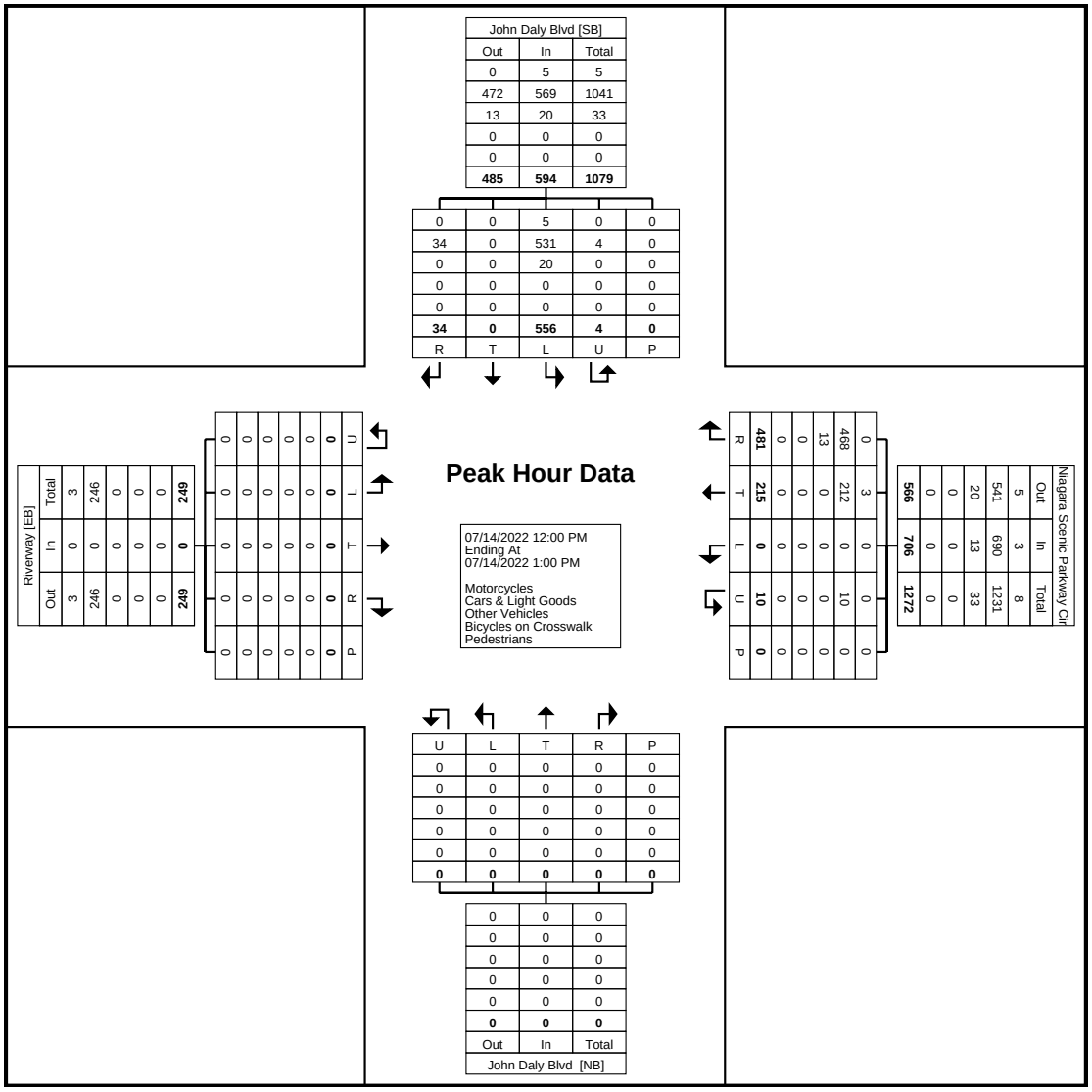
Start Time	John Daly Blvd Southbound						Niagara Scenic Parkway Circle Westbound						John Daly Blvd Northbound						Riverway Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	9	0	166	1	0	176	125	58	0	0	0	183	0	0	0	0	0	0	0	0	0	0	0	0	359
12:15 PM	10	0	112	1	0	123	115	51	0	6	0	172	0	0	0	0	0	0	0	0	0	0	0	0	295
12:30 PM	9	0	132	2	0	143	130	56	0	0	0	186	0	0	0	0	0	0	0	0	0	0	0	0	329
12:45 PM	6	0	146	0	0	152	111	50	0	4	0	165	0	0	0	0	0	0	0	0	0	0	0	0	317
Total	34	0	556	4	0	594	481	215	0	10	0	706	0	0	0	0	0	0	0	0	0	0	0	0	1300
Approach %	5.7	0.0	93.6	0.7	-	-	68.1	30.5	0.0	1.4	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	2.6	0.0	42.8	0.3	-	45.7	37.0	16.5	0.0	0.8	-	54.3	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.850	0.000	0.837	0.500	-	0.844	0.925	0.927	0.000	0.417	-	0.949	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.000	0.905
Motorcycles	0	0	5	0	-	5	0	3	0	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	8
% Motorcycles	0.0	-	0.9	0.0	-	0.8	0.0	1.4	-	0.0	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.6
Cars & Light Goods	34	0	531	4	-	569	468	212	0	10	-	690	0	0	0	0	-	0	0	0	0	0	-	0	1259
% Cars & Light Goods	100.0	-	95.5	100.0	-	95.8	97.3	98.6	-	100.0	-	97.7	-	-	-	-	-	-	-	-	-	-	-	-	96.8
Other Vehicles	0	0	20	0	-	20	13	0	0	0	-	13	0	0	0	0	-	0	0	0	0	0	-	0	33
% Other Vehicles	0.0	-	3.6	0.0	-	3.4	2.7	0.0	-	0.0	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	2.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/14/2022
Page No: 9



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (4:00 PM)

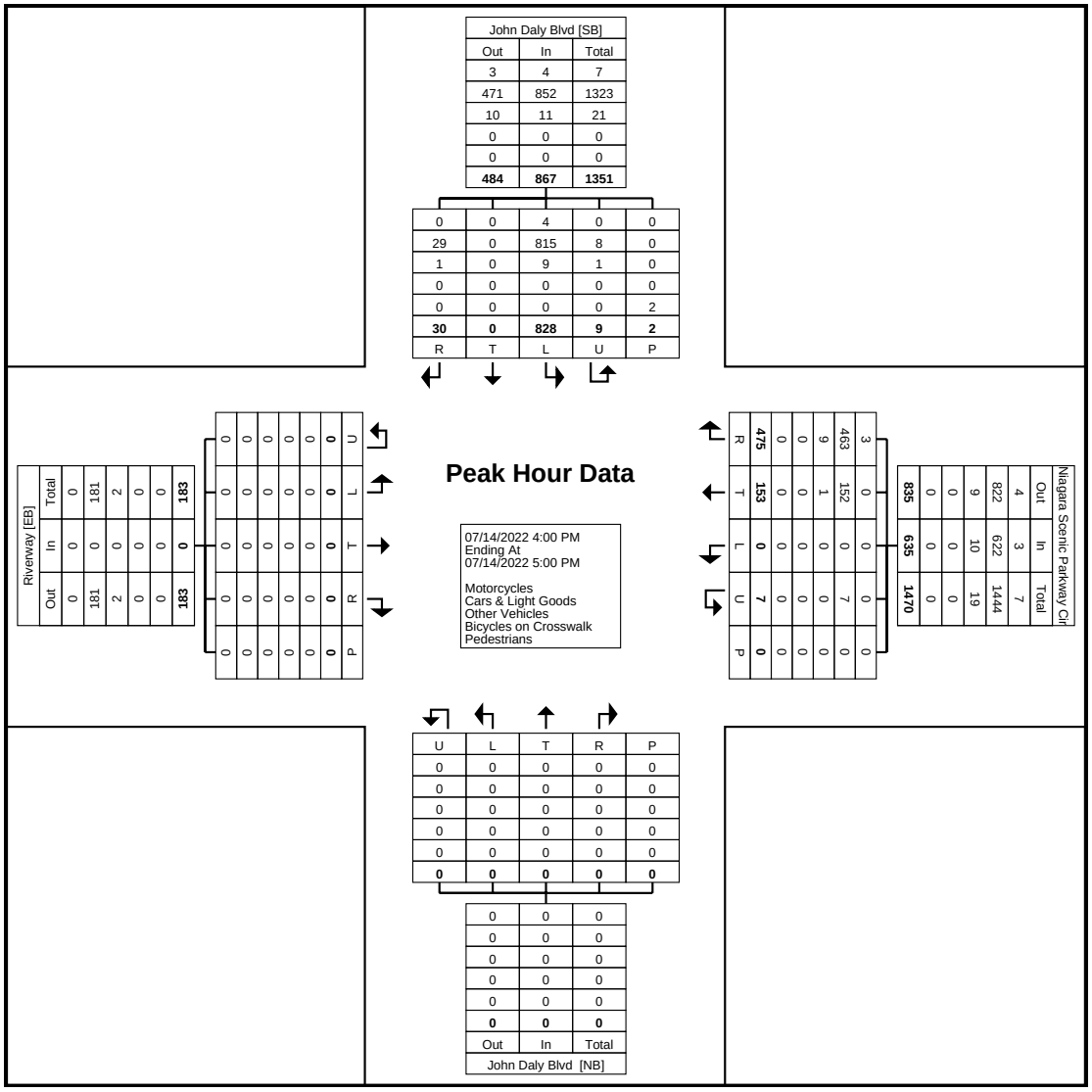
Start Time	John Daly Blvd Southbound						Niagara Scenic Parkway Circle Westbound						John Daly Blvd Northbound						Riverway Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	8	0	258	3	0	269	132	43	0	0	0	175	0	0	0	0	0	0	0	0	0	0	0	0	444
4:15 PM	6	0	206	1	0	213	114	27	0	5	0	146	0	0	0	0	0	0	0	0	0	0	0	0	359
4:30 PM	10	0	179	2	0	191	107	37	0	0	0	144	0	0	0	0	0	0	0	0	0	0	0	0	335
4:45 PM	6	0	185	3	2	194	122	46	0	2	0	170	0	0	0	0	0	0	0	0	0	0	0	0	364
Total	30	0	828	9	2	867	475	153	0	7	0	635	0	0	0	0	0	0	0	0	0	0	0	0	1502
Approach %	3.5	0.0	95.5	1.0	-	-	74.8	24.1	0.0	1.1	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	2.0	0.0	55.1	0.6	-	57.7	31.6	10.2	0.0	0.5	-	42.3	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.750	0.000	0.802	0.750	-	0.806	0.900	0.832	0.000	0.350	-	0.907	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.000	0.846
Motorcycles	0	0	4	0	-	4	3	0	0	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	7
% Motorcycles	0.0	-	0.5	0.0	-	0.5	0.6	0.0	-	0.0	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	0.5
Cars & Light Goods	29	0	815	8	-	852	463	152	0	7	-	622	0	0	0	0	-	0	0	0	0	0	-	0	1474
% Cars & Light Goods	96.7	-	98.4	88.9	-	98.3	97.5	99.3	-	100.0	-	98.0	-	-	-	-	-	-	-	-	-	-	-	-	98.1
Other Vehicles	1	0	9	1	-	11	9	1	0	0	-	10	0	0	0	0	-	0	0	0	0	0	-	0	21
% Other Vehicles	3.3	-	1.1	11.1	-	1.3	1.9	0.7	-	0.0	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-	1.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/14/2022
Page No: 11



Turning Movement Peak Hour Data Plot (4:00 PM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/16/2022

Turning Movement Data

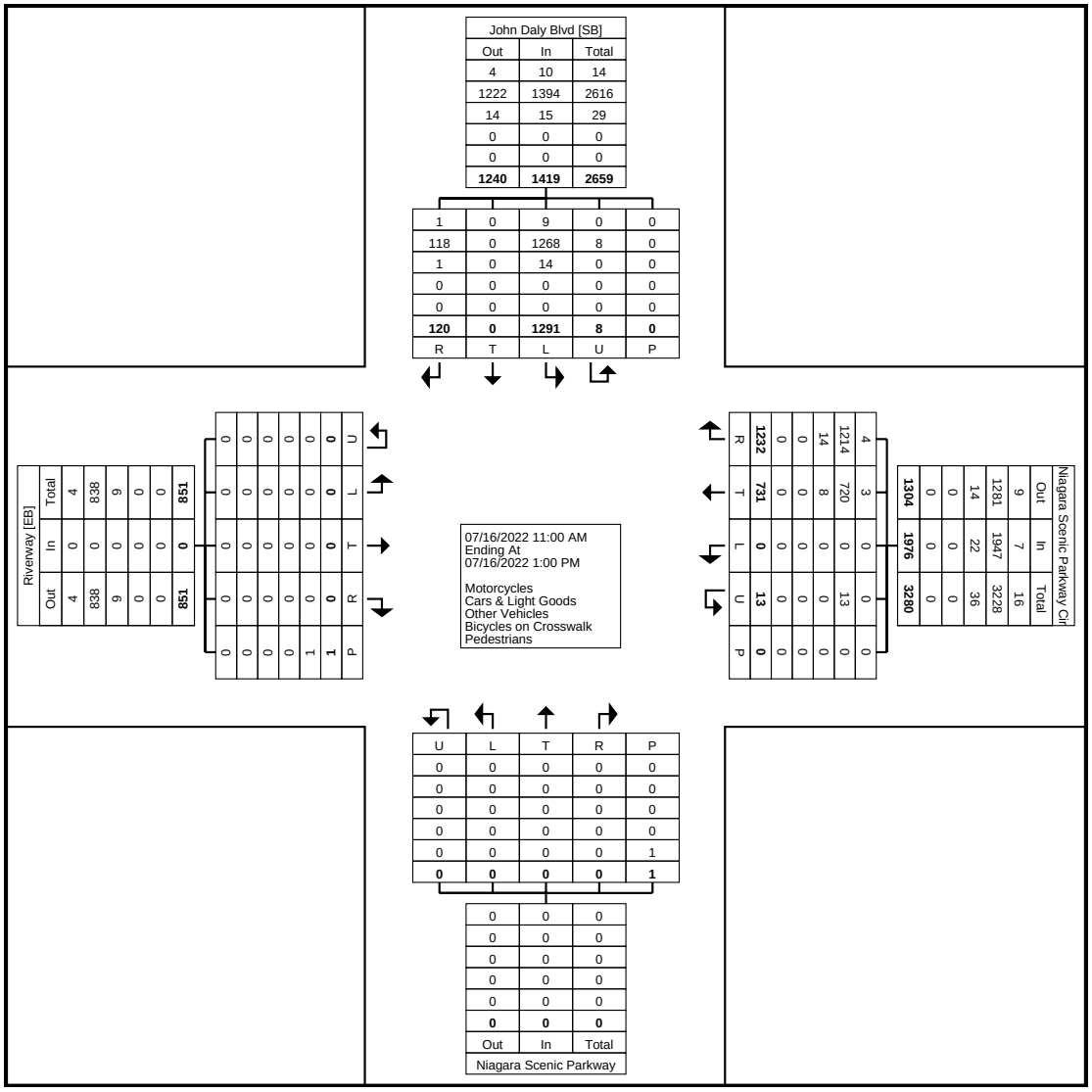
Start Time	John Daly Blvd Southbound						Niagara Scenic Parkway Circle Westbound						Niagara Scenic Parkway Circle Northbound						Riverway Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	7	0	132	0	0	139	155	89	0	0	0	244	0	0	0	0	0	0	0	0	0	0	0	0	383
11:15 AM	19	0	141	2	0	162	155	110	0	2	0	267	0	0	0	0	0	0	0	0	0	0	0	0	429
11:30 AM	16	0	167	2	0	185	182	102	0	2	0	286	0	0	0	0	0	0	0	0	0	0	0	0	471
11:45 AM	13	0	148	1	0	162	173	98	0	0	0	271	0	0	0	0	0	0	0	0	0	0	0	0	433
Hourly Total	55	0	588	5	0	648	665	399	0	4	0	1068	0	0	0	0	0	0	0	0	0	0	0	0	1716
12:00 PM	14	0	205	0	0	219	142	76	0	3	0	221	0	0	0	0	0	0	0	0	0	0	0	0	440
12:15 PM	16	0	153	1	0	170	144	82	0	0	0	226	0	0	0	0	1	0	0	0	0	0	1	0	396
12:30 PM	20	0	162	0	0	182	133	96	0	4	0	233	0	0	0	0	0	0	0	0	0	0	0	0	415
12:45 PM	15	0	183	2	0	200	148	78	0	2	0	228	0	0	0	0	0	0	0	0	0	0	0	0	428
Hourly Total	65	0	703	3	0	771	567	332	0	9	0	908	0	0	0	0	1	0	0	0	0	0	1	0	1679
Grand Total	120	0	1291	8	0	1419	1232	731	0	13	0	1976	0	0	0	0	1	0	0	0	0	0	1	0	3395
Approach %	8.5	0.0	91.0	0.6	-	-	62.3	37.0	0.0	0.7	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	3.5	0.0	38.0	0.2	-	41.8	36.3	21.5	0.0	0.4	-	58.2	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-
Motorcycles	1	0	9	0	-	10	4	3	0	0	-	7	0	0	0	0	-	0	0	0	0	0	-	0	17
% Motorcycles	0.8	-	0.7	0.0	-	0.7	0.3	0.4	-	0.0	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.5
Cars & Light Goods	118	0	1268	8	-	1394	1214	720	0	13	-	1947	0	0	0	0	-	0	0	0	0	0	-	0	3341
% Cars & Light Goods	98.3	-	98.2	100.0	-	98.2	98.5	98.5	-	100.0	-	98.5	-	-	-	-	-	-	-	-	-	-	-	-	98.4
Other Vehicles	1	0	14	0	-	15	14	8	0	0	-	22	0	0	0	0	-	0	0	0	0	0	-	0	37
% Other Vehicles	0.8	-	1.1	0.0	-	1.1	1.1	1.1	-	0.0	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	1.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/16/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/16/2022

Approach Data

Start Time	Sb Street Southbound						Wb Street Westbound						Nb Street Northbound						Eb Street Eastbound					
	Peds CCW	Peds CW	Circulating	Out	In	Next	Peds CCW	Peds CW	Circulating	Out	In	Next	Peds CCW	Peds CW	Circulating	Out	In	Next	Peds CCW	Peds CW	Circulating	Out	In	Next
11:00 AM	0	0	89	155	140	132	0	0	0	132	244	89	0	0	133	0	0	0	0	0	133	96	0	0
11:15 AM	0	0	112	157	162	141	0	0	2	144	267	110	0	0	144	0	0	0	0	0	146	128	0	0
11:30 AM	0	0	104	184	185	167	0	0	2	169	286	102	0	0	173	0	0	0	0	0	172	118	0	0
11:45 AM	0	0	98	174	163	148	0	0	1	148	271	98	0	0	149	0	0	0	0	0	150	110	0	0
Hourly Total	0	0	403	670	650	588	0	0	5	593	1068	399	0	0	599	0	0	0	0	0	601	452	0	0
12:00 PM	0	0	78	142	217	205	0	0	0	208	220	76	0	0	209	0	0	0	0	0	205	91	0	0
12:15 PM	0	0	84	144	178	153	0	0	0	150	228	82	1	0	149	0	0	0	1	0	163	97	0	0
12:30 PM	0	0	98	134	177	162	0	0	1	168	231	96	0	0	170	0	0	0	0	0	158	118	0	0
12:45 PM	0	0	79	150	198	183	0	0	2	185	227	78	0	0	189	0	0	0	0	0	184	94	0	0
Hourly Total	0	0	339	570	770	703	0	0	3	711	906	332	1	0	717	0	0	0	1	0	710	400	0	0
Grand Total	0	0	742	1240	1420	1291	0	0	8	1304	1974	731	1	0	1316	0	0	0	1	0	1311	852	0	0
Approach %	-	-	15.8	26.4	30.3	27.5	-	-	0.2	32.5	49.1	18.2	-	-	100.0	0.0	0.0	0.0	-	-	60.6	39.4	0.0	0.0
Total %	-	-	6.1	10.2	11.6	10.6	-	-	0.1	10.7	16.2	6.0	-	-	10.8	0.0	0.0	0.0	-	-	10.8	7.0	0.0	0.0
Motorcycles	-	-	3	4	10	9	-	-	0	9	7	3	-	-	9	0	0	0	-	-	9	4	0	0
% Motorcycles	-	-	0.4	0.3	0.7	0.7	-	-	0.0	0.7	0.4	0.4	-	-	0.7	-	-	-	-	-	0.7	0.5	-	-
Cars & Light Goods	-	-	731	1222	1395	1268	-	-	8	1280	1945	720	-	-	1292	0	0	0	-	-	1288	839	0	0
% Cars & Light Goods	-	-	98.5	98.5	98.2	98.2	-	-	100.0	98.2	98.5	98.5	-	-	98.2	-	-	-	-	-	98.2	98.5	-	-
Other Vehicles	-	-	8	14	15	14	-	-	0	15	22	8	-	-	15	0	0	0	-	-	14	9	0	0
% Other Vehicles	-	-	1.1	1.1	1.1	1.1	-	-	0.0	1.2	1.1	1.1	-	-	1.1	-	-	-	-	-	1.1	1.1	-	-
Bicycles on Crosswalk	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-
Pedestrians	0	0	-	-	-	-	0	0	-	-	-	-	1	0	-	-	-	-	1	0	-	-	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (11:00 AM)

Start Time	John Daly Blvd Southbound						Niagara Scenic Parkway Circle Westbound						Niagara Scenic Parkway Circle Northbound						Riverway Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	7	0	132	0	0	139	155	89	0	0	0	244	0	0	0	0	0	0	0	0	0	0	0	0	383
11:15 AM	19	0	141	2	0	162	155	110	0	2	0	267	0	0	0	0	0	0	0	0	0	0	0	0	429
11:30 AM	16	0	167	2	0	185	182	102	0	2	0	286	0	0	0	0	0	0	0	0	0	0	0	0	471
11:45 AM	13	0	148	1	0	162	173	98	0	0	0	271	0	0	0	0	0	0	0	0	0	0	0	0	433
Total	55	0	588	5	0	648	665	399	0	4	0	1068	0	0	0	0	0	0	0	0	0	0	0	0	1716
Approach %	8.5	0.0	90.7	0.8	-	-	62.3	37.4	0.0	0.4	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	3.2	0.0	34.3	0.3	-	37.8	38.8	23.3	0.0	0.2	-	62.2	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.724	0.000	0.880	0.625	-	0.876	0.913	0.907	0.000	0.500	-	0.934	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.000	0.911
Motorcycles	1	0	7	0	-	8	2	3	0	0	-	5	0	0	0	0	-	0	0	0	0	0	-	0	13
% Motorcycles	1.8	-	1.2	0.0	-	1.2	0.3	0.8	-	0.0	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	0.8
Cars & Light Goods	54	0	575	5	-	634	657	388	0	4	-	1049	0	0	0	0	-	0	0	0	0	0	-	0	1683
% Cars & Light Goods	98.2	-	97.8	100.0	-	97.8	98.8	97.2	-	100.0	-	98.2	-	-	-	-	-	-	-	-	-	-	-	-	98.1
Other Vehicles	0	0	6	0	-	6	6	8	0	0	-	14	0	0	0	0	-	0	0	0	0	0	-	0	20
% Other Vehicles	0.0	-	1.0	0.0	-	0.9	0.9	2.0	-	0.0	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	1.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Niagara, New York
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Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
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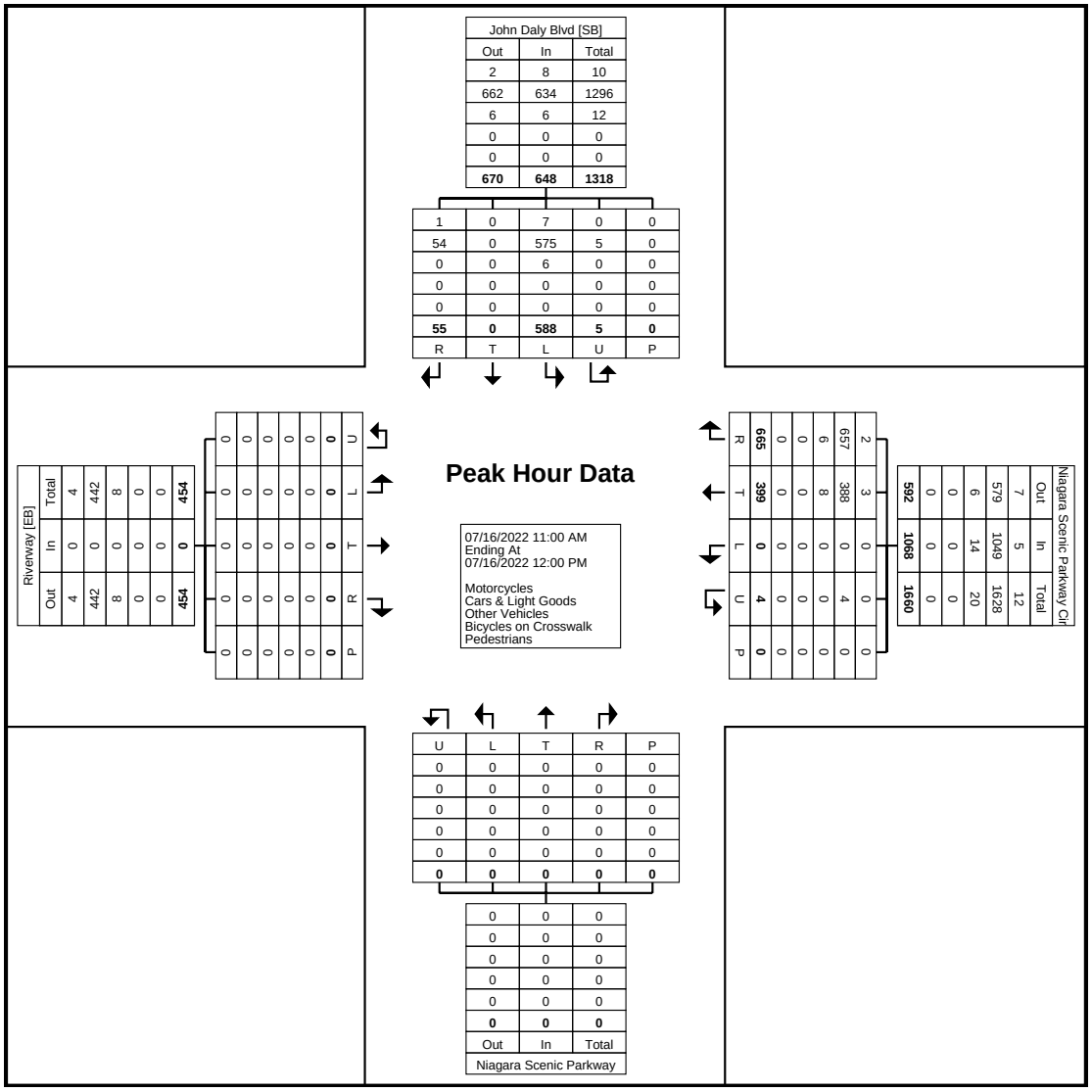


Turning Movement Peak Hour Data Plot (11:00 AM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (12:00 PM)

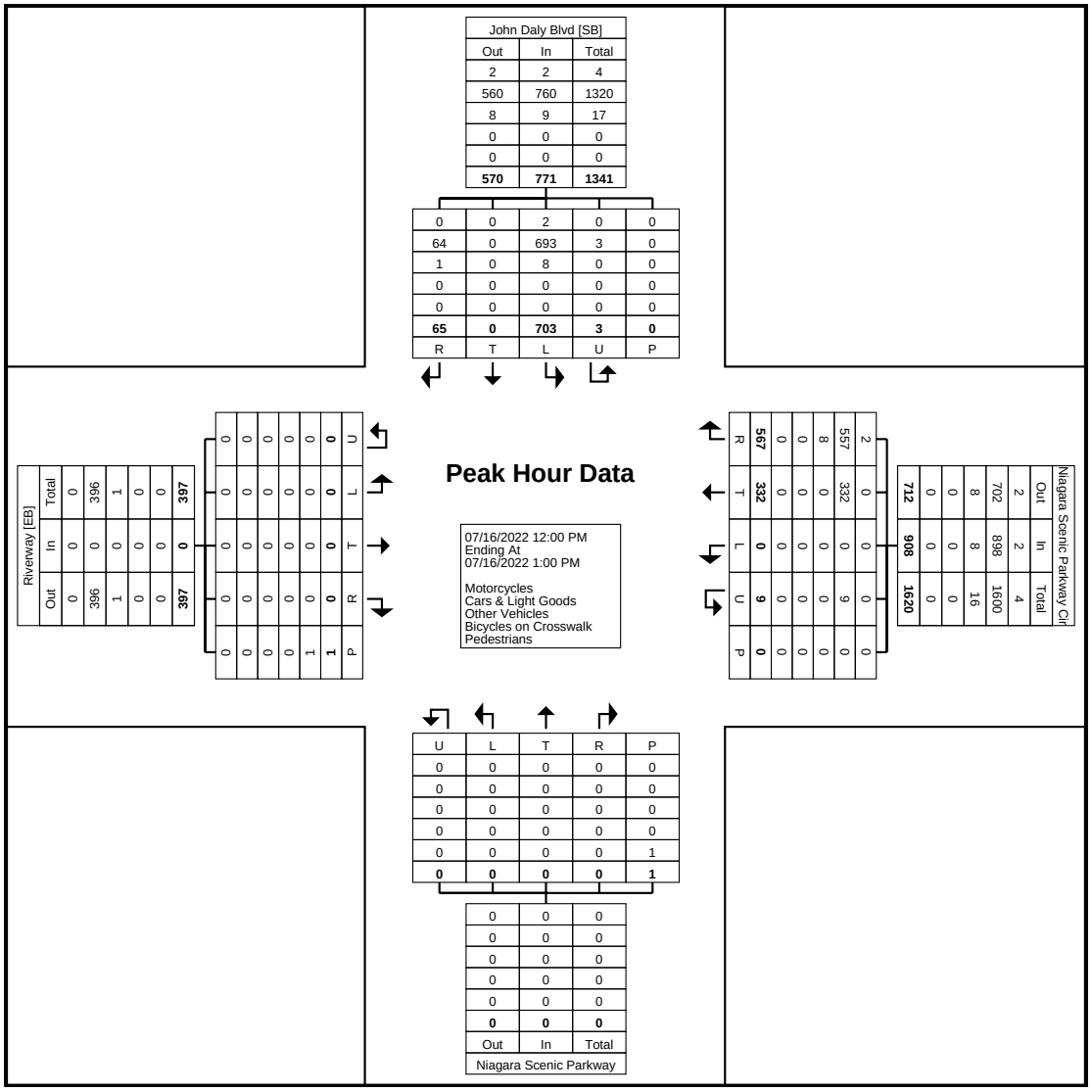
Start Time	John Daly Blvd Southbound						Niagara Scenic Parkway Circle Westbound						Niagara Scenic Parkway Circle Northbound						Riverway Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	14	0	205	0	0	219	142	76	0	3	0	221	0	0	0	0	0	0	0	0	0	0	0	0	440
12:15 PM	16	0	153	1	0	170	144	82	0	0	0	226	0	0	0	0	1	0	0	0	0	0	1	0	396
12:30 PM	20	0	162	0	0	182	133	96	0	4	0	233	0	0	0	0	0	0	0	0	0	0	0	0	415
12:45 PM	15	0	183	2	0	200	148	78	0	2	0	228	0	0	0	0	0	0	0	0	0	0	0	0	428
Total	65	0	703	3	0	771	567	332	0	9	0	908	0	0	0	0	1	0	0	0	0	0	1	0	1679
Approach %	8.4	0.0	91.2	0.4	-	-	62.4	36.6	0.0	1.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	3.9	0.0	41.9	0.2	-	45.9	33.8	19.8	0.0	0.5	-	54.1	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.813	0.000	0.857	0.375	-	0.880	0.958	0.865	0.000	0.563	-	0.974	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.000	0.954
Motorcycles	0	0	2	0	-	2	2	0	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	4
% Motorcycles	0.0	-	0.3	0.0	-	0.3	0.4	0.0	-	0.0	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	0.2
Cars & Light Goods	64	0	693	3	-	760	557	332	0	9	-	898	0	0	0	0	-	0	0	0	0	0	-	0	1658
% Cars & Light Goods	98.5	-	98.6	100.0	-	98.6	98.2	100.0	-	100.0	-	98.9	-	-	-	-	-	-	-	-	-	-	-	-	98.7
Other Vehicles	1	0	8	0	-	9	8	0	0	0	-	8	0	0	0	0	-	0	0	0	0	0	-	0	17
% Other Vehicles	1.5	-	1.1	0.0	-	1.2	1.4	0.0	-	0.0	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-	1.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Niagara Scenic Parkway Circle
Site Code:
Start Date: 07/16/2022
Page No: 7



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/12/2022
Page No: 1

Turning Movement Data

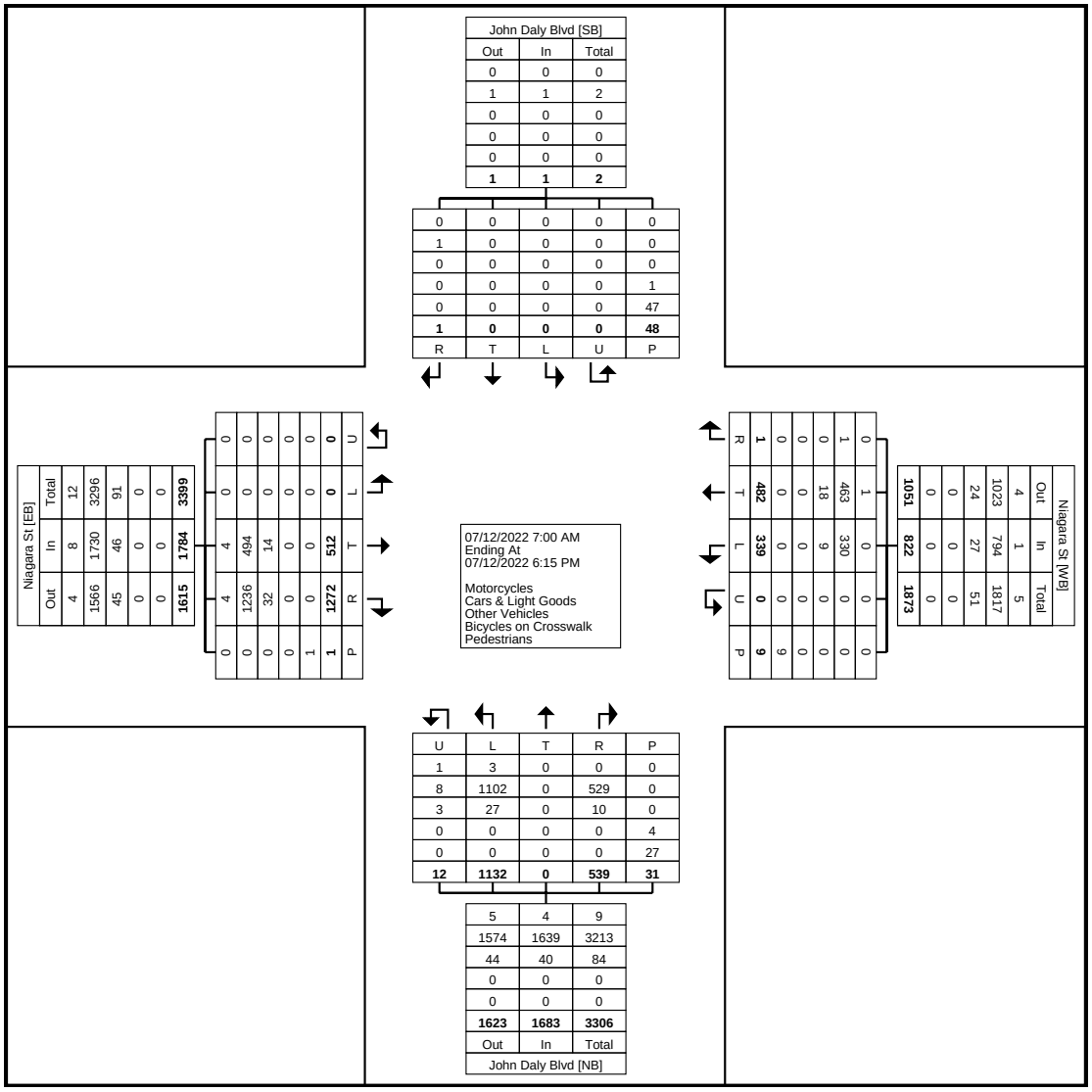
Start Time	John Daly Blvd Southbound						Niagara St Westbound						John Daly Blvd Northbound							Niagara St Eastbound							
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	0	9	9	0	0	18	13	13	0	16	0	1	42	25	7	10	0	0	0	42	102
7:15 AM	0	0	0	0	3	0	0	8	13	0	0	21	7	8	0	34	1	0	50	23	3	11	0	0	0	37	108
7:30 AM	0	0	0	0	3	0	0	13	5	0	0	18	21	13	0	52	0	4	86	23	6	8	0	0	0	37	141
7:45 AM	0	0	0	0	2	0	0	16	6	0	0	22	28	23	0	53	0	0	104	17	11	13	0	0	0	41	167
Hourly Total	0	0	0	0	8	0	0	46	33	0	0	79	69	57	0	155	1	5	282	88	27	42	0	0	0	157	518
8:00 AM	0	0	0	0	4	0	0	24	7	0	1	31	23	12	0	38	1	0	74	19	3	11	0	0	1	33	138
8:15 AM	0	0	0	0	0	0	0	14	10	0	0	24	11	14	0	40	3	1	68	27	8	17	0	0	0	52	144
8:30 AM	0	0	0	0	3	0	0	20	11	0	0	31	14	14	0	44	2	0	74	17	9	9	0	0	0	35	140
8:45 AM	0	0	0	0	12	0	0	28	11	0	0	39	12	14	0	73	2	0	101	29	11	24	0	0	0	64	204
Hourly Total	0	0	0	0	19	0	0	86	39	0	1	125	60	54	0	195	8	1	317	92	31	61	0	0	1	184	626
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	1	0	0	0	1	1	1	16	9	0	0	26	19	7	0	39	0	1	65	44	6	21	0	0	0	71	163
11:15 AM	0	0	0	0	3	0	0	19	13	0	0	32	7	2	0	51	0	4	60	36	6	18	0	0	0	60	152
11:30 AM	0	0	0	0	4	0	0	28	6	0	2	34	19	4	0	46	1	2	70	47	14	23	0	0	0	84	188
11:45 AM	0	0	0	0	2	0	0	10	11	0	1	21	9	8	0	59	0	1	76	30	15	21	0	0	0	66	163
Hourly Total	1	0	0	0	10	1	1	73	39	0	3	113	54	21	0	195	1	8	271	157	41	83	0	0	0	281	666
12:00 PM	0	0	0	0	0	0	0	15	12	0	1	27	8	6	0	57	0	4	71	43	26	35	0	0	0	104	202
12:15 PM	0	0	0	0	0	0	0	19	19	0	2	38	8	11	0	44	0	3	63	40	17	29	0	0	0	86	187
12:30 PM	0	0	0	0	0	0	0	28	12	0	1	40	12	8	0	61	0	2	81	41	19	18	0	0	0	78	199
12:45 PM	0	0	0	0	2	0	0	27	16	0	0	43	17	10	0	66	2	2	95	35	17	19	0	0	0	71	209
Hourly Total	0	0	0	0	2	0	0	89	59	0	4	148	45	35	0	228	2	11	310	159	79	101	0	0	0	339	797
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	23	28	0	0	51	8	7	0	47	0	2	62	74	38	27	0	0	0	139	252
4:15 PM	0	0	0	0	1	0	0	30	21	0	0	51	8	10	0	45	0	2	63	52	13	23	0	0	0	88	202
4:30 PM	0	0	0	0	0	0	0	27	38	0	1	65	7	16	0	53	0	0	76	69	16	53	0	0	0	138	279
4:45 PM	0	0	0	0	1	0	0	24	20	0	0	44	8	12	0	54	0	2	74	44	19	25	0	0	0	88	206
Hourly Total	0	0	0	0	2	0	0	104	107	0	1	211	31	45	0	199	0	6	275	239	86	128	0	0	0	453	939
5:00 PM	0	0	0	0	0	0	0	18	20	0	0	38	4	11	0	40	0	0	55	56	26	28	0	0	0	110	203
5:15 PM	0	0	0	0	3	0	0	22	13	0	0	35	8	11	0	30	0	0	49	55	11	19	0	0	0	85	169
5:30 PM	0	0	0	0	3	0	0	25	15	0	0	40	3	13	0	49	0	0	65	53	19	25	0	0	0	97	202
5:45 PM	0	0	0	0	1	0	0	19	14	0	0	33	9	9	0	41	0	0	59	41	12	25	0	0	0	78	170
Hourly Total	0	0	0	0	7	0	0	84	62	0	0	146	24	44	0	160	0	0	228	205	68	97	0	0	0	370	744
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	0	0	48	1	1	482	339	0	9	822	283	256	0	1132	12	31	1683	940	332	512	0	0	1	1784	4290
Approach %	100.0	0.0	0.0	0.0	-	-	0.1	58.6	41.2	0.0	-	-	16.8	15.2	0.0	67.3	0.7	-	-	52.7	18.6	28.7	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	11.2	7.9	0.0	-	19.2	6.6	6.0	0.0	26.4	0.3	-	39.2	21.9	7.7	11.9	0.0	0.0	-	41.6	-
Motorcycles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	3	1	-	4	4	0	4	0	0	-	8	13
% Motorcycles	0.0	-	-	-	-	0.0	0.0	0.2	0.0	-	-	0.1	0.0	0.0	-	0.3	8.3	-	0.2	0.4	0.0	0.8	-	-	-	0.4	0.3
Cars & Light Goods	1	0	0	0	-	1	1	463	330	0	-	794	277	252	0	1102	8	-	1639	914	322	494	0	0	-	1730	4164
% Cars & Light Goods	100.0	-	-	-	-	100.0	100.0	96.1	97.3	-	-	96.6	97.9	98.4	-	97.3	66.7	-	97.4	97.2	97.0	96.5	-	-	-	97.0	97.1
Other Vehicles	0	0	0	0	-	0	0	18	9	0	-	27	6	4	0	27	3	-	40	22	10	14	0	0	-	46	113
% Other Vehicles	0.0	-	-	-	-	0.0	0.0	3.7	2.7	-	-	3.3	2.1	1.6	-	2.4	25.0	-	2.4	2.3	3.0	2.7	-	-	-	2.6	2.6
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	-	4	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	2.1	-	-	-	-	-	0.0	-	-	-	-	-	-	12.9	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	47	-	-	-	-	-	9	-	-	-	-	-	-	27	-	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	97.9	-	-	-	-	-	100.0	-	-	-	-	-	-	87.1	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/12/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (8:00 AM)

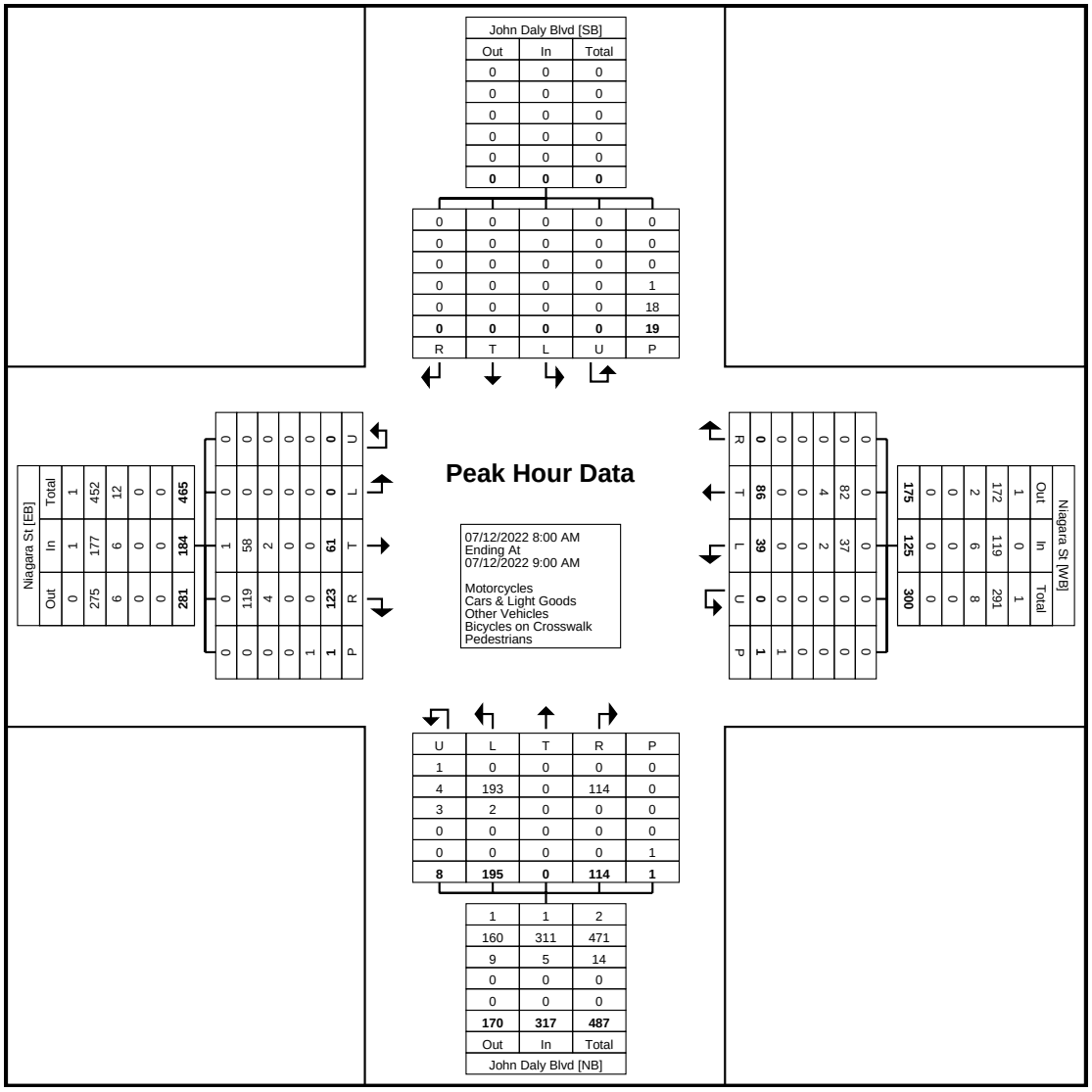
Start Time	John Daly Blvd Southbound						Niagara St Westbound						John Daly Blvd Northbound							Niagara St Eastbound							
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
8:00 AM	0	0	0	0	4	0	0	24	7	0	1	31	23	12	0	38	1	0	74	19	3	11	0	0	1	33	138
8:15 AM	0	0	0	0	0	0	0	14	10	0	0	24	11	14	0	40	3	1	68	27	8	17	0	0	0	52	144
8:30 AM	0	0	0	0	3	0	0	20	11	0	0	31	14	14	0	44	2	0	74	17	9	9	0	0	0	35	140
8:45 AM	0	0	0	0	12	0	0	28	11	0	0	39	12	14	0	73	2	0	101	29	11	24	0	0	0	64	204
Total	0	0	0	0	19	0	0	86	39	0	1	125	60	54	0	195	8	1	317	92	31	61	0	0	1	184	626
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	68.8	31.2	0.0	-	-	18.9	17.0	0.0	61.5	2.5	-	-	50.0	16.8	33.2	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	13.7	6.2	0.0	-	20.0	9.6	8.6	0.0	31.2	1.3	-	50.6	14.7	5.0	9.7	0.0	0.0	-	29.4	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.768	0.886	0.000	-	0.801	0.652	0.964	0.000	0.668	0.667	-	0.785	0.793	0.705	0.635	0.000	0.000	-	0.719	0.767
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	1	-	1	0	0	1	0	0	-	1	2
% Motorcycles	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0	0.0	-	0.0	12.5	-	0.3	0.0	0.0	1.6	-	-	-	0.5	0.3
Cars & Light Goods	0	0	0	0	-	0	0	82	37	0	-	119	60	54	0	193	4	-	311	88	31	58	0	0	-	177	607
% Cars & Light Goods	-	-	-	-	-	-	-	95.3	94.9	-	-	95.2	100.0	100.0	-	99.0	50.0	-	98.1	95.7	100.0	95.1	-	-	-	96.2	97.0
Other Vehicles	0	0	0	0	-	0	0	4	2	0	-	6	0	0	0	2	3	-	5	4	0	2	0	0	-	6	17
% Other Vehicles	-	-	-	-	-	-	-	4.7	5.1	-	-	4.8	0.0	0.0	-	1.0	37.5	-	1.6	4.3	0.0	3.3	-	-	-	3.3	2.7
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	5.3	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	18	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	94.7	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/12/2022
Page No: 4



Turning Movement Peak Hour Data Plot (8:00 AM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (12:00 PM)

Start Time	John Daly Blvd Southbound						Niagara St Westbound						John Daly Blvd Northbound							Niagara St Eastbound							
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	15	12	0	1	27	8	6	0	57	0	4	71	43	26	35	0	0	0	104	202
12:15 PM	0	0	0	0	0	0	0	19	19	0	2	38	8	11	0	44	0	3	63	40	17	29	0	0	0	86	187
12:30 PM	0	0	0	0	0	0	0	28	12	0	1	40	12	8	0	61	0	2	81	41	19	18	0	0	0	78	199
12:45 PM	0	0	0	0	2	0	0	27	16	0	0	43	17	10	0	66	2	2	95	35	17	19	0	0	0	71	209
Total	0	0	0	0	2	0	0	89	59	0	4	148	45	35	0	228	2	11	310	159	79	101	0	0	0	339	797
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	60.1	39.9	0.0	-	-	14.5	11.3	0.0	73.5	0.6	-	-	46.9	23.3	29.8	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	11.2	7.4	0.0	-	18.6	5.6	4.4	0.0	28.6	0.3	-	38.9	19.9	9.9	12.7	0.0	0.0	-	42.5	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.795	0.776	0.000	-	0.860	0.662	0.795	0.000	0.864	0.250	-	0.816	0.924	0.760	0.721	0.000	0.000	-	0.815	0.953
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	1	0	-	1	0	0	0	0	0	-	0	1
% Motorcycles	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0	0.0	-	0.4	0.0	-	0.3	0.0	0.0	0.0	-	-	-	0.0	0.1
Cars & Light Goods	0	0	0	0	-	0	0	87	56	0	-	143	43	33	0	219	2	-	297	154	77	99	0	0	-	330	770
% Cars & Light Goods	-	-	-	-	-	-	-	97.8	94.9	-	-	96.6	95.6	94.3	-	96.1	100.0	-	95.8	96.9	97.5	98.0	-	-	-	97.3	96.6
Other Vehicles	0	0	0	0	-	0	0	2	3	0	-	5	2	2	0	8	0	-	12	5	2	2	0	0	-	9	26
% Other Vehicles	-	-	-	-	-	-	-	2.2	5.1	-	-	3.4	4.4	5.7	-	3.5	0.0	-	3.9	3.1	2.5	2.0	-	-	-	2.7	3.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	-	11	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

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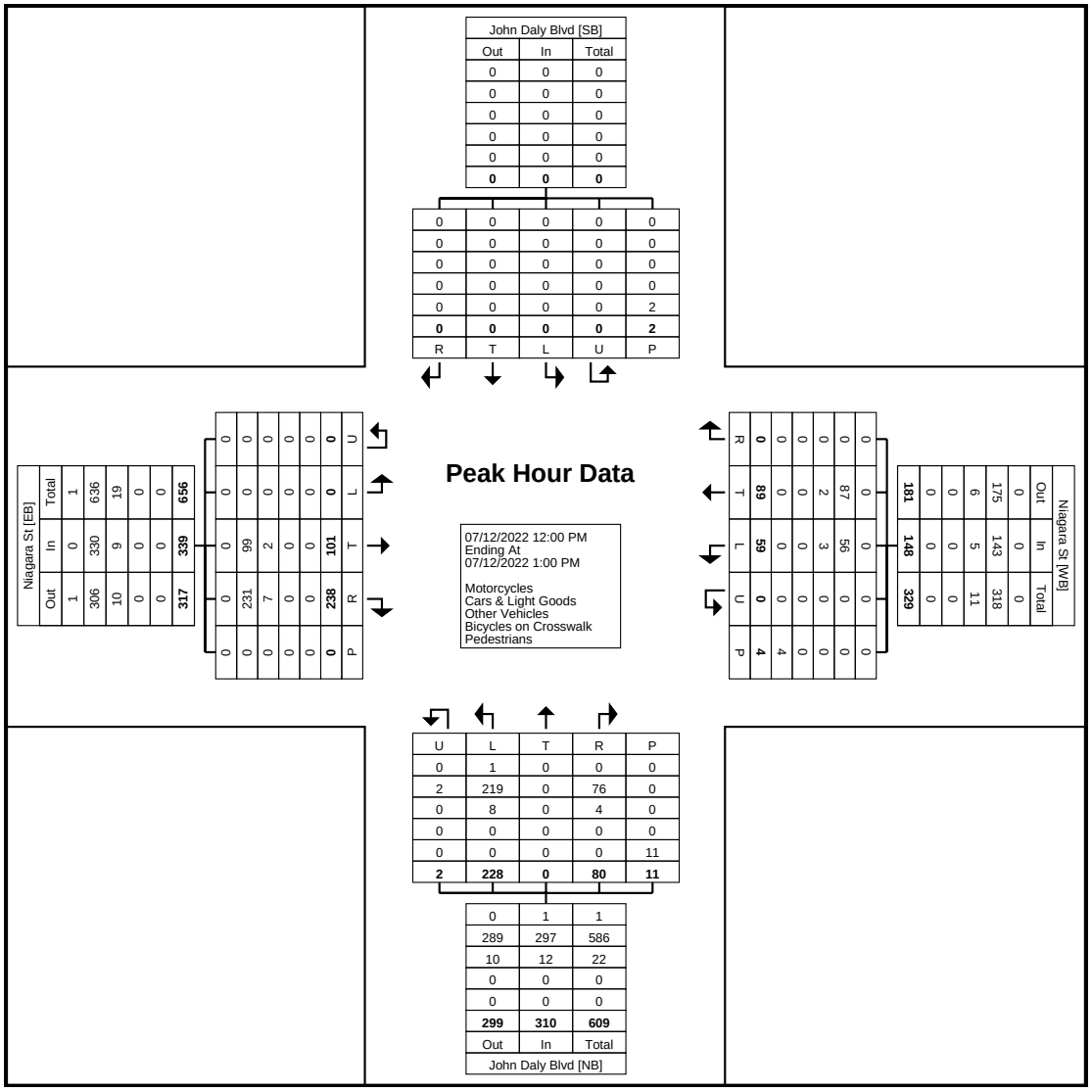
Niagara, New York
July 12, 2022

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/12/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (4:00 PM)

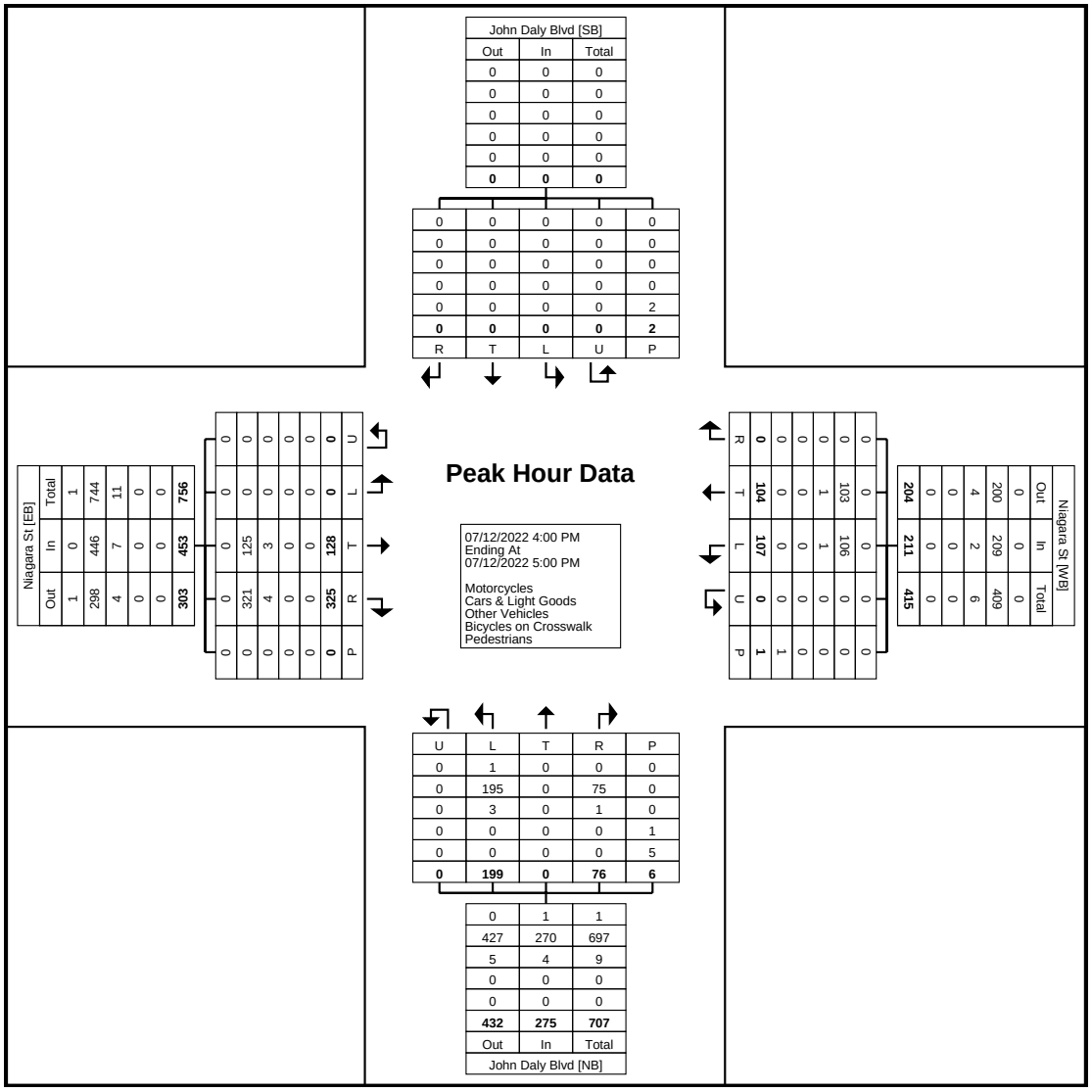
Start Time	John Daly Blvd Southbound						Niagara St Westbound						John Daly Blvd Northbound							Niagara St Eastbound							
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	0	0	0	0	0	0	0	23	28	0	0	51	8	7	0	47	0	2	62	74	38	27	0	0	0	139	252
4:15 PM	0	0	0	0	1	0	0	30	21	0	0	51	8	10	0	45	0	2	63	52	13	23	0	0	0	88	202
4:30 PM	0	0	0	0	0	0	0	27	38	0	1	65	7	16	0	53	0	0	76	69	16	53	0	0	0	138	279
4:45 PM	0	0	0	0	1	0	0	24	20	0	0	44	8	12	0	54	0	2	74	44	19	25	0	0	0	88	206
Total	0	0	0	0	2	0	0	104	107	0	1	211	31	45	0	199	0	6	275	239	86	128	0	0	0	453	939
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	49.3	50.7	0.0	-	-	11.3	16.4	0.0	72.4	0.0	-	-	52.8	19.0	28.3	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	11.1	11.4	0.0	-	22.5	3.3	4.8	0.0	21.2	0.0	-	29.3	25.5	9.2	13.6	0.0	0.0	-	48.2	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.867	0.704	0.000	-	0.812	0.969	0.703	0.000	0.921	0.000	-	0.905	0.807	0.566	0.604	0.000	0.000	-	0.815	0.841
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	1	0	-	1	0	0	0	0	0	-	0	1
% Motorcycles	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0	0.0	-	0.5	-	-	0.4	0.0	0.0	0.0	-	-	-	0.0	0.1
Cars & Light Goods	0	0	0	0	-	0	0	103	106	0	-	209	30	45	0	195	0	-	270	237	84	125	0	0	-	446	925
% Cars & Light Goods	-	-	-	-	-	-	-	99.0	99.1	-	-	99.1	96.8	100.0	-	98.0	-	-	98.2	99.2	97.7	97.7	-	-	-	98.5	98.5
Other Vehicles	0	0	0	0	-	0	0	1	1	0	-	2	1	0	0	3	0	-	4	2	2	3	0	0	-	7	13
% Other Vehicles	-	-	-	-	-	-	-	1.0	0.9	-	-	0.9	3.2	0.0	-	1.5	-	-	1.5	0.8	2.3	2.3	-	-	-	1.5	1.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	16.7	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	5	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	83.3	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/12/2022
Page No: 8



Turning Movement Peak Hour Data Plot (4:00 PM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/16/2022

Turning Movement Data

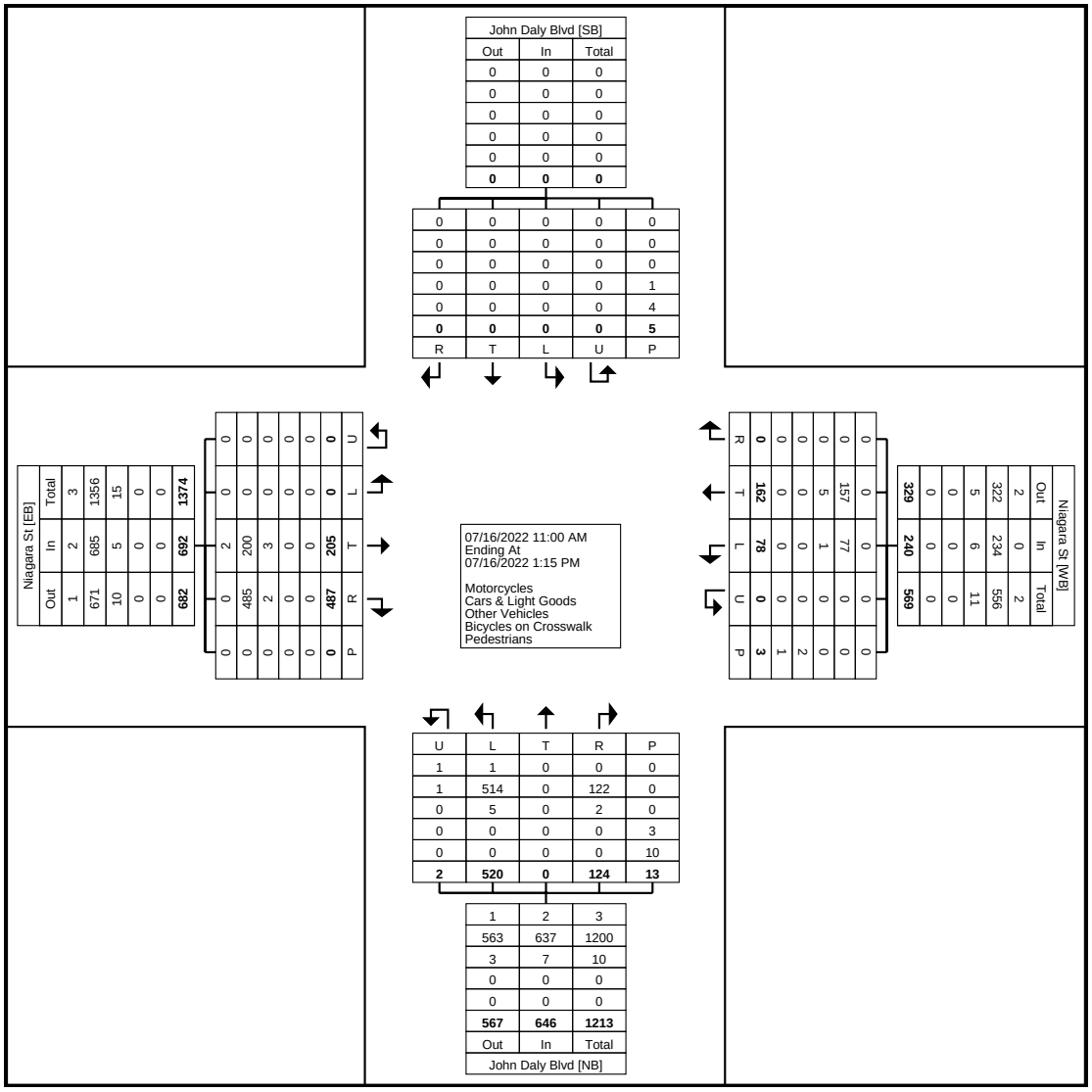
Start Time	John Daly Blvd Southbound						Niagara St Westbound						John Daly Blvd Northbound						Niagara St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	2	0	0	18	10	0	0	28	14	0	77	0	0	91	33	26	0	0	0	59	178
11:15 AM	0	0	0	0	1	0	0	18	8	0	1	26	13	0	72	0	1	85	48	24	0	0	0	72	183
11:30 AM	0	0	0	0	2	0	0	15	12	0	1	27	13	0	72	0	1	85	65	21	0	0	0	86	198
11:45 AM	0	0	0	0	0	0	0	21	7	0	0	28	20	0	77	1	0	98	56	20	0	0	0	76	202
Hourly Total	0	0	0	0	5	0	0	72	37	0	2	109	60	0	298	1	2	359	202	91	0	0	0	293	761
12:00 PM	0	0	0	0	0	0	0	21	9	0	0	30	17	0	40	0	5	57	73	22	0	0	0	95	182
12:15 PM	0	0	0	0	0	0	0	21	8	0	0	29	16	0	64	0	3	80	67	31	0	0	0	98	207
12:30 PM	0	0	0	0	0	0	0	17	15	0	0	32	10	0	52	0	0	62	67	27	0	0	0	94	188
12:45 PM	0	0	0	0	0	0	0	31	9	0	1	40	21	0	66	1	3	88	78	34	0	0	0	112	240
Hourly Total	0	0	0	0	0	0	0	90	41	0	1	131	64	0	222	1	11	287	285	114	0	0	0	399	817
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	5	0	0	162	78	0	3	240	124	0	520	2	13	646	487	205	0	0	0	692	1578
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	67.5	32.5	0.0	-	-	19.2	0.0	80.5	0.3	-	-	70.4	29.6	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	10.3	4.9	0.0	-	15.2	7.9	0.0	33.0	0.1	-	40.9	30.9	13.0	0.0	0.0	-	43.9	-
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	1	-	2	0	2	0	0	-	2	4
% Motorcycles	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0	-	0.2	50.0	-	0.3	0.0	1.0	-	-	-	0.3	0.3
Cars & Light Goods	0	0	0	0	-	0	0	157	77	0	-	234	122	0	514	1	-	637	485	200	0	0	-	685	1556
% Cars & Light Goods	-	-	-	-	-	-	-	96.9	98.7	-	-	97.5	98.4	-	98.8	50.0	-	98.6	99.6	97.6	-	-	-	99.0	98.6
Other Vehicles	0	0	0	0	-	0	0	5	1	0	-	6	2	0	5	0	-	7	2	3	0	0	-	5	18
% Other Vehicles	-	-	-	-	-	-	-	3.1	1.3	-	-	2.5	1.6	-	1.0	0.0	-	1.1	0.4	1.5	-	-	-	0.7	1.1
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	20.0	-	-	-	-	-	66.7	-	-	-	-	-	23.1	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	10	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	80.0	-	-	-	-	-	33.3	-	-	-	-	-	76.9	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/16/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (11:00 AM)

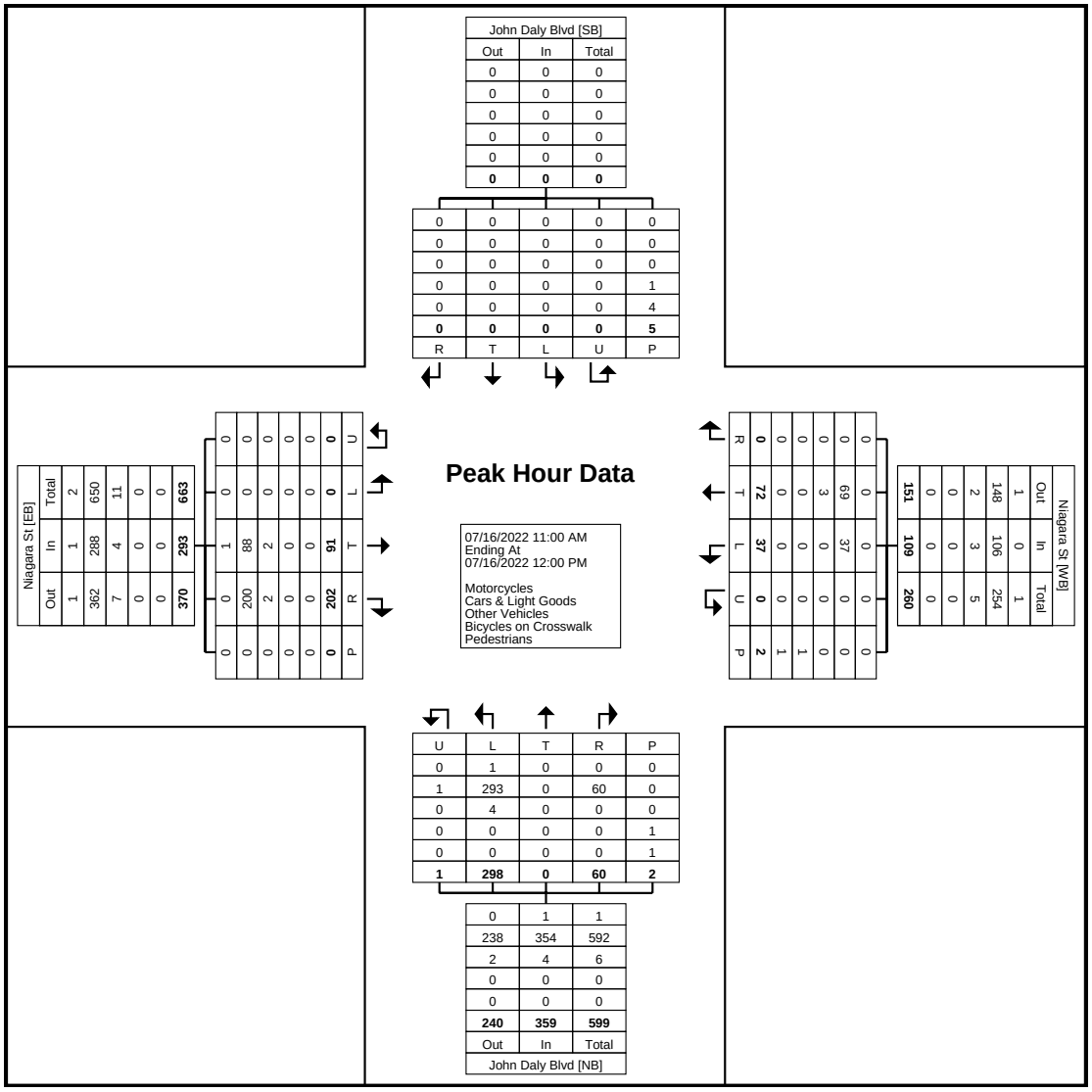
Start Time	John Daly Blvd Southbound						Niagara St Westbound						John Daly Blvd Northbound						Niagara St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	2	0	0	18	10	0	0	28	14	0	77	0	0	91	33	26	0	0	0	59	178
11:15 AM	0	0	0	0	1	0	0	18	8	0	1	26	13	0	72	0	1	85	48	24	0	0	0	72	183
11:30 AM	0	0	0	0	2	0	0	15	12	0	1	27	13	0	72	0	1	85	65	21	0	0	0	86	198
11:45 AM	0	0	0	0	0	0	0	21	7	0	0	28	20	0	77	1	0	98	56	20	0	0	0	76	202
Total	0	0	0	0	5	0	0	72	37	0	2	109	60	0	298	1	2	359	202	91	0	0	0	293	761
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	66.1	33.9	0.0	-	-	16.7	0.0	83.0	0.3	-	-	68.9	31.1	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	9.5	4.9	0.0	-	14.3	7.9	0.0	39.2	0.1	-	47.2	26.5	12.0	0.0	0.0	-	38.5	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.857	0.771	0.000	-	0.973	0.750	0.000	0.968	0.250	-	0.916	0.777	0.875	0.000	0.000	-	0.852	0.942
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	1	0	0	-	1	2
% Motorcycles	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0	-	0.3	0.0	-	0.3	0.0	1.1	-	-	-	0.3	0.3
Cars & Light Goods	0	0	0	0	-	0	0	69	37	0	-	106	60	0	293	1	-	354	200	88	0	0	-	288	748
% Cars & Light Goods	-	-	-	-	-	-	-	95.8	100.0	-	-	97.2	100.0	-	98.3	100.0	-	98.6	99.0	96.7	-	-	-	98.3	98.3
Other Vehicles	0	0	0	0	-	0	0	3	0	0	-	3	0	0	4	0	-	4	2	2	0	0	-	4	11
% Other Vehicles	-	-	-	-	-	-	-	4.2	0.0	-	-	2.8	0.0	-	1.3	0.0	-	1.1	1.0	2.2	-	-	-	1.4	1.4
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	20.0	-	-	-	-	-	50.0	-	-	-	-	-	50.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	80.0	-	-	-	-	-	50.0	-	-	-	-	-	50.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/16/2022
Page No: 4



Turning Movement Peak Hour Data Plot (11:00 AM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (12:00 PM)

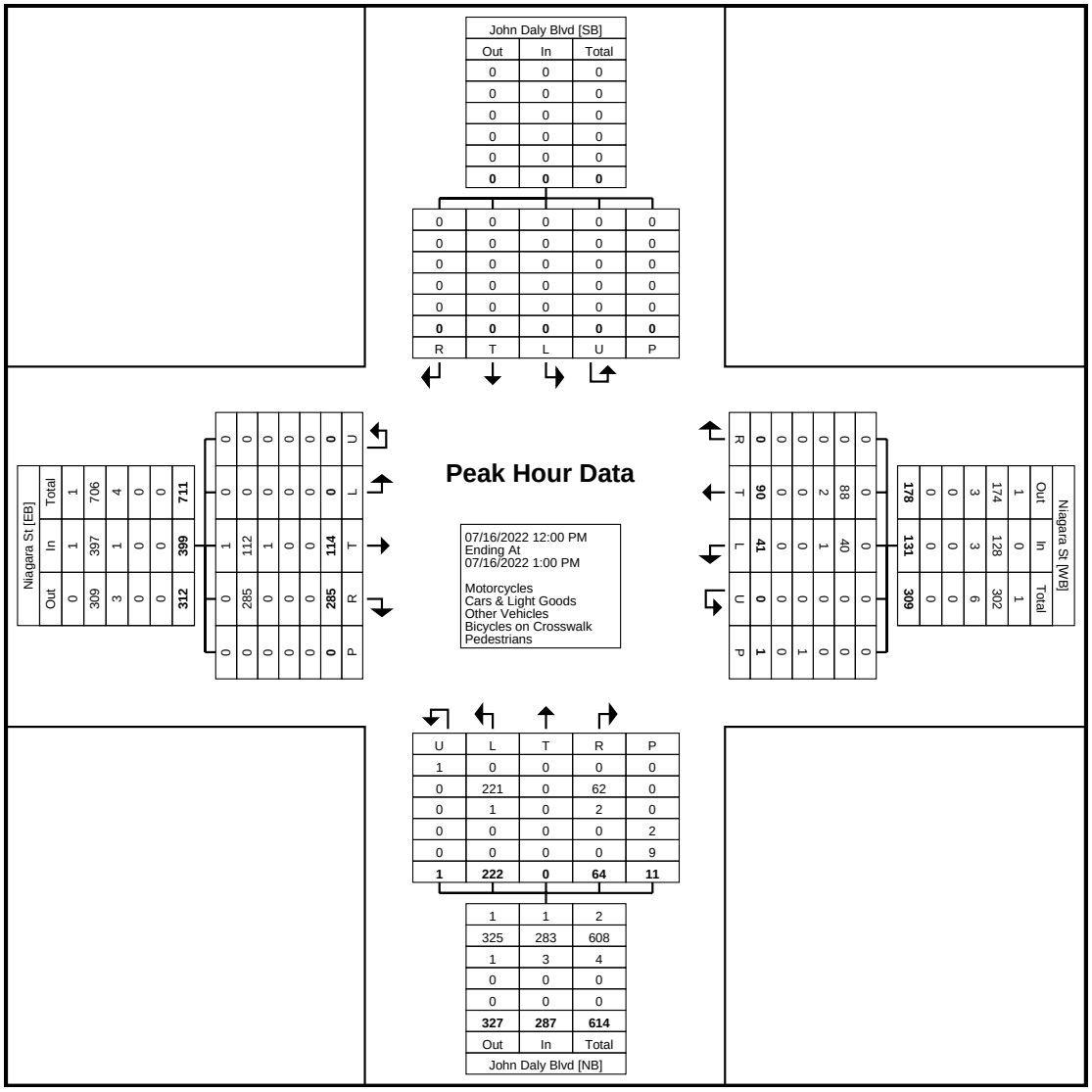
Start Time	John Daly Blvd Southbound						Niagara St Westbound						John Daly Blvd Northbound						Niagara St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	21	9	0	0	30	17	0	40	0	5	57	73	22	0	0	0	95	182
12:15 PM	0	0	0	0	0	0	0	21	8	0	0	29	16	0	64	0	3	80	67	31	0	0	0	98	207
12:30 PM	0	0	0	0	0	0	0	17	15	0	0	32	10	0	52	0	0	62	67	27	0	0	0	94	188
12:45 PM	0	0	0	0	0	0	0	31	9	0	1	40	21	0	66	1	3	88	78	34	0	0	0	112	240
Total	0	0	0	0	0	0	0	90	41	0	1	131	64	0	222	1	11	287	285	114	0	0	0	399	817
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	68.7	31.3	0.0	-	-	22.3	0.0	77.4	0.3	-	-	71.4	28.6	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	11.0	5.0	0.0	-	16.0	7.8	0.0	27.2	0.1	-	35.1	34.9	14.0	0.0	0.0	-	48.8	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.726	0.683	0.000	-	0.819	0.762	0.000	0.841	0.250	-	0.815	0.913	0.838	0.000	0.000	-	0.891	0.851
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	1	-	1	0	1	0	0	-	1	2
% Motorcycles	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0	-	0.0	100.0	-	0.3	0.0	0.9	-	-	-	0.3	0.2
Cars & Light Goods	0	0	0	0	-	0	0	88	40	0	-	128	62	0	221	0	-	283	285	112	0	0	-	397	808
% Cars & Light Goods	-	-	-	-	-	-	-	97.8	97.6	-	-	97.7	96.9	-	99.5	0.0	-	98.6	100.0	98.2	-	-	-	99.5	98.9
Other Vehicles	0	0	0	0	-	0	0	2	1	0	-	3	2	0	1	0	-	3	0	1	0	0	-	1	7
% Other Vehicles	-	-	-	-	-	-	-	2.2	2.4	-	-	2.3	3.1	-	0.5	0.0	-	1.0	0.0	0.9	-	-	-	0.3	0.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	18.2	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	9	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	81.8	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Niagara St
Site Code:
Start Date: 07/16/2022



Peak Hour Data

07/16/2022 12:00 PM
Ending At
07/16/2022 1:00 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

John Daly Blvd [SB]

Out	In	Total
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	**0**	**0**

R	T	L	U	P
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	**0**	**0**	**0**	**0**

Niagara St [EB]

Out	In	Total
0	1	1
309	397	706
3	1	4
0	0	0
0	0	0
312	**399**	**711**

U	L	T	R	P
0	0	1	0	0
0	0	112	285	0
0	0	1	0	0
0	0	0	0	0
0	0	0	0	0
0	**0**	**114**	**285**	**0**

Niagara St [WB]

Out	In	Total
1	0	1
174	128	302
3	3	6
0	0	0
0	0	0
178	**131**	**309**

R	T	L	U	P
0	0	0	0	0
0	88	40	0	0
0	2	1	0	0
0	0	0	0	1
0	0	0	0	0
0	**90**	**41**	**0**	**1**

U	L	T	R	P
1	0	0	0	0
0	221	0	62	0
0	1	0	2	0
0	0	0	0	2
0	0	0	0	9
1	**222**	**0**	**64**	**11**

Out	In	Total
1	1	2
325	283	608
1	3	4
0	0	0
0	0	0
327	**287**	**614**

John Daly Blvd [NB]

Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/14/2022

Turning Movement Data

Start Time	John Daly Blvd Southbound						Rainbow Blvd Westbound						John Daly Blvd Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	3	23	2	0	0	28	2	4	0	0	0	6	0	31	14	0	0	45	22	8	6	0	0	36	115
7:15 AM	3	29	3	1	0	36	1	8	0	0	0	9	0	54	17	0	0	71	24	10	3	0	0	37	153
7:30 AM	4	32	2	0	1	38	5	12	1	0	0	18	0	83	33	0	1	116	30	6	5	0	0	41	213
7:45 AM	7	30	2	0	0	39	8	15	3	0	0	26	5	112	41	1	0	159	31	9	3	0	0	43	267
Hourly Total	17	114	9	1	1	141	16	39	4	0	0	59	5	280	105	1	1	391	107	33	17	0	0	157	748
8:00 AM	3	36	0	0	0	39	1	14	2	0	0	17	0	72	15	0	0	87	36	8	3	0	0	47	190
8:15 AM	9	23	5	0	0	37	8	13	2	0	0	23	2	71	17	1	0	91	33	8	9	1	0	51	202
8:30 AM	2	38	6	0	2	46	5	9	3	0	0	17	1	66	28	0	1	95	29	10	7	1	1	47	205
8:45 AM	5	43	2	0	0	50	6	16	1	0	0	23	0	60	42	0	0	102	45	9	5	1	0	60	235
Hourly Total	19	140	13	0	2	172	20	52	8	0	0	80	3	269	102	1	1	375	143	35	24	3	1	205	832
9:00 AM	5	34	2	0	0	41	7	9	4	0	0	20	1	58	18	0	0	77	40	12	7	0	0	59	197
9:15 AM	6	56	5	0	0	67	4	16	1	0	0	21	0	47	16	0	0	63	40	7	9	0	0	56	207
9:30 AM	9	47	2	1	0	59	4	21	3	0	0	28	0	43	14	0	0	57	32	12	5	1	0	50	194
9:45 AM	6	49	6	0	0	61	5	13	2	0	0	20	1	61	22	0	0	84	38	13	12	2	0	65	230
Hourly Total	26	186	15	1	0	228	20	59	10	0	0	89	2	209	70	0	0	281	150	44	33	3	0	230	828
10:00 AM	8	52	3	0	0	63	9	16	0	0	0	25	0	43	20	0	0	63	66	7	4	1	0	78	229
10:15 AM	5	39	7	1	0	52	8	12	0	0	0	20	0	56	21	1	0	78	53	10	7	0	0	70	220
10:30 AM	5	45	4	0	0	54	6	19	1	0	0	26	0	64	24	0	0	88	59	16	4	1	1	80	248
10:45 AM	8	50	3	1	0	62	3	20	2	0	0	25	0	56	24	0	1	80	62	29	5	1	0	97	264
Hourly Total	26	186	17	2	0	231	26	67	3	0	0	96	0	219	89	1	1	309	240	62	20	3	1	325	961
11:00 AM	8	48	7	0	0	63	9	20	0	0	0	29	0	55	32	0	0	87	66	19	11	2	0	98	277
11:15 AM	4	55	4	0	0	63	10	17	3	0	0	30	0	60	33	0	0	93	46	14	12	1	0	73	259
11:30 AM	8	56	5	0	0	69	11	22	1	0	0	34	1	54	53	0	0	108	65	16	10	0	0	91	302
11:45 AM	12	53	3	0	1	68	9	18	2	0	0	29	0	75	44	0	0	119	56	12	9	0	0	77	293
Hourly Total	32	212	19	0	1	263	39	77	6	0	0	122	1	244	162	0	0	407	233	61	42	3	0	339	1131
12:00 PM	7	64	7	0	1	78	8	13	6	1	0	28	0	59	51	1	0	111	72	19	8	0	0	99	316
12:15 PM	7	59	5	0	0	71	12	11	3	0	0	26	1	75	30	1	0	107	50	17	10	0	0	77	281
12:30 PM	9	71	5	0	0	85	9	15	6	0	0	30	1	75	33	0	0	109	55	21	14	2	2	92	316
12:45 PM	8	57	7	0	0	72	6	15	5	0	0	26	1	63	32	0	0	96	70	17	10	1	0	98	292
Hourly Total	31	251	24	0	1	306	35	54	20	1	0	110	3	272	146	2	0	423	247	74	42	3	2	366	1205
1:00 PM	5	52	4	0	1	61	11	20	1	0	0	32	1	42	36	0	0	79	64	13	5	0	0	82	254
1:15 PM	8	53	6	0	0	67	14	23	4	0	0	41	1	59	37	0	0	97	60	14	3	1	1	78	283
1:30 PM	5	67	3	0	0	75	16	22	1	0	0	39	3	57	36	0	0	96	81	19	12	1	0	113	323
1:45 PM	8	77	1	0	0	86	11	19	1	0	0	31	0	55	30	0	0	85	64	23	9	1	0	97	299
Hourly Total	26	249	14	0	1	289	52	84	7	0	0	143	5	213	139	0	0	357	269	69	29	3	1	370	1159
2:00 PM	5	75	7	0	1	87	5	17	3	0	0	25	1	75	24	0	0	100	68	27	14	1	1	110	322
2:15 PM	8	67	6	0	1	81	11	17	2	0	1	30	0	65	24	0	1	89	76	12	12	0	1	100	300
2:30 PM	4	75	8	0	1	87	10	25	3	1	1	39	0	51	39	0	0	90	48	20	7	0	2	75	291
2:45 PM	12	69	4	0	0	85	8	22	0	0	0	30	1	59	50	0	0	110	64	21	16	0	0	101	326
Hourly Total	29	286	25	0	3	340	34	81	8	1	2	124	2	250	137	0	1	389	256	80	49	1	4	386	1239
3:00 PM	6	111	9	0	0	126	16	15	0	0	0	31	1	53	28	0	0	82	85	23	9	1	3	118	357
3:15 PM	9	79	4	0	0	92	10	11	4	0	0	25	0	79	31	0	0	110	103	13	10	0	0	126	353
3:30 PM	6	86	5	0	1	97	6	10	5	0	0	21	1	69	33	0	2	103	91	21	11	0	0	123	344
3:45 PM	12	91	5	0	1	108	11	15	2	0	0	28	2	83	53	0	0	138	101	21	6	0	0	128	402
Hourly Total	33	367	23	0	2	423	43	51	11	0	0	105	4	284	145	0	2	433	380	78	36	1	3	495	1456
4:00 PM	10	124	7	0	1	141	7	19	1	0	0	27	1	72	41	0	0	114	79	37	5	1	0	122	404
4:15 PM	6	75	4	0	0	85	4	20	3	0	0	27	3	61	32	0	2	96	93	12	12	0	0	117	325
4:30 PM	8	84	6	0	0	98	7	16	2	0	0	25	1	62	41	0	2	104	69	16	11	0	2	96	323
4:45 PM	8	89	7	0	0	104	7	11	2	0	0	20	0	63	42	0	0	105	77	19	10	0	2	106	335
Hourly Total	32	372	24	0	1	428	25	66	8	0	0	99	5	258	156	0	4	419	318	84	38	1	4	441	1387
5:00 PM	6	85	7	0	0	98	5	17	2	0	0	24	0	69	29	0	0	98	95	11	11	0	2	117	337
5:15 PM	1	75	4	0	0	80	11	17	2	1	0	31	0	58	23	0	0	81	71	11	10	0	2	92	284
5:30 PM	11	80	5	0	2	96	3	17	0	0	0	20	1	45	28	0	0	74	84	21	4	1	2	110	300
5:45 PM	6	63	4	0	0	73	11	14	1	0	0	26	0	59	28	0	2	87	72	20	9	1	0	102	288
Hourly Total	24	303	20	0	2	347	30	65	5	1	0	101	1	231	108	0	2	340	322	63	34	2	6	421	1209
6:00 PM	5	59	7	0	0	71	8	15	0	0	0	23	0	58	26	0	0	84	59	15	14	2	8	90	268
6:15 PM	6	55	4	0	0	65	7	14	3	0	0	24	0	62	30	0	0	92	61	8	7	0	0	76	257
6:30 PM	8	63	3	0	0	74	3	17	3	0	0	23	1	68	40	0	0	109	70	16	9	1	0	96	302
6:45 PM	4	64	6	0	0	74	8	15	4	0	0	27	0	58	43	1	0	102	48	12	11	1	3	72	275
Hourly Total	23	241	20	0	0	284	26	61	10	0	0	97	1	246	139	1	0	387	238	51	41	4	11	334	1102

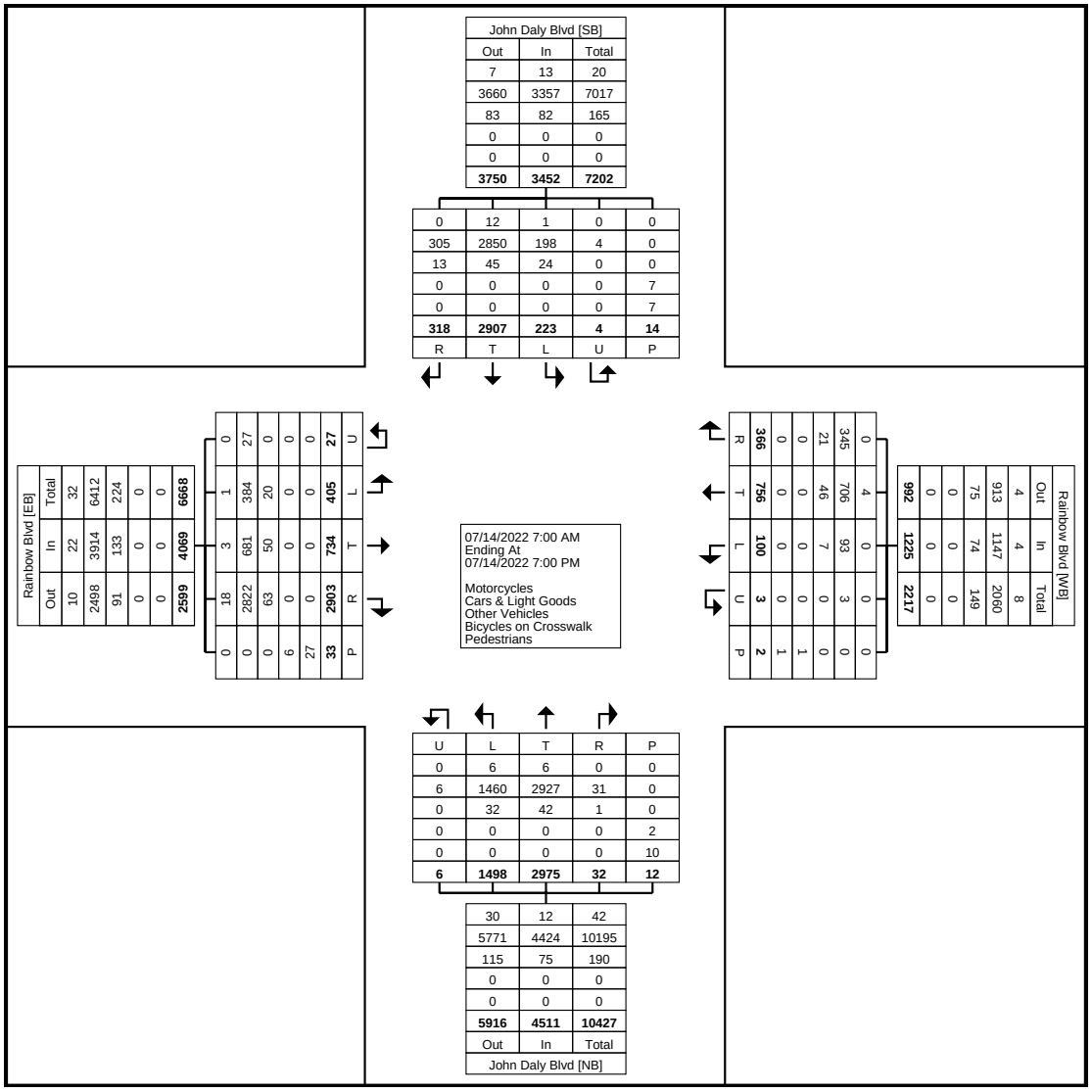
Grand Total	318	2907	223	4	14	3452	366	756	100	3	2	1225	32	2975	1498	6	12	4511	2903	734	405	27	33	4069	13257
Approach %	9.2	84.2	6.5	0.1	-	-	29.9	61.7	8.2	0.2	-	-	0.7	65.9	33.2	0.1	-	-	71.3	18.0	10.0	0.7	-	-	-
Total %	2.4	21.9	1.7	0.0	-	26.0	2.8	5.7	0.8	0.0	-	9.2	0.2	22.4	11.3	0.0	-	34.0	21.9	5.5	3.1	0.2	-	30.7	-
Motorcycles	0	12	1	0	-	13	0	4	0	0	-	4	0	6	6	0	-	12	18	3	1	0	-	22	51
% Motorcycles	0.0	0.4	0.4	0.0	-	0.4	0.0	0.5	0.0	0.0	-	0.3	0.0	0.2	0.4	0.0	-	0.3	0.6	0.4	0.2	0.0	-	0.5	0.4
Cars & Light Goods	305	2850	198	4	-	3357	345	706	93	3	-	1147	31	2927	1460	6	-	4424	2822	681	384	27	-	3914	12842
% Cars & Light Goods	95.9	98.0	88.8	100.0	-	97.2	94.3	93.4	93.0	100.0	-	93.6	96.9	98.4	97.5	100.0	-	98.1	97.2	92.8	94.8	100.0	-	96.2	96.9
Other Vehicles	13	45	24	0	-	82	21	46	7	0	-	74	1	42	32	0	-	75	63	50	20	0	-	133	364
% Other Vehicles	4.1	1.5	10.8	0.0	-	2.4	5.7	6.1	7.0	0.0	-	6.0	3.1	1.4	2.1	0.0	-	1.7	2.2	6.8	4.9	0.0	-	3.3	2.7
Bicycles on Crosswalk	-	-	-	-	7	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	6	-	-
% Bicycles on Crosswalk	-	-	-	-	50.0	-	-	-	-	-	50.0	-	-	-	-	-	16.7	-	-	-	-	-	18.2	-	-
Pedestrians	-	-	-	-	7	-	-	-	-	-	1	-	-	-	-	-	10	-	-	-	-	-	27	-	-
% Pedestrians	-	-	-	-	50.0	-	-	-	-	-	50.0	-	-	-	-	-	83.3	-	-	-	-	-	81.8	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/14/2022
Page No: 3



Turning Movement Data Plot

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

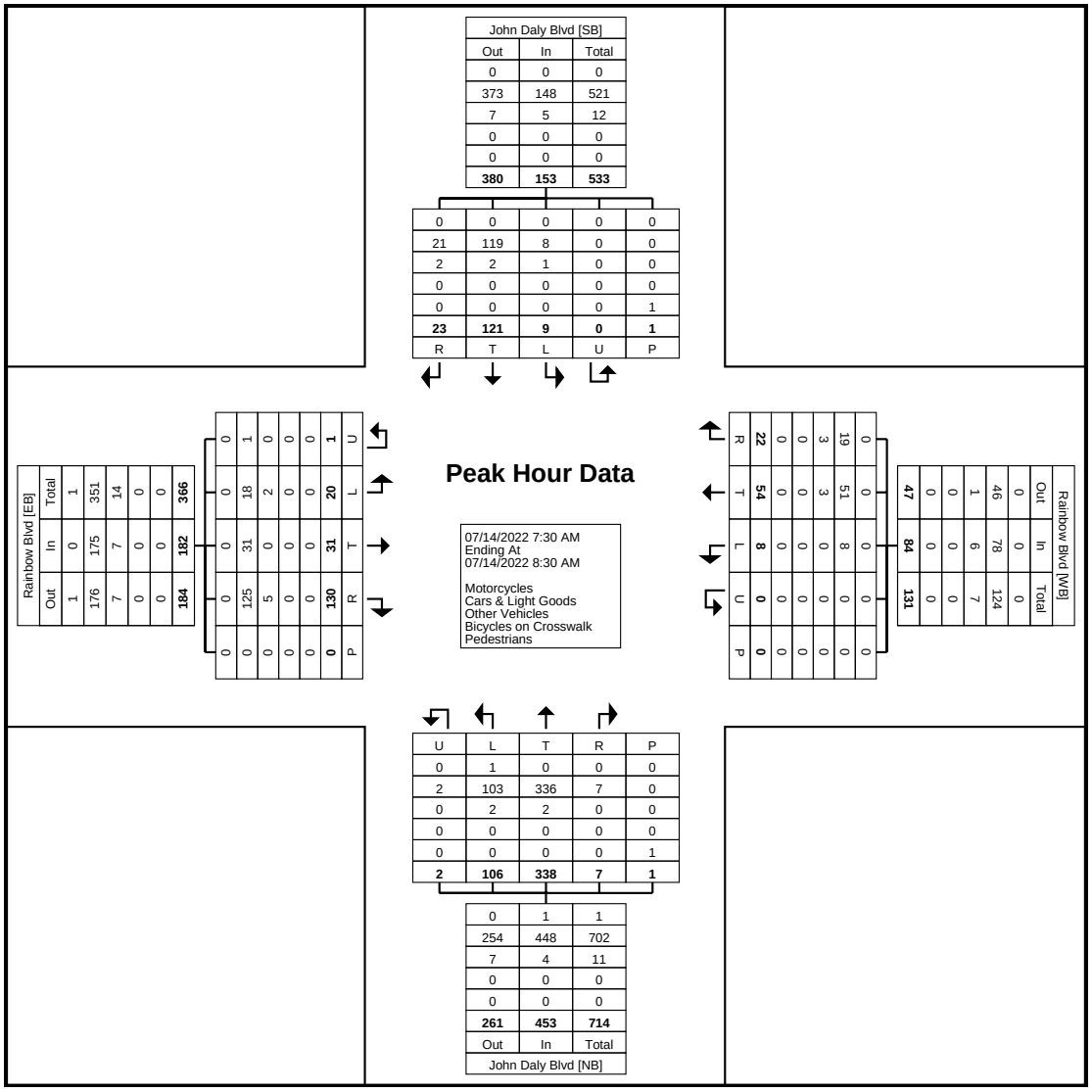
Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (7:30 AM)

Start Time	John Daly Blvd Southbound						Rainbow Blvd Westbound						John Daly Blvd Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	4	32	2	0	1	38	5	12	1	0	0	18	0	83	33	0	1	116	30	6	5	0	0	41	213
7:45 AM	7	30	2	0	0	39	8	15	3	0	0	26	5	112	41	1	0	159	31	9	3	0	0	43	267
8:00 AM	3	36	0	0	0	39	1	14	2	0	0	17	0	72	15	0	0	87	36	8	3	0	0	47	190
8:15 AM	9	23	5	0	0	37	8	13	2	0	0	23	2	71	17	1	0	91	33	8	9	1	0	51	202
Total	23	121	9	0	1	153	22	54	8	0	0	84	7	338	106	2	1	453	130	31	20	1	0	182	872
Approach %	15.0	79.1	5.9	0.0	-	-	26.2	64.3	9.5	0.0	-	-	1.5	74.6	23.4	0.4	-	-	71.4	17.0	11.0	0.5	-	-	-
Total %	2.6	13.9	1.0	0.0	-	17.5	2.5	6.2	0.9	0.0	-	9.6	0.8	38.8	12.2	0.2	-	51.9	14.9	3.6	2.3	0.1	-	20.9	-
PHF	0.639	0.840	0.450	0.000	-	0.981	0.688	0.900	0.667	0.000	-	0.808	0.350	0.754	0.646	0.500	-	0.712	0.903	0.861	0.556	0.250	-	0.892	0.816
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.9	0.0	-	0.2	0.0	0.0	0.0	0.0	-	0.0	0.1
Cars & Light Goods	21	119	8	0	-	148	19	51	8	0	-	78	7	336	103	2	-	448	125	31	18	1	-	175	849
% Cars & Light Goods	91.3	98.3	88.9	-	-	96.7	86.4	94.4	100.0	-	-	92.9	100.0	99.4	97.2	100.0	-	98.9	96.2	100.0	90.0	100.0	-	96.2	97.4
Other Vehicles	2	2	1	0	-	5	3	3	0	0	-	6	0	2	2	0	-	4	5	0	2	0	-	7	22
% Other Vehicles	8.7	1.7	11.1	-	-	3.3	13.6	5.6	0.0	-	-	7.1	0.0	0.6	1.9	0.0	-	0.9	3.8	0.0	10.0	0.0	-	3.8	2.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/14/2022



John Daly Blvd [SB]

Out	In	Total
0	0	0
373	148	521
7	5	12
0	0	0
0	0	0
380	**153**	**533**

R	T	L	U	P
0	0	0	0	0
21	119	8	0	0
2	2	1	0	0
0	0	0	0	0
0	0	0	0	1
23	**121**	**9**	**0**	**1**

Rainbow Blvd [EB]

Out	In	Total
1	0	1
176	175	351
7	7	14
0	0	0
0	0	0
184	**182**	**366**

P	R	T	L	U
0	0	0	0	0
0	125	31	18	1
0	5	0	2	0
0	0	0	0	0
0	0	0	0	0
0	**130**	**31**	**20**	**1**

Peak Hour Data

07/14/2022 7:30 AM
Ending At
07/14/2022 8:30 AM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

Rainbow Blvd [WB]

Out	In	Total
0	0	0
46	78	124
1	6	7
0	0	0
0	0	0
47	**84**	**131**

R	T	L	U	P
0	0	0	0	0
19	51	8	0	0
3	3	0	0	0
0	0	0	0	0
0	0	0	0	0
22	**54**	**8**	**0**	**0**

U	L	T	R	P
0	1	0	0	0
2	103	336	7	0
0	2	2	0	0
0	0	0	0	0
0	0	0	0	1
2	**106**	**338**	**7**	**1**

Out	In	Total
0	1	1
254	448	702
7	4	11
0	0	0
0	0	0
261	**453**	**714**

John Daly Blvd [NB]

Turning Movement Peak Hour Data Plot (7:30 AM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (11:45 AM)

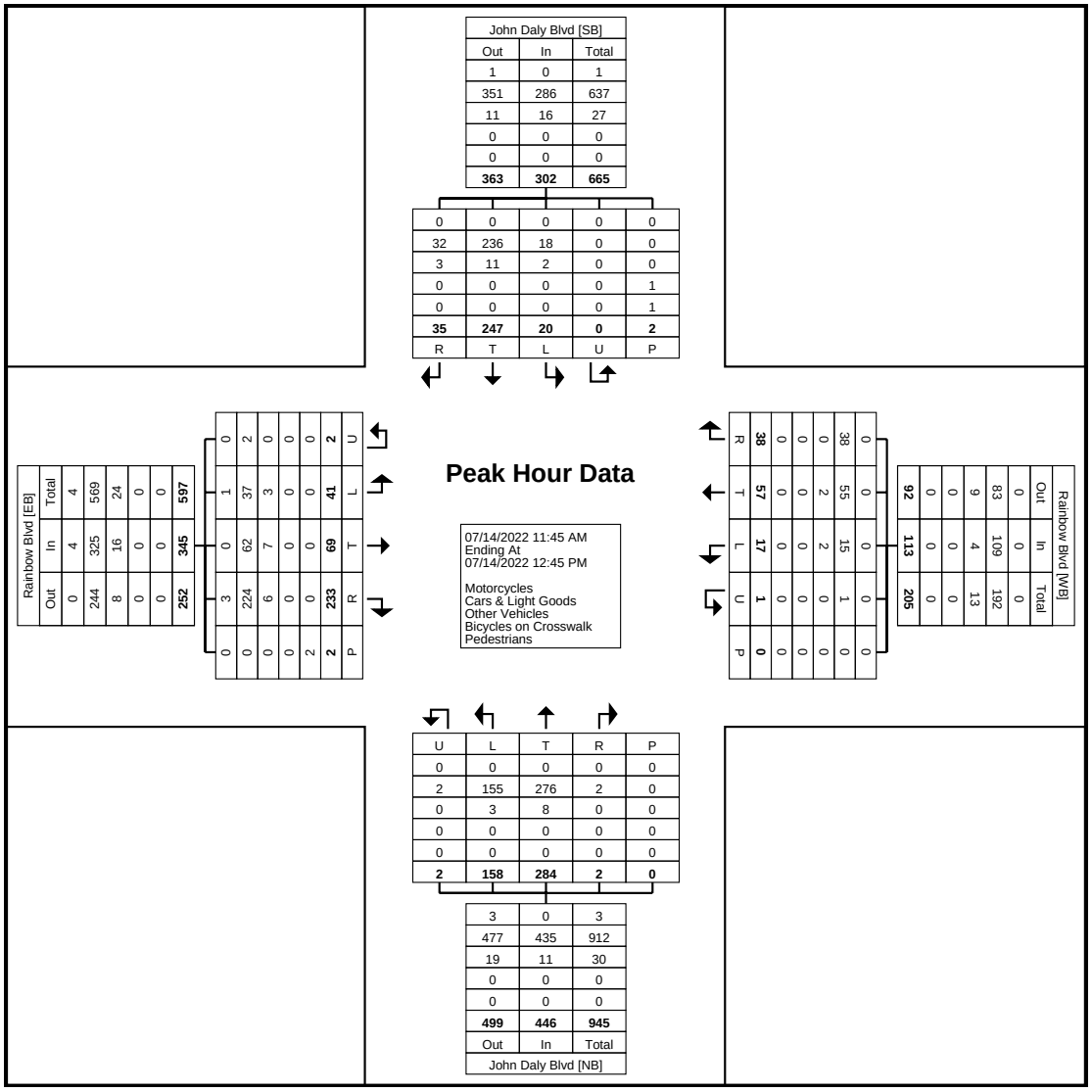
Start Time	John Daly Blvd Southbound						Rainbow Blvd Westbound						John Daly Blvd Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:45 AM	12	53	3	0	1	68	9	18	2	0	0	29	0	75	44	0	0	119	56	12	9	0	0	77	293
12:00 PM	7	64	7	0	1	78	8	13	6	1	0	28	0	59	51	1	0	111	72	19	8	0	0	99	316
12:15 PM	7	59	5	0	0	71	12	11	3	0	0	26	1	75	30	1	0	107	50	17	10	0	0	77	281
12:30 PM	9	71	5	0	0	85	9	15	6	0	0	30	1	75	33	0	0	109	55	21	14	2	2	92	316
Total	35	247	20	0	2	302	38	57	17	1	0	113	2	284	158	2	0	446	233	69	41	2	2	345	1206
Approach %	11.6	81.8	6.6	0.0	-	-	33.6	50.4	15.0	0.9	-	-	0.4	63.7	35.4	0.4	-	-	67.5	20.0	11.9	0.6	-	-	-
Total %	2.9	20.5	1.7	0.0	-	25.0	3.2	4.7	1.4	0.1	-	9.4	0.2	23.5	13.1	0.2	-	37.0	19.3	5.7	3.4	0.2	-	28.6	-
PHF	0.729	0.870	0.714	0.000	-	0.888	0.792	0.792	0.708	0.250	-	0.942	0.500	0.947	0.775	0.500	-	0.937	0.809	0.821	0.732	0.250	-	0.871	0.954
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	3	0	1	0	-	4	4
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	1.3	0.0	2.4	0.0	-	1.2	0.3
Cars & Light Goods	32	236	18	0	-	286	38	55	15	1	-	109	2	276	155	2	-	435	224	62	37	2	-	325	1155
% Cars & Light Goods	91.4	95.5	90.0	-	-	94.7	100.0	96.5	88.2	100.0	-	96.5	100.0	97.2	98.1	100.0	-	97.5	96.1	89.9	90.2	100.0	-	94.2	95.8
Other Vehicles	3	11	2	0	-	16	0	2	2	0	-	4	0	8	3	0	-	11	6	7	3	0	-	16	47
% Other Vehicles	8.6	4.5	10.0	-	-	5.3	0.0	3.5	11.8	0.0	-	3.5	0.0	2.8	1.9	0.0	-	2.5	2.6	10.1	7.3	0.0	-	4.6	3.9
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/14/2022
Page No: 7



Turning Movement Peak Hour Data Plot (11:45 AM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (4:00 PM)

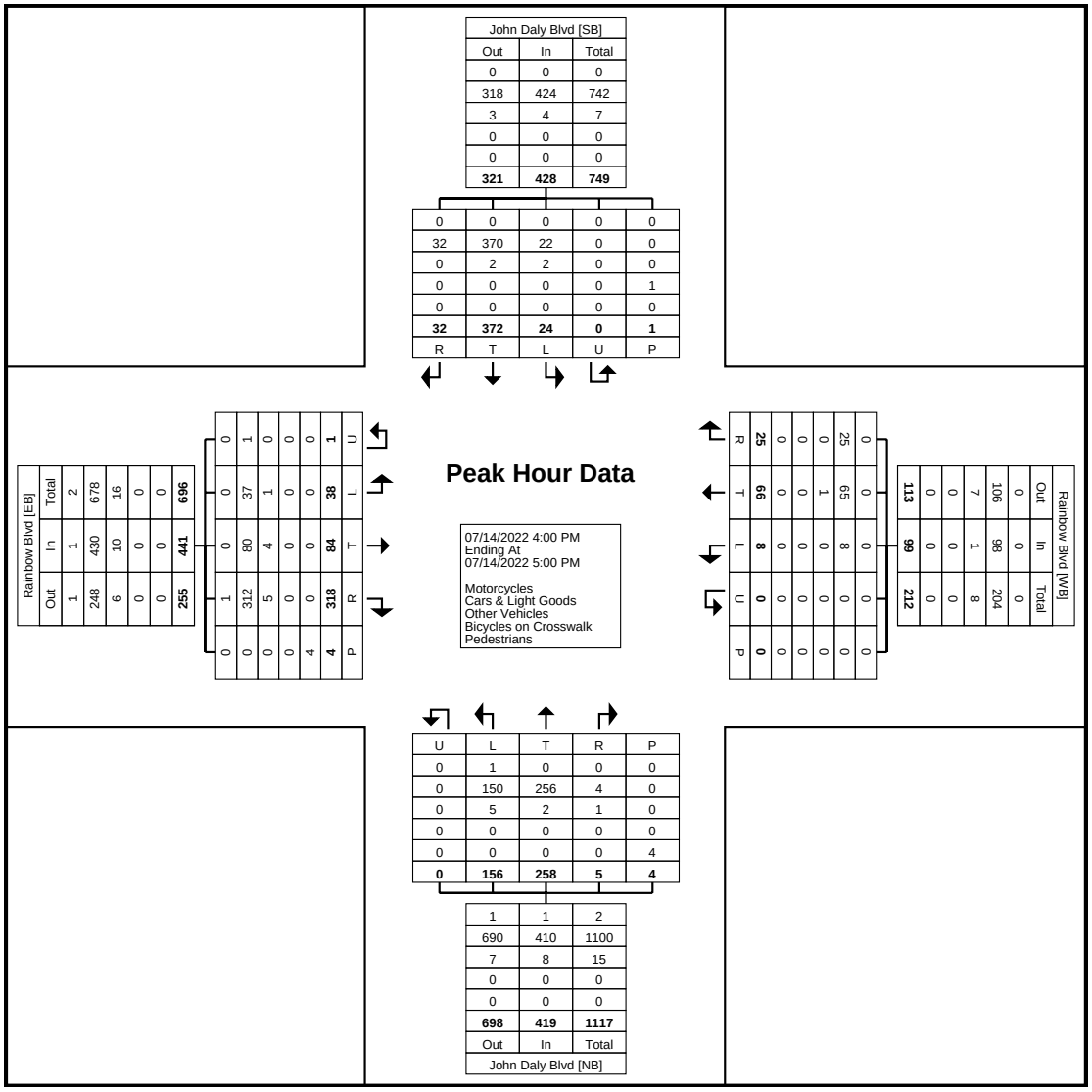
Start Time	John Daly Blvd Southbound						Rainbow Blvd Westbound						John Daly Blvd Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	10	124	7	0	1	141	7	19	1	0	0	27	1	72	41	0	0	114	79	37	5	1	0	122	404
4:15 PM	6	75	4	0	0	85	4	20	3	0	0	27	3	61	32	0	2	96	93	12	12	0	0	117	325
4:30 PM	8	84	6	0	0	98	7	16	2	0	0	25	1	62	41	0	2	104	69	16	11	0	2	96	323
4:45 PM	8	89	7	0	0	104	7	11	2	0	0	20	0	63	42	0	0	105	77	19	10	0	2	106	335
Total	32	372	24	0	1	428	25	66	8	0	0	99	5	258	156	0	4	419	318	84	38	1	4	441	1387
Approach %	7.5	86.9	5.6	0.0	-	-	25.3	66.7	8.1	0.0	-	-	1.2	61.6	37.2	0.0	-	-	72.1	19.0	8.6	0.2	-	-	-
Total %	2.3	26.8	1.7	0.0	-	30.9	1.8	4.8	0.6	0.0	-	7.1	0.4	18.6	11.2	0.0	-	30.2	22.9	6.1	2.7	0.1	-	31.8	-
PHF	0.800	0.750	0.857	0.000	-	0.759	0.893	0.825	0.667	0.000	-	0.917	0.417	0.896	0.929	0.000	-	0.919	0.855	0.568	0.792	0.250	-	0.904	0.858
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1	0	0	0	-	1	2
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.6	-	-	0.2	0.3	0.0	0.0	0.0	-	0.2	0.1
Cars & Light Goods	32	370	22	0	-	424	25	65	8	0	-	98	4	256	150	0	-	410	312	80	37	1	-	430	1362
% Cars & Light Goods	100.0	99.5	91.7	-	-	99.1	100.0	98.5	100.0	-	-	99.0	80.0	99.2	96.2	-	-	97.9	98.1	95.2	97.4	100.0	-	97.5	98.2
Other Vehicles	0	2	2	0	-	4	0	1	0	0	-	1	1	2	5	0	-	8	5	4	1	0	-	10	23
% Other Vehicles	0.0	0.5	8.3	-	-	0.9	0.0	1.5	0.0	-	-	1.0	20.0	0.8	3.2	-	-	1.9	1.6	4.8	2.6	0.0	-	2.3	1.7
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/14/2022
Page No: 9



Turning Movement Peak Hour Data Plot (4:00 PM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/16/2022
Page No: 1

Turning Movement Data

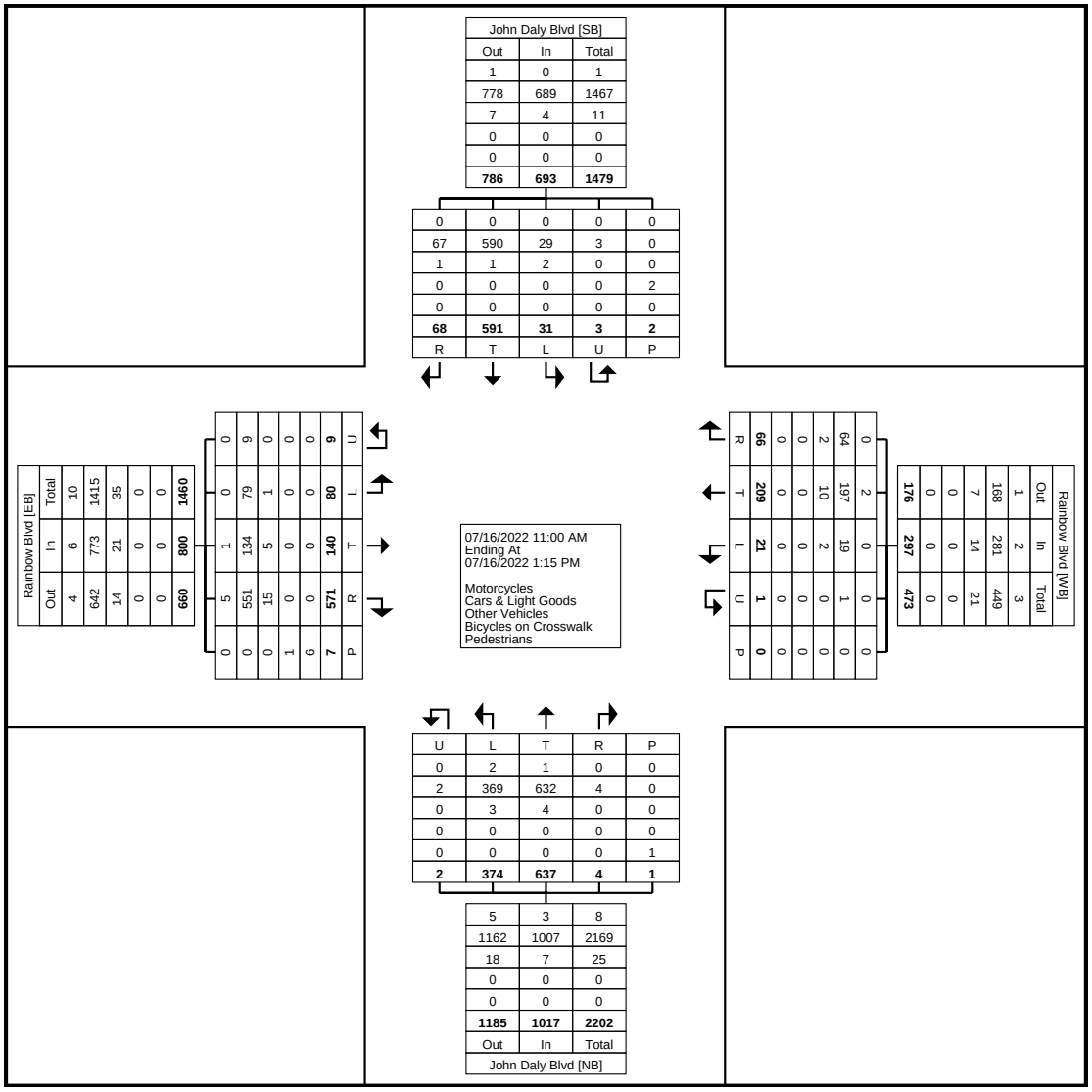
Start Time	John Daly Blvd Southbound							Rainbow Blvd Westbound							John Daly Blvd Northbound							Rainbow Blvd Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	10	5	43	5	0	0	63	3	2	27	2	0	0	34	0	0	89	36	0	0	125	39	23	12	9	0	0	83	305
11:15 AM	3	3	59	7	0	0	72	2	3	33	3	0	0	41	0	1	78	52	1	0	132	39	25	20	13	1	0	98	343
11:30 AM	3	8	83	2	0	0	96	8	3	33	4	0	0	48	0	1	84	66	0	0	151	61	17	18	9	0	4	105	400
11:45 AM	1	2	62	3	0	1	68	2	9	17	3	0	0	31	0	0	87	71	0	0	158	50	25	13	14	1	0	103	360
Hourly Total	17	18	247	17	0	1	299	15	17	110	12	0	0	154	0	2	338	225	1	0	566	189	90	63	45	2	4	389	1408
12:00 PM	4	2	91	1	1	0	99	6	3	22	2	1	0	34	1	0	63	42	0	0	106	58	20	30	12	2	1	122	361
12:15 PM	3	5	74	3	1	1	86	5	4	31	1	0	0	41	0	0	77	34	1	0	112	60	21	21	10	1	2	113	352
12:30 PM	7	7	86	4	0	0	104	4	0	27	2	0	0	33	0	0	72	36	0	0	108	33	31	13	7	3	0	87	332
12:45 PM	4	1	93	6	0	0	104	7	5	19	4	0	0	35	1	0	87	37	0	1	125	46	23	13	6	1	0	89	353
Hourly Total	18	15	344	14	2	1	393	22	12	99	9	1	0	143	2	0	299	149	1	1	451	197	95	77	35	7	3	411	1398
1:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	35	33	591	31	3	2	693	37	29	209	21	1	0	297	2	2	637	374	2	1	1017	386	185	140	80	9	7	800	2807
Approach %	5.1	4.8	85.3	4.5	0.4	-	-	12.5	9.8	70.4	7.1	0.3	-	-	0.2	0.2	62.6	36.8	0.2	-	-	48.3	23.1	17.5	10.0	1.1	-	-	-
Total %	1.2	1.2	21.1	1.1	0.1	-	24.7	1.3	1.0	7.4	0.7	0.0	-	10.6	0.1	0.1	22.7	13.3	0.1	-	36.2	13.8	6.6	5.0	2.9	0.3	-	28.5	-
Motorcycles	0	0	0	0	0	-	0	0	0	2	0	0	-	2	0	0	1	2	0	-	3	0	5	1	0	0	-	6	11
% Motorcycles	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	1.0	0.0	0.0	-	0.7	0.0	0.0	0.2	0.5	0.0	-	0.3	0.0	2.7	0.7	0.0	0.0	-	0.8	0.4
Cars & Light Goods	35	32	590	29	3	-	689	35	29	197	19	1	-	281	2	2	632	369	2	-	1007	375	176	134	79	9	-	773	2750
% Cars & Light Goods	100.0	97.0	99.8	93.5	100.0	-	99.4	94.6	100.0	94.3	90.5	100.0	-	94.6	100.0	100.0	99.2	98.7	100.0	-	99.0	97.2	95.1	95.7	98.8	100.0	-	96.6	98.0
Other Vehicles	0	1	1	2	0	-	4	2	0	10	2	0	-	14	0	0	4	3	0	-	7	11	4	5	1	0	-	21	46
% Other Vehicles	0.0	3.0	0.2	6.5	0.0	-	0.6	5.4	0.0	4.8	9.5	0.0	-	4.7	0.0	0.0	0.6	0.8	0.0	-	0.7	2.8	2.2	3.6	1.3	0.0	-	2.6	1.6
Bicycles on Crosswalk	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	14.3	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	85.7	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/16/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (11:00 AM)

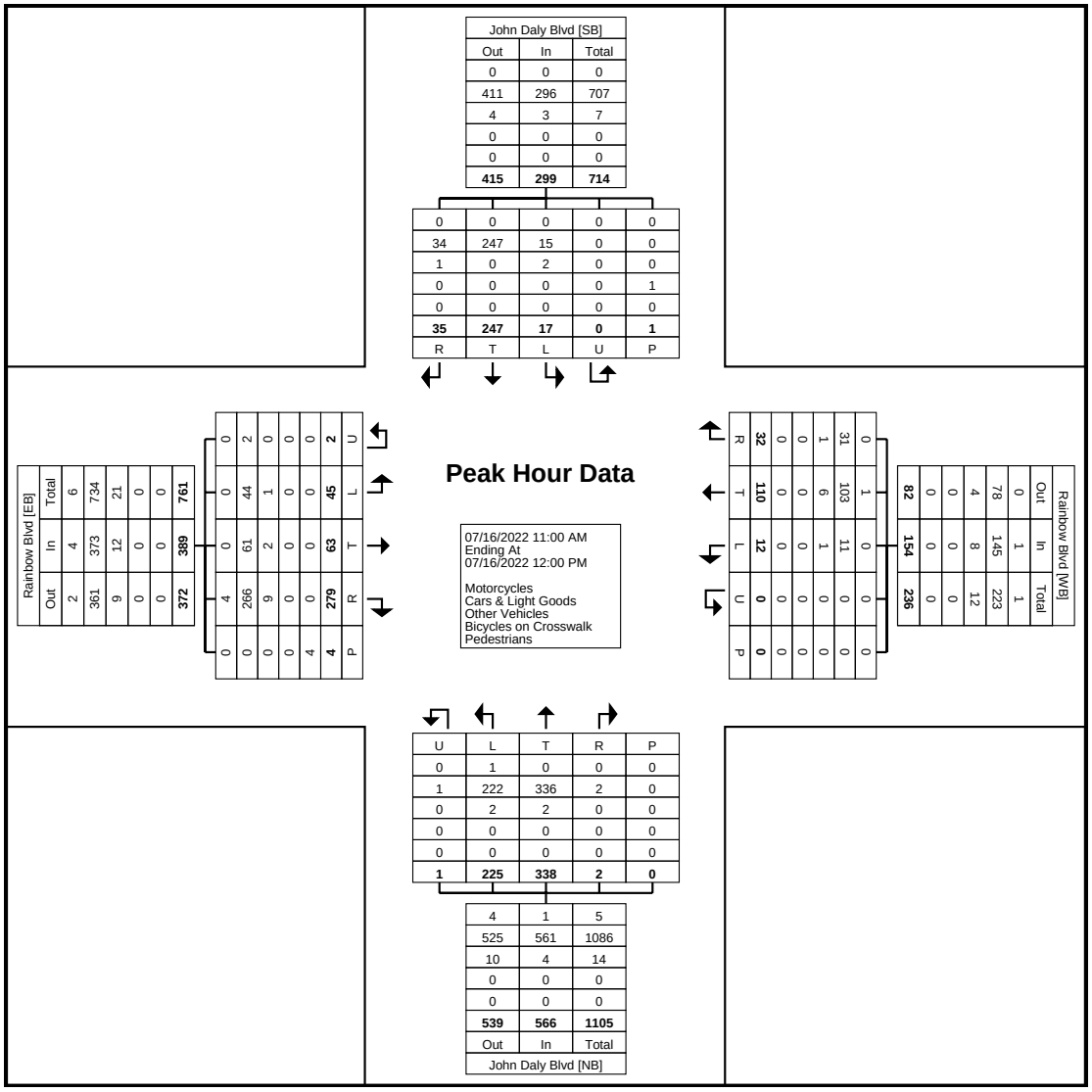
Start Time	John Daly Blvd Southbound							Rainbow Blvd Westbound							John Daly Blvd Northbound							Rainbow Blvd Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	10	5	43	5	0	0	63	3	2	27	2	0	0	34	0	0	89	36	0	0	125	39	23	12	9	0	0	83	305
11:15 AM	3	3	59	7	0	0	72	2	3	33	3	0	0	41	0	1	78	52	1	0	132	39	25	20	13	1	0	98	343
11:30 AM	3	8	83	2	0	0	96	8	3	33	4	0	0	48	0	1	84	66	0	0	151	61	17	18	9	0	4	105	400
11:45 AM	1	2	62	3	0	1	68	2	9	17	3	0	0	31	0	0	87	71	0	0	158	50	25	13	14	1	0	103	360
Total	17	18	247	17	0	1	299	15	17	110	12	0	0	154	0	2	338	225	1	0	566	189	90	63	45	2	4	389	1408
Approach %	5.7	6.0	82.6	5.7	0.0	-	-	9.7	11.0	71.4	7.8	0.0	-	-	0.0	0.4	59.7	39.8	0.2	-	-	48.6	23.1	16.2	11.6	0.5	-	-	-
Total %	1.2	1.3	17.5	1.2	0.0	-	21.2	1.1	1.2	7.8	0.9	0.0	-	10.9	0.0	0.1	24.0	16.0	0.1	-	40.2	13.4	6.4	4.5	3.2	0.1	-	27.6	-
PHF	0.425	0.563	0.744	0.607	0.000	-	0.779	0.469	0.472	0.833	0.750	0.000	-	0.802	0.000	0.500	0.949	0.792	0.250	-	0.896	0.775	0.900	0.788	0.804	0.500	-	0.926	0.880
Motorcycles	0	0	0	0	0	-	0	0	0	1	0	0	-	1	0	0	0	1	0	-	1	0	4	0	0	0	-	4	6
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.9	0.0	-	-	0.6	-	0.0	0.0	0.4	0.0	-	0.2	0.0	4.4	0.0	0.0	0.0	-	1.0	0.4
Cars & Light Goods	17	17	247	15	0	-	296	14	17	103	11	0	-	145	0	2	336	222	1	-	561	182	84	61	44	2	-	373	1375
% Cars & Light Goods	100.0	94.4	100.0	88.2	-	-	99.0	93.3	100.0	93.6	91.7	-	-	94.2	-	100.0	99.4	98.7	100.0	-	99.1	96.3	93.3	96.8	97.8	100.0	-	95.9	97.7
Other Vehicles	0	1	0	2	0	-	3	1	0	6	1	0	-	8	0	0	2	2	0	-	4	7	2	2	1	0	-	12	27
% Other Vehicles	0.0	5.6	0.0	11.8	-	-	1.0	6.7	0.0	5.5	8.3	-	-	5.2	-	0.0	0.6	0.9	0.0	-	0.7	3.7	2.2	3.2	2.2	0.0	-	3.1	1.9
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/16/2022
Page No: 4



Turning Movement Peak Hour Data Plot (11:00 AM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (12:00 PM)

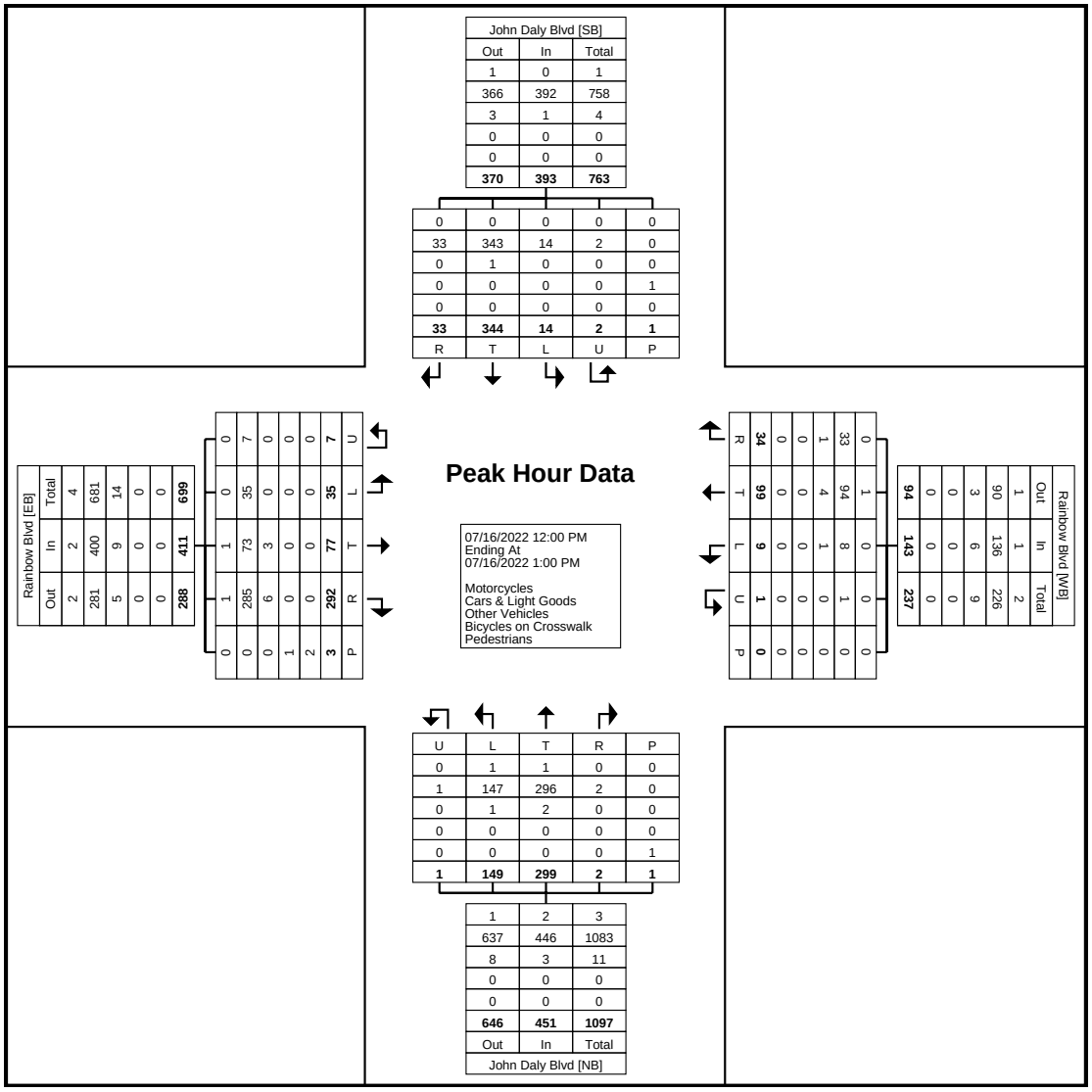
Start Time	John Daly Blvd Southbound							Rainbow Blvd Westbound							John Daly Blvd Northbound							Rainbow Blvd Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	4	2	91	1	1	0	99	6	3	22	2	1	0	34	1	0	63	42	0	0	106	58	20	30	12	2	1	122	361
12:15 PM	3	5	74	3	1	1	86	5	4	31	1	0	0	41	0	0	77	34	1	0	112	60	21	21	10	1	2	113	352
12:30 PM	7	7	86	4	0	0	104	4	0	27	2	0	0	33	0	0	72	36	0	0	108	33	31	13	7	3	0	87	332
12:45 PM	4	1	93	6	0	0	104	7	5	19	4	0	0	35	1	0	87	37	0	1	125	46	23	13	6	1	0	89	353
Total	18	15	344	14	2	1	393	22	12	99	9	1	0	143	2	0	299	149	1	1	451	197	95	77	35	7	3	411	1398
Approach %	4.6	3.8	87.5	3.6	0.5	-	-	15.4	8.4	69.2	6.3	0.7	-	-	0.4	0.0	66.3	33.0	0.2	-	-	47.9	23.1	18.7	8.5	1.7	-	-	-
Total %	1.3	1.1	24.6	1.0	0.1	-	28.1	1.6	0.9	7.1	0.6	0.1	-	10.2	0.1	0.0	21.4	10.7	0.1	-	32.3	14.1	6.8	5.5	2.5	0.5	-	29.4	-
PHF	0.643	0.536	0.925	0.583	0.500	-	0.945	0.786	0.600	0.798	0.563	0.250	-	0.872	0.500	0.000	0.859	0.887	0.250	-	0.902	0.821	0.766	0.642	0.729	0.583	-	0.842	0.968
Motorcycles	0	0	0	0	0	-	0	0	0	1	0	0	-	1	0	0	1	1	0	-	2	0	1	1	0	0	-	2	5
% Motorcycles	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	1.0	0.0	0.0	-	0.7	0.0	-	0.3	0.7	0.0	-	0.4	0.0	1.1	1.3	0.0	0.0	-	0.5	0.4
Cars & Light Goods	18	15	343	14	2	-	392	21	12	94	8	1	-	136	2	0	296	147	1	-	446	193	92	73	35	7	-	400	1374
% Cars & Light Goods	100.0	100.0	99.7	100.0	100.0	-	99.7	95.5	100.0	94.9	88.9	100.0	-	95.1	100.0	-	99.0	98.7	100.0	-	98.9	98.0	96.8	94.8	100.0	100.0	-	97.3	98.3
Other Vehicles	0	0	1	0	0	-	1	1	0	4	1	0	-	6	0	0	2	1	0	-	3	4	2	3	0	0	-	9	19
% Other Vehicles	0.0	0.0	0.3	0.0	0.0	-	0.3	4.5	0.0	4.0	11.1	0.0	-	4.2	0.0	-	0.7	0.7	0.0	-	0.7	2.0	2.1	3.9	0.0	0.0	-	2.2	1.4
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	33.3	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	66.7	-	-

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Rainbow Blvd
Site Code:
Start Date: 07/16/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/12/2022

Turning Movement Data

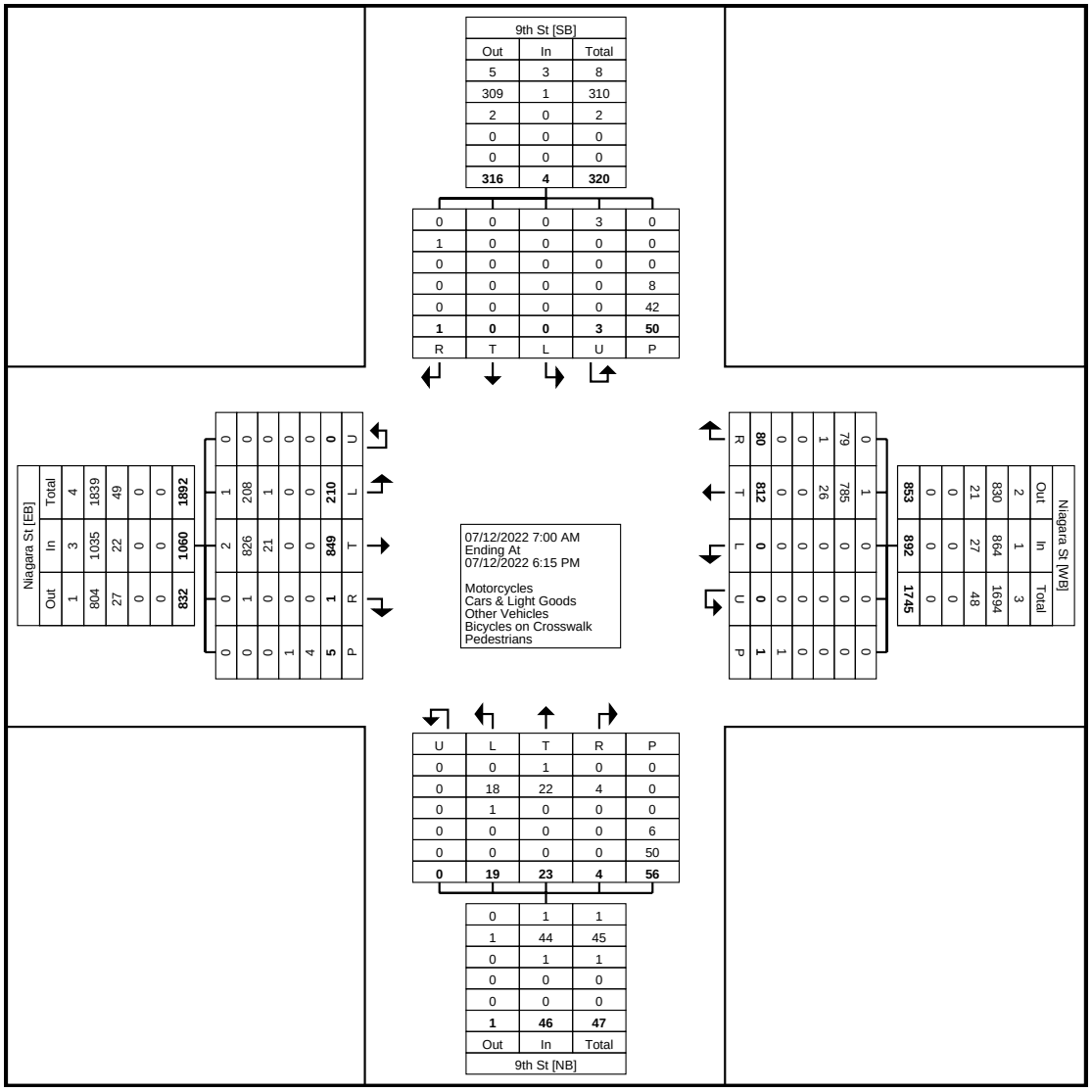
Start Time	9th St Southbound						Niagara St Westbound						9th St Northbound						Niagara St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	0	20	0	0	0	20	0	1	0	0	0	1	0	31	5	0	1	36	57
7:15 AM	0	0	0	0	2	0	2	19	0	0	0	21	0	0	0	0	0	0	0	24	3	0	0	27	48
7:30 AM	0	0	0	0	1	0	1	19	0	0	0	20	0	1	1	0	3	2	0	37	3	0	0	40	62
7:45 AM	0	0	0	0	1	0	2	22	0	0	0	24	0	0	1	0	2	1	0	51	14	0	0	65	90
Hourly Total	0	0	0	0	4	0	5	80	0	0	0	85	0	2	2	0	5	4	0	143	25	0	1	168	257
8:00 AM	0	0	0	0	1	0	3	18	0	0	0	21	0	2	0	0	2	2	0	39	9	0	1	48	71
8:15 AM	0	0	0	0	1	0	1	23	0	0	0	24	0	0	0	0	1	0	0	33	10	0	0	43	67
8:30 AM	0	0	0	0	3	0	5	24	0	0	0	29	0	0	0	0	0	0	0	23	12	0	0	35	64
8:45 AM	0	0	0	0	9	0	8	36	0	0	1	44	0	3	2	0	4	5	0	47	7	0	0	54	103
Hourly Total	0	0	0	0	14	0	17	101	0	0	1	118	0	5	2	0	7	7	0	142	38	0	1	180	305
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	2	0	3	22	0	0	0	25	0	1	2	0	1	3	0	41	5	0	0	46	74
11:15 AM	0	0	0	0	1	0	2	33	0	0	0	35	1	3	0	0	4	4	0	22	6	0	1	28	67
11:30 AM	0	0	0	0	1	0	2	34	0	0	0	36	2	2	1	0	5	5	0	40	8	0	0	48	89
11:45 AM	1	0	0	0	5	1	2	23	0	0	0	25	0	0	0	0	4	0	0	28	12	0	0	40	66
Hourly Total	1	0	0	0	9	1	9	112	0	0	0	121	3	6	3	0	14	12	0	131	31	0	1	162	296
12:00 PM	0	0	0	0	0	0	3	27	0	0	0	30	0	0	0	0	1	0	0	41	9	0	0	50	80
12:15 PM	0	0	0	0	4	0	2	35	0	0	0	37	0	1	2	0	4	3	0	40	7	0	0	47	87
12:30 PM	0	0	0	0	1	0	2	41	0	0	0	43	1	0	2	0	3	3	1	32	5	0	0	38	84
12:45 PM	0	0	0	0	1	0	0	40	0	0	0	40	0	0	2	0	7	2	0	33	12	0	2	45	87
Hourly Total	0	0	0	0	6	0	7	143	0	0	0	150	1	1	6	0	15	8	1	146	33	0	2	180	338
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	1	2	1	7	57	0	0	0	64	0	3	1	0	1	4	0	33	10	0	0	43	112
4:15 PM	0	0	0	1	4	1	4	55	0	0	0	59	0	0	3	0	3	3	0	33	9	0	0	42	105
4:30 PM	0	0	0	0	2	0	10	70	0	0	0	80	0	1	0	0	2	1	0	65	11	0	0	76	157
4:45 PM	0	0	0	0	1	0	4	43	0	0	0	47	0	0	1	0	2	1	0	33	14	0	0	47	95
Hourly Total	0	0	0	2	9	2	25	225	0	0	0	250	0	4	5	0	8	9	0	164	44	0	0	208	469
5:00 PM	0	0	0	0	2	0	7	37	0	0	0	44	0	0	0	0	5	0	0	33	7	0	0	40	84
5:15 PM	0	0	0	1	4	1	5	35	0	0	0	40	0	3	1	0	1	4	0	30	8	0	0	38	83
5:30 PM	0	0	0	0	1	0	3	41	0	0	0	44	0	1	0	0	1	1	0	30	12	0	0	42	87
5:45 PM	0	0	0	0	1	0	2	38	0	0	0	40	0	1	0	0	0	1	0	30	12	0	0	42	83
Hourly Total	0	0	0	1	8	1	17	151	0	0	0	168	0	5	1	0	7	6	0	123	39	0	0	162	337
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	0	3	50	4	80	812	0	0	1	892	4	23	19	0	56	46	1	849	210	0	5	1060	2002
Approach %	25.0	0.0	0.0	75.0	-	-	9.0	91.0	0.0	0.0	-	-	8.7	50.0	41.3	0.0	-	-	0.1	80.1	19.8	0.0	-	-	-
Total %	0.0	0.0	0.0	0.1	-	0.2	4.0	40.6	0.0	0.0	-	44.6	0.2	1.1	0.9	0.0	-	2.3	0.0	42.4	10.5	0.0	-	52.9	-
Motorcycles	0	0	0	3	-	3	0	1	0	0	-	1	0	1	0	0	-	1	0	2	1	0	-	3	8
% Motorcycles	0.0	-	-	100.0	-	75.0	0.0	0.1	-	-	-	0.1	0.0	4.3	0.0	-	-	2.2	0.0	0.2	0.5	-	-	0.3	0.4
Cars & Light Goods	1	0	0	0	-	1	79	785	0	0	-	864	4	22	18	0	-	44	1	826	208	0	-	1035	1944
% Cars & Light Goods	100.0	-	-	0.0	-	25.0	98.8	96.7	-	-	-	96.9	100.0	95.7	94.7	-	-	95.7	100.0	97.3	99.0	-	-	97.6	97.1
Other Vehicles	0	0	0	0	-	0	1	26	0	0	-	27	0	0	1	0	-	1	0	21	1	0	-	22	50
% Other Vehicles	0.0	-	-	0.0	-	0.0	1.3	3.2	-	-	-	3.0	0.0	0.0	5.3	-	-	2.2	0.0	2.5	0.5	-	-	2.1	2.5
Bicycles on Crosswalk	-	-	-	-	8	-	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	16.0	-	-	-	-	-	0.0	-	-	-	-	-	10.7	-	-	-	-	-	20.0	-	-
Pedestrians	-	-	-	-	42	-	-	-	-	-	1	-	-	-	-	-	50	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	84.0	-	-	-	-	-	100.0	-	-	-	-	-	89.3	-	-	-	-	-	80.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/12/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (8:00 AM)

Start Time	9th St Southbound						Niagara St Westbound						9th St Northbound						Niagara St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
8:00 AM	0	0	0	0	1	0	3	18	0	0	0	21	0	2	0	0	2	2	0	39	9	0	1	48	71
8:15 AM	0	0	0	0	1	0	1	23	0	0	0	24	0	0	0	0	1	0	0	33	10	0	0	43	67
8:30 AM	0	0	0	0	3	0	5	24	0	0	0	29	0	0	0	0	0	0	0	23	12	0	0	35	64
8:45 AM	0	0	0	0	9	0	8	36	0	0	1	44	0	3	2	0	4	5	0	47	7	0	0	54	103
Total	0	0	0	0	14	0	17	101	0	0	1	118	0	5	2	0	7	7	0	142	38	0	1	180	305
Approach %	0.0	0.0	0.0	0.0	-	-	14.4	85.6	0.0	0.0	-	-	0.0	71.4	28.6	0.0	-	-	0.0	78.9	21.1	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	5.6	33.1	0.0	0.0	-	38.7	0.0	1.6	0.7	0.0	-	2.3	0.0	46.6	12.5	0.0	-	59.0	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.531	0.701	0.000	0.000	-	0.670	0.000	0.417	0.250	0.000	-	0.350	0.000	0.755	0.792	0.000	-	0.833	0.740
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Motorcycles	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	-	0.7	0.0	-	-	0.6	0.3
Cars & Light Goods	0	0	0	0	-	0	16	96	0	0	-	112	0	5	2	0	-	7	0	139	38	0	-	177	296
% Cars & Light Goods	-	-	-	-	-	-	94.1	95.0	-	-	-	94.9	-	100.0	100.0	-	-	100.0	-	97.9	100.0	-	-	98.3	97.0
Other Vehicles	0	0	0	0	-	0	1	5	0	0	-	6	0	0	0	0	-	0	0	2	0	0	-	2	8
% Other Vehicles	-	-	-	-	-	-	5.9	5.0	-	-	-	5.1	-	0.0	0.0	-	-	0.0	-	1.4	0.0	-	-	1.1	2.6
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	14.3	-	-	-	-	-	0.0	-	-	-	-	-	14.3	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	12	-	-	-	-	-	1	-	-	-	-	-	6	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	85.7	-	-	-	-	-	100.0	-	-	-	-	-	85.7	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
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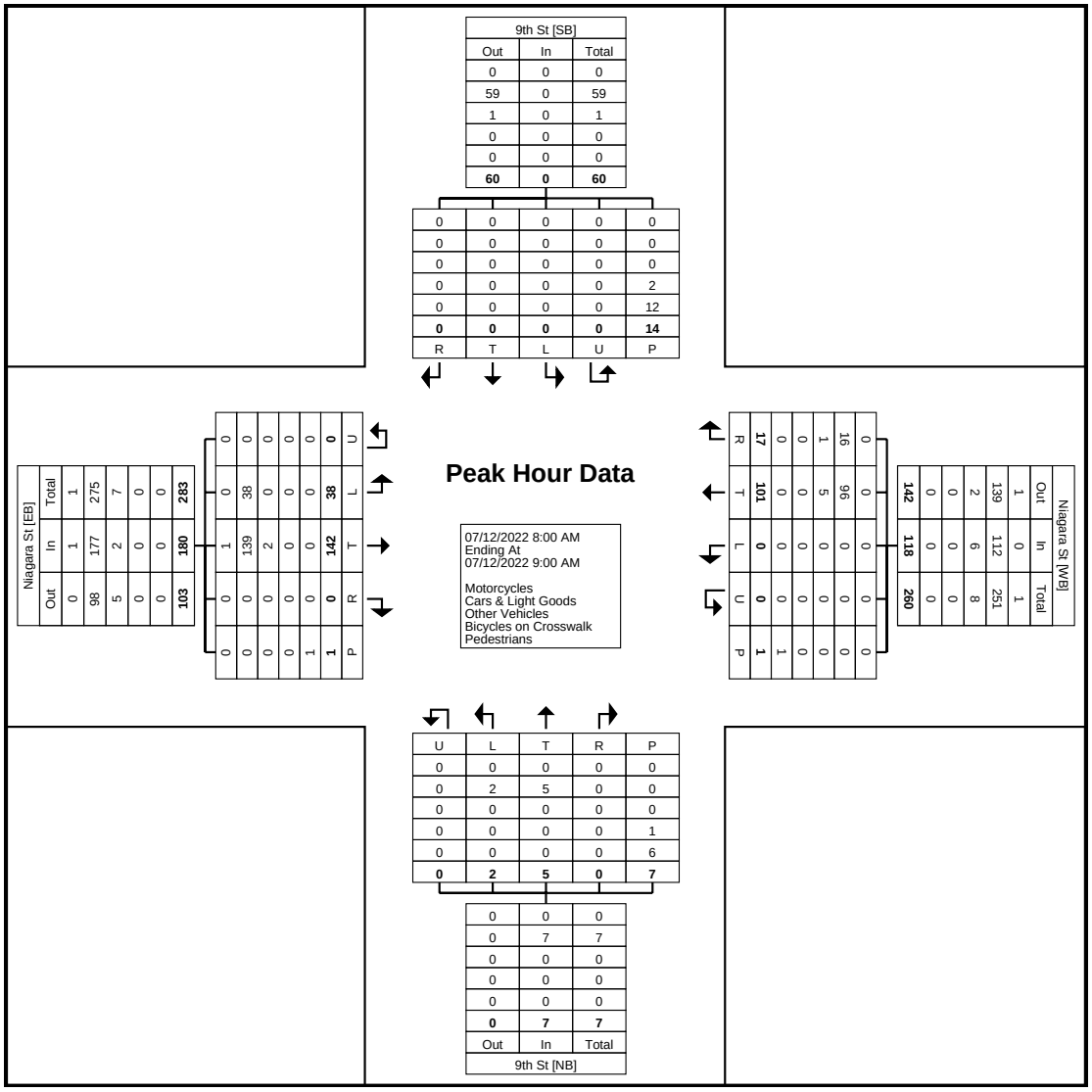
Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/12/2022
Page No: 4



Turning Movement Peak Hour Data Plot (8:00 AM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (12:00 PM)

Start Time	9th St Southbound						Niagara St Westbound						9th St Northbound						Niagara St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	3	27	0	0	0	30	0	0	0	0	1	0	0	41	9	0	0	50	80
12:15 PM	0	0	0	0	4	0	2	35	0	0	0	37	0	1	2	0	4	3	0	40	7	0	0	47	87
12:30 PM	0	0	0	0	1	0	2	41	0	0	0	43	1	0	2	0	3	3	1	32	5	0	0	38	84
12:45 PM	0	0	0	0	1	0	0	40	0	0	0	40	0	0	2	0	7	2	0	33	12	0	2	45	87
Total	0	0	0	0	6	0	7	143	0	0	0	150	1	1	6	0	15	8	1	146	33	0	2	180	338
Approach %	0.0	0.0	0.0	0.0	-	-	4.7	95.3	0.0	0.0	-	-	12.5	12.5	75.0	0.0	-	-	0.6	81.1	18.3	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	2.1	42.3	0.0	0.0	-	44.4	0.3	0.3	1.8	0.0	-	2.4	0.3	43.2	9.8	0.0	-	53.3	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.583	0.872	0.000	0.000	-	0.872	0.250	0.250	0.750	0.000	-	0.667	0.250	0.890	0.688	0.000	-	0.900	0.971
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	0	0	0	-	0	7	139	0	0	-	146	1	1	6	0	-	8	1	140	33	0	-	174	328
% Cars & Light Goods	-	-	-	-	-	-	100.0	97.2	-	-	-	97.3	100.0	100.0	100.0	-	-	100.0	100.0	95.9	100.0	-	-	96.7	97.0
Other Vehicles	0	0	0	0	-	0	0	4	0	0	-	4	0	0	0	0	-	0	0	6	0	0	-	6	10
% Other Vehicles	-	-	-	-	-	-	0.0	2.8	-	-	-	2.7	0.0	0.0	0.0	-	-	0.0	0.0	4.1	0.0	-	-	3.3	3.0
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	16.7	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	15	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	83.3	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
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Niagara, New York
July 12, 2022

Count Name: Niagara St & 9th St
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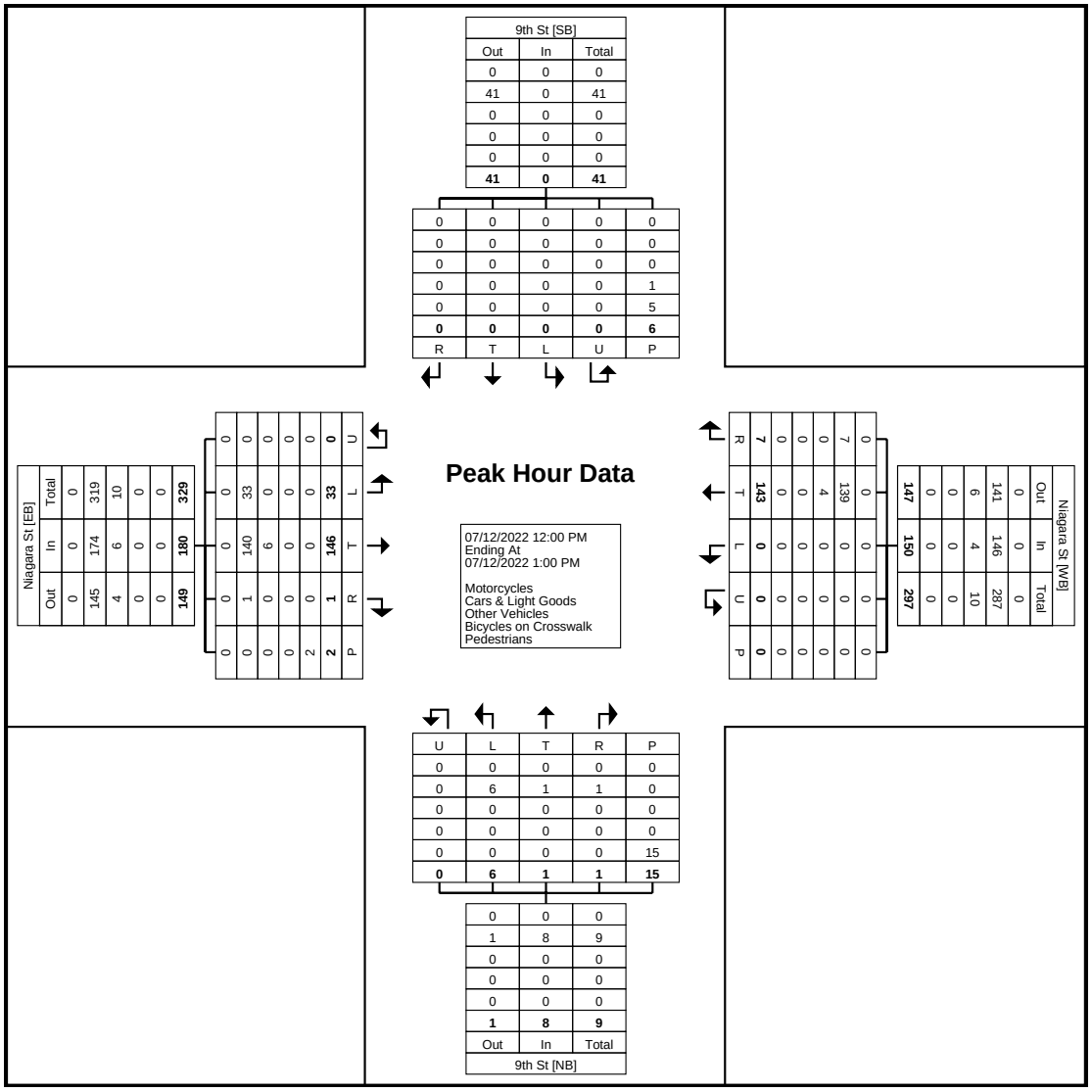


Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (4:00 PM)

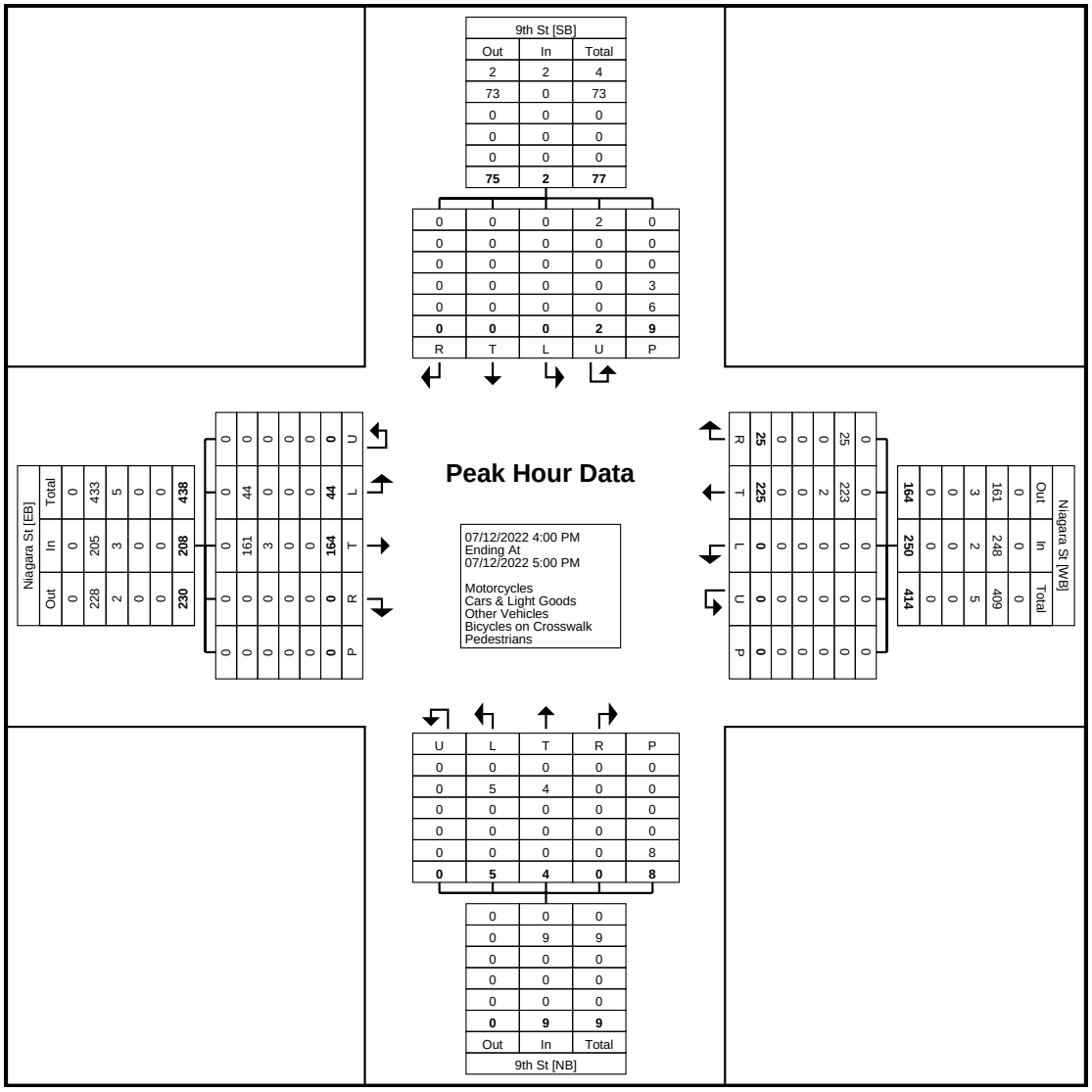
Start Time	9th St Southbound						Niagara St Westbound						9th St Northbound						Niagara St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	0	0	0	1	2	1	7	57	0	0	0	64	0	3	1	0	1	4	0	33	10	0	0	43	112
4:15 PM	0	0	0	1	4	1	4	55	0	0	0	59	0	0	3	0	3	3	0	33	9	0	0	42	105
4:30 PM	0	0	0	0	2	0	10	70	0	0	0	80	0	1	0	0	2	1	0	65	11	0	0	76	157
4:45 PM	0	0	0	0	1	0	4	43	0	0	0	47	0	0	1	0	2	1	0	33	14	0	0	47	95
Total	0	0	0	2	9	2	25	225	0	0	0	250	0	4	5	0	8	9	0	164	44	0	0	208	469
Approach %	0.0	0.0	0.0	100.0	-	-	10.0	90.0	0.0	0.0	-	-	0.0	44.4	55.6	0.0	-	-	0.0	78.8	21.2	0.0	-	-	-
Total %	0.0	0.0	0.0	0.4	-	0.4	5.3	48.0	0.0	0.0	-	53.3	0.0	0.9	1.1	0.0	-	1.9	0.0	35.0	9.4	0.0	-	44.3	-
PHF	0.000	0.000	0.000	0.500	-	0.500	0.625	0.804	0.000	0.000	-	0.781	0.000	0.333	0.417	0.000	-	0.563	0.000	0.631	0.786	0.000	-	0.684	0.747
Motorcycles	0	0	0	2	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2
% Motorcycles	-	-	-	100.0	-	100.0	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	0.4
Cars & Light Goods	0	0	0	0	-	0	25	223	0	0	-	248	0	4	5	0	-	9	0	161	44	0	-	205	462
% Cars & Light Goods	-	-	-	0.0	-	0.0	100.0	99.1	-	-	-	99.2	-	100.0	100.0	-	-	100.0	-	98.2	100.0	-	-	98.6	98.5
Other Vehicles	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	3	0	0	-	3	5
% Other Vehicles	-	-	-	0.0	-	0.0	0.0	0.9	-	-	-	0.8	-	0.0	0.0	-	-	0.0	-	1.8	0.0	-	-	1.4	1.1
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	33.3	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	66.7	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/12/2022
Page No: 8



Turning Movement Peak Hour Data Plot (4:00 PM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/30/2022

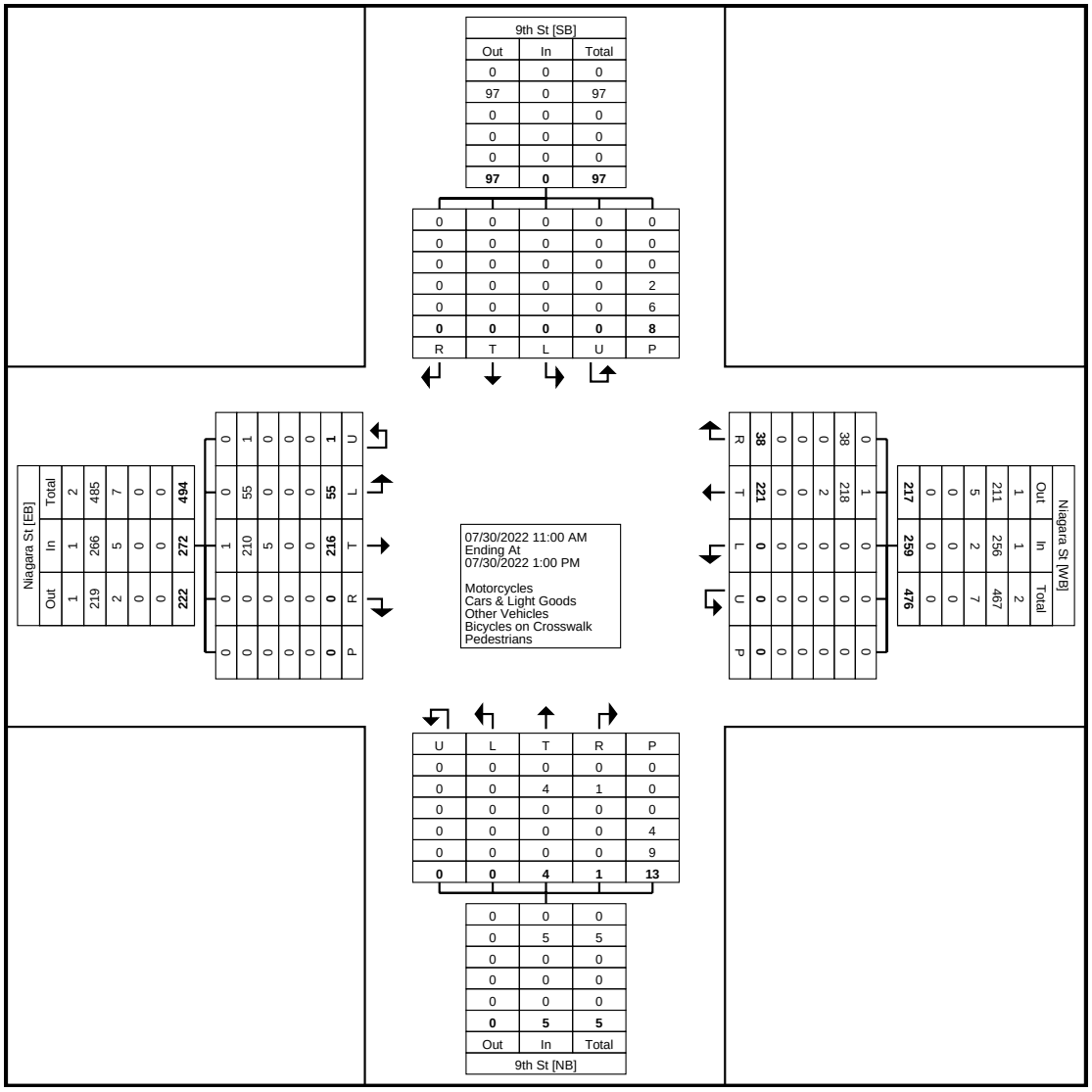
Turning Movement Data

Start Time	9th St Southbound						Niagara St Westbound						9th St Northbound						Niagara St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	1	0	4	22	0	0	0	26	0	0	0	0	2	0	0	23	13	0	0	36	62
11:15 AM	0	0	0	0	1	0	4	31	0	0	0	35	1	0	0	0	2	1	0	32	3	1	0	36	72
11:30 AM	0	0	0	0	0	0	4	24	0	0	0	28	0	0	0	0	0	0	0	18	9	0	0	27	55
11:45 AM	0	0	0	0	3	0	3	31	0	0	0	34	0	1	0	0	1	1	0	28	8	0	0	36	71
Hourly Total	0	0	0	0	5	0	15	108	0	0	0	123	1	1	0	0	5	2	0	101	33	1	0	135	260
12:00 PM	0	0	0	0	1	0	5	23	0	0	0	28	0	1	0	0	0	1	0	26	5	0	0	31	60
12:15 PM	0	0	0	0	0	0	8	28	0	0	0	36	0	1	0	0	2	1	0	30	9	0	0	39	76
12:30 PM	0	0	0	0	2	0	6	34	0	0	0	40	0	0	0	0	3	0	0	28	6	0	0	34	74
12:45 PM	0	0	0	0	0	0	4	28	0	0	0	32	0	1	0	0	3	1	0	31	2	0	0	33	66
Hourly Total	0	0	0	0	3	0	23	113	0	0	0	136	0	3	0	0	8	3	0	115	22	0	0	137	276
Grand Total	0	0	0	0	8	0	38	221	0	0	0	259	1	4	0	0	13	5	0	216	55	1	0	272	536
Approach %	0.0	0.0	0.0	0.0	-	-	14.7	85.3	0.0	0.0	-	-	20.0	80.0	0.0	0.0	-	-	0.0	79.4	20.2	0.4	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	7.1	41.2	0.0	0.0	-	48.3	0.2	0.7	0.0	0.0	-	0.9	0.0	40.3	10.3	0.2	-	50.7	-
Motorcycles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	2
% Motorcycles	-	-	-	-	-	-	0.0	0.5	-	-	-	0.4	0.0	0.0	-	-	-	0.0	-	0.5	0.0	0.0	-	0.4	0.4
Cars & Light Goods	0	0	0	0	-	0	38	218	0	0	-	256	1	4	0	0	-	5	0	210	55	1	-	266	527
% Cars & Light Goods	-	-	-	-	-	-	100.0	98.6	-	-	-	98.8	100.0	100.0	-	-	-	100.0	-	97.2	100.0	100.0	-	97.8	98.3
Other Vehicles	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	5	0	0	-	5	7
% Other Vehicles	-	-	-	-	-	-	0.0	0.9	-	-	-	0.8	0.0	0.0	-	-	-	0.0	-	2.3	0.0	0.0	-	1.8	1.3
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	25.0	-	-	-	-	-	-	-	-	-	-	-	30.8	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	9	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	75.0	-	-	-	-	-	-	-	-	-	-	-	69.2	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/30/2022
Page No: 2



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/30/2022

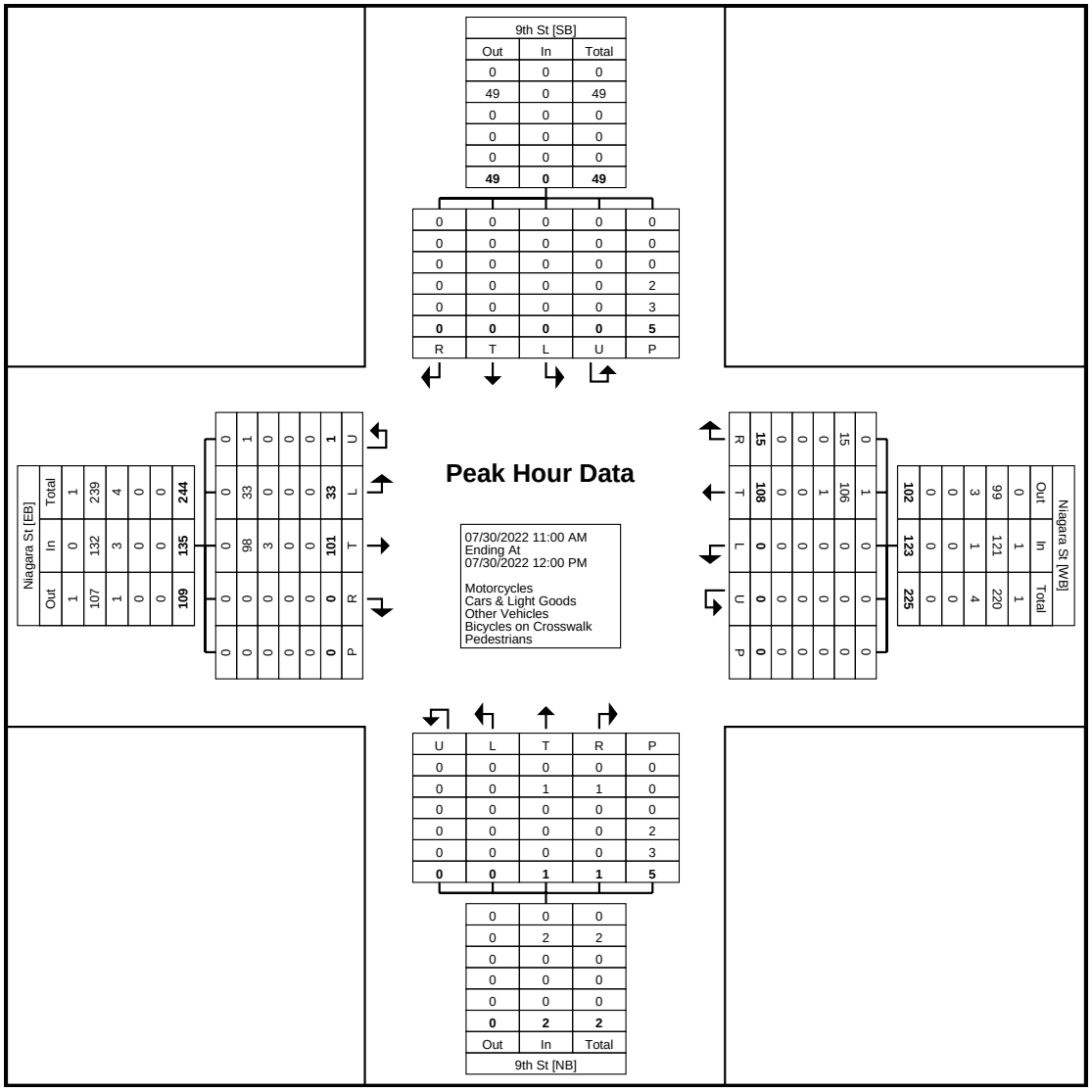
Turning Movement Peak Hour Data (11:00 AM)

Start Time	9th St Southbound						Niagara St Westbound						9th St Northbound						Niagara St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	1	0	4	22	0	0	0	26	0	0	0	0	2	0	0	23	13	0	0	36	62
11:15 AM	0	0	0	0	1	0	4	31	0	0	0	35	1	0	0	0	2	1	0	32	3	1	0	36	72
11:30 AM	0	0	0	0	0	0	4	24	0	0	0	28	0	0	0	0	0	0	0	18	9	0	0	27	55
11:45 AM	0	0	0	0	3	0	3	31	0	0	0	34	0	1	0	0	1	1	0	28	8	0	0	36	71
Total	0	0	0	0	5	0	15	108	0	0	0	123	1	1	0	0	5	2	0	101	33	1	0	135	260
Approach %	0.0	0.0	0.0	0.0	-	-	12.2	87.8	0.0	0.0	-	-	50.0	50.0	0.0	0.0	-	-	0.0	74.8	24.4	0.7	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	5.8	41.5	0.0	0.0	-	47.3	0.4	0.4	0.0	0.0	-	0.8	0.0	38.8	12.7	0.4	-	51.9	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.938	0.871	0.000	0.000	-	0.879	0.250	0.250	0.000	0.000	-	0.500	0.000	0.789	0.635	0.250	-	0.938	0.903
Motorcycles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Motorcycles	-	-	-	-	-	-	0.0	0.9	-	-	-	0.8	0.0	0.0	-	-	-	0.0	-	0.0	0.0	0.0	-	0.0	0.4
Cars & Light Goods	0	0	0	0	-	0	15	106	0	0	-	121	1	1	0	0	-	2	0	98	33	1	-	132	255
% Cars & Light Goods	-	-	-	-	-	-	100.0	98.1	-	-	-	98.4	100.0	100.0	-	-	-	100.0	-	97.0	100.0	100.0	-	97.8	98.1
Other Vehicles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	3	0	0	-	3	4
% Other Vehicles	-	-	-	-	-	-	0.0	0.9	-	-	-	0.8	0.0	0.0	-	-	-	0.0	-	3.0	0.0	0.0	-	2.2	1.5
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	40.0	-	-	-	-	-	-	-	-	-	-	-	40.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	60.0	-	-	-	-	-	-	-	-	-	-	-	60.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/30/2022
Page No: 4



Turning Movement Peak Hour Data Plot (11:00 AM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/30/2022

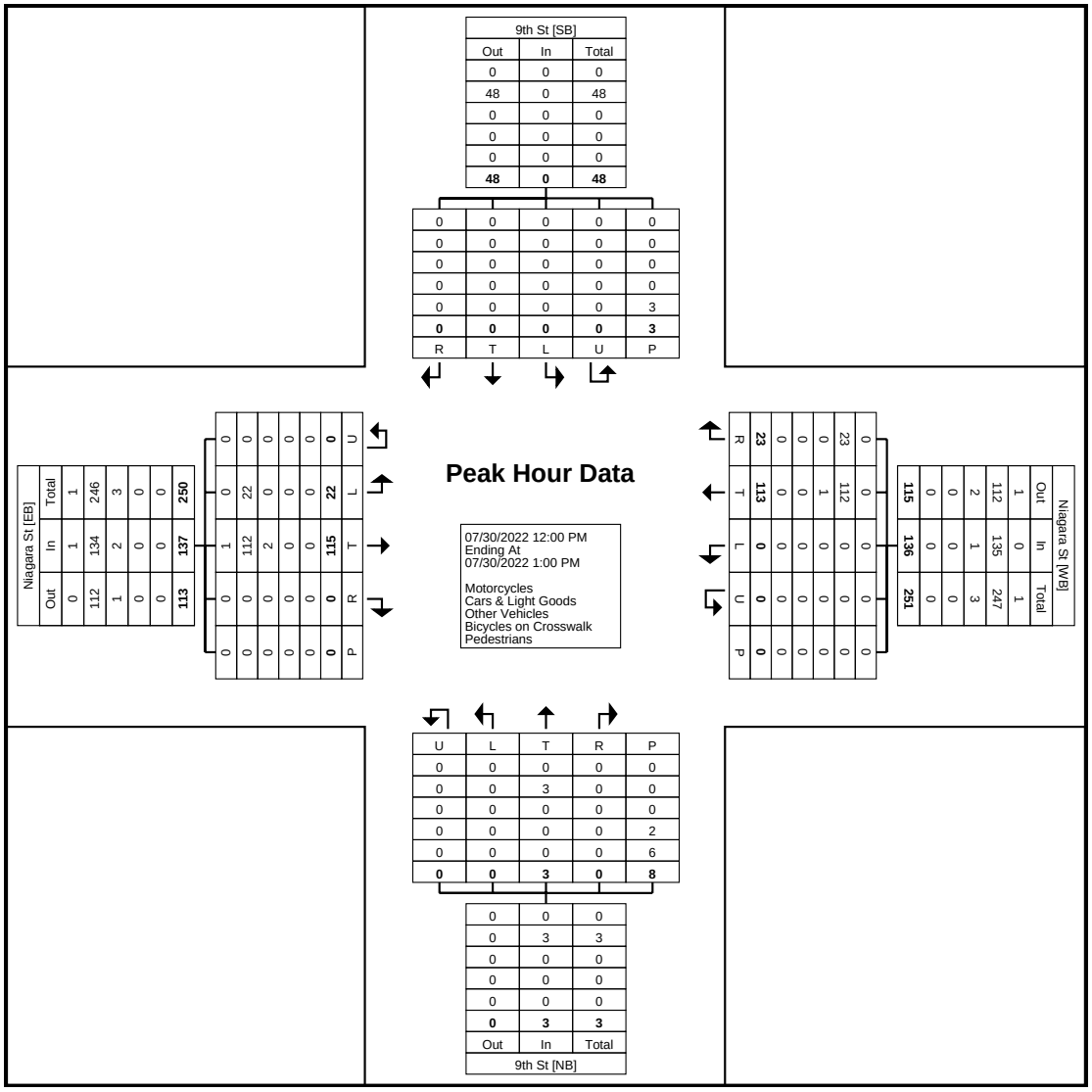
Turning Movement Peak Hour Data (12:00 PM)

Start Time	9th St Southbound						Niagara St Westbound						9th St Northbound						Niagara St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	0	0	0	0	1	0	5	23	0	0	0	28	0	1	0	0	0	1	0	26	5	0	0	31	60
12:15 PM	0	0	0	0	0	0	8	28	0	0	0	36	0	1	0	0	2	1	0	30	9	0	0	39	76
12:30 PM	0	0	0	0	2	0	6	34	0	0	0	40	0	0	0	0	3	0	0	28	6	0	0	34	74
12:45 PM	0	0	0	0	0	0	4	28	0	0	0	32	0	1	0	0	3	1	0	31	2	0	0	33	66
Total	0	0	0	0	3	0	23	113	0	0	0	136	0	3	0	0	8	3	0	115	22	0	0	137	276
Approach %	0.0	0.0	0.0	0.0	-	-	16.9	83.1	0.0	0.0	-	-	0.0	100.0	0.0	0.0	-	-	0.0	83.9	16.1	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	8.3	40.9	0.0	0.0	-	49.3	0.0	1.1	0.0	0.0	-	1.1	0.0	41.7	8.0	0.0	-	49.6	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.719	0.831	0.000	0.000	-	0.850	0.000	0.750	0.000	0.000	-	0.750	0.000	0.927	0.611	0.000	-	0.878	0.908
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Motorcycles	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	0.0	-	-	-	0.0	-	0.9	0.0	-	-	0.7	0.4
Cars & Light Goods	0	0	0	0	-	0	23	112	0	0	-	135	0	3	0	0	-	3	0	112	22	0	-	134	272
% Cars & Light Goods	-	-	-	-	-	-	100.0	99.1	-	-	-	99.3	-	100.0	-	-	-	100.0	-	97.4	100.0	-	-	97.8	98.6
Other Vehicles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	2	0	0	-	2	3
% Other Vehicles	-	-	-	-	-	-	0.0	0.9	-	-	-	0.7	-	0.0	-	-	-	0.0	-	1.7	0.0	-	-	1.5	1.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	25.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	75.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 9th St
Site Code:
Start Date: 07/30/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/12/2022

Turning Movement Data

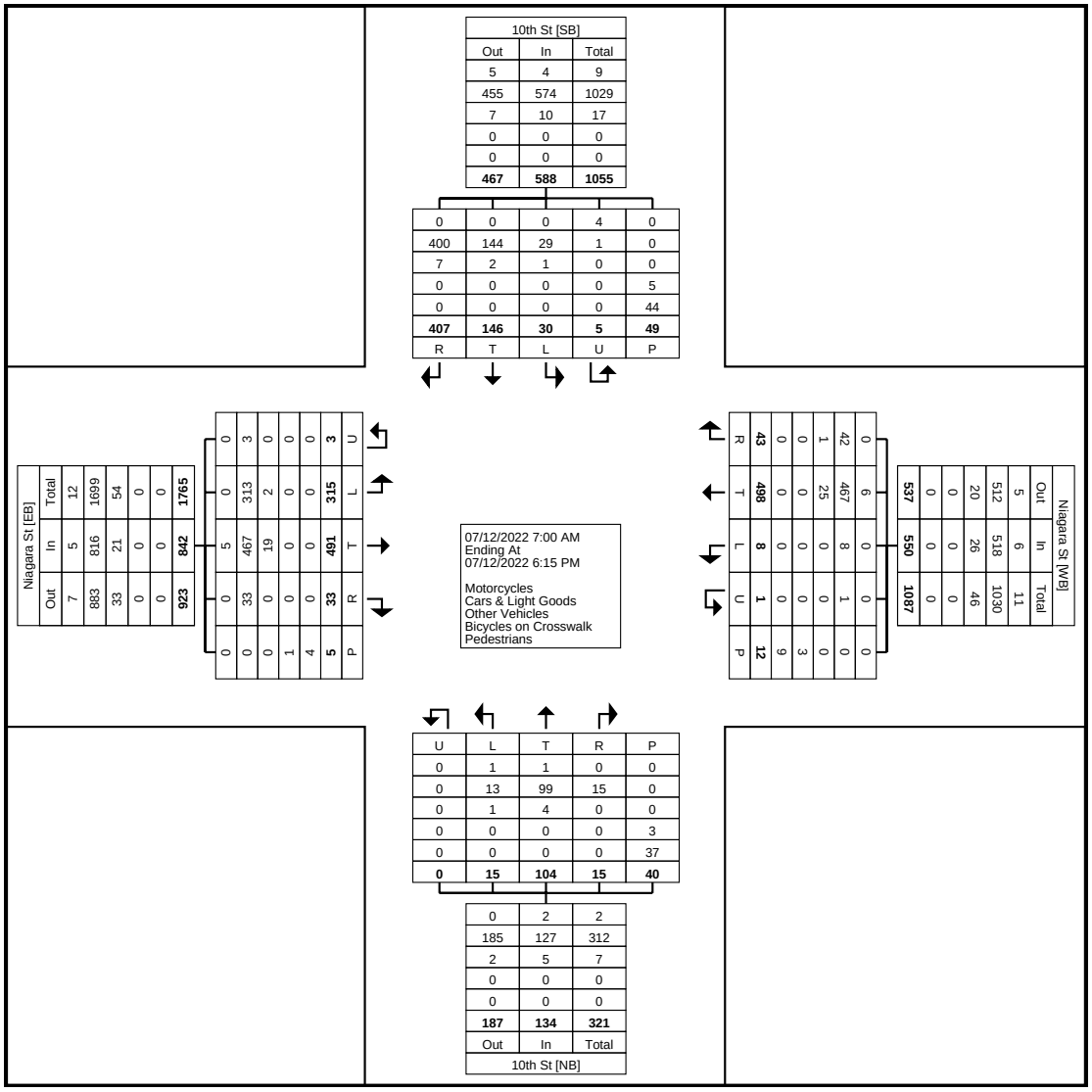
Start Time	10th St Southbound							Niagara St Westbound							10th St Northbound							Niagara St Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	3	6	1	3	0	0	13	0	0	10	0	0	0	10	0	0	2	0	0	0	2	1	0	13	19	0	0	33	58
7:15 AM	2	6	2	1	0	2	11	0	0	13	0	0	0	13	0	1	2	0	0	0	3	0	0	10	11	0	0	21	48
7:30 AM	3	6	4	0	0	2	13	0	0	11	0	0	0	11	0	1	2	0	0	1	3	2	0	14	21	0	0	37	64
7:45 AM	1	2	7	1	0	0	11	1	0	21	0	0	0	22	0	0	7	0	0	2	7	0	2	21	26	0	0	49	89
Hourly Total	9	20	14	5	0	4	48	1	0	55	0	0	0	56	0	2	13	0	0	3	15	3	2	58	77	0	0	140	259
8:00 AM	5	3	8	1	0	1	17	0	1	14	1	0	0	16	1	1	7	0	0	1	9	1	0	12	26	0	0	39	81
8:15 AM	3	9	10	2	0	0	24	0	0	10	0	0	0	10	0	0	8	2	0	2	10	1	3	17	16	0	0	37	81
8:30 AM	2	6	4	3	0	3	15	0	0	20	0	0	0	20	0	0	3	0	0	0	3	0	0	9	11	0	0	20	58
8:45 AM	12	5	3	1	0	4	21	1	0	22	0	0	3	23	0	0	4	2	0	3	6	2	0	18	25	0	0	45	95
Hourly Total	22	23	25	7	0	8	77	1	1	66	1	0	3	69	1	1	22	4	0	6	28	4	3	56	78	0	0	141	315
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	7	3	10	0	0	1	20	1	2	18	0	0	1	21	0	0	2	0	0	1	2	1	0	28	12	0	0	41	84
11:15 AM	11	3	7	1	0	2	22	5	0	20	0	0	0	25	1	0	6	0	0	2	7	0	1	20	3	0	1	24	78
11:30 AM	8	7	7	1	0	2	23	4	1	24	1	0	2	30	0	0	5	1	0	3	6	1	0	22	15	0	1	38	97
11:45 AM	3	5	8	2	0	3	18	3	0	16	1	0	0	20	0	0	4	0	0	2	4	1	0	21	7	0	0	29	71
Hourly Total	29	18	32	4	0	8	83	13	3	78	2	0	3	96	1	0	17	1	0	8	19	3	1	91	37	0	2	132	330
12:00 PM	12	6	2	0	0	2	20	4	0	12	1	1	1	18	1	1	6	0	0	0	8	2	0	21	11	1	0	35	81
12:15 PM	8	11	11	1	1	1	32	2	2	20	0	0	0	24	1	0	7	1	0	5	9	1	1	24	18	1	1	45	110
12:30 PM	8	8	8	2	1	2	27	1	0	30	1	0	2	32	0	0	5	0	0	1	5	2	1	21	10	0	1	34	98
12:45 PM	12	3	11	1	0	1	27	3	1	31	1	0	0	36	0	2	10	0	0	7	12	1	0	17	14	0	0	32	107
Hourly Total	40	28	32	4	2	6	106	10	3	93	3	1	3	110	2	3	28	1	0	13	34	6	2	83	53	2	2	146	396
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	14	18	10	2	0	0	44	3	0	34	0	0	1	37	0	0	6	2	0	0	8	2	0	25	4	0	1	31	120
4:15 PM	16	13	1	1	0	0	31	1	0	32	1	0	1	34	0	0	1	0	0	1	1	1	0	24	8	0	0	33	99
4:30 PM	17	22	9	2	1	5	51	1	0	31	0	0	0	32	1	0	3	3	0	2	7	1	0	47	15	0	0	63	153
4:45 PM	16	10	7	0	0	1	33	5	0	25	0	0	0	30	0	1	3	0	0	2	4	1	0	24	7	1	0	33	100
Hourly Total	63	63	27	5	1	6	159	10	0	122	1	0	2	133	1	1	13	5	0	5	20	5	0	120	34	1	1	160	472
5:00 PM	21	3	7	2	0	2	33	1	0	22	0	0	1	23	2	0	4	2	0	3	8	2	0	26	8	0	0	36	100
5:15 PM	15	7	2	1	2	9	27	0	0	20	1	0	0	21	0	0	1	1	0	2	2	0	0	20	10	0	0	30	80
5:30 PM	13	7	2	1	0	2	23	0	0	23	0	0	0	23	1	0	1	0	0	0	2	0	0	21	6	0	0	27	75
5:45 PM	19	7	5	1	0	4	32	0	0	19	0	0	0	19	0	0	5	1	0	0	6	1	1	16	12	0	0	30	87
Hourly Total	68	24	16	5	2	17	115	1	0	84	1	0	1	86	3	0	11	4	0	5	18	3	1	83	36	0	0	123	342
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	231	176	146	30	5	49	588	36	7	498	8	1	12	550	8	7	104	15	0	40	134	24	9	491	315	3	5	842	2114
Approach %	39.3	29.9	24.8	5.1	0.9	-	-	6.5	1.3	90.5	1.5	0.2	-	-	6.0	5.2	77.6	11.2	0.0	-	-	2.9	1.1	58.3	37.4	0.4	-	-	-
Total %	10.9	8.3	6.9	1.4	0.2	-	27.8	1.7	0.3	23.6	0.4	0.0	-	26.0	0.4	0.3	4.9	0.7	0.0	-	6.3	1.1	0.4	23.2	14.9	0.1	-	39.8	-
Motorcycles	0	0	0	0	4	-	4	0	0	6	0	0	-	6	0	0	1	1	0	-	2	0	0	5	0	0	-	5	17
% Motorcycles	0.0	0.0	0.0	0.0	80.0	-	0.7	0.0	0.0	1.2	0.0	0.0	-	1.1	0.0	0.0	1.0	6.7	-	-	1.5	0.0	0.0	1.0	0.0	0.0	-	0.6	0.8
Cars & Light Goods	227	173	144	29	1	-	574	35	7	467	8	1	-	518	8	7	99	13	0	-	127	24	9	467	313	3	-	816	2035
% Cars & Light Goods	98.3	98.3	98.6	96.7	20.0	-	97.6	97.2	100.0	93.8	100.0	100.0	-	94.2	100.0	100.0	95.2	86.7	-	-	94.8	100.0	100.0	95.1	99.4	100.0	-	96.9	96.3
Other Vehicles	4	3	2	1	0	-	10	1	0	25	0	0	-	26	0	0	4	1	0	-	5	0	0	19	2	0	-	21	62
% Other Vehicles	1.7	1.7	1.4	3.3	0.0	-	1.7	2.8	0.0	5.0	0.0	0.0	-	4.7	0.0	0.0	3.8	6.7	-	-	3.7	0.0	0.0	3.9	0.6	0.0	-	2.5	2.9
Bicycles on Crosswalk	-	-	-	-	-	5	-	-	-	-	-	-	3	-	-	-	-	-	-	3	-	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	-	10.2	-	-	-	-	-	-	25.0	-	-	-	-	-	-	7.5	-	-	-	-	-	-	20.0	-	-
Pedestrians	-	-	-	-	-	44	-	-	-	-	-	-	9	-	-	-	-	-	-	37	-	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	89.8	-	-	-	-	-	-	75.0	-	-	-	-	-	-	92.5	-	-	-	-	-	-	80.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (7:30 AM)

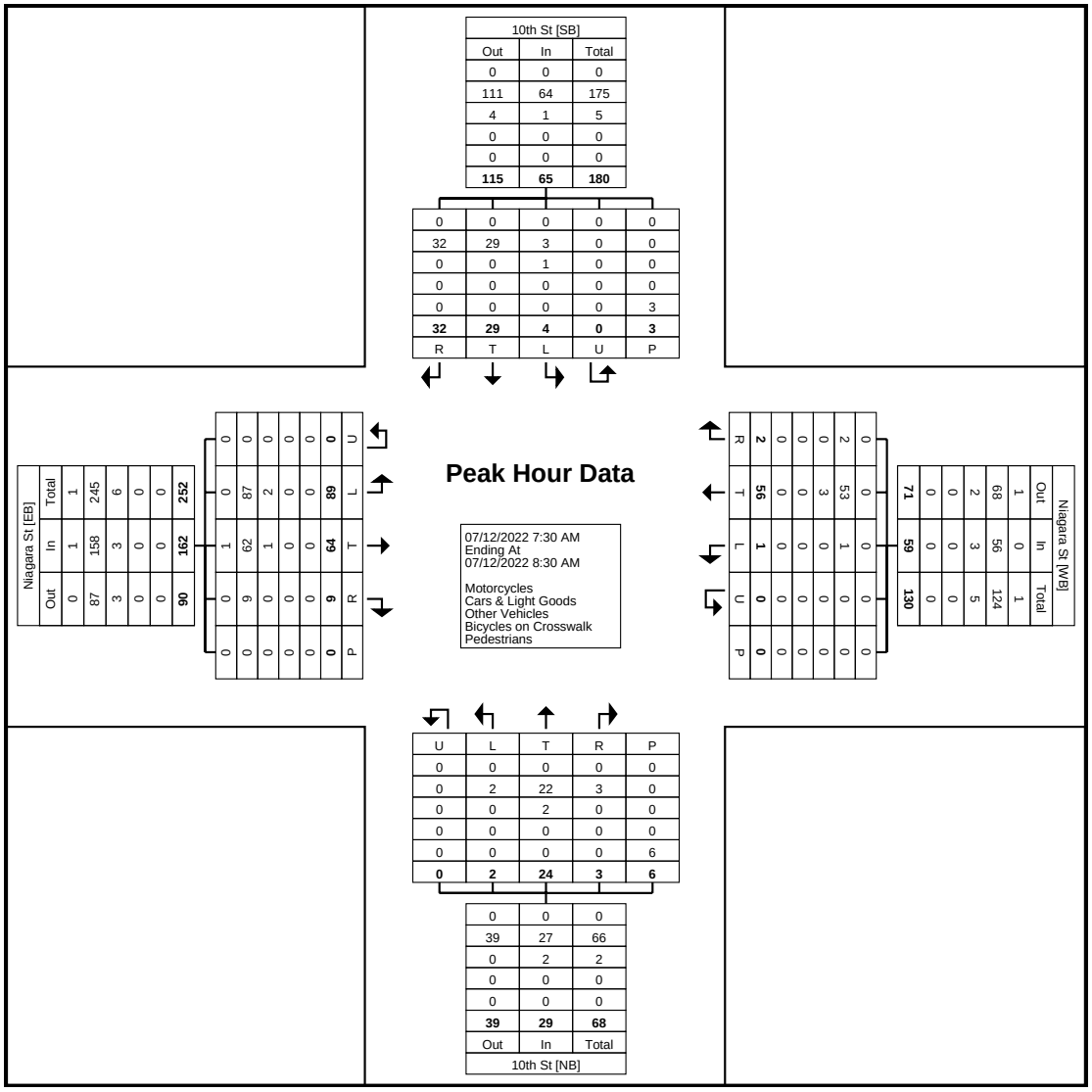
Start Time	10th St Southbound							Niagara St Westbound							10th St Northbound							Niagara St Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	3	6	4	0	0	2	13	0	0	11	0	0	0	11	0	1	2	0	0	1	3	2	0	14	21	0	0	37	64
7:45 AM	1	2	7	1	0	0	11	1	0	21	0	0	0	22	0	0	7	0	0	2	7	0	2	21	26	0	0	49	89
8:00 AM	5	3	8	1	0	1	17	0	1	14	1	0	0	16	1	1	7	0	0	1	9	1	0	12	26	0	0	39	81
8:15 AM	3	9	10	2	0	0	24	0	0	10	0	0	0	10	0	0	8	2	0	2	10	1	3	17	16	0	0	37	81
Total	12	20	29	4	0	3	65	1	1	56	1	0	0	59	1	2	24	2	0	6	29	4	5	64	89	0	0	162	315
Approach %	18.5	30.8	44.6	6.2	0.0	-	-	1.7	1.7	94.9	1.7	0.0	-	-	3.4	6.9	82.8	6.9	0.0	-	-	2.5	3.1	39.5	54.9	0.0	-	-	-
Total %	3.8	6.3	9.2	1.3	0.0	-	20.6	0.3	0.3	17.8	0.3	0.0	-	18.7	0.3	0.6	7.6	0.6	0.0	-	9.2	1.3	1.6	20.3	28.3	0.0	-	51.4	-
PHF	0.600	0.556	0.725	0.500	0.000	-	0.677	0.250	0.250	0.667	0.250	0.000	-	0.670	0.250	0.500	0.750	0.250	0.000	-	0.725	0.500	0.417	0.762	0.856	0.000	-	0.827	0.885
Motorcycles	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
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	1.6	0.0	-	-	0.6	0.3
Cars & Light Goods	12	20	29	3	0	-	64	1	1	53	1	0	-	56	1	2	22	2	0	-	27	4	5	62	87	0	-	158	305
% Cars & Light Goods	100.0	100.0	100.0	75.0	-	-	98.5	100.0	100.0	94.6	100.0	-	-	94.9	100.0	100.0	91.7	100.0	-	-	93.1	100.0	100.0	96.9	97.8	-	-	97.5	96.8
Other Vehicles	0	0	0	1	0	-	1	0	0	3	0	0	-	3	0	0	2	0	0	-	2	0	0	1	2	0	-	3	9
% Other Vehicles	0.0	0.0	0.0	25.0	-	-	1.5	0.0	0.0	5.4	0.0	-	-	5.1	0.0	0.0	8.3	0.0	-	-	6.9	0.0	0.0	1.6	2.2	-	-	1.9	2.9
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	-	0	-	-	-	-	-	-	6	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 4



Turning Movement Peak Hour Data Plot (7:30 AM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (12:00 PM)

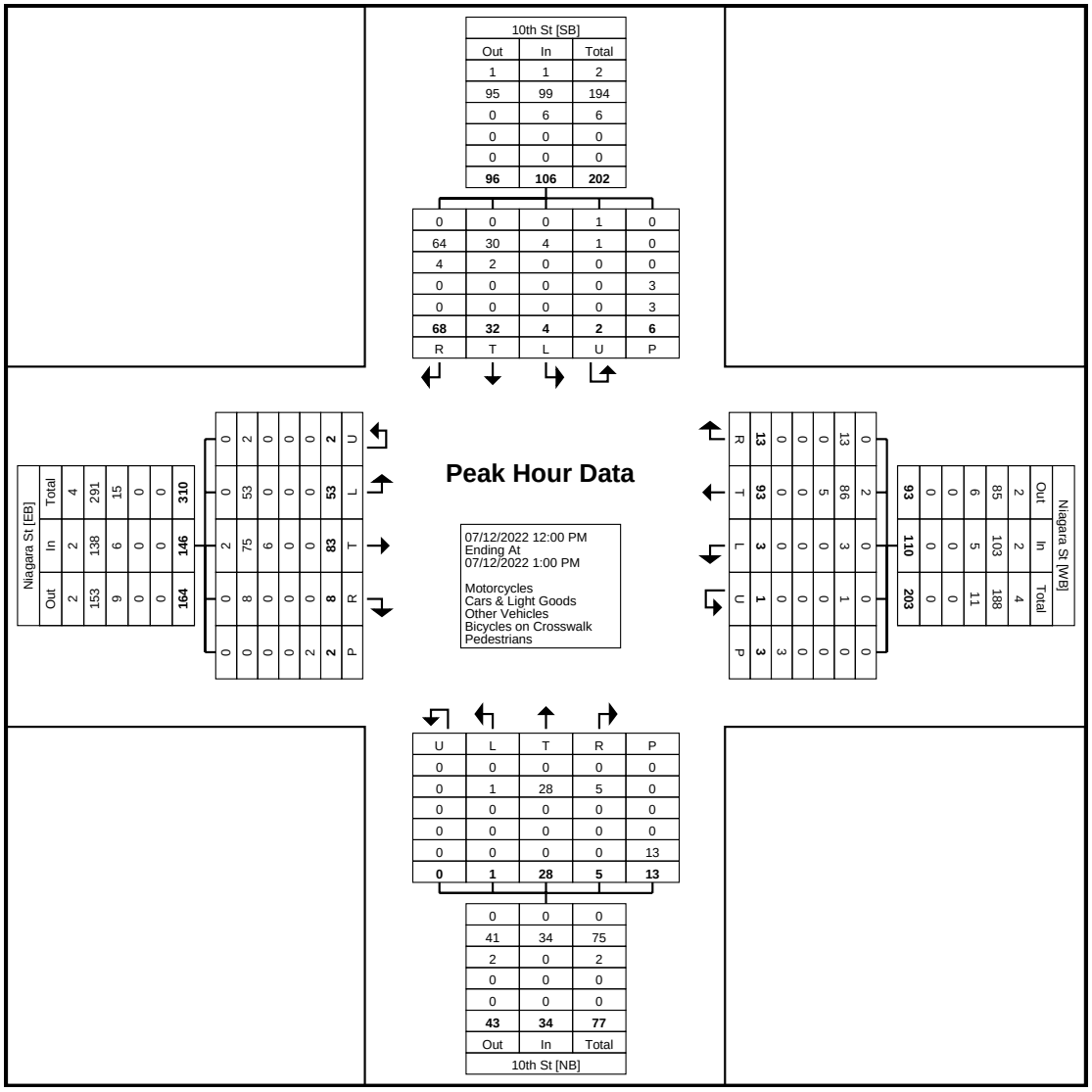
Start Time	10th St Southbound							Niagara St Westbound							10th St Northbound							Niagara St Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	12	6	2	0	0	2	20	4	0	12	1	1	1	18	1	1	6	0	0	0	8	2	0	21	11	1	0	35	81
12:15 PM	8	11	11	1	1	1	32	2	2	20	0	0	0	24	1	0	7	1	0	5	9	1	1	24	18	1	1	45	110
12:30 PM	8	8	8	2	1	2	27	1	0	30	1	0	2	32	0	0	5	0	0	1	5	2	1	21	10	0	1	34	98
12:45 PM	12	3	11	1	0	1	27	3	1	31	1	0	0	36	0	2	10	0	0	7	12	1	0	17	14	0	0	32	107
Total	40	28	32	4	2	6	106	10	3	93	3	1	3	110	2	3	28	1	0	13	34	6	2	83	53	2	2	146	396
Approach %	37.7	26.4	30.2	3.8	1.9	-	-	9.1	2.7	84.5	2.7	0.9	-	-	5.9	8.8	82.4	2.9	0.0	-	-	4.1	1.4	56.8	36.3	1.4	-	-	-
Total %	10.1	7.1	8.1	1.0	0.5	-	26.8	2.5	0.8	23.5	0.8	0.3	-	27.8	0.5	0.8	7.1	0.3	0.0	-	8.6	1.5	0.5	21.0	13.4	0.5	-	36.9	-
PHF	0.833	0.636	0.727	0.500	0.500	-	0.828	0.625	0.375	0.750	0.750	0.250	-	0.764	0.500	0.375	0.700	0.250	0.000	-	0.708	0.750	0.500	0.865	0.736	0.500	-	0.811	0.900
Motorcycles	0	0	0	0	1	-	1	0	0	2	0	0	-	2	0	0	0	0	0	-	0	0	0	2	0	0	-	2	5
% Motorcycles	0.0	0.0	0.0	0.0	50.0	-	0.9	0.0	0.0	2.2	0.0	0.0	-	1.8	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	2.4	0.0	0.0	-	1.4	1.3
Cars & Light Goods	38	26	30	4	1	-	99	10	3	86	3	1	-	103	2	3	28	1	0	-	34	6	2	75	53	2	-	138	374
% Cars & Light Goods	95.0	92.9	93.8	100.0	50.0	-	93.4	100.0	100.0	92.5	100.0	100.0	-	93.6	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	90.4	100.0	100.0	-	94.5	94.4
Other Vehicles	2	2	2	0	0	-	6	0	0	5	0	0	-	5	0	0	0	0	0	-	0	0	0	6	0	0	-	6	17
% Other Vehicles	5.0	7.1	6.3	0.0	0.0	-	5.7	0.0	0.0	5.4	0.0	0.0	-	4.5	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	7.2	0.0	0.0	-	4.1	4.3
Bicycles on Crosswalk	-	-	-	-	-	3	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	50.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	-	3	-	-	-	-	-	-	13	-	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	50.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/12/2022



10th St [SB]

Out	In	Total
1	1	2
95	99	194
0	6	6
0	0	0
0	0	0
96	**106**	**202**

R	T	L	U	P
0	0	0	1	0
64	30	4	1	0
4	2	0	0	0
0	0	0	0	3
0	0	0	0	3
68	**32**	**4**	**2**	**6**

Niagara St [EB]

Out	In	Total
2	2	4
153	138	291
9	6	15
0	0	0
0	0	0
164	**146**	**310**

U	L	T	R	P
0	0	2	0	0
2	53	75	8	0
0	0	6	0	0
0	0	0	0	0
0	0	0	0	2
2	**53**	**83**	**8**	**2**

Peak Hour Data

07/12/2022 12:00 PM
Ending At
07/12/2022 1:00 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

Niagara St [WB]

Out	In	Total
2	2	4
85	103	188
6	5	11
0	0	0
0	0	0
93	**110**	**203**

R	T	L	U	P
0	2	0	0	0
13	86	3	1	0
0	5	0	0	0
0	0	0	0	0
0	0	0	0	3
13	**93**	**3**	**1**	**3**

U	L	T	R	P
0	0	0	0	0
0	1	28	5	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	13
0	**1**	**28**	**5**	**13**

Out	In	Total
0	0	0
41	34	75
2	0	2
0	0	0
0	0	0
43	**34**	**77**

10th St [NB]

Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (4:00 PM)

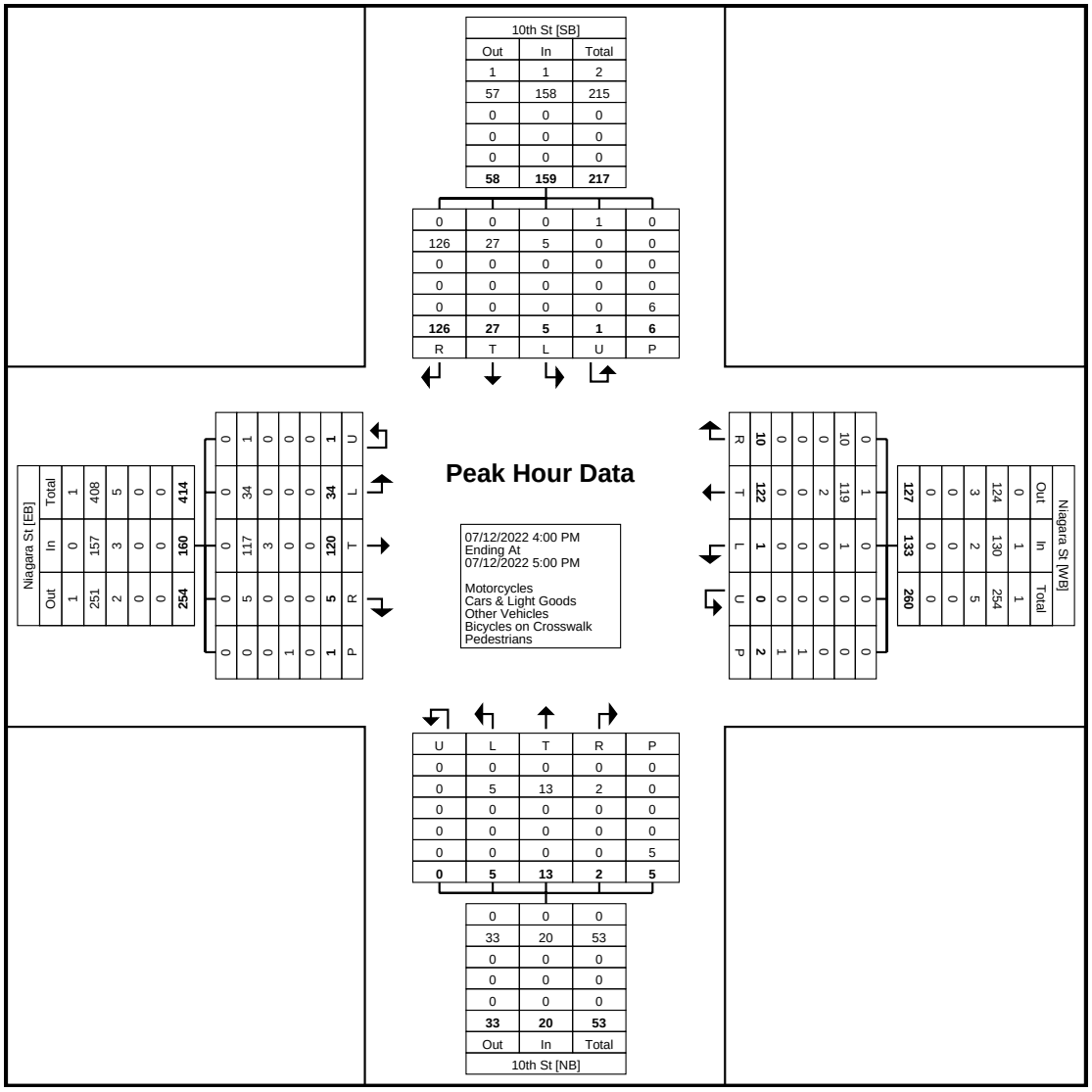
Start Time	10th St Southbound							Niagara St Westbound							10th St Northbound							Niagara St Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	14	18	10	2	0	0	44	3	0	34	0	0	1	37	0	0	6	2	0	0	8	2	0	25	4	0	1	31	120
4:15 PM	16	13	1	1	0	0	31	1	0	32	1	0	1	34	0	0	1	0	0	1	1	1	0	24	8	0	0	33	99
4:30 PM	17	22	9	2	1	5	51	1	0	31	0	0	0	32	1	0	3	3	0	2	7	1	0	47	15	0	0	63	153
4:45 PM	16	10	7	0	0	1	33	5	0	25	0	0	0	30	0	1	3	0	0	2	4	1	0	24	7	1	0	33	100
Total	63	63	27	5	1	6	159	10	0	122	1	0	2	133	1	1	13	5	0	5	20	5	0	120	34	1	1	160	472
Approach %	39.6	39.6	17.0	3.1	0.6	-	-	7.5	0.0	91.7	0.8	0.0	-	-	5.0	5.0	65.0	25.0	0.0	-	-	3.1	0.0	75.0	21.3	0.6	-	-	-
Total %	13.3	13.3	5.7	1.1	0.2	-	33.7	2.1	0.0	25.8	0.2	0.0	-	28.2	0.2	0.2	2.8	1.1	0.0	-	4.2	1.1	0.0	25.4	7.2	0.2	-	33.9	-
PHF	0.926	0.716	0.675	0.625	0.250	-	0.779	0.500	0.000	0.897	0.250	0.000	-	0.899	0.250	0.250	0.542	0.417	0.000	-	0.625	0.625	0.000	0.638	0.567	0.250	-	0.635	0.771
Motorcycles	0	0	0	0	1	-	1	0	0	1	0	0	-	1	0	0	0	0	0	-	0	0	0	0	0	0	-	0	2
% Motorcycles	0.0	0.0	0.0	0.0	100.0	-	0.6	0.0	-	0.8	0.0	-	-	0.8	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.4
Cars & Light Goods	63	63	27	5	0	-	158	10	0	119	1	0	-	130	1	1	13	5	0	-	20	5	0	117	34	1	-	157	465
% Cars & Light Goods	100.0	100.0	100.0	100.0	0.0	-	99.4	100.0	-	97.5	100.0	-	-	97.7	100.0	100.0	100.0	100.0	-	-	100.0	100.0	-	97.5	100.0	100.0	-	98.1	98.5
Other Vehicles	0	0	0	0	0	-	0	0	0	2	0	0	-	2	0	0	0	0	0	-	0	0	0	3	0	0	-	3	5
% Other Vehicles	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	-	1.6	0.0	-	-	1.5	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	2.5	0.0	0.0	-	1.9	1.1
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	50.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	-	-	6	-	-	-	-	-	-	1	-	-	-	-	-	-	5	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	-	50.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	0.0	-	-

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 8



Turning Movement Peak Hour Data Plot (4:00 PM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 1

Turning Movement Data

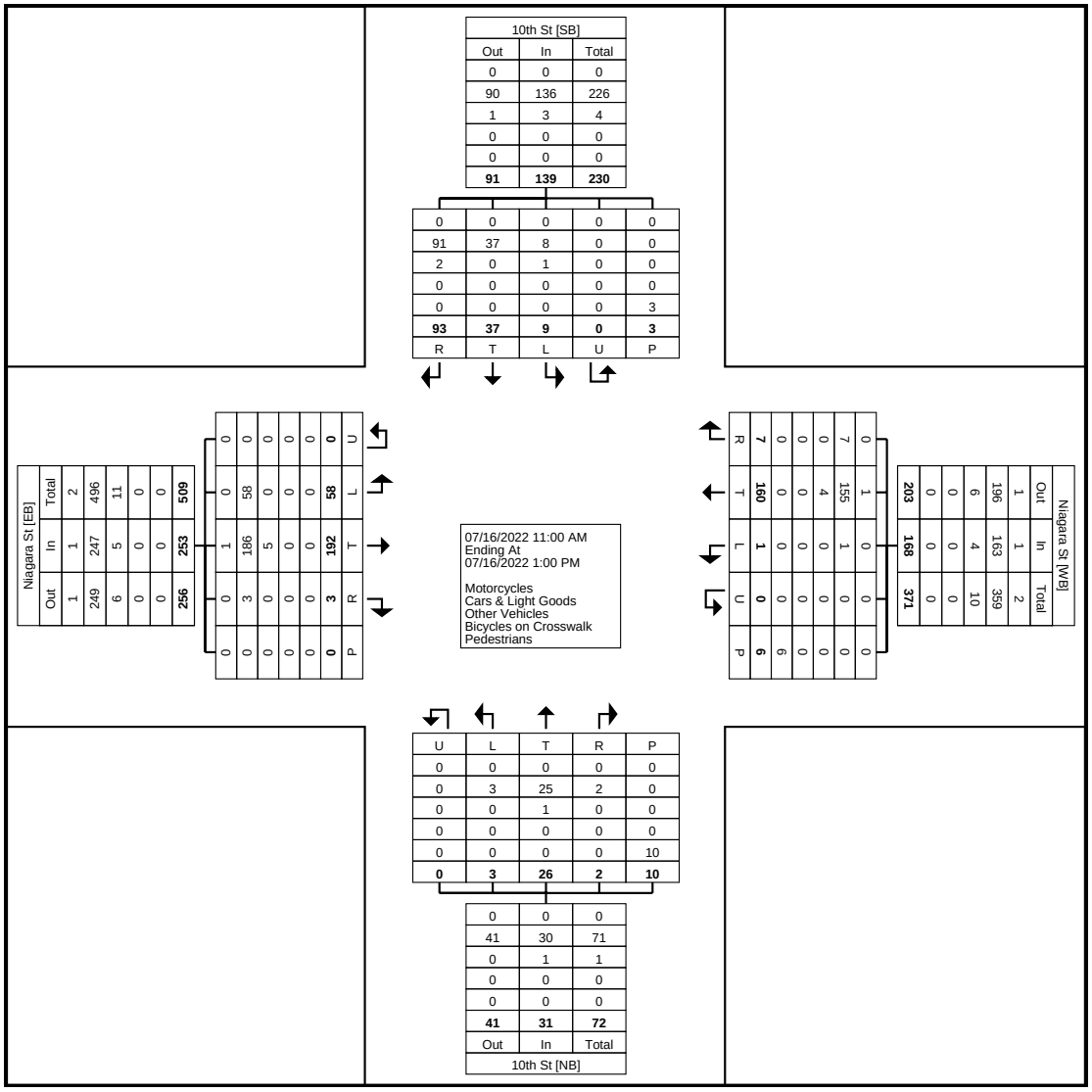
Start Time	10th St Southbound							Niagara St Westbound							10th St Northbound							Niagara St Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	4	8	3	1	0	1	16	1	0	23	0	0	0	24	0	1	2	0	0	0	3	0	1	25	5	0	0	31	74
11:15 AM	6	5	6	0	0	1	17	1	0	20	1	0	0	22	0	0	3	1	0	0	4	0	0	24	5	0	0	29	72
11:30 AM	5	8	4	2	0	0	19	0	0	16	0	0	0	16	1	0	5	0	0	0	6	1	0	17	7	0	0	25	66
11:45 AM	0	4	4	3	0	0	11	1	0	24	0	0	0	25	0	0	6	1	0	1	7	0	0	17	10	0	0	27	70
Hourly Total	15	25	17	6	0	2	63	3	0	83	1	0	0	87	1	1	16	2	0	1	20	1	1	83	27	0	0	112	282
12:00 PM	8	5	6	2	0	0	21	1	1	17	0	0	6	19	0	0	2	0	0	6	2	0	0	22	8	0	0	30	72
12:15 PM	3	9	4	1	0	1	17	0	0	15	0	0	0	15	0	0	4	1	0	2	5	0	0	35	4	0	0	39	76
12:30 PM	6	8	4	0	0	0	18	1	0	19	0	0	0	20	0	0	2	0	0	0	2	0	0	23	6	0	0	29	69
12:45 PM	9	5	6	0	0	0	20	1	0	26	0	0	0	27	0	0	2	0	0	1	2	0	1	29	13	0	0	43	92
Hourly Total	26	27	20	3	0	1	76	3	1	77	0	0	6	81	0	0	10	1	0	9	11	0	1	109	31	0	0	141	309
Grand Total	41	52	37	9	0	3	139	6	1	160	1	0	6	168	1	1	26	3	0	10	31	1	2	192	58	0	0	253	591
Approach %	29.5	37.4	26.6	6.5	0.0	-	-	3.6	0.6	95.2	0.6	0.0	-	-	3.2	3.2	83.9	9.7	0.0	-	-	0.4	0.8	75.9	22.9	0.0	-	-	-
Total %	6.9	8.8	6.3	1.5	0.0	-	23.5	1.0	0.2	27.1	0.2	0.0	-	28.4	0.2	0.2	4.4	0.5	0.0	-	5.2	0.2	0.3	32.5	9.8	0.0	-	42.8	-
Motorcycles	0	0	0	0	0	-	0	0	0	1	0	0	-	1	0	0	0	0	0	-	0	0	0	1	0	0	-	1	2
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.6	0.0	-	-	0.6	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.5	0.0	-	-	0.4	0.3
Cars & Light Goods	40	51	37	8	0	-	136	6	1	155	1	0	-	163	1	1	25	3	0	-	30	1	2	186	58	0	-	247	576
% Cars & Light Goods	97.6	98.1	100.0	88.9	-	-	97.8	100.0	100.0	96.9	100.0	-	-	97.0	100.0	100.0	96.2	100.0	-	-	96.8	100.0	100.0	96.9	100.0	-	-	97.6	97.5
Other Vehicles	1	1	0	1	0	-	3	0	0	4	0	0	-	4	0	0	1	0	0	-	1	0	0	5	0	0	-	5	13
% Other Vehicles	2.4	1.9	0.0	11.1	-	-	2.2	0.0	0.0	2.5	0.0	-	-	2.4	0.0	0.0	3.8	0.0	-	-	3.2	0.0	0.0	2.6	0.0	-	-	2.0	2.2
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	-	6	-	-	-	-	-	-	10	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (11:00 AM)

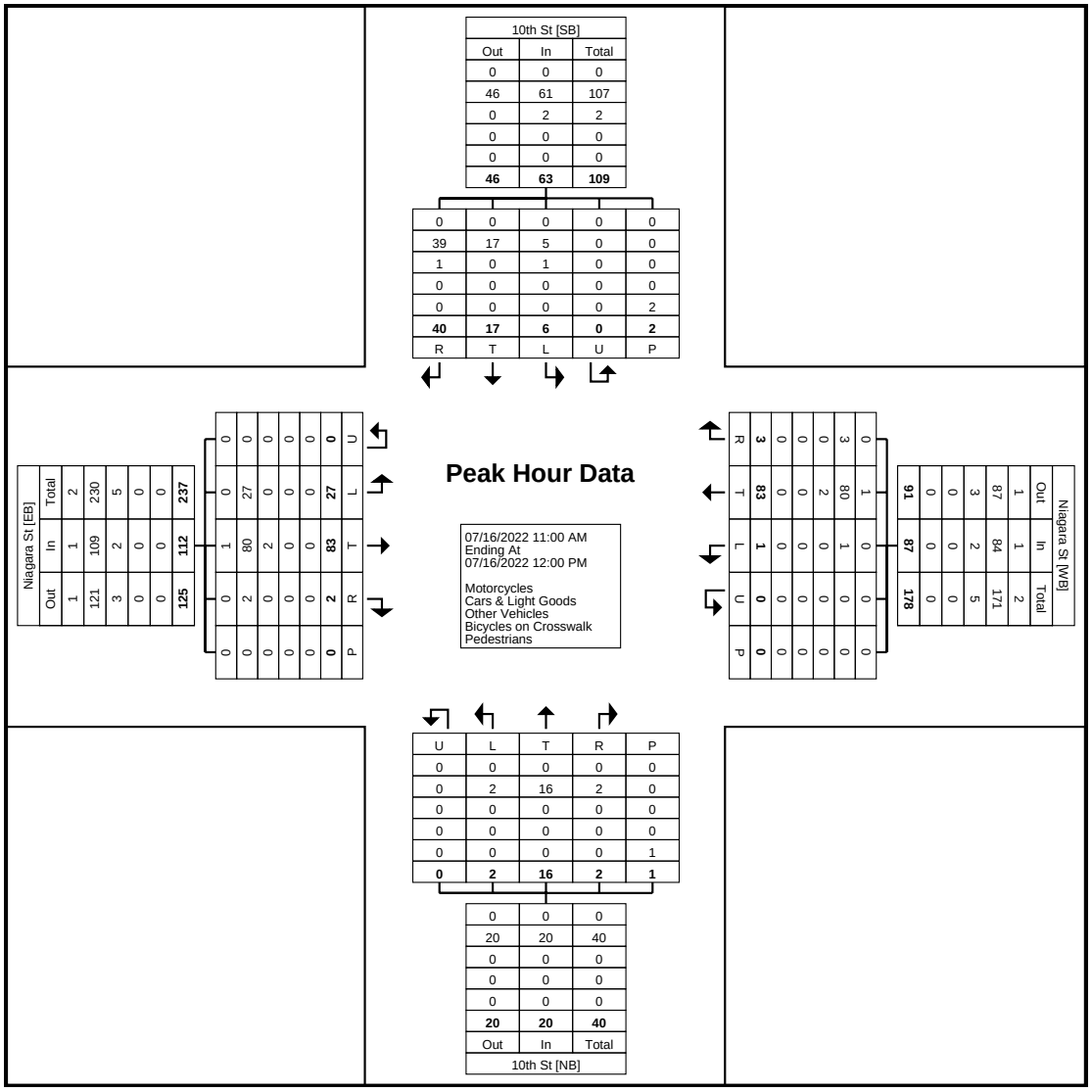
Start Time	10th St Southbound							Niagara St Westbound							10th St Northbound							Niagara St Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	4	8	3	1	0	1	16	1	0	23	0	0	0	24	0	1	2	0	0	0	3	0	1	25	5	0	0	31	74
11:15 AM	6	5	6	0	0	1	17	1	0	20	1	0	0	22	0	0	3	1	0	0	4	0	0	24	5	0	0	29	72
11:30 AM	5	8	4	2	0	0	19	0	0	16	0	0	0	16	1	0	5	0	0	0	6	1	0	17	7	0	0	25	66
11:45 AM	0	4	4	3	0	0	11	1	0	24	0	0	0	25	0	0	6	1	0	1	7	0	0	17	10	0	0	27	70
Total	15	25	17	6	0	2	63	3	0	83	1	0	0	87	1	1	16	2	0	1	20	1	1	83	27	0	0	112	282
Approach %	23.8	39.7	27.0	9.5	0.0	-	-	3.4	0.0	95.4	1.1	0.0	-	-	5.0	5.0	80.0	10.0	0.0	-	-	0.9	0.9	74.1	24.1	0.0	-	-	-
Total %	5.3	8.9	6.0	2.1	0.0	-	22.3	1.1	0.0	29.4	0.4	0.0	-	30.9	0.4	0.4	5.7	0.7	0.0	-	7.1	0.4	0.4	29.4	9.6	0.0	-	39.7	-
PHF	0.625	0.781	0.708	0.500	0.000	-	0.829	0.750	0.000	0.865	0.250	0.000	-	0.870	0.250	0.250	0.667	0.500	0.000	-	0.714	0.250	0.250	0.830	0.675	0.000	-	0.903	0.953
Motorcycles	0	0	0	0	0	-	0	0	0	1	0	0	-	1	0	0	0	0	0	-	0	0	0	1	0	0	-	1	2
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	1.2	0.0	-	-	1.1	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	1.2	0.0	-	-	0.9	0.7
Cars & Light Goods	15	24	17	5	0	-	61	3	0	80	1	0	-	84	1	1	16	2	0	-	20	1	1	80	27	0	-	109	274
% Cars & Light Goods	100.0	96.0	100.0	83.3	-	-	96.8	100.0	-	96.4	100.0	-	-	96.6	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	96.4	100.0	-	-	97.3	97.2
Other Vehicles	0	1	0	1	0	-	2	0	0	2	0	0	-	2	0	0	0	0	0	-	0	0	0	2	0	0	-	2	6
% Other Vehicles	0.0	4.0	0.0	16.7	-	-	3.2	0.0	-	2.4	0.0	-	-	2.3	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	2.4	0.0	-	-	1.8	2.1
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 4



Turning Movement Peak Hour Data Plot (11:00 AM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (12:00 PM)

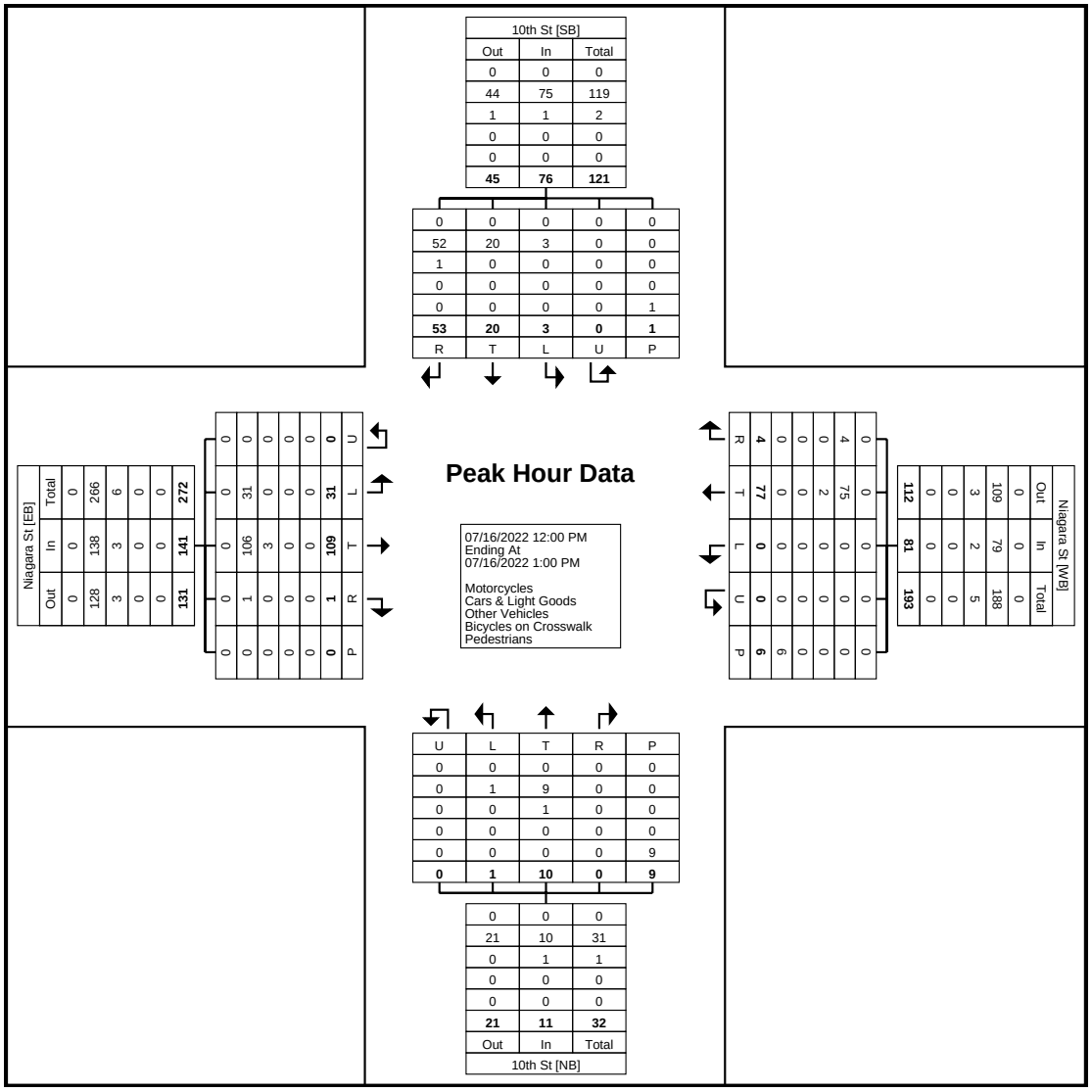
Start Time	10th St Southbound							Niagara St Westbound							10th St Northbound							Niagara St Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	8	5	6	2	0	0	21	1	1	17	0	0	6	19	0	0	2	0	0	6	2	0	0	22	8	0	0	30	72
12:15 PM	3	9	4	1	0	1	17	0	0	15	0	0	0	15	0	0	4	1	0	2	5	0	0	35	4	0	0	39	76
12:30 PM	6	8	4	0	0	0	18	1	0	19	0	0	0	20	0	0	2	0	0	0	2	0	0	23	6	0	0	29	69
12:45 PM	9	5	6	0	0	0	20	1	0	26	0	0	0	27	0	0	2	0	0	1	2	0	1	29	13	0	0	43	92
Total	26	27	20	3	0	1	76	3	1	77	0	0	6	81	0	0	10	1	0	9	11	0	1	109	31	0	0	141	309
Approach %	34.2	35.5	26.3	3.9	0.0	-	-	3.7	1.2	95.1	0.0	0.0	-	-	0.0	0.0	90.9	9.1	0.0	-	-	0.0	0.7	77.3	22.0	0.0	-	-	-
Total %	8.4	8.7	6.5	1.0	0.0	-	24.6	1.0	0.3	24.9	0.0	0.0	-	26.2	0.0	0.0	3.2	0.3	0.0	-	3.6	0.0	0.3	35.3	10.0	0.0	-	45.6	-
PHF	0.722	0.750	0.833	0.375	0.000	-	0.905	0.750	0.250	0.740	0.000	0.000	-	0.750	0.000	0.000	0.625	0.250	0.000	-	0.550	0.000	0.250	0.779	0.596	0.000	-	0.820	0.840
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-	0.0	-	-	0.0	0.0	-	-	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	25	27	20	3	0	-	75	3	1	75	0	0	-	79	0	0	9	1	0	-	10	0	1	106	31	0	-	138	302
% Cars & Light Goods	96.2	100.0	100.0	100.0	-	-	98.7	100.0	100.0	97.4	-	-	-	97.5	-	-	90.0	100.0	-	-	90.9	-	100.0	97.2	100.0	-	-	97.9	97.7
Other Vehicles	1	0	0	0	0	-	1	0	0	2	0	0	-	2	0	0	1	0	0	-	1	0	0	3	0	0	-	3	7
% Other Vehicles	3.8	0.0	0.0	0.0	-	-	1.3	0.0	0.0	2.6	-	-	-	2.5	-	-	10.0	0.0	-	-	9.1	-	0.0	2.8	0.0	-	-	2.1	2.3
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	-	6	-	-	-	-	-	-	9	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Niagara St & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/12/2022
Page No: 1

Turning Movement Data

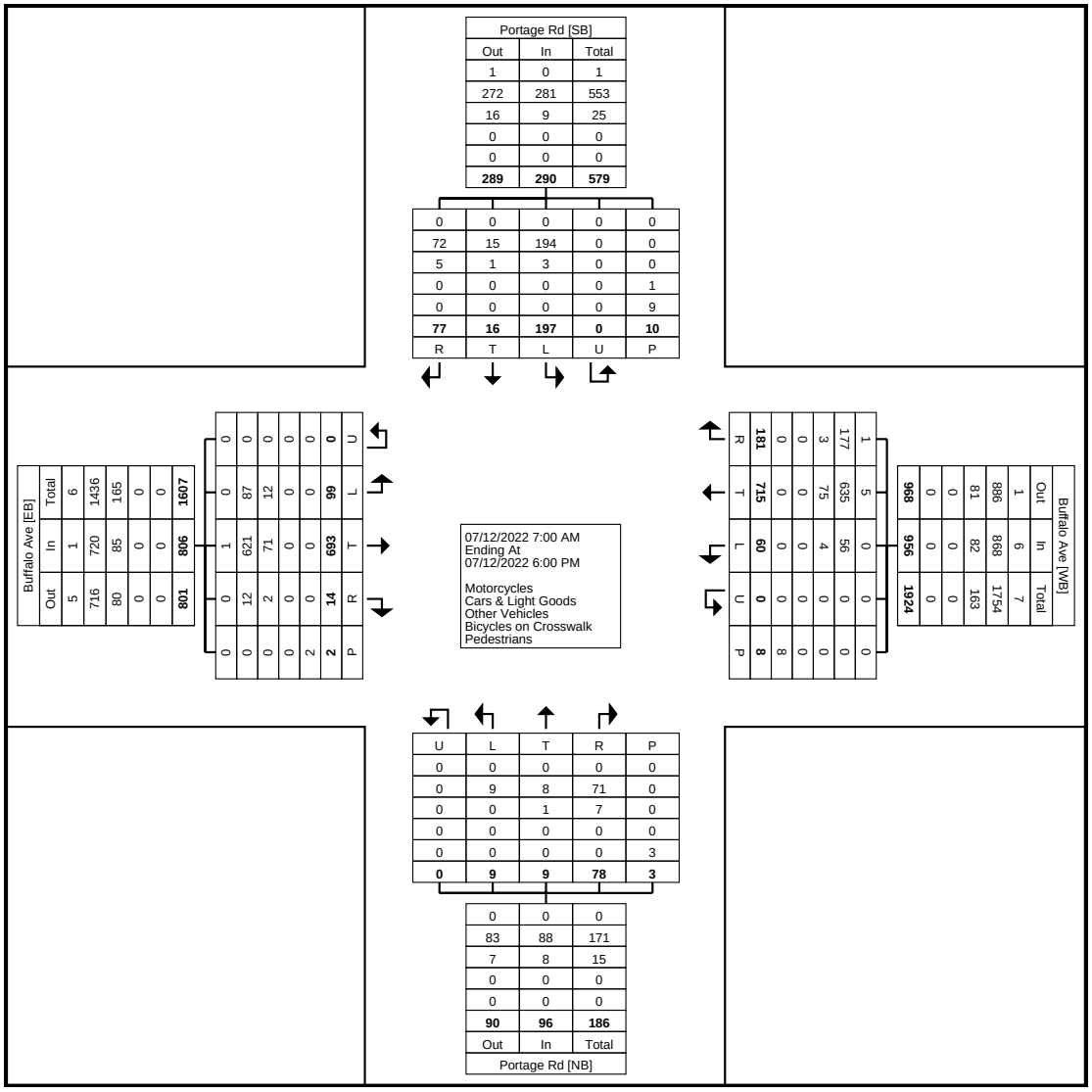
Start Time	Portage Rd Southbound							Buffalo Ave Westbound							Portage Rd Northbound							Buffalo Ave Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	6	0	0	6	3	1	24	6	0	0	34	1	4	0	1	0	0	6	1	0	17	0	0	0	18	64
7:15 AM	1	0	0	5	0	0	6	9	2	17	5	0	0	33	0	0	0	0	0	0	0	2	0	16	4	0	0	22	61
7:30 AM	1	0	1	4	0	0	6	12	0	20	1	0	0	33	0	0	0	0	0	0	0	0	0	17	4	0	0	21	60
7:45 AM	2	3	1	5	0	0	11	17	1	26	4	0	0	48	1	0	0	0	0	0	1	3	0	14	5	0	0	22	82
Hourly Total	4	3	2	20	0	0	29	41	4	87	16	0	0	148	2	4	0	1	0	0	7	6	0	64	13	0	0	83	267
8:00 AM	2	3	1	6	0	0	12	8	0	33	3	0	0	44	0	0	0	0	0	0	0	0	1	17	0	0	0	18	74
8:15 AM	1	2	0	4	0	0	7	9	0	27	7	0	0	43	1	1	2	2	0	0	6	1	0	20	3	0	0	24	80
8:30 AM	1	2	5	4	0	0	12	11	0	29	4	0	0	44	0	0	0	0	0	0	0	0	0	22	5	0	0	27	83
8:45 AM	1	0	1	6	0	0	8	9	0	32	3	0	2	44	1	1	0	0	0	0	2	0	0	22	0	0	0	22	76
Hourly Total	5	7	7	20	0	0	39	37	0	121	17	0	2	175	2	2	2	2	0	0	8	1	1	81	8	0	0	91	313
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	10	0	1	10	4	0	37	2	0	0	43	1	0	1	0	0	0	2	0	0	32	7	0	0	39	94
11:15 AM	2	2	1	6	0	0	11	10	0	46	2	0	0	58	1	5	0	0	0	0	6	0	0	30	5	0	0	35	110
11:30 AM	3	5	0	7	0	0	15	2	1	30	1	0	0	34	0	0	0	0	0	1	0	0	1	41	10	0	0	52	101
11:45 AM	3	3	1	10	0	1	17	5	2	28	6	0	0	41	2	3	3	0	0	0	8	0	0	25	4	0	0	29	95
Hourly Total	8	10	2	33	0	2	53	21	3	141	11	0	0	176	4	8	4	0	0	1	16	0	1	128	26	0	0	155	400
12:00 PM	5	3	0	16	0	1	24	9	0	32	0	0	3	41	2	6	1	0	0	1	9	0	0	42	7	0	1	49	123
12:15 PM	0	3	3	8	0	0	14	4	0	33	4	0	0	41	0	3	0	3	0	1	6	0	0	33	4	0	0	37	98
12:30 PM	3	4	0	6	0	3	13	10	0	41	5	0	1	56	0	0	0	0	0	0	0	1	0	34	7	0	1	42	111
12:45 PM	1	2	0	8	0	0	11	1	0	42	5	0	1	48	0	1	0	0	0	0	1	1	0	34	6	0	0	41	101
Hourly Total	9	12	3	38	0	4	62	24	0	148	14	0	5	186	2	10	1	3	0	2	16	2	0	143	24	0	2	169	433
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	16	0	1	16	4	1	34	0	0	0	39	1	8	0	1	0	0	10	1	0	59	2	0	0	62	127
4:15 PM	1	2	1	14	0	0	18	6	0	23	0	0	0	29	2	0	0	1	0	0	3	0	0	25	5	0	0	30	80
4:30 PM	1	2	0	11	0	1	14	6	0	31	0	0	0	37	4	8	0	0	0	0	12	1	0	43	3	0	0	47	110
4:45 PM	2	2	0	13	0	2	17	8	1	22	2	0	0	33	2	3	1	0	0	0	6	0	0	27	2	0	0	29	85
Hourly Total	4	6	1	54	0	4	65	24	2	110	2	0	0	138	9	19	1	2	0	0	31	2	0	154	12	0	0	168	402
5:00 PM	1	1	0	8	0	0	10	5	0	21	0	0	0	26	1	4	1	0	0	0	6	0	0	35	6	0	0	41	83
5:15 PM	2	0	0	11	0	0	13	7	0	22	0	0	0	29	2	4	0	1	0	0	7	0	0	31	5	0	0	36	85
5:30 PM	1	2	0	6	0	0	9	6	0	31	0	0	1	37	1	3	0	0	0	0	4	0	0	31	2	0	0	33	83
5:45 PM	2	0	1	7	0	0	10	7	0	34	0	0	0	41	0	1	0	0	0	0	1	1	0	26	3	0	0	30	82
Hourly Total	6	3	1	32	0	0	42	25	0	108	0	0	1	133	4	12	1	1	0	0	18	1	0	123	16	0	0	140	333
Grand Total	36	41	16	197	0	10	290	172	9	715	60	0	8	956	23	55	9	9	0	3	96	12	2	693	99	0	2	806	2148
Approach %	12.4	14.1	5.5	67.9	0.0	-	-	18.0	0.9	74.8	6.3	0.0	-	-	24.0	57.3	9.4	9.4	0.0	-	-	1.5	0.2	86.0	12.3	0.0	-	-	-
Total %	1.7	1.9	0.7	9.2	0.0	-	13.5	8.0	0.4	33.3	2.8	0.0	-	44.5	1.1	2.6	0.4	0.4	0.0	-	4.5	0.6	0.1	32.3	4.6	0.0	-	37.5	-
Motorcycles	0	0	0	0	0	-	0	1	0	5	0	0	-	6	0	0	0	0	0	-	0	0	0	1	0	0	-	1	7
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.6	0.0	0.7	0.0	-	-	0.6	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.1	0.0	-	-	0.1	0.3
Cars & Light Goods	34	38	15	194	0	-	281	168	9	635	56	0	-	868	21	50	8	9	0	-	88	11	1	621	87	0	-	720	1957
% Cars & Light Goods	94.4	92.7	93.8	98.5	-	-	96.9	97.7	100.0	88.8	93.3	-	-	90.8	91.3	90.9	88.9	100.0	-	-	91.7	91.7	50.0	89.6	87.9	-	-	89.3	91.1
Other Vehicles	2	3	1	3	0	-	9	3	0	75	4	0	-	82	2	5	1	0	0	-	8	1	1	71	12	0	-	85	184
% Other Vehicles	5.6	7.3	6.3	1.5	-	-	3.1	1.7	0.0	10.5	6.7	-	-	8.6	8.7	9.1	11.1	0.0	-	-	8.3	8.3	50.0	10.2	12.1	-	-	10.5	8.6
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	10.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	-	9	-	-	-	-	-	-	8	-	-	-	-	-	-	3	-	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	90.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/12/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Portage Rd Southbound							Buffalo Ave Westbound							Portage Rd Northbound							Buffalo Ave Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:45 AM	2	3	1	5	0	0	11	17	1	26	4	0	0	48	1	0	0	0	0	0	1	3	0	14	5	0	0	22	82
8:00 AM	2	3	1	6	0	0	12	8	0	33	3	0	0	44	0	0	0	0	0	0	0	0	1	17	0	0	0	18	74
8:15 AM	1	2	0	4	0	0	7	9	0	27	7	0	0	43	1	1	2	2	0	0	6	1	0	20	3	0	0	24	80
8:30 AM	1	2	5	4	0	0	12	11	0	29	4	0	0	44	0	0	0	0	0	0	0	0	0	22	5	0	0	27	83
Total	6	10	7	19	0	0	42	45	1	115	18	0	0	179	2	1	2	2	0	0	7	4	1	73	13	0	0	91	319
Approach %	14.3	23.8	16.7	45.2	0.0	-	-	25.1	0.6	64.2	10.1	0.0	-	-	28.6	14.3	28.6	28.6	0.0	-	-	4.4	1.1	80.2	14.3	0.0	-	-	-
Total %	1.9	3.1	2.2	6.0	0.0	-	13.2	14.1	0.3	36.1	5.6	0.0	-	56.1	0.6	0.3	0.6	0.6	0.0	-	2.2	1.3	0.3	22.9	4.1	0.0	-	28.5	-
PHF	0.750	0.833	0.350	0.792	0.000	-	0.875	0.662	0.250	0.871	0.643	0.000	-	0.932	0.500	0.250	0.250	0.250	0.000	-	0.292	0.333	0.250	0.830	0.650	0.000	-	0.843	0.961
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	5	9	6	19	0	-	39	42	1	96	18	0	-	157	2	0	1	2	0	-	5	4	0	63	10	0	-	77	278
% Cars & Light Goods	83.3	90.0	85.7	100.0	-	-	92.9	93.3	100.0	83.5	100.0	-	-	87.7	100.0	0.0	50.0	100.0	-	-	71.4	100.0	0.0	86.3	76.9	-	-	84.6	87.1
Other Vehicles	1	1	1	0	0	-	3	3	0	19	0	0	-	22	0	1	1	0	0	-	2	0	1	10	3	0	-	14	41
% Other Vehicles	16.7	10.0	14.3	0.0	-	-	7.1	6.7	0.0	16.5	0.0	-	-	12.3	0.0	100.0	50.0	0.0	-	-	28.6	0.0	100.0	13.7	23.1	-	-	15.4	12.9
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
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Niagara, New York
July 12, 2022

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/12/2022
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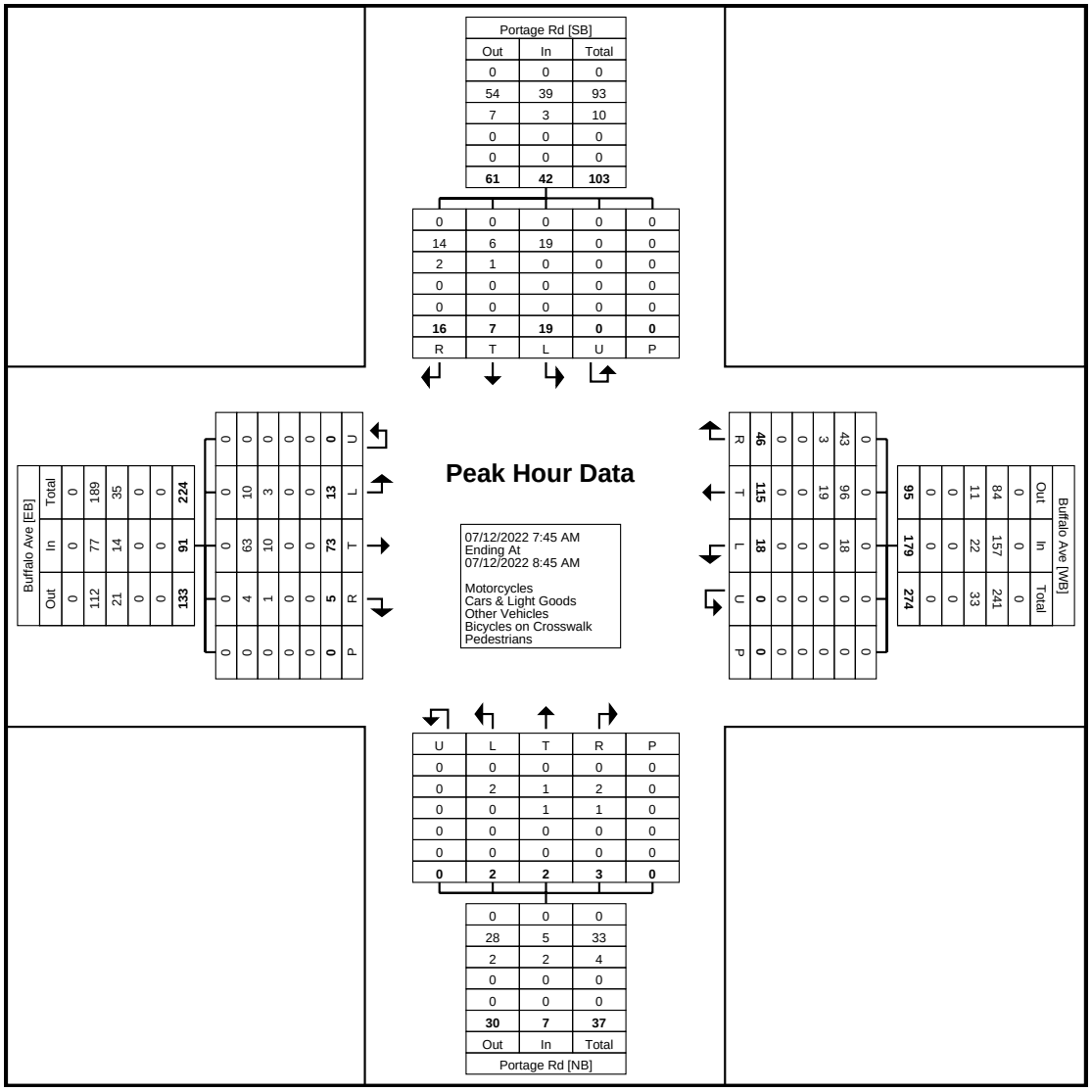

Turning Movement Peak Hour Data Plot (7:45 AM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Portage Rd Southbound							Buffalo Ave Westbound							Portage Rd Northbound							Buffalo Ave Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	5	3	0	16	0	1	24	9	0	32	0	0	3	41	2	6	1	0	0	1	9	0	0	42	7	0	1	49	123
12:15 PM	0	3	3	8	0	0	14	4	0	33	4	0	0	41	0	3	0	3	0	1	6	0	0	33	4	0	0	37	98
12:30 PM	3	4	0	6	0	3	13	10	0	41	5	0	1	56	0	0	0	0	0	0	0	1	0	34	7	0	1	42	111
12:45 PM	1	2	0	8	0	0	11	1	0	42	5	0	1	48	0	1	0	0	0	0	1	1	0	34	6	0	0	41	101
Total	9	12	3	38	0	4	62	24	0	148	14	0	5	186	2	10	1	3	0	2	16	2	0	143	24	0	2	169	433
Approach %	14.5	19.4	4.8	61.3	0.0	-	-	12.9	0.0	79.6	7.5	0.0	-	-	12.5	62.5	6.3	18.8	0.0	-	-	1.2	0.0	84.6	14.2	0.0	-	-	-
Total %	2.1	2.8	0.7	8.8	0.0	-	14.3	5.5	0.0	34.2	3.2	0.0	-	43.0	0.5	2.3	0.2	0.7	0.0	-	3.7	0.5	0.0	33.0	5.5	0.0	-	39.0	-
PHF	0.450	0.750	0.250	0.594	0.000	-	0.646	0.600	0.000	0.881	0.700	0.000	-	0.830	0.250	0.417	0.250	0.250	0.000	-	0.444	0.500	0.000	0.851	0.857	0.000	-	0.862	0.880
Motorcycles	0	0	0	0	0	-	0	1	0	1	0	0	-	2	0	0	0	0	0	-	0	0	0	0	0	0	-	0	2
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	4.2	-	0.7	0.0	-	-	1.1	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	0.0	0.5
Cars & Light Goods	9	10	3	36	0	-	58	23	0	122	14	0	-	159	1	9	1	3	0	-	14	2	0	132	23	0	-	157	388
% Cars & Light Goods	100.0	83.3	100.0	94.7	-	-	93.5	95.8	-	82.4	100.0	-	-	85.5	50.0	90.0	100.0	100.0	-	-	87.5	100.0	-	92.3	95.8	-	-	92.9	89.6
Other Vehicles	0	2	0	2	0	-	4	0	0	25	0	0	-	25	1	1	0	0	0	-	2	0	0	11	1	0	-	12	43
% Other Vehicles	0.0	16.7	0.0	5.3	-	-	6.5	0.0	-	16.9	0.0	-	-	13.4	50.0	10.0	0.0	0.0	-	-	12.5	0.0	-	7.7	4.2	-	-	7.1	9.9
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	25.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	-	5	-	-	-	-	-	-	2	-	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	75.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/12/2022
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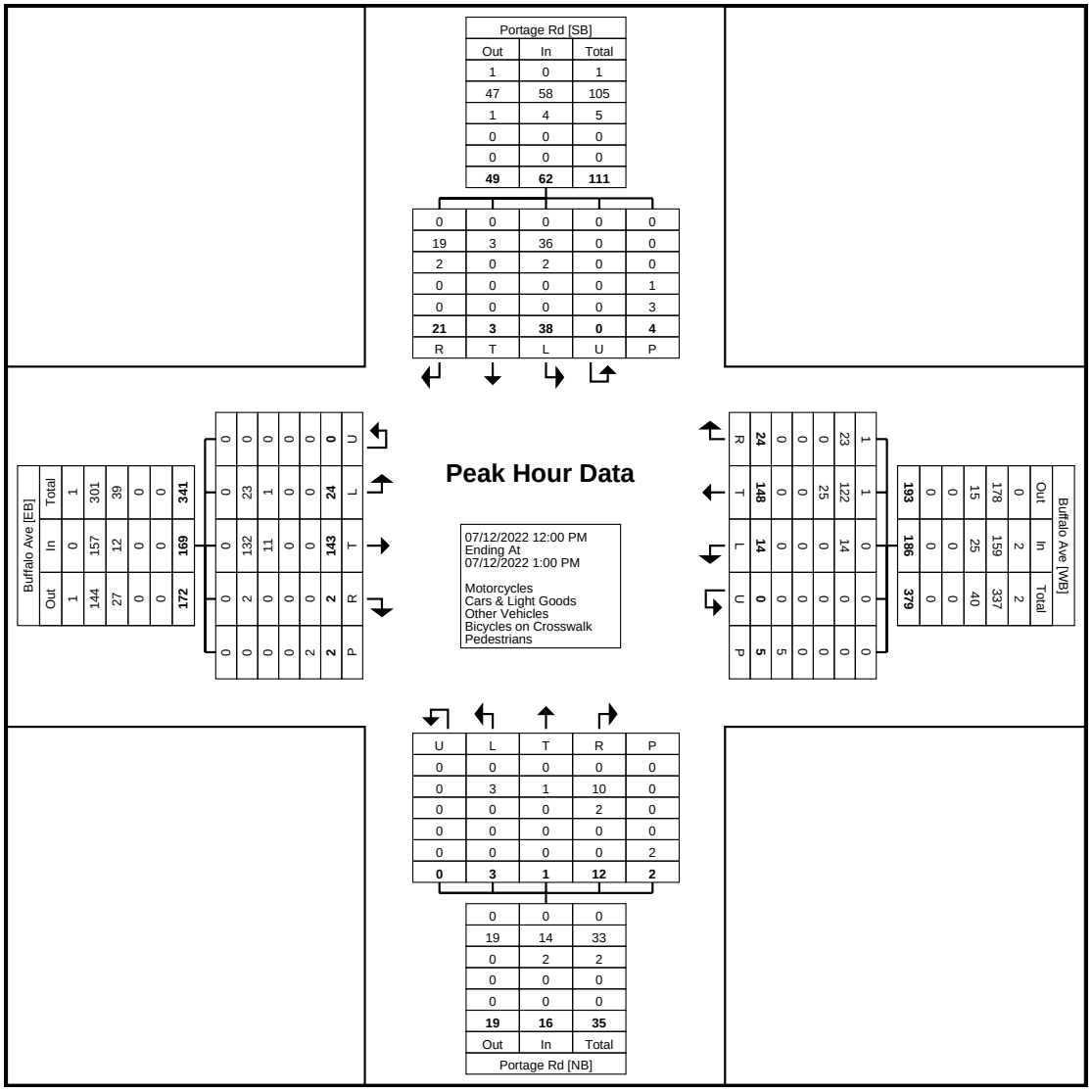

Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Portage Rd Southbound							Buffalo Ave Westbound							Portage Rd Northbound							Buffalo Ave Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	0	0	0	16	0	1	16	4	1	34	0	0	0	39	1	8	0	1	0	0	10	1	0	59	2	0	0	62	127
4:15 PM	1	2	1	14	0	0	18	6	0	23	0	0	0	29	2	0	0	1	0	0	3	0	0	25	5	0	0	30	80
4:30 PM	1	2	0	11	0	1	14	6	0	31	0	0	0	37	4	8	0	0	0	0	12	1	0	43	3	0	0	47	110
4:45 PM	2	2	0	13	0	2	17	8	1	22	2	0	0	33	2	3	1	0	0	0	6	0	0	27	2	0	0	29	85
Total	4	6	1	54	0	4	65	24	2	110	2	0	0	138	9	19	1	2	0	0	31	2	0	154	12	0	0	168	402
Approach %	6.2	9.2	1.5	83.1	0.0	-	-	17.4	1.4	79.7	1.4	0.0	-	-	29.0	61.3	3.2	6.5	0.0	-	-	1.2	0.0	91.7	7.1	0.0	-	-	-
Total %	1.0	1.5	0.2	13.4	0.0	-	16.2	6.0	0.5	27.4	0.5	0.0	-	34.3	2.2	4.7	0.2	0.5	0.0	-	7.7	0.5	0.0	38.3	3.0	0.0	-	41.8	-
PHF	0.500	0.750	0.250	0.844	0.000	-	0.903	0.750	0.500	0.809	0.250	0.000	-	0.885	0.563	0.594	0.250	0.500	0.000	-	0.646	0.500	0.000	0.653	0.600	0.000	-	0.677	0.791
Motorcycles	0	0	0	0	0	-	0	0	0	3	0	0	-	3	0	0	0	0	0	-	0	0	0	0	0	0	-	0	3
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	2.7	0.0	-	-	2.2	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	0.0	0.7
Cars & Light Goods	4	6	1	54	0	-	65	24	2	101	1	0	-	128	9	19	1	2	0	-	31	1	0	145	12	0	-	158	382
% Cars & Light Goods	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	91.8	50.0	-	-	92.8	100.0	100.0	100.0	100.0	-	-	100.0	50.0	-	94.2	100.0	-	-	94.0	95.0
Other Vehicles	0	0	0	0	0	-	0	0	0	6	1	0	-	7	0	0	0	0	0	-	0	1	0	9	0	0	-	10	17
% Other Vehicles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	5.5	50.0	-	-	5.1	0.0	0.0	0.0	0.0	-	-	0.0	50.0	-	5.8	0.0	-	-	6.0	4.2
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	4	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
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Niagara, New York
July 12, 2022

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/12/2022
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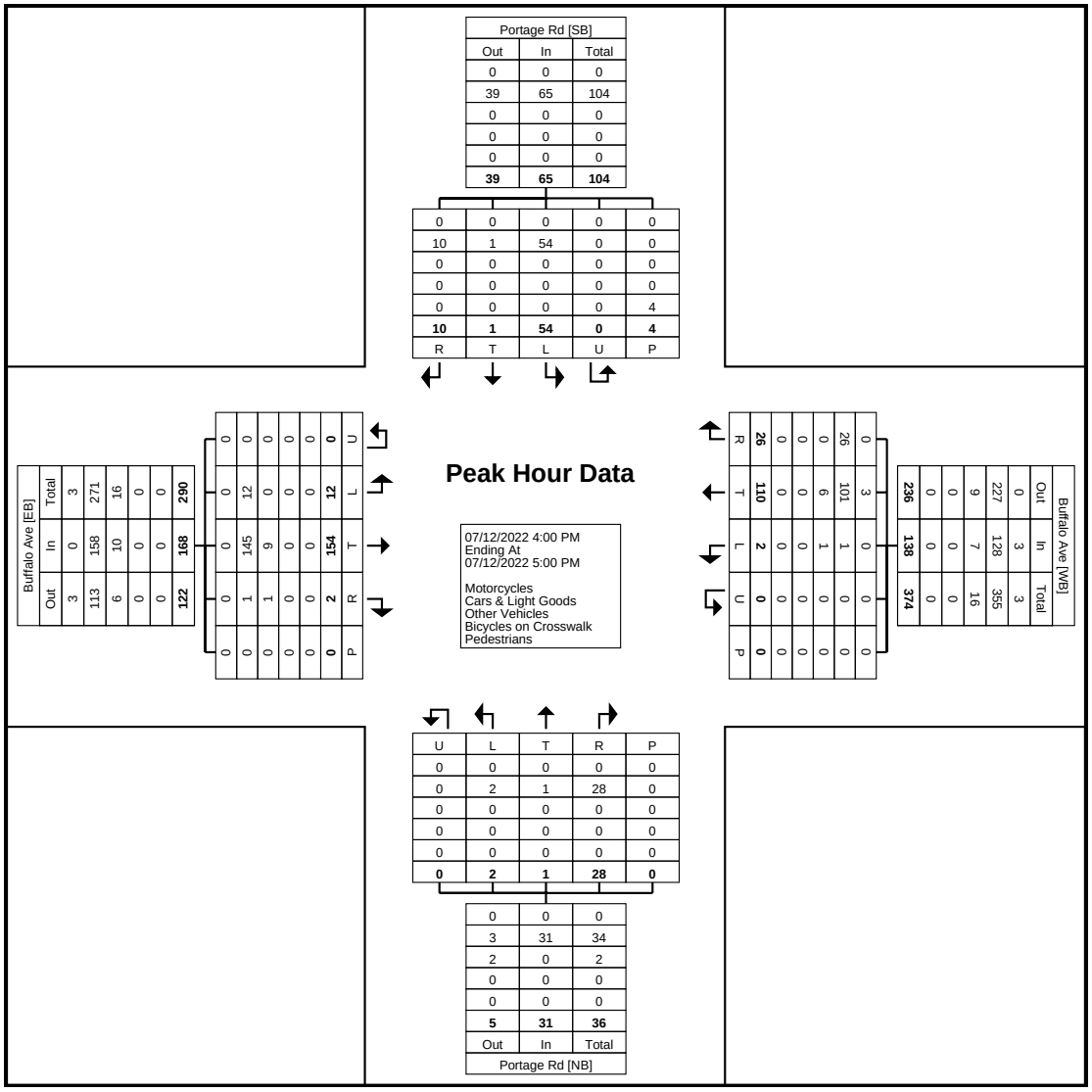


Turning Movement Peak Hour Data Plot (4:00 PM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
Page No: 1

Turning Movement Data

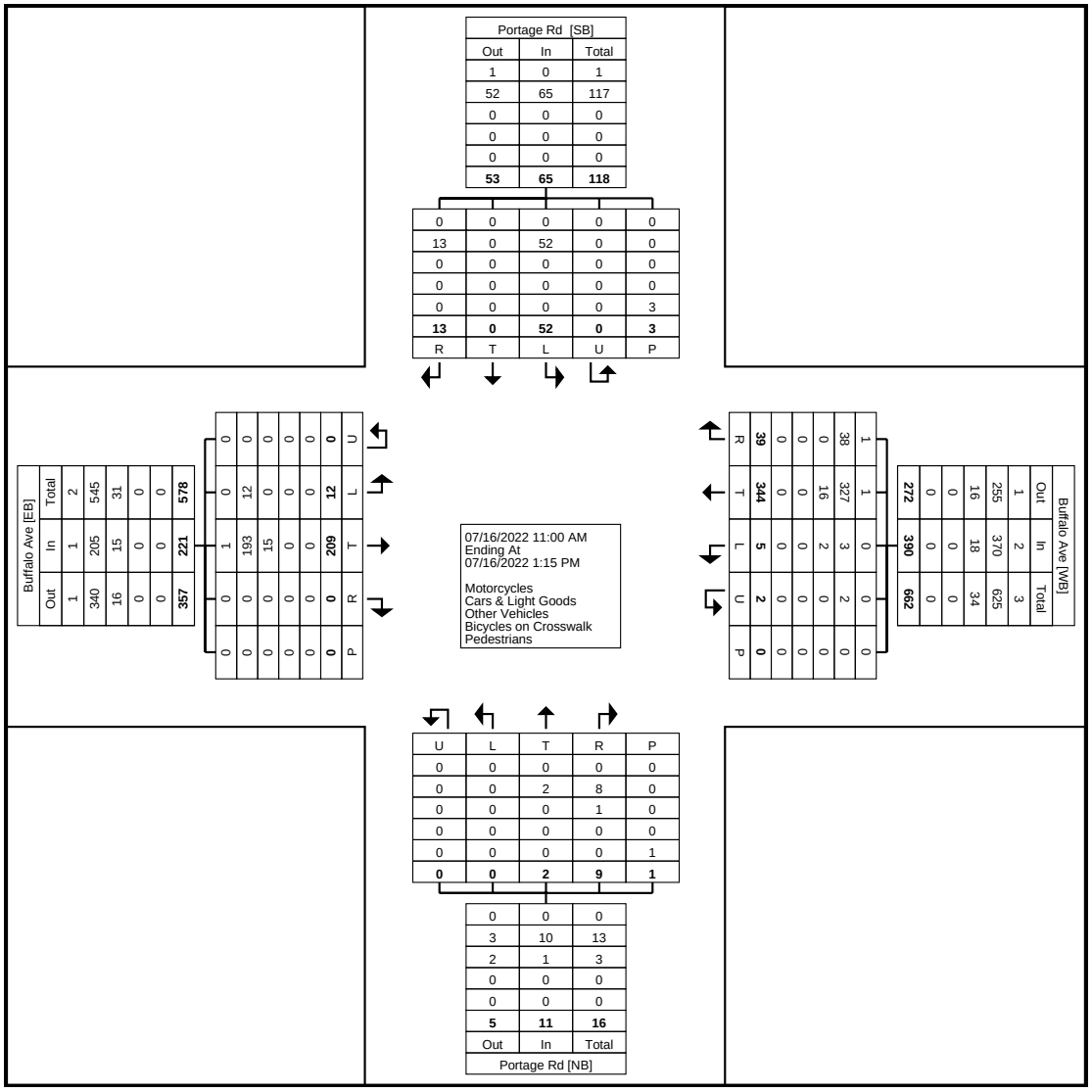
Start Time	Portage Rd Southbound						Buffalo Ave Westbound						Portage Rd Northbound						Buffalo Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	1	0	7	0	0	8	3	38	0	0	0	41	1	0	0	0	0	1	0	23	2	0	0	25	75
11:15 AM	0	0	7	0	0	7	4	51	0	0	0	55	0	0	0	0	0	0	0	35	1	0	0	36	98
11:30 AM	0	0	6	0	0	6	4	52	2	0	0	58	2	0	0	0	0	2	0	24	1	0	0	25	91
11:45 AM	3	0	5	0	2	8	5	35	0	0	0	40	0	0	0	0	0	0	0	21	1	0	0	22	70
Hourly Total	4	0	25	0	2	29	16	176	2	0	0	194	3	0	0	0	0	3	0	103	5	0	0	108	334
12:00 PM	5	0	8	0	0	13	5	43	1	0	0	49	4	2	0	0	0	6	0	34	2	0	0	36	104
12:15 PM	3	0	7	0	0	10	4	42	2	0	0	48	2	0	0	0	1	2	0	23	2	0	0	25	85
12:30 PM	0	0	1	0	0	1	6	38	0	0	0	44	0	0	0	0	0	0	0	23	2	0	0	25	70
12:45 PM	1	0	11	0	1	12	8	45	0	2	0	55	0	0	0	0	0	0	0	26	1	0	0	27	94
Hourly Total	9	0	27	0	1	36	23	168	3	2	0	196	6	2	0	0	1	8	0	106	7	0	0	113	353
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	13	0	52	0	3	65	39	344	5	2	0	390	9	2	0	0	1	11	0	209	12	0	0	221	687
Approach %	20.0	0.0	80.0	0.0	-	-	10.0	88.2	1.3	0.5	-	-	81.8	18.2	0.0	0.0	-	-	0.0	94.6	5.4	0.0	-	-	-
Total %	1.9	0.0	7.6	0.0	-	9.5	5.7	50.1	0.7	0.3	-	56.8	1.3	0.3	0.0	0.0	-	1.6	0.0	30.4	1.7	0.0	-	32.2	-
Motorcycles	0	0	0	0	-	0	1	1	0	0	-	2	0	0	0	0	-	0	0	1	0	0	-	1	3
% Motorcycles	0.0	-	0.0	-	-	0.0	2.6	0.3	0.0	0.0	-	0.5	0.0	0.0	-	-	-	0.0	-	0.5	0.0	-	-	0.5	0.4
Cars & Light Goods	13	0	52	0	-	65	38	327	3	2	-	370	8	2	0	0	-	10	0	193	12	0	-	205	650
% Cars & Light Goods	100.0	-	100.0	-	-	100.0	97.4	95.1	60.0	100.0	-	94.9	88.9	100.0	-	-	-	90.9	-	92.3	100.0	-	-	92.8	94.6
Other Vehicles	0	0	0	0	-	0	0	16	2	0	-	18	1	0	0	0	-	1	0	15	0	0	-	15	34
% Other Vehicles	0.0	-	0.0	-	-	0.0	0.0	4.7	40.0	0.0	-	4.6	11.1	0.0	-	-	-	9.1	-	7.2	0.0	-	-	6.8	4.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (11:00 AM)

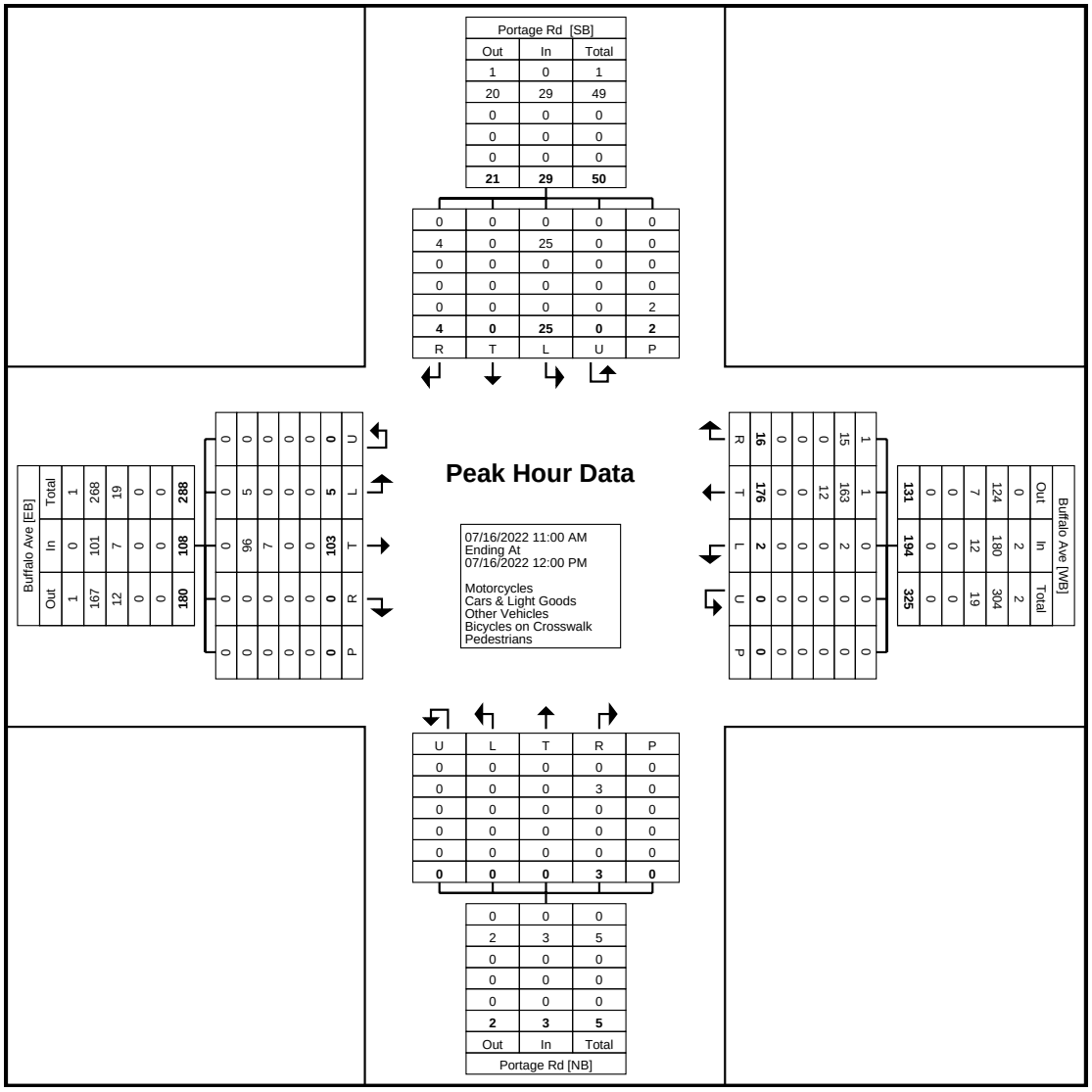
Start Time	Portage Rd Southbound						Buffalo Ave Westbound						Portage Rd Northbound						Buffalo Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	1	0	7	0	0	8	3	38	0	0	0	41	1	0	0	0	0	1	0	23	2	0	0	25	75
11:15 AM	0	0	7	0	0	7	4	51	0	0	0	55	0	0	0	0	0	0	0	35	1	0	0	36	98
11:30 AM	0	0	6	0	0	6	4	52	2	0	0	58	2	0	0	0	0	2	0	24	1	0	0	25	91
11:45 AM	3	0	5	0	2	8	5	35	0	0	0	40	0	0	0	0	0	0	0	21	1	0	0	22	70
Total	4	0	25	0	2	29	16	176	2	0	0	194	3	0	0	0	0	3	0	103	5	0	0	108	334
Approach %	13.8	0.0	86.2	0.0	-	-	8.2	90.7	1.0	0.0	-	-	100.0	0.0	0.0	0.0	-	-	0.0	95.4	4.6	0.0	-	-	-
Total %	1.2	0.0	7.5	0.0	-	8.7	4.8	52.7	0.6	0.0	-	58.1	0.9	0.0	0.0	0.0	-	0.9	0.0	30.8	1.5	0.0	-	32.3	-
PHF	0.333	0.000	0.893	0.000	-	0.906	0.800	0.846	0.250	0.000	-	0.836	0.375	0.000	0.000	0.000	-	0.375	0.000	0.736	0.625	0.000	-	0.750	0.852
Motorcycles	0	0	0	0	-	0	1	1	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	2
% Motorcycles	0.0	-	0.0	-	-	0.0	6.3	0.6	0.0	-	-	1.0	0.0	-	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.6
Cars & Light Goods	4	0	25	0	-	29	15	163	2	0	-	180	3	0	0	0	-	3	0	96	5	0	-	101	313
% Cars & Light Goods	100.0	-	100.0	-	-	100.0	93.8	92.6	100.0	-	-	92.8	100.0	-	-	-	-	100.0	-	93.2	100.0	-	-	93.5	93.7
Other Vehicles	0	0	0	0	-	0	0	12	0	0	-	12	0	0	0	0	-	0	0	7	0	0	-	7	19
% Other Vehicles	0.0	-	0.0	-	-	0.0	0.0	6.8	0.0	-	-	6.2	0.0	-	-	-	-	0.0	-	6.8	0.0	-	-	6.5	5.7
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
Page No: 4



Turning Movement Peak Hour Data Plot (11:00 AM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (12:00 PM)

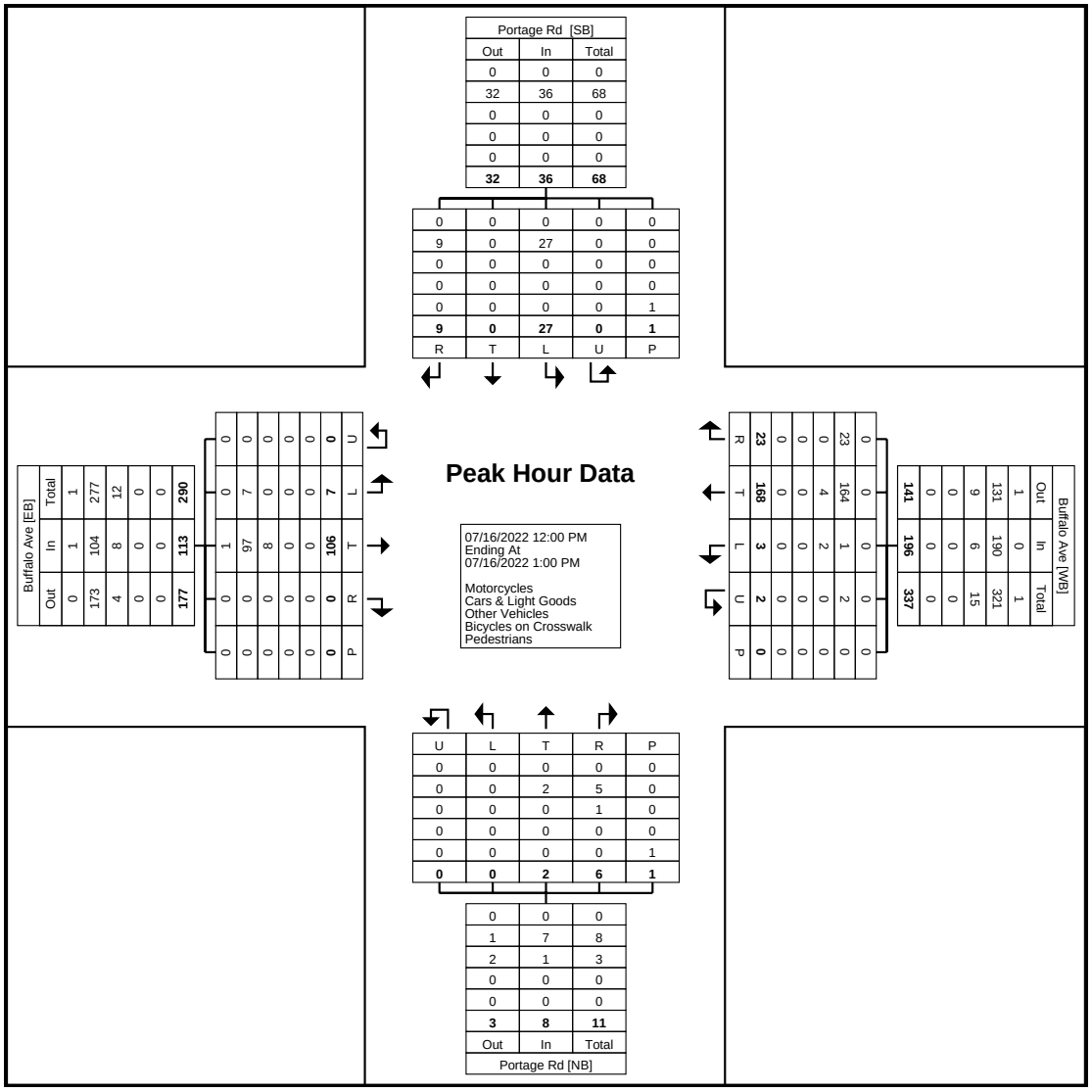
Start Time	Portage Rd Southbound						Buffalo Ave Westbound						Portage Rd Northbound						Buffalo Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	5	0	8	0	0	13	5	43	1	0	0	49	4	2	0	0	0	6	0	34	2	0	0	36	104
12:15 PM	3	0	7	0	0	10	4	42	2	0	0	48	2	0	0	0	1	2	0	23	2	0	0	25	85
12:30 PM	0	0	1	0	0	1	6	38	0	0	0	44	0	0	0	0	0	0	0	23	2	0	0	25	70
12:45 PM	1	0	11	0	1	12	8	45	0	2	0	55	0	0	0	0	0	0	0	26	1	0	0	27	94
Total	9	0	27	0	1	36	23	168	3	2	0	196	6	2	0	0	1	8	0	106	7	0	0	113	353
Approach %	25.0	0.0	75.0	0.0	-	-	11.7	85.7	1.5	1.0	-	-	75.0	25.0	0.0	0.0	-	-	0.0	93.8	6.2	0.0	-	-	-
Total %	2.5	0.0	7.6	0.0	-	10.2	6.5	47.6	0.8	0.6	-	55.5	1.7	0.6	0.0	0.0	-	2.3	0.0	30.0	2.0	0.0	-	32.0	-
PHF	0.450	0.000	0.614	0.000	-	0.692	0.719	0.933	0.375	0.250	-	0.891	0.375	0.250	0.000	0.000	-	0.333	0.000	0.779	0.875	0.000	-	0.785	0.849
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Motorcycles	0.0	-	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	-	0.0	-	0.9	0.0	-	-	0.9	0.3
Cars & Light Goods	9	0	27	0	-	36	23	164	1	2	-	190	5	2	0	0	-	7	0	97	7	0	-	104	337
% Cars & Light Goods	100.0	-	100.0	-	-	100.0	100.0	97.6	33.3	100.0	-	96.9	83.3	100.0	-	-	-	87.5	-	91.5	100.0	-	-	92.0	95.5
Other Vehicles	0	0	0	0	-	0	0	4	2	0	-	6	1	0	0	0	-	1	0	8	0	0	-	8	15
% Other Vehicles	0.0	-	0.0	-	-	0.0	0.0	2.4	66.7	0.0	-	3.1	16.7	0.0	-	-	-	12.5	-	7.5	0.0	-	-	7.1	4.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Portage Rd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/12/2022

Turning Movement Data

Start Time	Portage Rd Southbound						Falls St Westbound						Portage Rd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	4	3	0	0	7	0	2	0	0	0	2	1	3	0	0	0	4	2	2	1	0	0	5	18
7:15 AM	3	6	0	0	0	9	1	4	0	0	0	5	1	15	0	0	1	16	0	1	1	0	0	2	32
7:30 AM	3	6	4	0	1	13	4	8	0	0	1	12	0	15	2	0	0	17	0	3	2	0	0	5	47
7:45 AM	2	8	2	0	0	12	3	13	1	0	3	17	0	17	3	0	1	20	1	5	3	0	0	9	58
Hourly Total	8	24	9	0	1	41	8	27	1	0	4	36	2	50	5	0	2	57	3	11	7	0	0	21	155
8:00 AM	0	9	2	0	1	11	1	6	1	0	0	8	0	7	1	0	0	8	1	2	2	0	1	5	32
8:15 AM	3	5	0	0	2	8	1	15	0	0	0	16	1	11	5	0	1	17	1	3	3	0	0	7	48
8:30 AM	0	13	2	0	0	15	3	5	1	0	0	9	0	15	1	0	0	16	0	1	2	0	0	3	43
8:45 AM	0	10	2	0	0	12	2	2	1	0	1	5	0	10	1	0	0	11	0	0	2	0	1	2	30
Hourly Total	3	37	6	0	3	46	7	28	3	0	1	38	1	43	8	0	1	52	2	6	9	0	2	17	153
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	1	12	3	0	1	16	3	3	2	0	1	8	1	12	2	0	0	15	3	7	4	0	1	14	53
11:15 AM	1	10	2	0	0	13	4	5	0	0	2	9	0	16	4	0	0	20	0	8	2	0	0	10	52
11:30 AM	0	13	4	0	0	17	4	5	2	0	2	11	2	13	0	0	0	15	1	3	3	0	0	7	50
11:45 AM	2	18	3	0	1	23	0	5	1	0	1	6	0	9	7	0	0	16	1	8	5	0	0	14	59
Hourly Total	4	53	12	0	2	69	11	18	5	0	6	34	3	50	13	0	0	66	5	26	14	0	1	45	214
12:00 PM	2	22	5	0	0	29	5	5	3	0	4	13	1	21	1	1	0	24	2	4	0	0	0	6	72
12:15 PM	2	18	6	0	0	26	3	4	3	0	2	10	2	9	1	0	0	12	0	8	4	0	1	12	60
12:30 PM	0	8	4	0	1	12	4	11	3	0	0	18	3	10	1	0	0	14	0	9	4	0	0	13	57
12:45 PM	0	9	3	0	0	12	5	8	1	0	1	14	0	7	1	0	0	8	2	5	2	0	0	9	43
Hourly Total	4	57	18	0	1	79	17	28	10	0	7	55	6	47	4	1	0	58	4	26	10	0	1	40	232
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	4	12	9	0	0	25	3	6	3	0	3	12	0	10	0	0	1	10	3	20	4	0	0	27	74
4:15 PM	2	15	3	0	0	20	5	5	0	0	1	10	2	7	1	0	1	10	2	7	4	0	0	13	53
4:30 PM	2	17	6	0	1	25	4	7	3	0	1	14	1	10	0	0	0	11	2	8	5	0	0	15	65
4:45 PM	2	15	6	0	0	23	4	5	0	0	2	9	2	13	1	0	0	16	3	5	2	0	0	10	58
Hourly Total	10	59	24	0	1	93	16	23	6	0	7	45	5	40	2	0	2	47	10	40	15	0	0	65	250
5:00 PM	0	13	4	0	2	17	8	4	1	0	0	13	4	10	1	0	0	15	2	2	2	0	0	6	51
5:15 PM	2	9	5	0	1	16	4	4	2	0	0	10	2	7	2	0	0	11	3	5	2	0	0	10	47
5:30 PM	3	11	8	0	0	22	4	3	1	0	0	8	0	7	0	0	0	7	0	2	3	0	0	5	42
5:45 PM	3	7	2	0	1	12	1	5	0	0	0	6	0	6	1	0	0	7	1	2	2	0	0	5	30
Hourly Total	8	40	19	0	4	67	17	16	4	0	0	37	6	30	4	0	0	40	6	11	9	0	0	26	170
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	37	270	88	0	12	395	76	140	29	0	25	245	23	260	36	1	5	320	30	120	64	0	4	214	1174
Approach %	9.4	68.4	22.3	0.0	-	-	31.0	57.1	11.8	0.0	-	-	7.2	81.3	11.3	0.3	-	-	14.0	56.1	29.9	0.0	-	-	-
Total %	3.2	23.0	7.5	0.0	-	33.6	6.5	11.9	2.5	0.0	-	20.9	2.0	22.1	3.1	0.1	-	27.3	2.6	10.2	5.5	0.0	-	18.2	-
Motorcycles	1	1	1	0	-	3	0	3	0	0	-	3	0	2	0	0	-	2	0	0	2	0	-	2	10
% Motorcycles	2.7	0.4	1.1	-	-	0.8	0.0	2.1	0.0	-	-	1.2	0.0	0.8	0.0	0.0	-	0.6	0.0	0.0	3.1	-	-	0.9	0.9
Cars & Light Goods	34	261	86	0	-	381	74	123	26	0	-	223	21	242	36	1	-	300	30	114	57	0	-	201	1105
% Cars & Light Goods	91.9	96.7	97.7	-	-	96.5	97.4	87.9	89.7	-	-	91.0	91.3	93.1	100.0	100.0	-	93.8	100.0	95.0	89.1	-	-	93.9	94.1
Other Vehicles	2	8	1	0	-	11	2	14	3	0	-	19	2	16	0	0	-	18	0	6	5	0	-	11	59
% Other Vehicles	5.4	3.0	1.1	-	-	2.8	2.6	10.0	10.3	-	-	7.8	8.7	6.2	0.0	0.0	-	5.6	0.0	5.0	7.8	-	-	5.1	5.0
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	16.7	-	-	-	-	-	8.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	10	-	-	-	-	-	23	-	-	-	-	-	5	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	83.3	-	-	-	-	-	92.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
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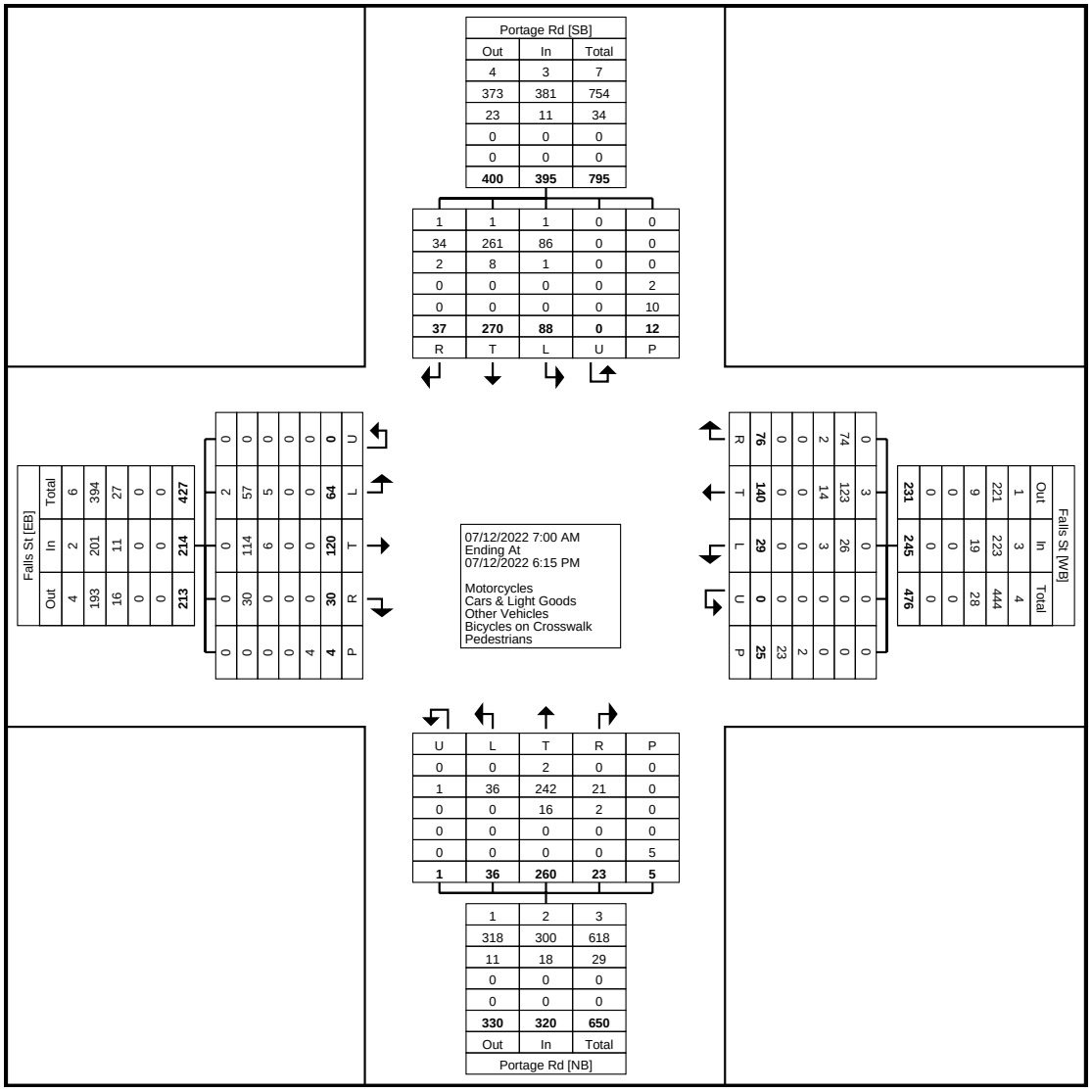
Niagara, New York
July 12, 2022

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/12/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 12, 2022

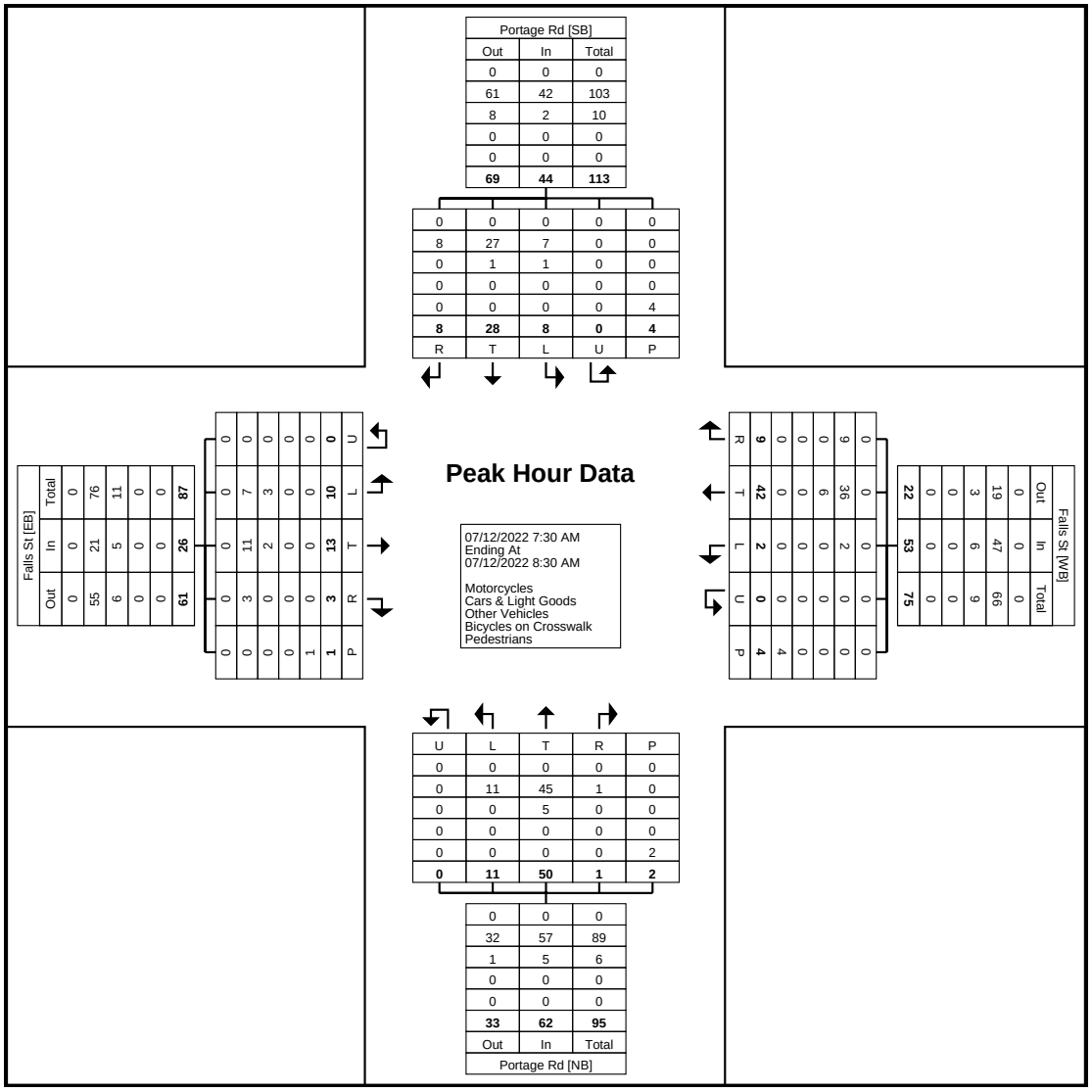
Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/12/2022
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Portage Rd Southbound						Falls St Westbound						Portage Rd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	3	6	4	0	1	13	4	8	0	0	1	12	0	15	2	0	0	17	0	3	2	0	0	5	47
7:45 AM	2	8	2	0	0	12	3	13	1	0	3	17	0	17	3	0	1	20	1	5	3	0	0	9	58
8:00 AM	0	9	2	0	1	11	1	6	1	0	0	8	0	7	1	0	0	8	1	2	2	0	1	5	32
8:15 AM	3	5	0	0	2	8	1	15	0	0	0	16	1	11	5	0	1	17	1	3	3	0	0	7	48
Total	8	28	8	0	4	44	9	42	2	0	4	53	1	50	11	0	2	62	3	13	10	0	1	26	185
Approach %	18.2	63.6	18.2	0.0	-	-	17.0	79.2	3.8	0.0	-	-	1.6	80.6	17.7	0.0	-	-	11.5	50.0	38.5	0.0	-	-	-
Total %	4.3	15.1	4.3	0.0	-	23.8	4.9	22.7	1.1	0.0	-	28.6	0.5	27.0	5.9	0.0	-	33.5	1.6	7.0	5.4	0.0	-	14.1	-
PHF	0.667	0.778	0.500	0.000	-	0.846	0.563	0.700	0.500	0.000	-	0.779	0.250	0.735	0.550	0.000	-	0.775	0.750	0.650	0.833	0.000	-	0.722	0.797
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	8	27	7	0	-	42	9	36	2	0	-	47	1	45	11	0	-	57	3	11	7	0	-	21	167
% Cars & Light Goods	100.0	96.4	87.5	-	-	95.5	100.0	85.7	100.0	-	-	88.7	100.0	90.0	100.0	-	-	91.9	100.0	84.6	70.0	-	-	80.8	90.3
Other Vehicles	0	1	1	0	-	2	0	6	0	0	-	6	0	5	0	0	-	5	0	2	3	0	-	5	18
% Other Vehicles	0.0	3.6	12.5	-	-	4.5	0.0	14.3	0.0	-	-	11.3	0.0	10.0	0.0	-	-	8.1	0.0	15.4	30.0	-	-	19.2	9.7
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Portage Rd [SB]

Out	In	Total
0	0	0
61	42	103
8	2	10
0	0	0
0	0	0
69	**44**	**113**

R	T	L	U	P
0	0	0	0	0
8	27	7	0	0
0	1	1	0	0
0	0	0	0	0
0	0	0	0	4
8	**28**	**8**	**0**	**4**

Falls St [EB]

Out	In	Total
0	0	0
55	21	76
6	5	11
0	0	0
0	0	0
61	**26**	**87**

U	L	T	R	P
0	0	0	0	0
0	7	11	3	0
0	3	2	0	0
0	0	0	0	0
0	0	0	0	1
0	**10**	**13**	**3**	**1**

Peak Hour Data

07/12/2022 7:30 AM
Ending At
07/12/2022 8:30 AM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

R	T	L	U	P
0	0	0	0	0
9	36	2	0	0
0	6	0	0	0
0	0	0	0	0
0	0	0	0	4
9	**42**	**2**	**0**	**4**

Falls St [WB]

Out	In	Total
0	0	0
19	47	66
3	6	9
0	0	0
0	0	0
22	**53**	**75**

U	L	T	R	P
0	0	0	0	0
0	11	45	1	0
0	0	5	0	0
0	0	0	0	0
0	0	0	0	2
0	**11**	**50**	**1**	**2**

Out	In	Total
0	0	0
32	57	89
1	5	6
0	0	0
0	0	0
33	**62**	**95**

Portage Rd [NB]

Turning Movement Peak Hour Data Plot (7:30 AM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (11:45 AM)

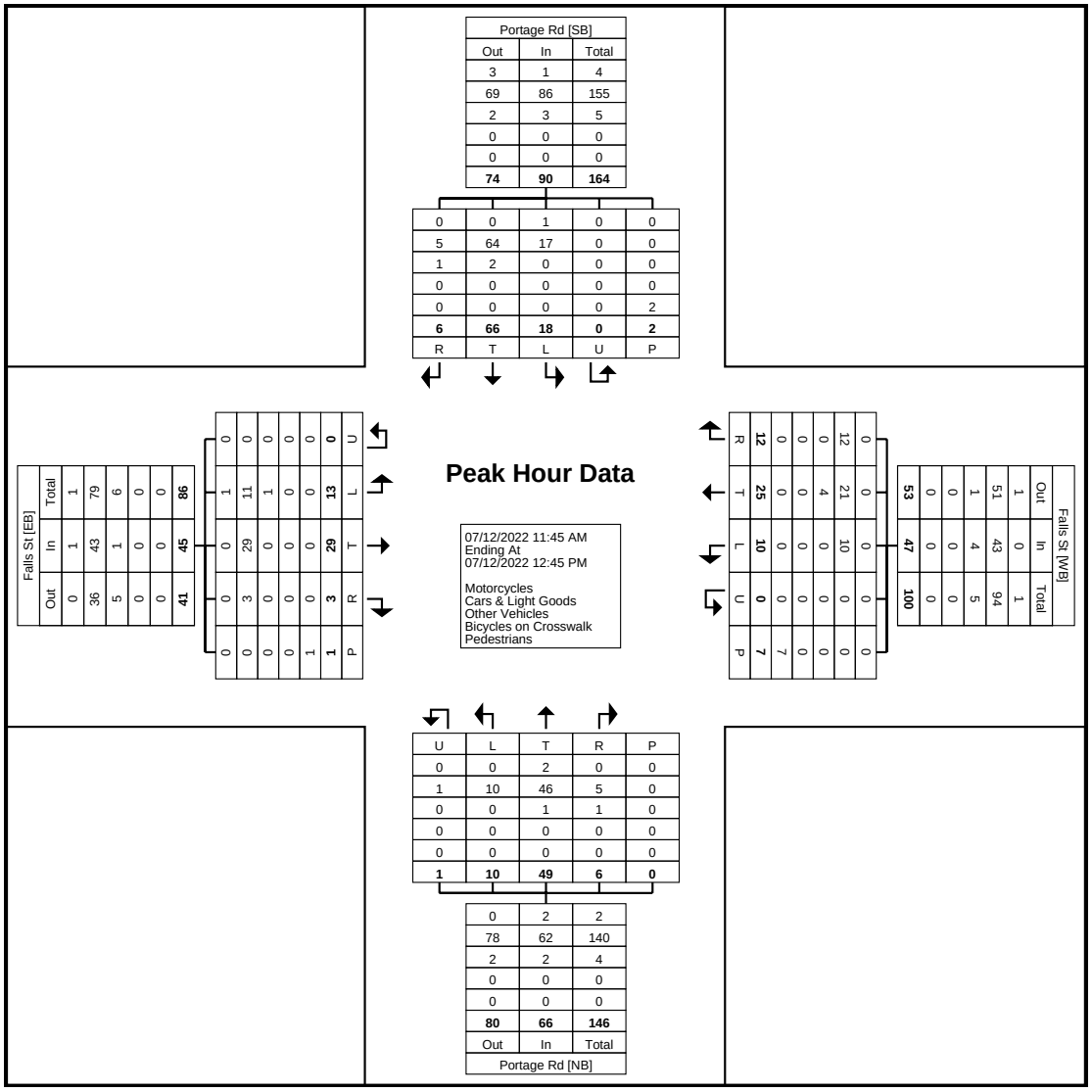
Start Time	Portage Rd Southbound						Falls St Westbound						Portage Rd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:45 AM	2	18	3	0	1	23	0	5	1	0	1	6	0	9	7	0	0	16	1	8	5	0	0	14	59
12:00 PM	2	22	5	0	0	29	5	5	3	0	4	13	1	21	1	1	0	24	2	4	0	0	0	6	72
12:15 PM	2	18	6	0	0	26	3	4	3	0	2	10	2	9	1	0	0	12	0	8	4	0	1	12	60
12:30 PM	0	8	4	0	1	12	4	11	3	0	0	18	3	10	1	0	0	14	0	9	4	0	0	13	57
Total	6	66	18	0	2	90	12	25	10	0	7	47	6	49	10	1	0	66	3	29	13	0	1	45	248
Approach %	6.7	73.3	20.0	0.0	-	-	25.5	53.2	21.3	0.0	-	-	9.1	74.2	15.2	1.5	-	-	6.7	64.4	28.9	0.0	-	-	-
Total %	2.4	26.6	7.3	0.0	-	36.3	4.8	10.1	4.0	0.0	-	19.0	2.4	19.8	4.0	0.4	-	26.6	1.2	11.7	5.2	0.0	-	18.1	-
PHF	0.750	0.750	0.750	0.000	-	0.776	0.600	0.568	0.833	0.000	-	0.653	0.500	0.583	0.357	0.250	-	0.688	0.375	0.806	0.650	0.000	-	0.804	0.861
Motorcycles	0	0	1	0	-	1	0	0	0	0	-	0	0	2	0	0	-	2	0	0	1	0	-	1	4
% Motorcycles	0.0	0.0	5.6	-	-	1.1	0.0	0.0	0.0	-	-	0.0	0.0	4.1	0.0	0.0	-	3.0	0.0	0.0	7.7	-	-	2.2	1.6
Cars & Light Goods	5	64	17	0	-	86	12	21	10	0	-	43	5	46	10	1	-	62	3	29	11	0	-	43	234
% Cars & Light Goods	83.3	97.0	94.4	-	-	95.6	100.0	84.0	100.0	-	-	91.5	83.3	93.9	100.0	100.0	-	93.9	100.0	100.0	84.6	-	-	95.6	94.4
Other Vehicles	1	2	0	0	-	3	0	4	0	0	-	4	1	1	0	0	-	2	0	0	1	0	-	1	10
% Other Vehicles	16.7	3.0	0.0	-	-	3.3	0.0	16.0	0.0	-	-	8.5	16.7	2.0	0.0	0.0	-	3.0	0.0	0.0	7.7	-	-	2.2	4.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/12/2022
Page No: 6



Turning Movement Peak Hour Data Plot (11:45 AM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Portage Rd Southbound						Falls St Westbound						Portage Rd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	4	12	9	0	0	25	3	6	3	0	3	12	0	10	0	0	1	10	3	20	4	0	0	27	74
4:15 PM	2	15	3	0	0	20	5	5	0	0	1	10	2	7	1	0	1	10	2	7	4	0	0	13	53
4:30 PM	2	17	6	0	1	25	4	7	3	0	1	14	1	10	0	0	0	11	2	8	5	0	0	15	65
4:45 PM	2	15	6	0	0	23	4	5	0	0	2	9	2	13	1	0	0	16	3	5	2	0	0	10	58
Total	10	59	24	0	1	93	16	23	6	0	7	45	5	40	2	0	2	47	10	40	15	0	0	65	250
Approach %	10.8	63.4	25.8	0.0	-	-	35.6	51.1	13.3	0.0	-	-	10.6	85.1	4.3	0.0	-	-	15.4	61.5	23.1	0.0	-	-	-
Total %	4.0	23.6	9.6	0.0	-	37.2	6.4	9.2	2.4	0.0	-	18.0	2.0	16.0	0.8	0.0	-	18.8	4.0	16.0	6.0	0.0	-	26.0	-
PHF	0.625	0.868	0.667	0.000	-	0.930	0.800	0.821	0.500	0.000	-	0.804	0.625	0.769	0.500	0.000	-	0.734	0.833	0.500	0.750	0.000	-	0.602	0.845
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	10	58	24	0	-	92	15	22	5	0	-	42	5	39	2	0	-	46	10	40	15	0	-	65	245
% Cars & Light Goods	100.0	98.3	100.0	-	-	98.9	93.8	95.7	83.3	-	-	93.3	100.0	97.5	100.0	-	-	97.9	100.0	100.0	100.0	-	-	100.0	98.0
Other Vehicles	0	1	0	0	-	1	1	1	1	0	-	3	0	1	0	0	-	1	0	0	0	0	-	0	5
% Other Vehicles	0.0	1.7	0.0	-	-	1.1	6.3	4.3	16.7	-	-	6.7	0.0	2.5	0.0	-	-	2.1	0.0	0.0	0.0	-	-	0.0	2.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	14.3	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	6	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	85.7	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
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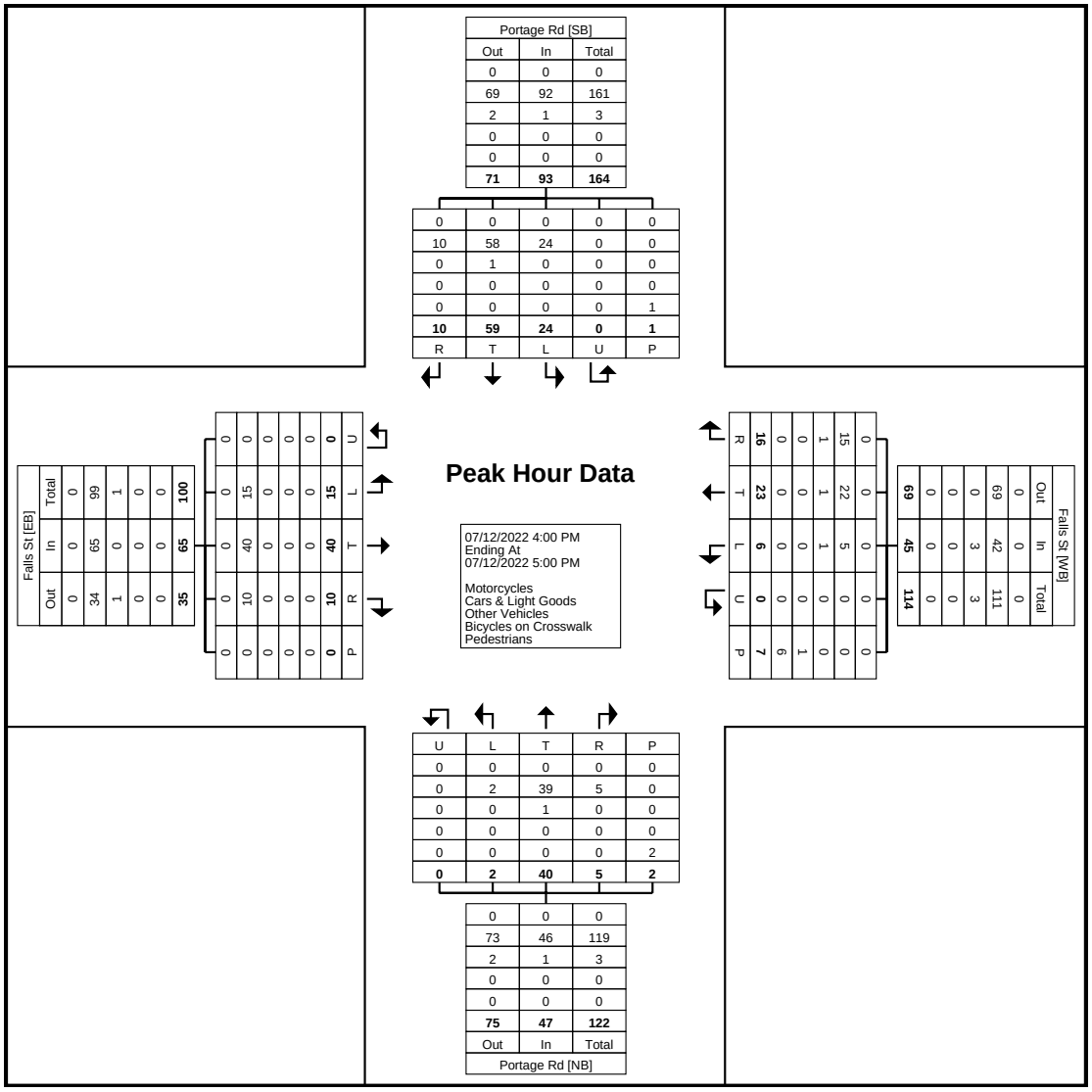
Niagara, New York
July 12, 2022

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/12/2022
Page No: 8



Turning Movement Peak Hour Data Plot (4:00 PM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/16/2022

Turning Movement Data

Start Time	Portage Rd Southbound						Falls St Westbound						Portage Rd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	2	7	3	0	3	12	2	11	0	0	0	13	1	4	1	0	2	6	2	3	1	0	0	6	37
11:15 AM	1	7	0	0	3	8	1	10	0	0	0	11	1	5	1	0	0	7	0	4	2	0	0	6	32
11:30 AM	4	5	2	0	4	11	4	6	1	0	0	11	2	5	1	0	0	8	0	0	0	0	0	0	30
11:45 AM	0	6	1	0	4	7	4	6	0	0	0	10	1	8	5	0	1	14	0	2	0	0	0	2	33
Hourly Total	7	25	6	0	14	38	11	33	1	0	0	45	5	22	8	0	3	35	2	9	3	0	0	14	132
12:00 PM	0	7	1	0	1	8	3	7	2	1	0	13	0	7	1	0	0	8	1	7	3	0	0	11	40
12:15 PM	1	12	3	0	0	16	2	6	2	0	0	10	4	6	0	0	1	10	0	4	1	0	0	5	41
12:30 PM	2	4	12	0	7	18	2	2	0	0	0	4	1	8	2	0	0	11	0	2	0	0	0	2	35
12:45 PM	2	7	2	0	4	11	3	13	0	0	0	16	1	8	0	0	0	9	2	7	0	0	0	9	45
Hourly Total	5	30	18	0	12	53	10	28	4	1	0	43	6	29	3	0	1	38	3	20	4	0	0	27	161
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	12	55	24	0	26	91	21	61	5	1	0	88	11	51	11	0	4	73	5	29	7	0	0	41	293
Approach %	13.2	60.4	26.4	0.0	-	-	23.9	69.3	5.7	1.1	-	-	15.1	69.9	15.1	0.0	-	-	12.2	70.7	17.1	0.0	-	-	-
Total %	4.1	18.8	8.2	0.0	-	31.1	7.2	20.8	1.7	0.3	-	30.0	3.8	17.4	3.8	0.0	-	24.9	1.7	9.9	2.4	0.0	-	14.0	-
Motorcycles	0	0	0	0	-	0	1	0	0	0	-	1	2	0	0	0	-	2	0	0	0	0	-	0	3
% Motorcycles	0.0	0.0	0.0	-	-	0.0	4.8	0.0	0.0	0.0	-	1.1	18.2	0.0	0.0	-	-	2.7	0.0	0.0	0.0	-	-	0.0	1.0
Cars & Light Goods	12	55	24	0	-	91	19	61	5	1	-	86	9	51	11	0	-	71	5	29	7	0	-	41	289
% Cars & Light Goods	100.0	100.0	100.0	-	-	100.0	90.5	100.0	100.0	100.0	-	97.7	81.8	100.0	100.0	-	-	97.3	100.0	100.0	100.0	-	-	100.0	98.6
Other Vehicles	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Other Vehicles	0.0	0.0	0.0	-	-	0.0	4.8	0.0	0.0	0.0	-	1.1	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	26	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

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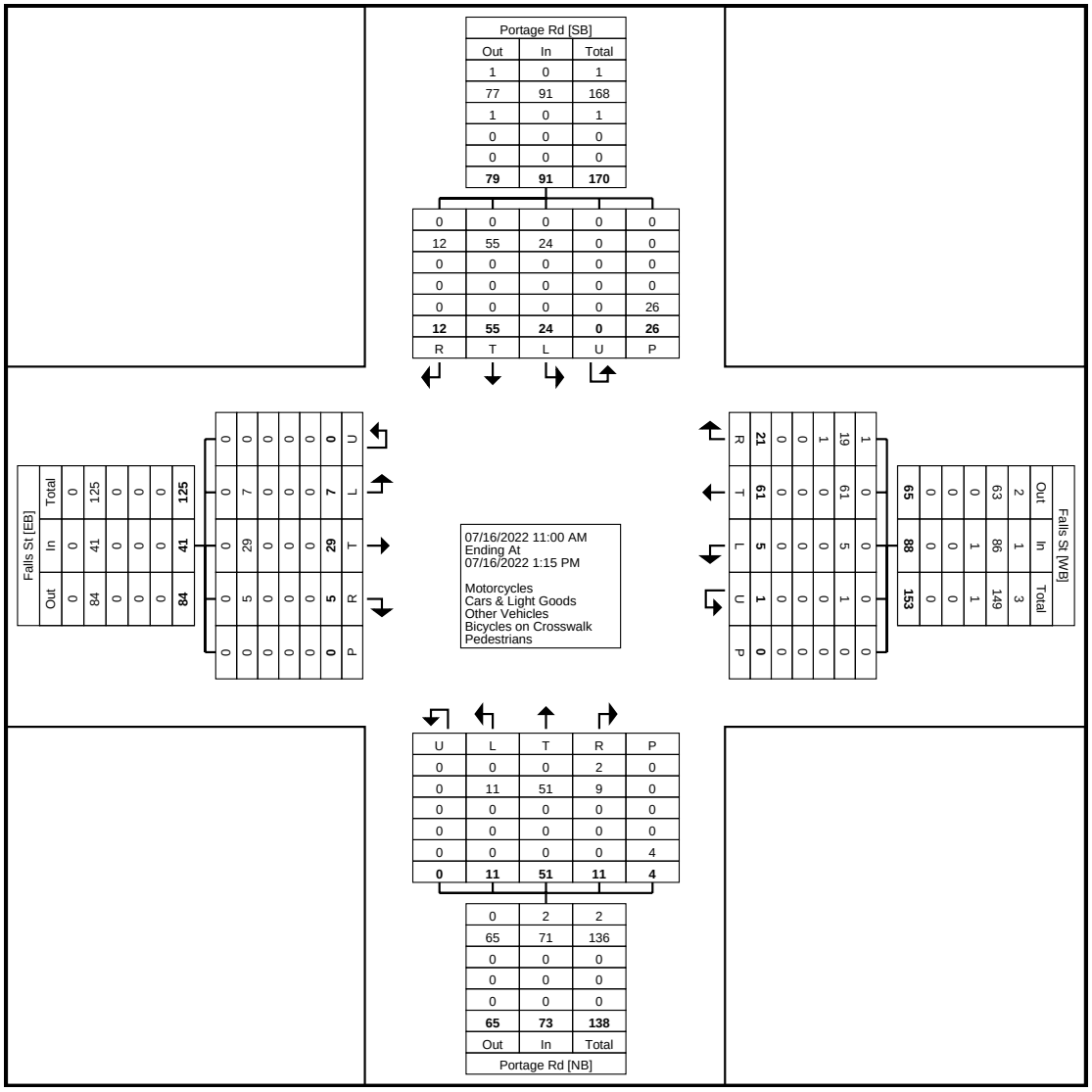


Turning Movement Data Plot

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (11:00 AM)

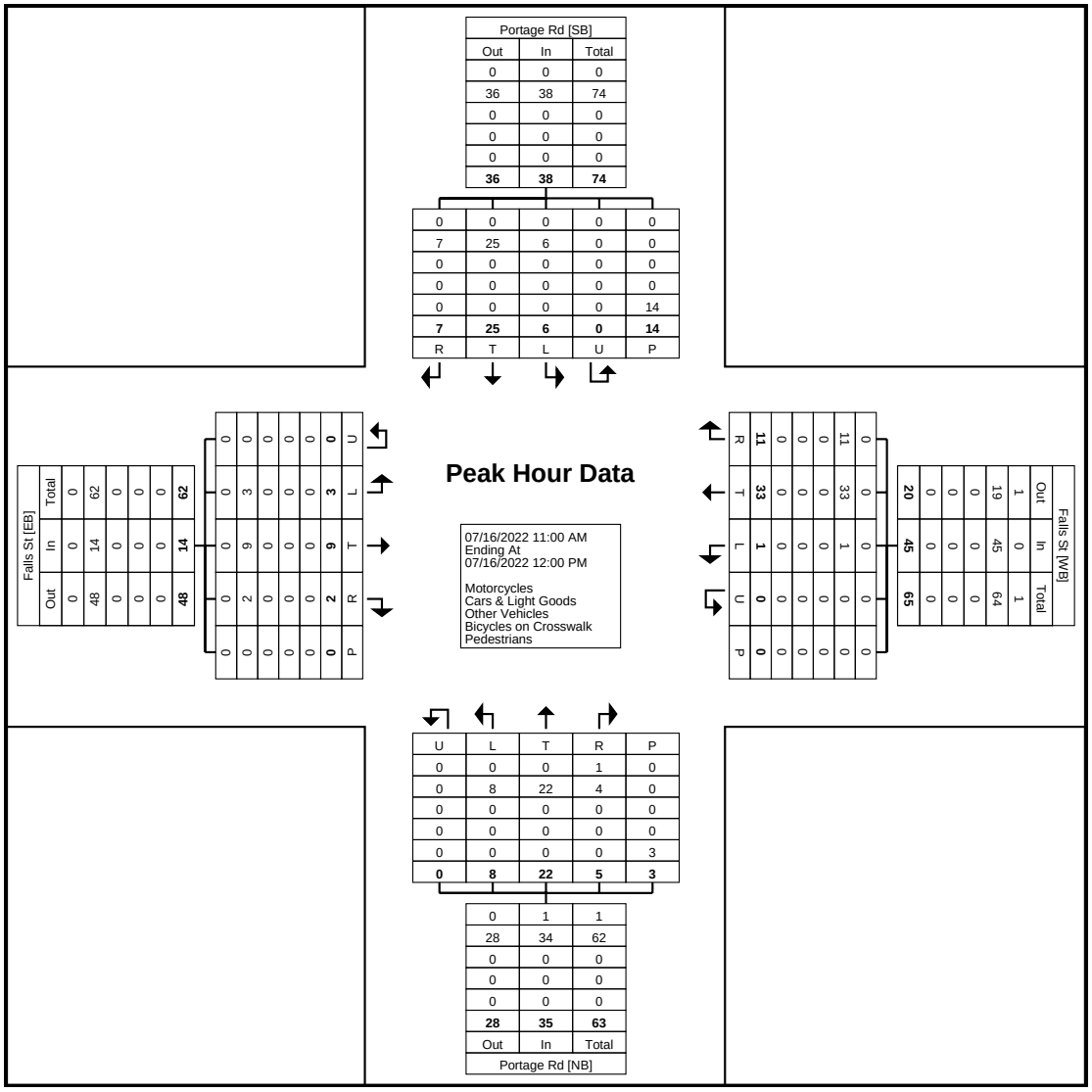
Start Time	Portage Rd Southbound						Falls St Westbound						Portage Rd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	2	7	3	0	3	12	2	11	0	0	0	13	1	4	1	0	2	6	2	3	1	0	0	6	37
11:15 AM	1	7	0	0	3	8	1	10	0	0	0	11	1	5	1	0	0	7	0	4	2	0	0	6	32
11:30 AM	4	5	2	0	4	11	4	6	1	0	0	11	2	5	1	0	0	8	0	0	0	0	0	0	30
11:45 AM	0	6	1	0	4	7	4	6	0	0	0	10	1	8	5	0	1	14	0	2	0	0	0	2	33
Total	7	25	6	0	14	38	11	33	1	0	0	45	5	22	8	0	3	35	2	9	3	0	0	14	132
Approach %	18.4	65.8	15.8	0.0	-	-	24.4	73.3	2.2	0.0	-	-	14.3	62.9	22.9	0.0	-	-	14.3	64.3	21.4	0.0	-	-	-
Total %	5.3	18.9	4.5	0.0	-	28.8	8.3	25.0	0.8	0.0	-	34.1	3.8	16.7	6.1	0.0	-	26.5	1.5	6.8	2.3	0.0	-	10.6	-
PHF	0.438	0.893	0.500	0.000	-	0.792	0.688	0.750	0.250	0.000	-	0.865	0.625	0.688	0.400	0.000	-	0.625	0.250	0.563	0.375	0.000	-	0.583	0.892
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	1
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	20.0	0.0	0.0	-	-	2.9	0.0	0.0	0.0	-	-	0.0	0.8
Cars & Light Goods	7	25	6	0	-	38	11	33	1	0	-	45	4	22	8	0	-	34	2	9	3	0	-	14	131
% Cars & Light Goods	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	80.0	100.0	100.0	-	-	97.1	100.0	100.0	100.0	-	-	100.0	99.2
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Other Vehicles	0.0	0.0	0.0	-	-	0.0	0.0	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 Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	14	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/16/2022
Page No: 4



Turning Movement Peak Hour Data Plot (11:00 AM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (12:00 PM)

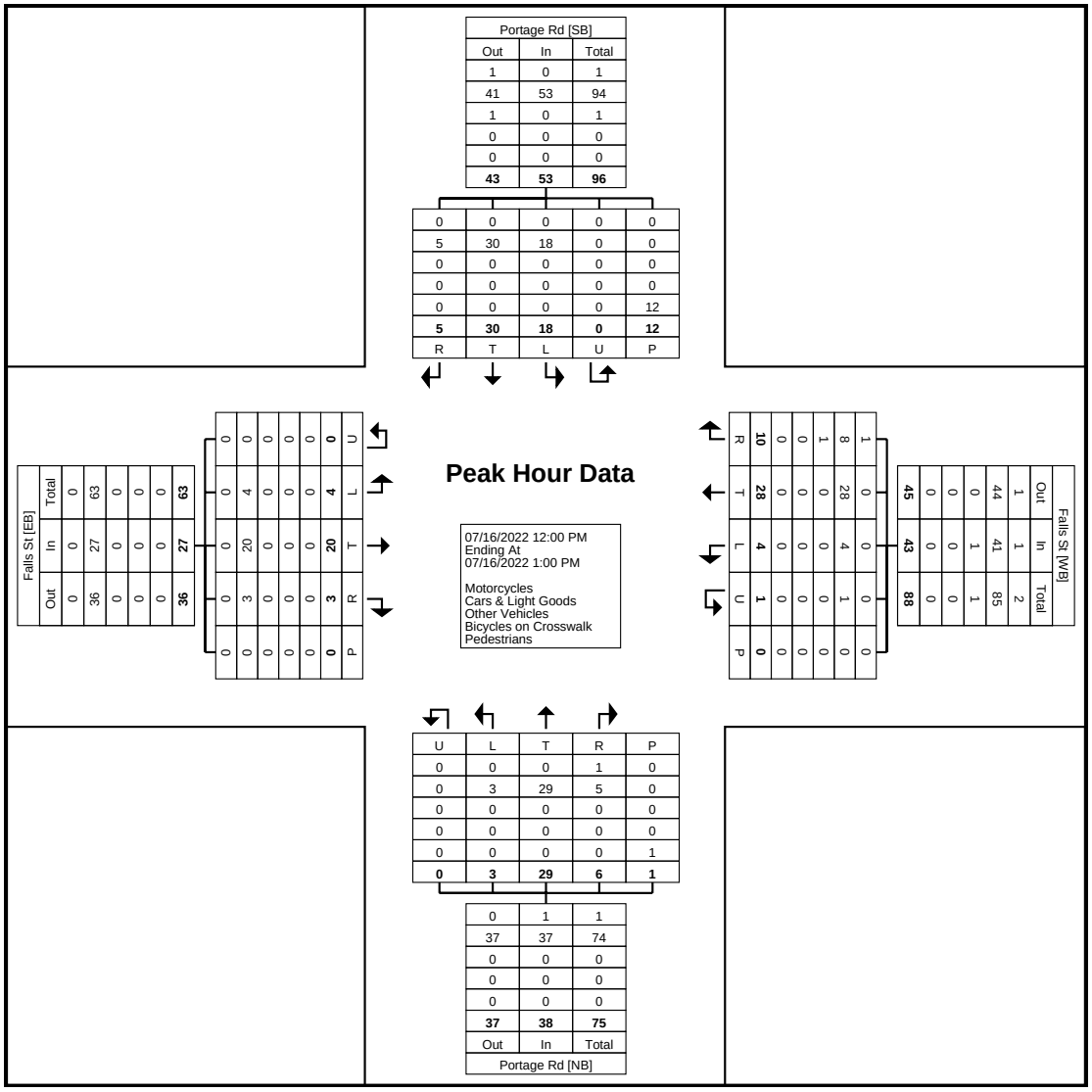
	Portage Rd Southbound						Falls St Westbound						Portage Rd Northbound						Falls St Eastbound						
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	0	7	1	0	1	8	3	7	2	1	0	13	0	7	1	0	0	8	1	7	3	0	0	11	40
12:15 PM	1	12	3	0	0	16	2	6	2	0	0	10	4	6	0	0	1	10	0	4	1	0	0	5	41
12:30 PM	2	4	12	0	7	18	2	2	0	0	0	4	1	8	2	0	0	11	0	2	0	0	0	2	35
12:45 PM	2	7	2	0	4	11	3	13	0	0	0	16	1	8	0	0	0	9	2	7	0	0	0	9	45
Total	5	30	18	0	12	53	10	28	4	1	0	43	6	29	3	0	1	38	3	20	4	0	0	27	161
Approach %	9.4	56.6	34.0	0.0	-	-	23.3	65.1	9.3	2.3	-	-	15.8	76.3	7.9	0.0	-	-	11.1	74.1	14.8	0.0	-	-	-
Total %	3.1	18.6	11.2	0.0	-	32.9	6.2	17.4	2.5	0.6	-	26.7	3.7	18.0	1.9	0.0	-	23.6	1.9	12.4	2.5	0.0	-	16.8	-
PHF	0.625	0.625	0.375	0.000	-	0.736	0.833	0.538	0.500	0.250	-	0.672	0.375	0.906	0.375	0.000	-	0.864	0.375	0.714	0.333	0.000	-	0.614	0.894
Motorcycles	0	0	0	0	-	0	1	0	0	0	-	1	1	0	0	0	-	1	0	0	0	0	-	0	2
% Motorcycles	0.0	0.0	0.0	-	-	0.0	10.0	0.0	0.0	0.0	-	2.3	16.7	0.0	0.0	-	-	2.6	0.0	0.0	0.0	-	-	0.0	1.2
Cars & Light Goods	5	30	18	0	-	53	8	28	4	1	-	41	5	29	3	0	-	37	3	20	4	0	-	27	158
% Cars & Light Goods	100.0	100.0	100.0	-	-	100.0	80.0	100.0	100.0	100.0	-	95.3	83.3	100.0	100.0	-	-	97.4	100.0	100.0	100.0	-	-	100.0	98.1
Other Vehicles	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Other Vehicles	0.0	0.0	0.0	-	-	0.0	10.0	0.0	0.0	0.0	-	2.3	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	12	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Portage Rd & Falls St
Site Code:
Start Date: 07/16/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022
Page No: 1

Turning Movement Data

Start Time	10th Street Southbound						Buffalo Ave Westbound						Buffalo Ave Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	1	0	13	0	0	14	7	3	0	2	0	12	0	0	0	0	0	0	0	6	0	0	0	6	32
7:15 AM	1	0	10	0	0	11	11	3	0	0	0	14	0	0	0	0	0	0	0	5	0	0	0	5	30
7:30 AM	4	0	8	0	0	12	16	7	0	0	0	23	0	0	0	0	0	0	0	6	1	0	0	7	42
7:45 AM	1	0	10	0	0	11	32	4	0	0	0	36	0	0	0	0	0	0	0	12	8	0	0	20	67
Hourly Total	7	0	41	0	0	48	66	17	0	2	0	85	0	0	0	0	0	0	0	29	9	0	0	38	171
8:00 AM	1	0	8	0	0	9	16	5	0	2	0	23	0	0	0	0	0	0	0	9	3	0	0	12	44
8:15 AM	3	0	12	0	0	15	22	5	0	2	0	29	0	0	0	0	0	0	0	3	0	0	0	3	47
8:30 AM	1	0	15	0	0	16	13	8	0	0	0	21	0	0	0	0	0	0	0	6	0	0	0	6	43
8:45 AM	0	0	15	0	0	15	26	2	0	0	0	28	0	0	0	0	0	0	0	7	2	0	0	9	52
Hourly Total	5	0	50	0	0	55	77	20	0	4	0	101	0	0	0	0	0	0	0	25	5	0	0	30	186
9:00 AM	4	0	13	1	2	18	17	8	0	1	0	26	1	0	0	0	0	1	0	5	2	0	0	7	52
9:15 AM	3	0	13	0	0	16	23	7	0	1	0	31	0	0	0	0	0	0	0	10	0	0	0	10	57
9:30 AM	6	0	15	0	0	21	30	10	0	0	0	40	0	0	0	0	0	0	0	8	1	0	0	9	70
9:45 AM	4	0	21	0	0	25	22	9	0	0	0	31	0	0	0	0	0	0	0	12	2	0	0	14	70
Hourly Total	17	0	62	1	2	80	92	34	0	2	0	128	1	0	0	0	0	1	0	35	5	0	0	40	249
10:00 AM	5	1	9	1	0	16	22	5	0	0	1	27	0	0	0	0	1	0	0	7	2	0	0	9	52
10:15 AM	0	0	13	1	0	14	23	9	0	0	1	32	1	0	0	0	0	1	0	9	1	0	0	10	57
10:30 AM	5	0	19	1	0	25	26	9	0	0	0	35	0	0	0	0	0	0	0	8	0	0	0	8	68
10:45 AM	2	0	30	0	0	32	27	5	0	0	0	32	0	0	0	0	0	0	0	13	2	0	0	15	79
Hourly Total	12	1	71	3	0	87	98	28	0	0	2	126	1	0	0	0	1	1	0	37	5	0	0	42	256
11:00 AM	0	0	26	0	0	26	32	5	0	0	0	37	0	0	0	0	0	0	0	8	1	0	0	9	72
11:15 AM	3	0	21	1	0	25	27	6	0	0	0	33	0	0	0	0	0	0	0	12	2	0	0	14	72
11:30 AM	1	0	20	0	0	21	37	8	0	0	0	45	0	0	0	0	0	0	0	3	4	0	0	7	73
11:45 AM	2	0	15	0	0	17	30	6	0	0	0	36	0	0	0	0	0	0	0	9	1	0	0	10	63
Hourly Total	6	0	82	1	0	89	126	25	0	0	0	151	0	0	0	0	0	0	0	32	8	0	0	40	280
12:00 PM	7	0	26	0	0	33	27	14	0	1	0	42	0	0	0	0	4	0	0	5	1	0	0	6	81
12:15 PM	1	0	23	0	0	24	25	10	0	0	0	35	0	0	0	0	2	0	0	13	3	0	0	16	75
12:30 PM	4	0	32	0	0	36	30	4	0	0	0	34	0	0	0	0	0	0	0	12	0	0	0	12	82
12:45 PM	1	0	24	0	0	25	29	5	1	0	0	35	0	0	0	0	0	0	0	11	4	0	0	15	75
Hourly Total	13	0	105	0	0	118	111	33	1	1	0	146	0	0	0	0	6	0	0	41	8	0	0	49	313
1:00 PM	0	0	19	0	0	19	31	2	0	0	0	33	0	1	0	0	0	1	0	12	4	0	0	16	69
1:15 PM	4	0	23	0	0	27	44	9	0	0	1	53	0	0	0	0	1	0	0	13	2	0	0	15	95
1:30 PM	2	0	22	2	0	26	41	5	0	1	2	47	0	0	0	0	2	0	0	8	2	0	0	10	83
1:45 PM	5	0	22	0	0	27	33	7	0	0	0	40	1	0	0	0	1	1	1	5	3	0	0	9	77
Hourly Total	11	0	86	2	0	99	149	23	0	1	3	173	1	1	0	0	4	2	1	38	11	0	0	50	324
2:00 PM	6	0	33	0	0	39	26	7	0	0	0	33	0	0	0	0	0	0	0	10	2	0	0	12	84
2:15 PM	6	0	20	0	0	26	25	8	0	0	1	33	0	0	0	0	2	0	0	10	1	0	0	11	70
2:30 PM	8	0	22	0	0	30	47	5	0	0	0	52	0	0	0	0	0	0	0	13	2	0	0	15	97
2:45 PM	1	1	27	0	0	29	29	9	0	0	0	38	0	0	0	0	0	0	0	9	2	0	0	11	78
Hourly Total	21	1	102	0	0	124	127	29	0	0	1	156	0	0	0	0	2	0	0	42	7	0	0	49	329
3:00 PM	2	0	31	0	0	33	28	13	0	0	0	41	0	1	0	0	0	1	0	9	1	0	0	10	85
3:15 PM	1	0	18	0	0	19	24	9	0	0	0	33	0	0	0	0	0	0	0	8	2	0	0	10	62
3:30 PM	1	0	24	0	0	25	16	8	0	0	0	24	0	0	0	0	0	0	0	10	3	0	0	13	62
3:45 PM	2	0	20	0	0	22	29	13	0	0	0	42	1	0	0	0	0	1	1	14	1	0	0	16	81
Hourly Total	6	0	93	0	0	99	97	43	0	0	0	140	1	1	0	0	0	2	1	41	7	0	0	49	290
4:00 PM	28	0	39	0	0	67	26	7	0	0	0	33	0	0	0	0	1	0	0	10	2	0	0	12	112
4:15 PM	3	0	22	0	1	25	29	4	0	0	0	33	0	0	0	0	0	0	0	7	2	0	0	9	67
4:30 PM	6	0	18	0	0	24	24	6	0	0	0	30	0	0	0	0	0	0	0	11	1	0	0	12	66
4:45 PM	7	0	22	0	0	29	17	8	0	0	0	25	0	0	0	0	0	0	0	9	1	0	0	10	64
Hourly Total	44	0	101	0	1	145	96	25	0	0	0	121	0	0	0	0	1	0	0	37	6	0	0	43	309
5:00 PM	3	0	20	1	0	24	24	8	0	0	1	32	0	0	0	0	0	0	0	7	1	1	0	9	65
5:15 PM	3	0	13	0	0	16	28	9	0	0	0	37	0	0	0	0	0	0	0	5	1	0	0	6	59
5:30 PM	3	0	26	0	0	29	20	5	0	0	0	25	0	0	0	0	0	0	0	5	1	0	0	6	60
5:45 PM	5	0	28	0	0	33	29	3	0	0	1	32	0	0	0	0	0	0	0	8	0	0	0	8	73
Hourly Total	14	0	87	1	0	102	101	25	0	0	2	126	0	0	0	0	0	0	0	25	3	1	0	29	257
6:00 PM	3	0	21	0	0	24	23	6	0	0	0	29	0	0	0	0	0	0	0	11	2	0	0	13	66
6:15 PM	2	0	13	1	0	16	24	8	0	0	0	32	0	0	0	0	0	0	0	5	1	0	0	6	54
6:30 PM	4	0	19	0	0	23	25	8	0	0	0	33	0	0	0	0	1	0	1	5	0	0	0	6	62
6:45 PM	0	0	16	1	0	17	26	9	0	0	1	35	0	1	0	0	1	1	0	5	0	0	0	5	58
Hourly Total	9	0	69	2	0	80	98	31	0	0	1	129	0	1	0	0	2	1	1	26	3	0	0	30	240

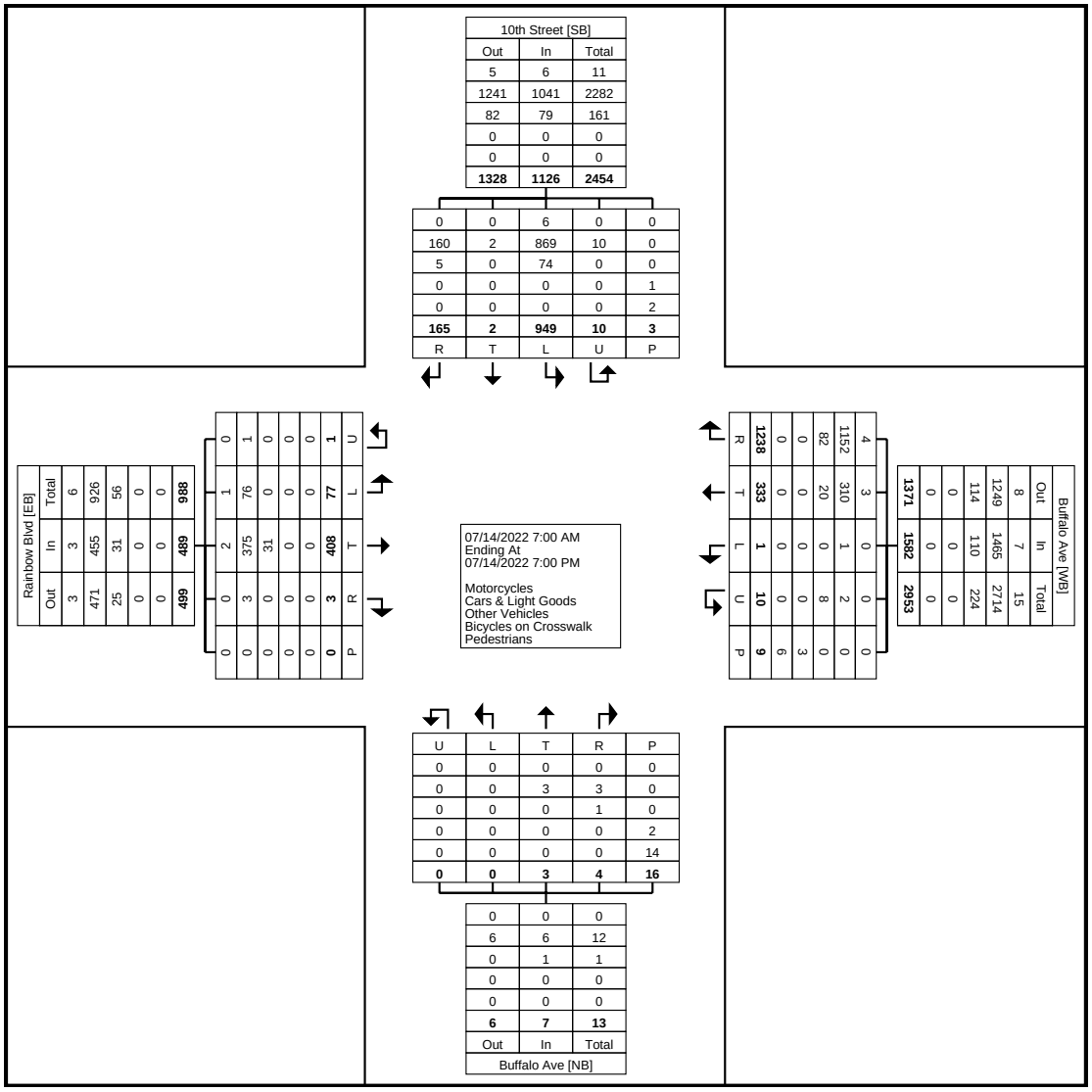
Grand Total	165	2	949	10	3	1126	1238	333	1	10	9	1582	4	3	0	0	16	7	3	408	77	1	0	489	3204
Approach %	14.7	0.2	84.3	0.9	-	-	78.3	21.0	0.1	0.6	-	-	57.1	42.9	0.0	0.0	-	-	0.6	83.4	15.7	0.2	-	-	-
Total %	5.1	0.1	29.6	0.3	-	35.1	38.6	10.4	0.0	0.3	-	49.4	0.1	0.1	0.0	0.0	-	0.2	0.1	12.7	2.4	0.0	-	15.3	-
Motorcycles	0	0	6	0	-	6	4	3	0	0	-	7	0	0	0	0	-	0	0	2	1	0	-	3	16
% Motorcycles	0.0	0.0	0.6	0.0	-	0.5	0.3	0.9	0.0	0.0	-	0.4	0.0	0.0	-	-	-	0.0	0.0	0.5	1.3	0.0	-	0.6	0.5
Cars & Light Goods	160	2	869	10	-	1041	1152	310	1	2	-	1465	3	3	0	0	-	6	3	375	76	1	-	455	2967
% Cars & Light Goods	97.0	100.0	91.6	100.0	-	92.5	93.1	93.1	100.0	20.0	-	92.6	75.0	100.0	-	-	-	85.7	100.0	91.9	98.7	100.0	-	93.0	92.6
Other Vehicles	5	0	74	0	-	79	82	20	0	8	-	110	1	0	0	0	-	1	0	31	0	0	-	31	221
% Other Vehicles	3.0	0.0	7.8	0.0	-	7.0	6.6	6.0	0.0	80.0	-	7.0	25.0	0.0	-	-	-	14.3	0.0	7.6	0.0	0.0	-	6.3	6.9
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	33.3	-	-	-	-	-	33.3	-	-	-	-	-	12.5	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	6	-	-	-	-	-	14	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	66.7	-	-	-	-	-	66.7	-	-	-	-	-	87.5	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022
Page No: 3



Turning Movement Data Plot

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (7:45 AM)

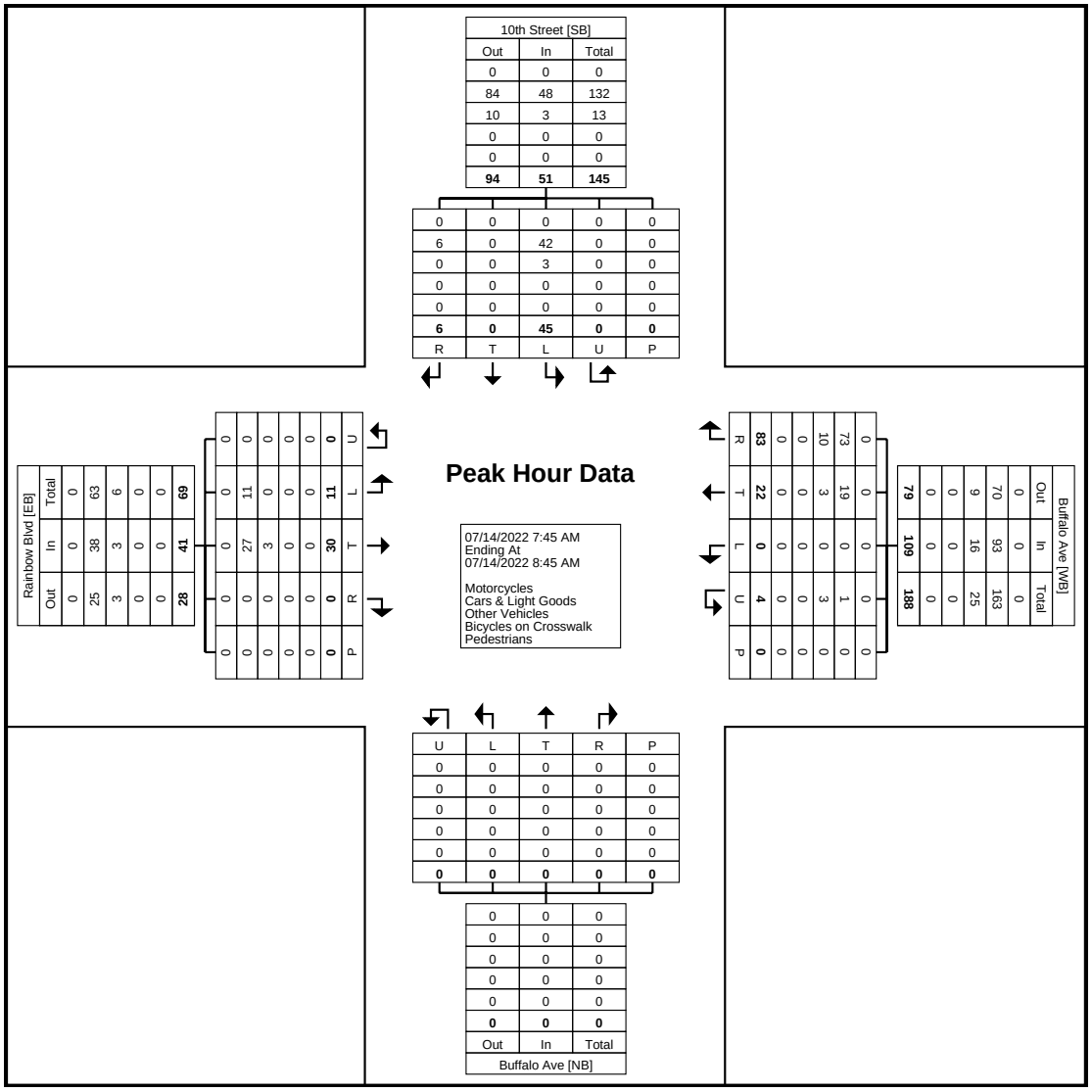
Start Time	10th Street Southbound						Buffalo Ave Westbound						Buffalo Ave Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:45 AM	1	0	10	0	0	11	32	4	0	0	0	36	0	0	0	0	0	0	0	12	8	0	0	20	67
8:00 AM	1	0	8	0	0	9	16	5	0	2	0	23	0	0	0	0	0	0	0	9	3	0	0	12	44
8:15 AM	3	0	12	0	0	15	22	5	0	2	0	29	0	0	0	0	0	0	0	3	0	0	0	3	47
8:30 AM	1	0	15	0	0	16	13	8	0	0	0	21	0	0	0	0	0	0	0	6	0	0	0	6	43
Total	6	0	45	0	0	51	83	22	0	4	0	109	0	0	0	0	0	0	0	30	11	0	0	41	201
Approach %	11.8	0.0	88.2	0.0	-	-	76.1	20.2	0.0	3.7	-	-	0.0	0.0	0.0	0.0	-	-	0.0	73.2	26.8	0.0	-	-	-
Total %	3.0	0.0	22.4	0.0	-	25.4	41.3	10.9	0.0	2.0	-	54.2	0.0	0.0	0.0	0.0	-	0.0	0.0	14.9	5.5	0.0	-	20.4	-
PHF	0.500	0.000	0.750	0.000	-	0.797	0.648	0.688	0.000	0.500	-	0.757	0.000	0.000	0.000	0.000	-	0.000	0.000	0.625	0.344	0.000	-	0.513	0.750
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	-	0.0	-	-	0.0	0.0	0.0	-	0.0	-	0.0	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	6	0	42	0	-	48	73	19	0	1	-	93	0	0	0	0	-	0	0	27	11	0	-	38	179
% Cars & Light Goods	100.0	-	93.3	-	-	94.1	88.0	86.4	-	25.0	-	85.3	-	-	-	-	-	-	-	90.0	100.0	-	-	92.7	89.1
Other Vehicles	0	0	3	0	-	3	10	3	0	3	-	16	0	0	0	0	-	0	0	3	0	0	-	3	22
% Other Vehicles	0.0	-	6.7	-	-	5.9	12.0	13.6	-	75.0	-	14.7	-	-	-	-	-	-	-	10.0	0.0	-	-	7.3	10.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022
Page No: 5



Turning Movement Peak Hour Data Plot (7:45 AM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (12:00 PM)

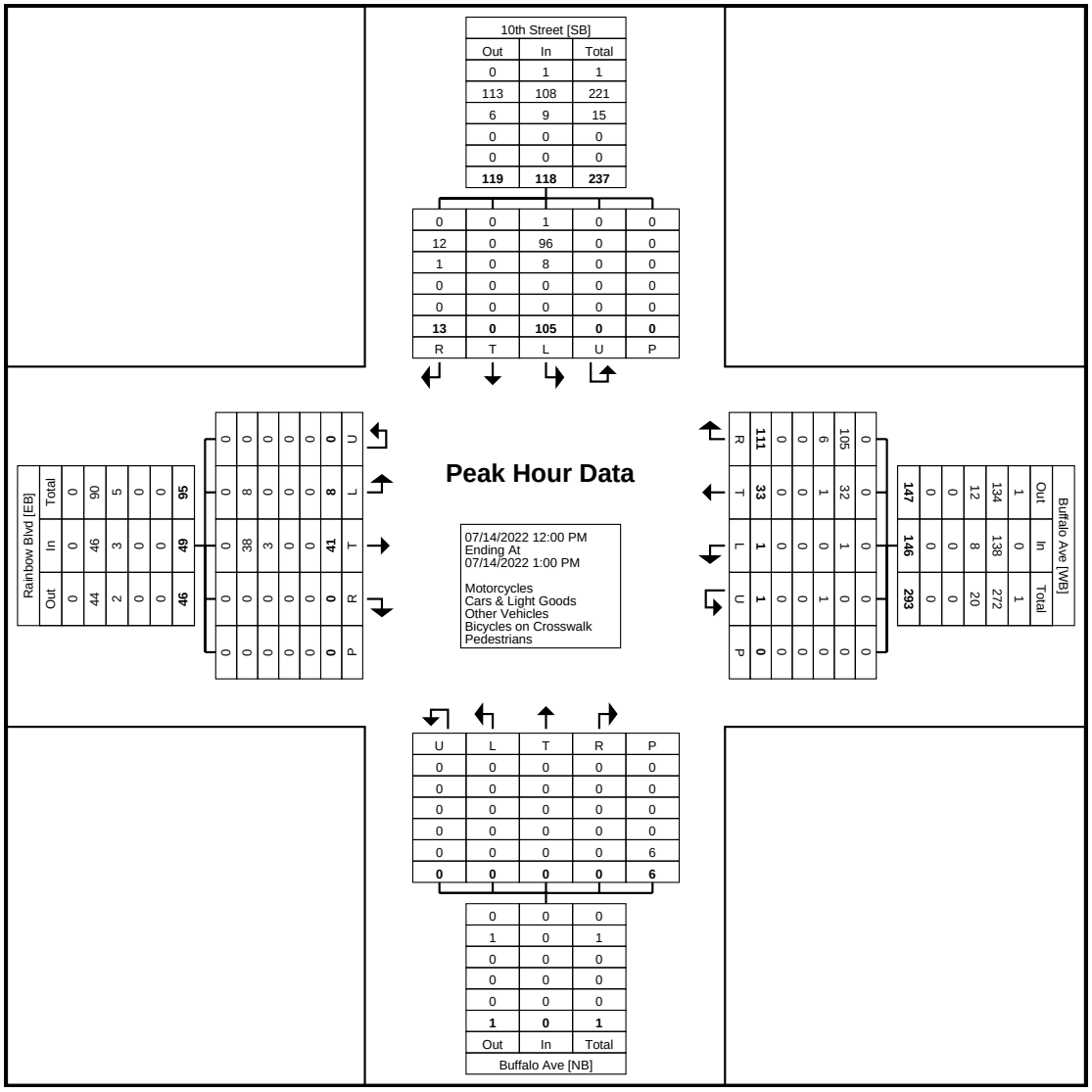
Start Time	10th Street Southbound						Buffalo Ave Westbound						Buffalo Ave Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	7	0	26	0	0	33	27	14	0	1	0	42	0	0	0	0	4	0	0	5	1	0	0	6	81
12:15 PM	1	0	23	0	0	24	25	10	0	0	0	35	0	0	0	0	2	0	0	13	3	0	0	16	75
12:30 PM	4	0	32	0	0	36	30	4	0	0	0	34	0	0	0	0	0	0	0	12	0	0	0	12	82
12:45 PM	1	0	24	0	0	25	29	5	1	0	0	35	0	0	0	0	0	0	0	11	4	0	0	15	75
Total	13	0	105	0	0	118	111	33	1	1	0	146	0	0	0	0	6	0	0	41	8	0	0	49	313
Approach %	11.0	0.0	89.0	0.0	-	-	76.0	22.6	0.7	0.7	-	-	0.0	0.0	0.0	0.0	-	-	0.0	83.7	16.3	0.0	-	-	-
Total %	4.2	0.0	33.5	0.0	-	37.7	35.5	10.5	0.3	0.3	-	46.6	0.0	0.0	0.0	0.0	-	0.0	0.0	13.1	2.6	0.0	-	15.7	-
PHF	0.464	0.000	0.820	0.000	-	0.819	0.925	0.589	0.250	0.250	-	0.869	0.000	0.000	0.000	0.000	-	0.000	0.000	0.788	0.500	0.000	-	0.766	0.954
Motorcycles	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Motorcycles	0.0	-	1.0	-	-	0.8	0.0	0.0	0.0	0.0	-	0.0	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.3
Cars & Light Goods	12	0	96	0	-	108	105	32	1	0	-	138	0	0	0	0	-	0	0	38	8	0	-	46	292
% Cars & Light Goods	92.3	-	91.4	-	-	91.5	94.6	97.0	100.0	0.0	-	94.5	-	-	-	-	-	-	-	92.7	100.0	-	-	93.9	93.3
Other Vehicles	1	0	8	0	-	9	6	1	0	1	-	8	0	0	0	0	-	0	0	3	0	0	-	3	20
% Other Vehicles	7.7	-	7.6	-	-	7.6	5.4	3.0	0.0	100.0	-	5.5	-	-	-	-	-	-	-	7.3	0.0	-	-	6.1	6.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022
Page No: 7



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (4:00 PM)

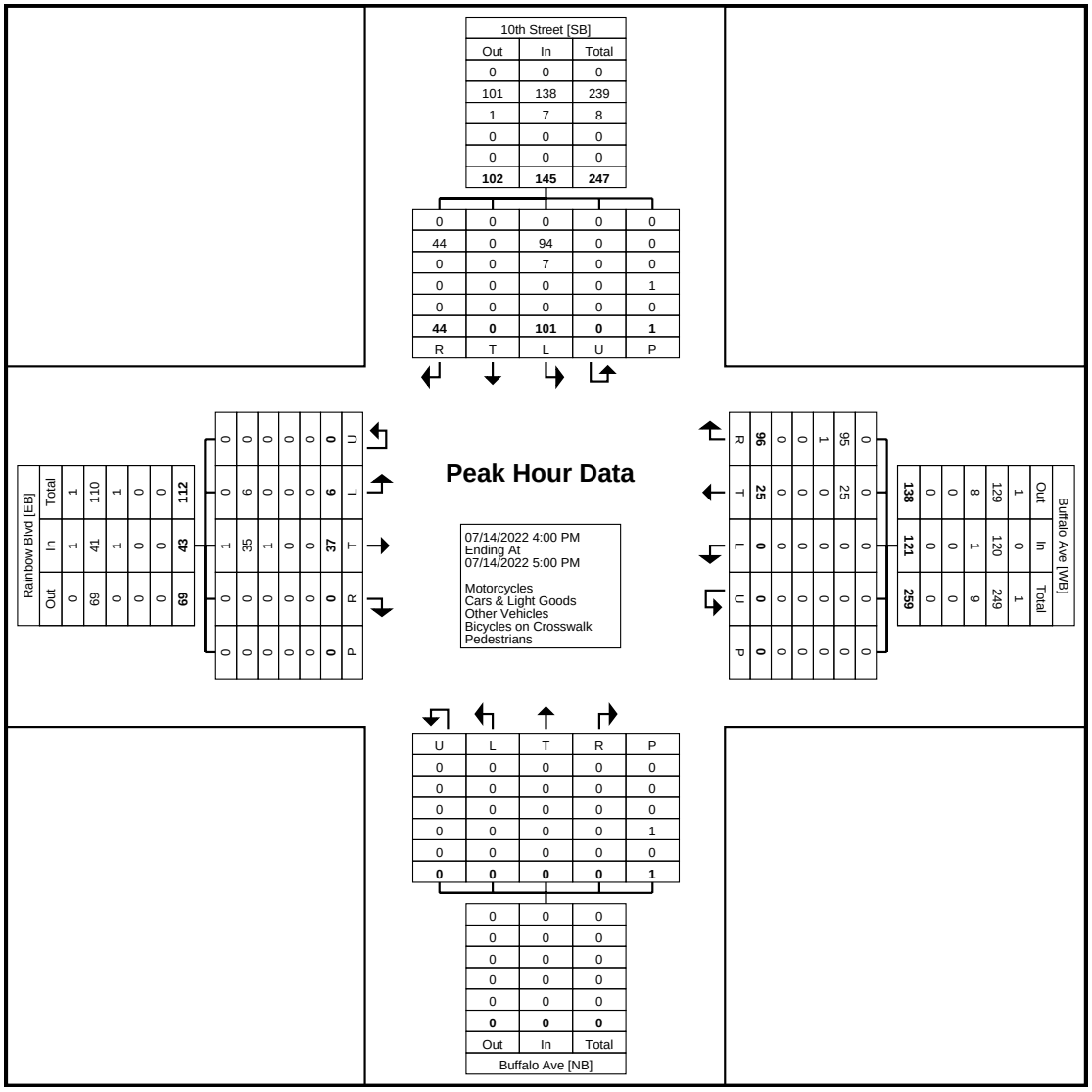
Start Time	10th Street Southbound						Buffalo Ave Westbound						Buffalo Ave Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	28	0	39	0	0	67	26	7	0	0	0	33	0	0	0	0	1	0	0	10	2	0	0	12	112
4:15 PM	3	0	22	0	1	25	29	4	0	0	0	33	0	0	0	0	0	0	0	7	2	0	0	9	67
4:30 PM	6	0	18	0	0	24	24	6	0	0	0	30	0	0	0	0	0	0	0	11	1	0	0	12	66
4:45 PM	7	0	22	0	0	29	17	8	0	0	0	25	0	0	0	0	0	0	0	9	1	0	0	10	64
Total	44	0	101	0	1	145	96	25	0	0	0	121	0	0	0	0	1	0	0	37	6	0	0	43	309
Approach %	30.3	0.0	69.7	0.0	-	-	79.3	20.7	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	86.0	14.0	0.0	-	-	-
Total %	14.2	0.0	32.7	0.0	-	46.9	31.1	8.1	0.0	0.0	-	39.2	0.0	0.0	0.0	0.0	-	0.0	0.0	12.0	1.9	0.0	-	13.9	-
PHF	0.393	0.000	0.647	0.000	-	0.541	0.828	0.781	0.000	0.000	-	0.917	0.000	0.000	0.000	0.000	-	0.000	0.000	0.841	0.750	0.000	-	0.896	0.690
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Motorcycles	0.0	-	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	-	2.7	0.0	-	-	2.3	0.3
Cars & Light Goods	44	0	94	0	-	138	95	25	0	0	-	120	0	0	0	0	-	0	0	35	6	0	-	41	299
% Cars & Light Goods	100.0	-	93.1	-	-	95.2	99.0	100.0	-	-	-	99.2	-	-	-	-	-	-	-	94.6	100.0	-	-	95.3	96.8
Other Vehicles	0	0	7	0	-	7	1	0	0	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	9
% Other Vehicles	0.0	-	6.9	-	-	4.8	1.0	0.0	-	-	-	0.8	-	-	-	-	-	-	-	2.7	0.0	-	-	2.3	2.9
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022
Page No: 9



Turning Movement Peak Hour Data Plot (4:00 PM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022

Turning Movement Data

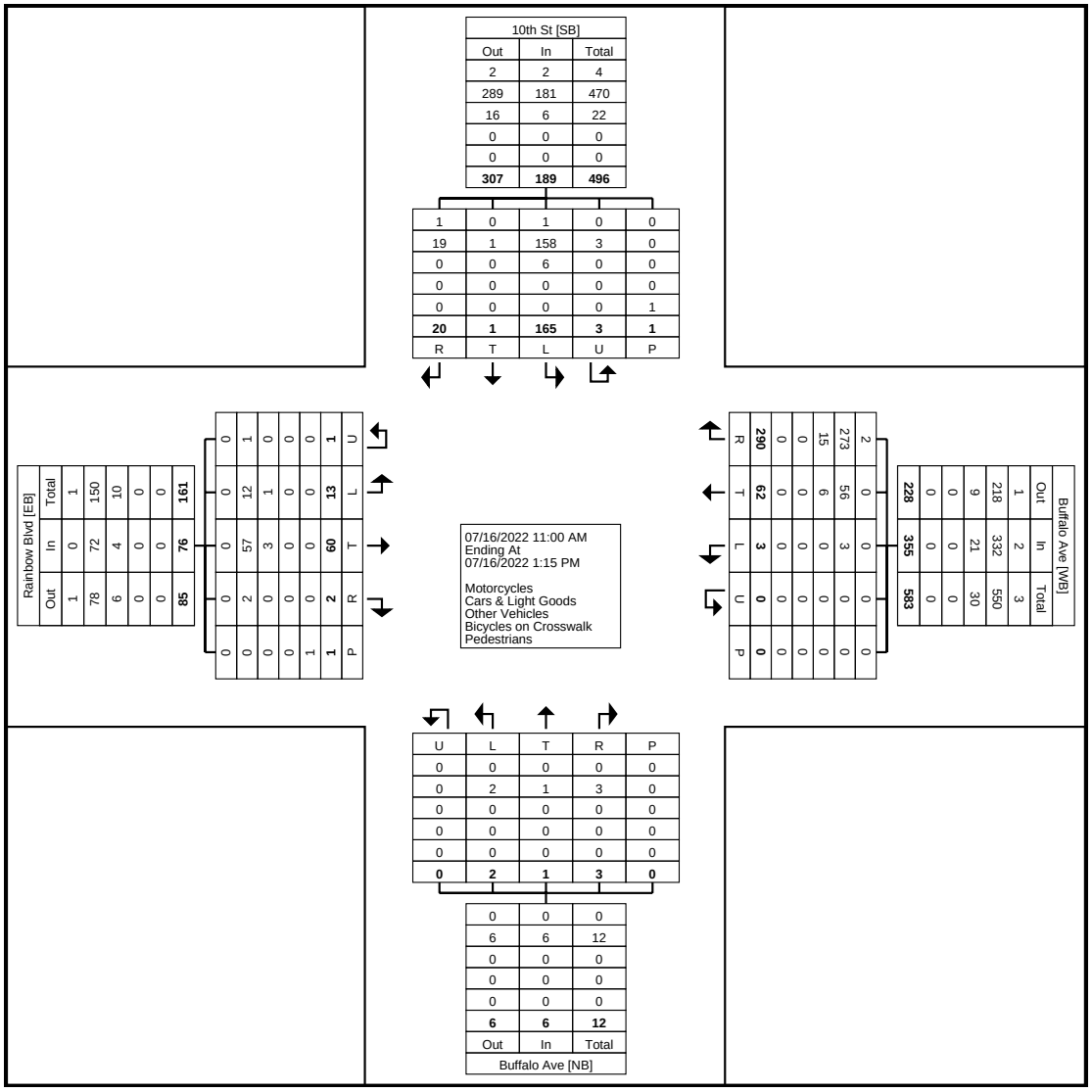
Start Time	10th St Southbound						Buffalo Ave Westbound						Buffalo Ave Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	1	0	18	0	0	19	34	5	0	0	0	39	0	0	0	0	0	0	0	8	0	0	0	8	66
11:15 AM	2	0	30	1	0	33	38	13	0	0	0	51	0	0	1	0	0	1	1	8	4	0	0	13	98
11:30 AM	5	1	18	1	0	25	42	4	0	0	0	46	2	1	0	0	0	3	0	5	4	0	0	9	83
11:45 AM	1	0	18	1	0	20	32	7	0	0	0	39	0	0	1	0	0	1	1	5	0	0	0	6	66
Hourly Total	9	1	84	3	0	97	146	29	0	0	0	175	2	1	2	0	0	5	2	26	8	0	0	36	313
12:00 PM	4	0	26	0	0	30	30	9	1	0	0	40	1	0	0	0	0	1	0	9	3	1	0	13	84
12:15 PM	2	0	20	0	1	22	41	9	0	0	0	50	0	0	0	0	0	0	0	7	0	0	1	7	79
12:30 PM	3	0	17	0	0	20	36	5	1	0	0	42	0	0	0	0	0	0	0	8	0	0	0	8	70
12:45 PM	2	0	18	0	0	20	37	10	1	0	0	48	0	0	0	0	0	0	0	10	2	0	0	12	80
Hourly Total	11	0	81	0	1	92	144	33	3	0	0	180	1	0	0	0	0	1	0	34	5	1	1	40	313
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	20	1	165	3	1	189	290	62	3	0	0	355	3	1	2	0	0	6	2	60	13	1	1	76	626
Approach %	10.6	0.5	87.3	1.6	-	-	81.7	17.5	0.8	0.0	-	-	50.0	16.7	33.3	0.0	-	-	2.6	78.9	17.1	1.3	-	-	-
Total %	3.2	0.2	26.4	0.5	-	30.2	46.3	9.9	0.5	0.0	-	56.7	0.5	0.2	0.3	0.0	-	1.0	0.3	9.6	2.1	0.2	-	12.1	-
Motorcycles	1	0	1	0	-	2	2	0	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	4
% Motorcycles	5.0	0.0	0.6	0.0	-	1.1	0.7	0.0	0.0	-	-	0.6	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.6
Cars & Light Goods	19	1	158	3	-	181	273	56	3	0	-	332	3	1	2	0	-	6	2	57	12	1	-	72	591
% Cars & Light Goods	95.0	100.0	95.8	100.0	-	95.8	94.1	90.3	100.0	-	-	93.5	100.0	100.0	100.0	-	-	100.0	100.0	95.0	92.3	100.0	-	94.7	94.4
Other Vehicles	0	0	6	0	-	6	15	6	0	0	-	21	0	0	0	0	-	0	0	3	1	0	-	4	31
% Other Vehicles	0.0	0.0	3.6	0.0	-	3.2	5.2	9.7	0.0	-	-	5.9	0.0	0.0	0.0	-	-	0.0	0.0	5.0	7.7	0.0	-	5.3	5.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (11:00 AM)

Start Time	10th St Southbound						Buffalo Ave Westbound						Buffalo Ave Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	1	0	18	0	0	19	34	5	0	0	0	39	0	0	0	0	0	0	0	8	0	0	0	8	66
11:15 AM	2	0	30	1	0	33	38	13	0	0	0	51	0	0	1	0	0	1	1	8	4	0	0	13	98
11:30 AM	5	1	18	1	0	25	42	4	0	0	0	46	2	1	0	0	0	3	0	5	4	0	0	9	83
11:45 AM	1	0	18	1	0	20	32	7	0	0	0	39	0	0	1	0	0	1	1	5	0	0	0	6	66
Total	9	1	84	3	0	97	146	29	0	0	0	175	2	1	2	0	0	5	2	26	8	0	0	36	313
Approach %	9.3	1.0	86.6	3.1	-	-	83.4	16.6	0.0	0.0	-	-	40.0	20.0	40.0	0.0	-	-	5.6	72.2	22.2	0.0	-	-	-
Total %	2.9	0.3	26.8	1.0	-	31.0	46.6	9.3	0.0	0.0	-	55.9	0.6	0.3	0.6	0.0	-	1.6	0.6	8.3	2.6	0.0	-	11.5	-
PHF	0.450	0.250	0.700	0.750	-	0.735	0.869	0.558	0.000	0.000	-	0.858	0.250	0.250	0.500	0.000	-	0.417	0.500	0.813	0.500	0.000	-	0.692	0.798
Motorcycles	1	0	0	0	-	1	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Motorcycles	11.1	0.0	0.0	0.0	-	1.0	0.7	0.0	-	-	-	0.6	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.6
Cars & Light Goods	8	1	79	3	-	91	138	27	0	0	-	165	2	1	2	0	-	5	2	25	7	0	-	34	295
% Cars & Light Goods	88.9	100.0	94.0	100.0	-	93.8	94.5	93.1	-	-	-	94.3	100.0	100.0	100.0	-	-	100.0	100.0	96.2	87.5	-	-	94.4	94.2
Other Vehicles	0	0	5	0	-	5	7	2	0	0	-	9	0	0	0	0	-	0	0	1	1	0	-	2	16
% Other Vehicles	0.0	0.0	6.0	0.0	-	5.2	4.8	6.9	-	-	-	5.1	0.0	0.0	0.0	-	-	0.0	0.0	3.8	12.5	-	-	5.6	5.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
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Niagara, New York
July 16, 2022

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
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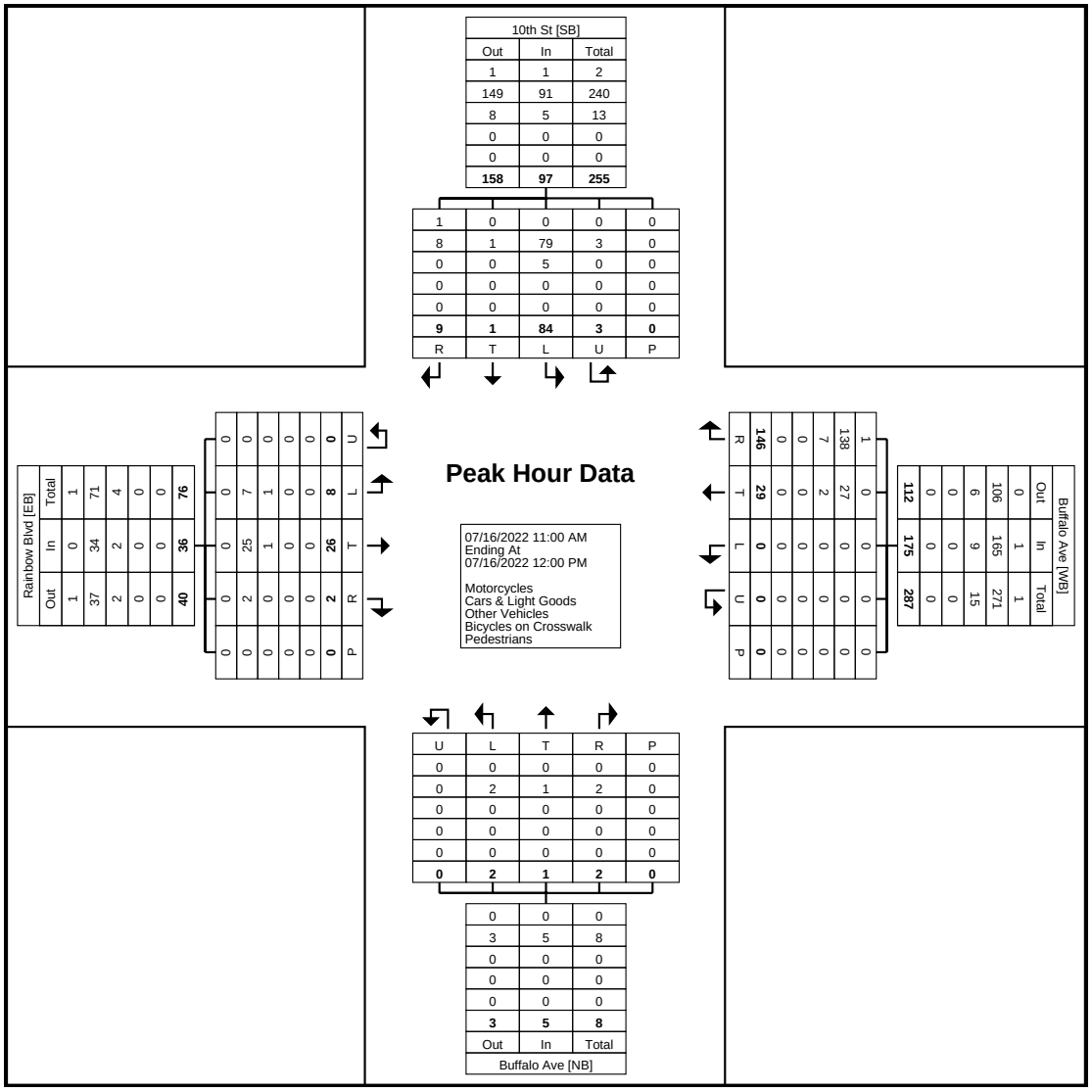


Turning Movement Peak Hour Data Plot (11:00 AM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (12:00 PM)

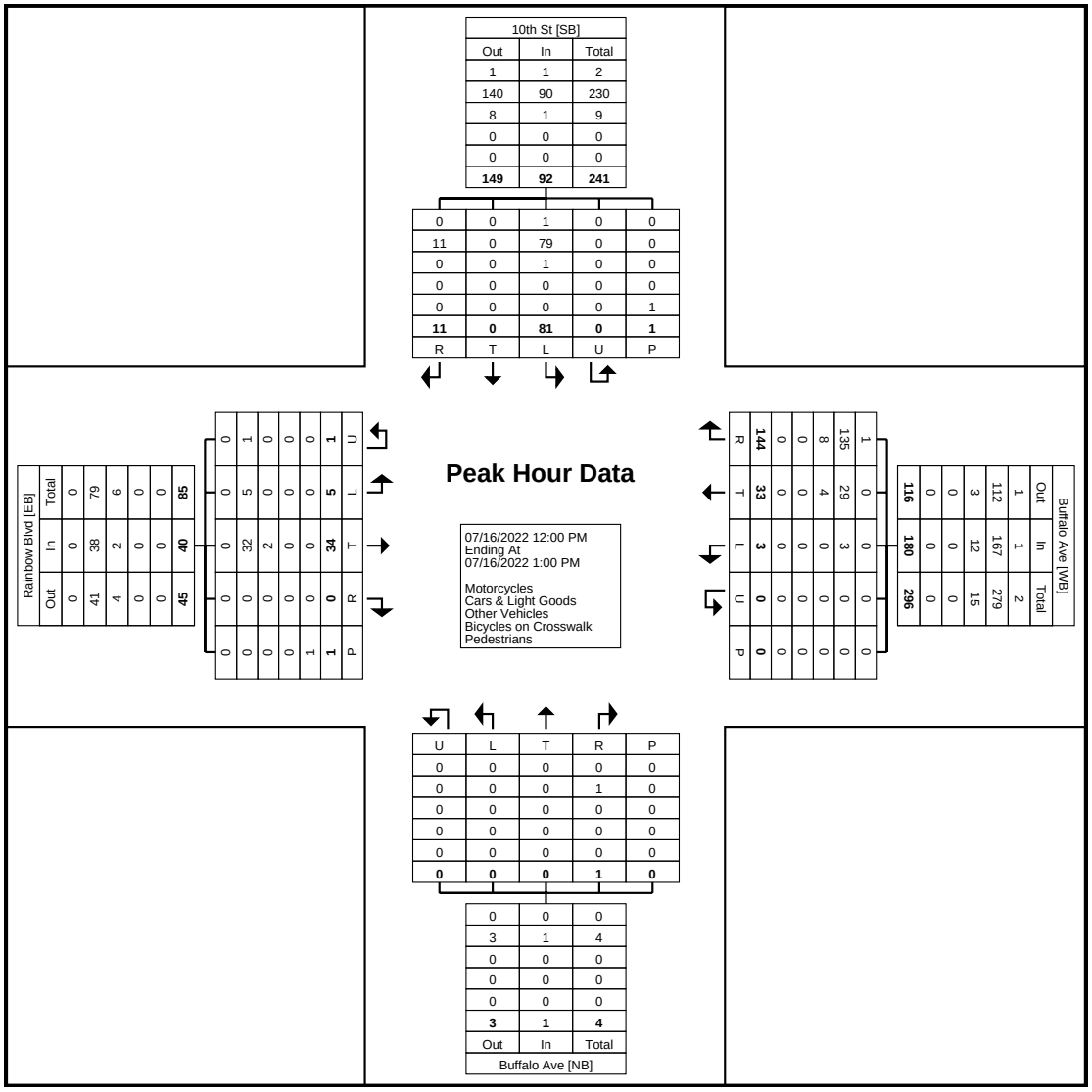
Start Time	10th St Southbound						Buffalo Ave Westbound						Buffalo Ave Northbound						Rainbow Blvd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	4	0	26	0	0	30	30	9	1	0	0	40	1	0	0	0	0	1	0	9	3	1	0	13	84
12:15 PM	2	0	20	0	1	22	41	9	0	0	0	50	0	0	0	0	0	0	0	7	0	0	1	7	79
12:30 PM	3	0	17	0	0	20	36	5	1	0	0	42	0	0	0	0	0	0	0	8	0	0	0	8	70
12:45 PM	2	0	18	0	0	20	37	10	1	0	0	48	0	0	0	0	0	0	0	10	2	0	0	12	80
Total	11	0	81	0	1	92	144	33	3	0	0	180	1	0	0	0	0	1	0	34	5	1	1	40	313
Approach %	12.0	0.0	88.0	0.0	-	-	80.0	18.3	1.7	0.0	-	-	100.0	0.0	0.0	0.0	-	-	0.0	85.0	12.5	2.5	-	-	-
Total %	3.5	0.0	25.9	0.0	-	29.4	46.0	10.5	1.0	0.0	-	57.5	0.3	0.0	0.0	0.0	-	0.3	0.0	10.9	1.6	0.3	-	12.8	-
PHF	0.688	0.000	0.779	0.000	-	0.767	0.878	0.825	0.750	0.000	-	0.900	0.250	0.000	0.000	0.000	-	0.250	0.000	0.850	0.417	0.250	-	0.769	0.932
Motorcycles	0	0	1	0	-	1	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Motorcycles	0.0	-	1.2	-	-	1.1	0.7	0.0	0.0	-	-	0.6	0.0	-	-	-	-	0.0	-	0.0	0.0	0.0	-	0.0	0.6
Cars & Light Goods	11	0	79	0	-	90	135	29	3	0	-	167	1	0	0	0	-	1	0	32	5	1	-	38	296
% Cars & Light Goods	100.0	-	97.5	-	-	97.8	93.8	87.9	100.0	-	-	92.8	100.0	-	-	-	-	100.0	-	94.1	100.0	100.0	-	95.0	94.6
Other Vehicles	0	0	1	0	-	1	8	4	0	0	-	12	0	0	0	0	-	0	0	2	0	0	-	2	15
% Other Vehicles	0.0	-	1.2	-	-	1.1	5.6	12.1	0.0	-	-	6.7	0.0	-	-	-	-	0.0	-	5.9	0.0	0.0	-	5.0	4.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Rainbow Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Falls St & 9th St
Site Code:
Start Date: 07/12/2022
Page No: 1

Turning Movement Data

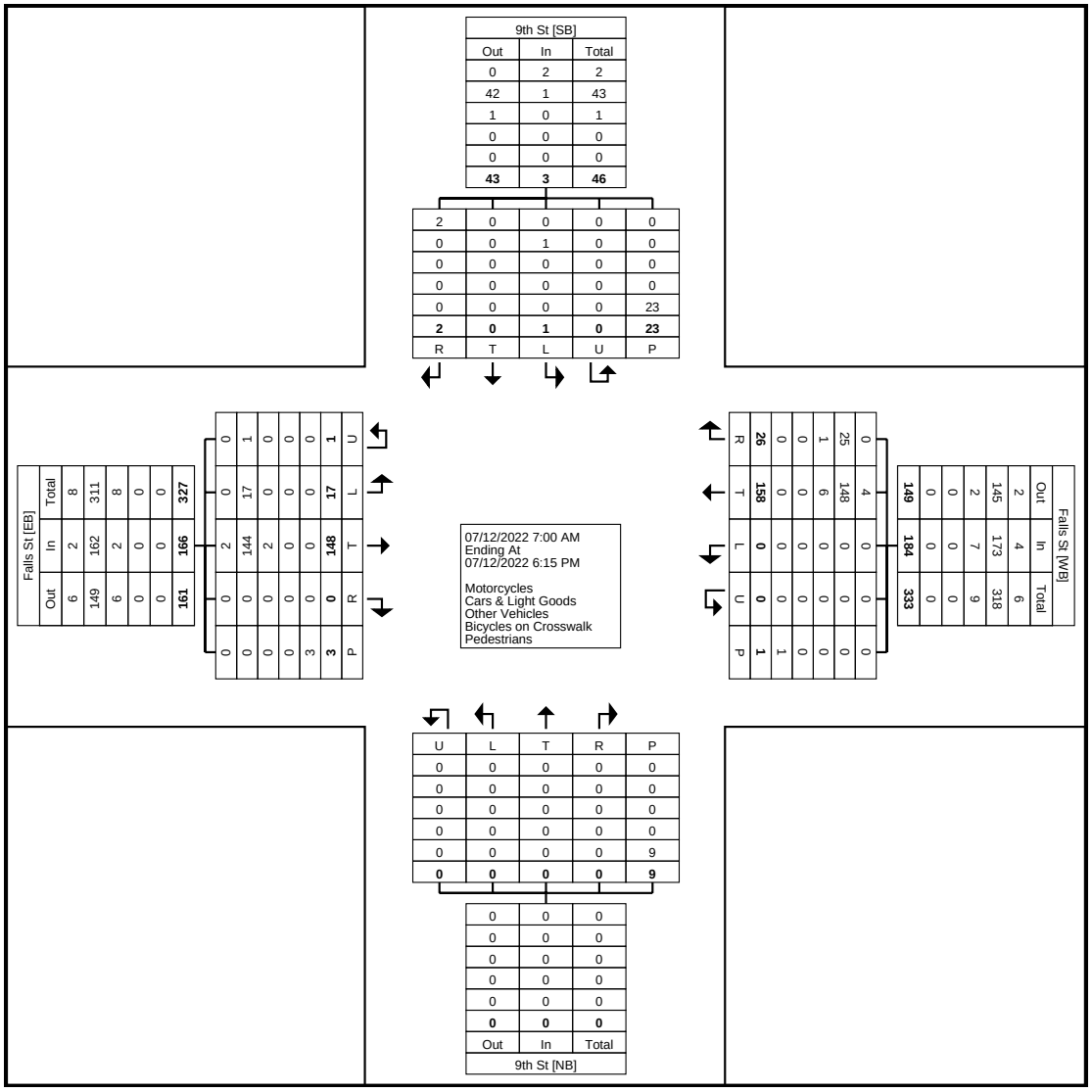
Start Time	9th St Southbound						Falls St Westbound						9th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	0	4	4
7:15 AM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	3	5
7:30 AM	0	0	0	0	2	0	1	4	0	0	1	5	0	0	0	0	1	0	0	8	1	0	1	9	14
7:45 AM	0	0	0	0	0	0	1	7	0	0	0	8	0	0	0	0	0	0	0	19	0	0	0	19	27
Hourly Total	0	0	0	0	3	0	2	13	0	0	1	15	0	0	0	0	2	0	0	34	1	0	1	35	50
8:00 AM	0	0	0	0	1	0	2	2	0	0	0	4	0	0	0	0	0	0	0	8	0	0	0	8	12
8:15 AM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	18	0	0	0	18	23
8:30 AM	0	0	0	0	1	0	0	5	0	0	0	5	0	0	0	0	2	0	0	5	0	0	1	5	10
8:45 AM	0	0	0	0	0	0	2	3	0	0	0	5	0	0	0	0	0	0	0	0	2	0	0	2	7
Hourly Total	0	0	0	0	2	0	4	15	0	0	0	19	0	0	0	0	2	0	0	31	2	0	1	33	52
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	2	5	0	0	0	7	0	0	0	0	0	0	0	5	1	0	0	6	13
11:15 AM	0	0	0	0	1	0	2	6	0	0	0	8	0	0	0	0	0	0	0	5	0	0	0	5	13
11:30 AM	0	0	0	0	2	0	2	11	0	0	0	13	0	0	0	0	0	0	0	3	1	0	0	4	17
11:45 AM	0	0	0	0	1	0	1	7	0	0	0	8	0	0	0	0	2	0	0	7	0	0	0	7	15
Hourly Total	0	0	0	0	4	0	7	29	0	0	0	36	0	0	0	0	2	0	0	20	2	0	0	22	58
12:00 PM	0	0	0	0	1	0	0	7	0	0	0	7	0	0	0	0	0	0	0	9	0	0	0	9	16
12:15 PM	0	0	0	0	1	0	1	6	0	0	0	7	0	0	0	0	0	0	0	5	2	0	0	7	14
12:30 PM	1	0	0	0	6	1	4	9	0	0	0	13	0	0	0	0	0	0	0	6	3	0	1	9	23
12:45 PM	0	0	1	0	2	1	0	10	0	0	0	10	0	0	0	0	1	0	0	3	3	0	0	6	17
Hourly Total	1	0	1	0	10	2	5	32	0	0	0	37	0	0	0	0	1	0	0	23	8	0	1	31	70
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	0	0	0	0	3	14	0	0	0	17	0	0	0	0	0	0	0	7	0	1	0	8	25
4:15 PM	0	0	0	0	0	0	2	5	0	0	0	7	0	0	0	0	0	0	0	5	1	0	0	6	13
4:30 PM	0	0	0	0	0	0	1	13	0	0	0	14	0	0	0	0	0	0	0	5	0	0	0	5	19
4:45 PM	0	0	0	0	1	0	1	7	0	0	0	8	0	0	0	0	1	0	0	6	0	0	0	6	14
Hourly Total	0	0	0	0	1	0	7	39	0	0	0	46	0	0	0	0	1	0	0	23	1	1	0	25	71
5:00 PM	0	0	0	0	1	0	0	9	0	0	0	9	0	0	0	0	1	0	0	5	0	0	0	5	14
5:15 PM	0	0	0	0	1	0	1	6	0	0	0	7	0	0	0	0	0	0	0	5	1	0	0	6	13
5:30 PM	1	0	0	0	1	1	0	5	0	0	0	5	0	0	0	0	0	0	0	5	1	0	0	6	12
5:45 PM	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	2	1	0	0	3	13
Hourly Total	1	0	0	0	3	1	1	30	0	0	0	31	0	0	0	0	1	0	0	17	3	0	0	20	52
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	2	0	1	0	23	3	26	158	0	0	1	184	0	0	0	0	9	0	0	148	17	1	3	166	353
Approach %	66.7	0.0	33.3	0.0	-	-	14.1	85.9	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	89.2	10.2	0.6	-	-	-
Total %	0.6	0.0	0.3	0.0	-	0.8	7.4	44.8	0.0	0.0	-	52.1	0.0	0.0	0.0	0.0	-	0.0	0.0	41.9	4.8	0.3	-	47.0	-
Motorcycles	2	0	0	0	-	2	0	4	0	0	-	4	0	0	0	0	-	0	0	2	0	0	-	2	8
% Motorcycles	100.0	-	0.0	-	-	66.7	0.0	2.5	-	-	-	2.2	-	-	-	-	-	-	-	1.4	0.0	0.0	-	1.2	2.3
Cars & Light Goods	0	0	1	0	-	1	25	148	0	0	-	173	0	0	0	0	-	0	0	144	17	1	-	162	336
% Cars & Light Goods	0.0	-	100.0	-	-	33.3	96.2	93.7	-	-	-	94.0	-	-	-	-	-	-	-	97.3	100.0	100.0	-	97.6	95.2
Other Vehicles	0	0	0	0	-	0	1	6	0	0	-	7	0	0	0	0	-	0	0	2	0	0	-	2	9
% Other Vehicles	0.0	-	0.0	-	-	0.0	3.8	3.8	-	-	-	3.8	-	-	-	-	-	-	-	1.4	0.0	0.0	-	1.2	2.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	23	-	-	-	-	-	1	-	-	-	-	-	9	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Falls St & 9th St
Site Code:
Start Date: 07/12/2022
Page No: 2



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Falls St & 9th St
Site Code:
Start Date: 07/12/2022
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

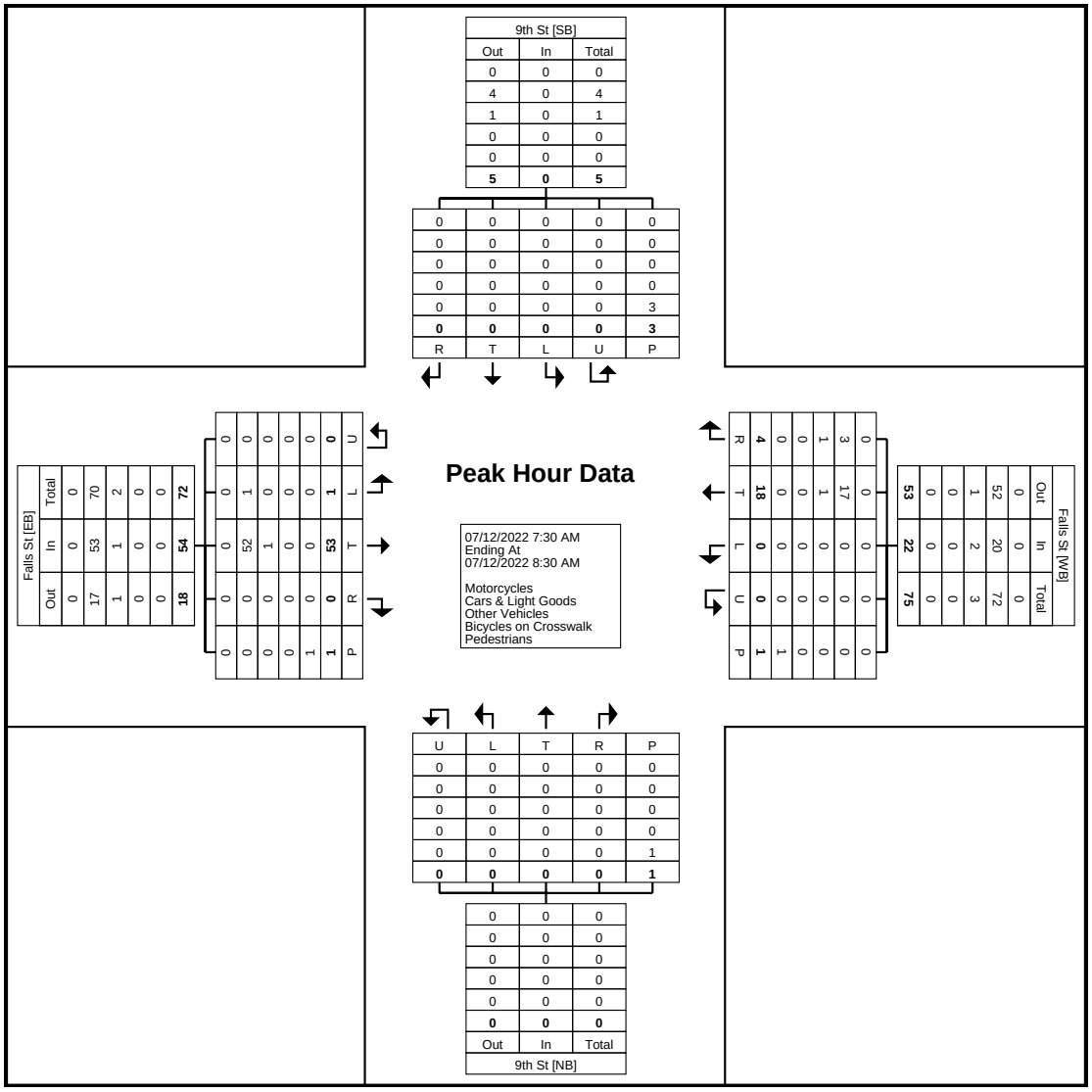
Start Time	9th St Southbound						Falls St Westbound						9th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	0	0	0	0	2	0	1	4	0	0	1	5	0	0	0	0	1	0	0	8	1	0	1	9	14
7:45 AM	0	0	0	0	0	0	1	7	0	0	0	8	0	0	0	0	0	0	0	19	0	0	0	19	27
8:00 AM	0	0	0	0	1	0	2	2	0	0	0	4	0	0	0	0	0	0	0	8	0	0	0	8	12
8:15 AM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	18	0	0	0	18	23
Total	0	0	0	0	3	0	4	18	0	0	1	22	0	0	0	0	1	0	0	53	1	0	1	54	76
Approach %	0.0	0.0	0.0	0.0	-	-	18.2	81.8	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	98.1	1.9	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	5.3	23.7	0.0	0.0	-	28.9	0.0	0.0	0.0	0.0	-	0.0	0.0	69.7	1.3	0.0	-	71.1	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.500	0.643	0.000	0.000	-	0.688	0.000	0.000	0.000	0.000	-	0.000	0.000	0.697	0.250	0.000	-	0.711	0.704
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	0	0	0	-	0	3	17	0	0	-	20	0	0	0	0	-	0	0	52	1	0	-	53	73
% Cars & Light Goods	-	-	-	-	-	-	75.0	94.4	-	-	-	90.9	-	-	-	-	-	-	-	98.1	100.0	-	-	98.1	96.1
Other Vehicles	0	0	0	0	-	0	1	1	0	0	-	2	0	0	0	0	-	0	0	1	0	0	-	1	3
% Other Vehicles	-	-	-	-	-	-	25.0	5.6	-	-	-	9.1	-	-	-	-	-	-	-	1.9	0.0	-	-	1.9	3.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Falls St & 9th St
Site Code:
Start Date: 07/12/2022
Page No: 4



Turning Movement Peak Hour Data Plot (7:30 AM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Falls St & 9th St
Site Code:
Start Date: 07/12/2022
Page No: 5

Turning Movement Peak Hour Data (12:00 PM)

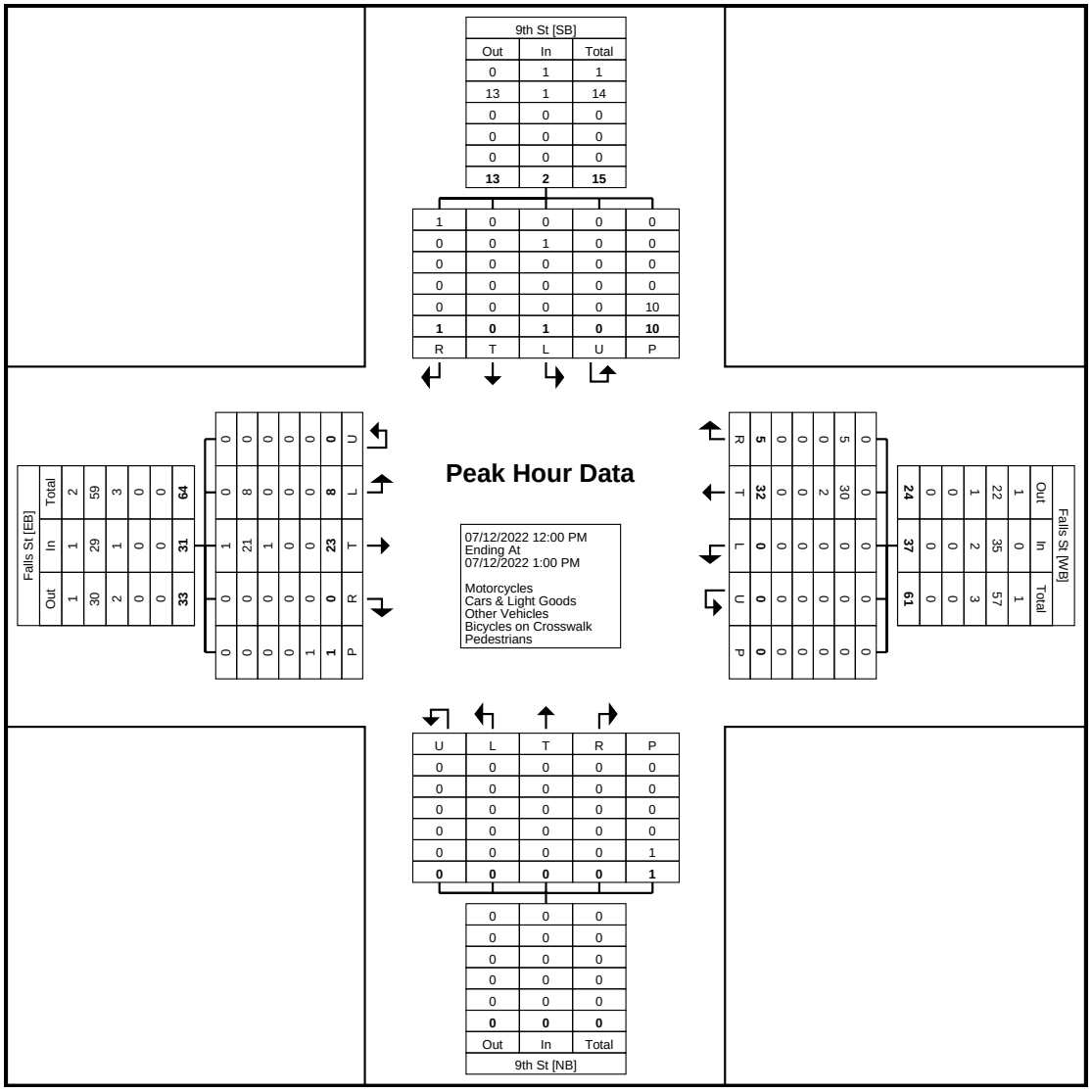
Start Time	9th St Southbound						Falls St Westbound						9th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	0	0	0	0	1	0	0	7	0	0	0	7	0	0	0	0	0	0	0	9	0	0	0	9	16
12:15 PM	0	0	0	0	1	0	1	6	0	0	0	7	0	0	0	0	0	0	0	5	2	0	0	7	14
12:30 PM	1	0	0	0	6	1	4	9	0	0	0	13	0	0	0	0	0	0	0	6	3	0	1	9	23
12:45 PM	0	0	1	0	2	1	0	10	0	0	0	10	0	0	0	0	1	0	0	3	3	0	0	6	17
Total	1	0	1	0	10	2	5	32	0	0	0	37	0	0	0	0	1	0	0	23	8	0	1	31	70
Approach %	50.0	0.0	50.0	0.0	-	-	13.5	86.5	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	74.2	25.8	0.0	-	-	-
Total %	1.4	0.0	1.4	0.0	-	2.9	7.1	45.7	0.0	0.0	-	52.9	0.0	0.0	0.0	0.0	-	0.0	0.0	32.9	11.4	0.0	-	44.3	-
PHF	0.250	0.000	0.250	0.000	-	0.500	0.313	0.800	0.000	0.000	-	0.712	0.000	0.000	0.000	0.000	-	0.000	0.000	0.639	0.667	0.000	-	0.861	0.761
Motorcycles	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	2
% Motorcycles	100.0	-	0.0	-	-	50.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	-	4.3	0.0	-	-	3.2	2.9
Cars & Light Goods	0	0	1	0	-	1	5	30	0	0	-	35	0	0	0	0	-	0	0	21	8	0	-	29	65
% Cars & Light Goods	0.0	-	100.0	-	-	50.0	100.0	93.8	-	-	-	94.6	-	-	-	-	-	-	-	91.3	100.0	-	-	93.5	92.9
Other Vehicles	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	1	0	0	-	1	3
% Other Vehicles	0.0	-	0.0	-	-	0.0	0.0	6.3	-	-	-	5.4	-	-	-	-	-	-	-	4.3	0.0	-	-	3.2	4.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	10	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Falls St & 9th St
Site Code:
Start Date: 07/12/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

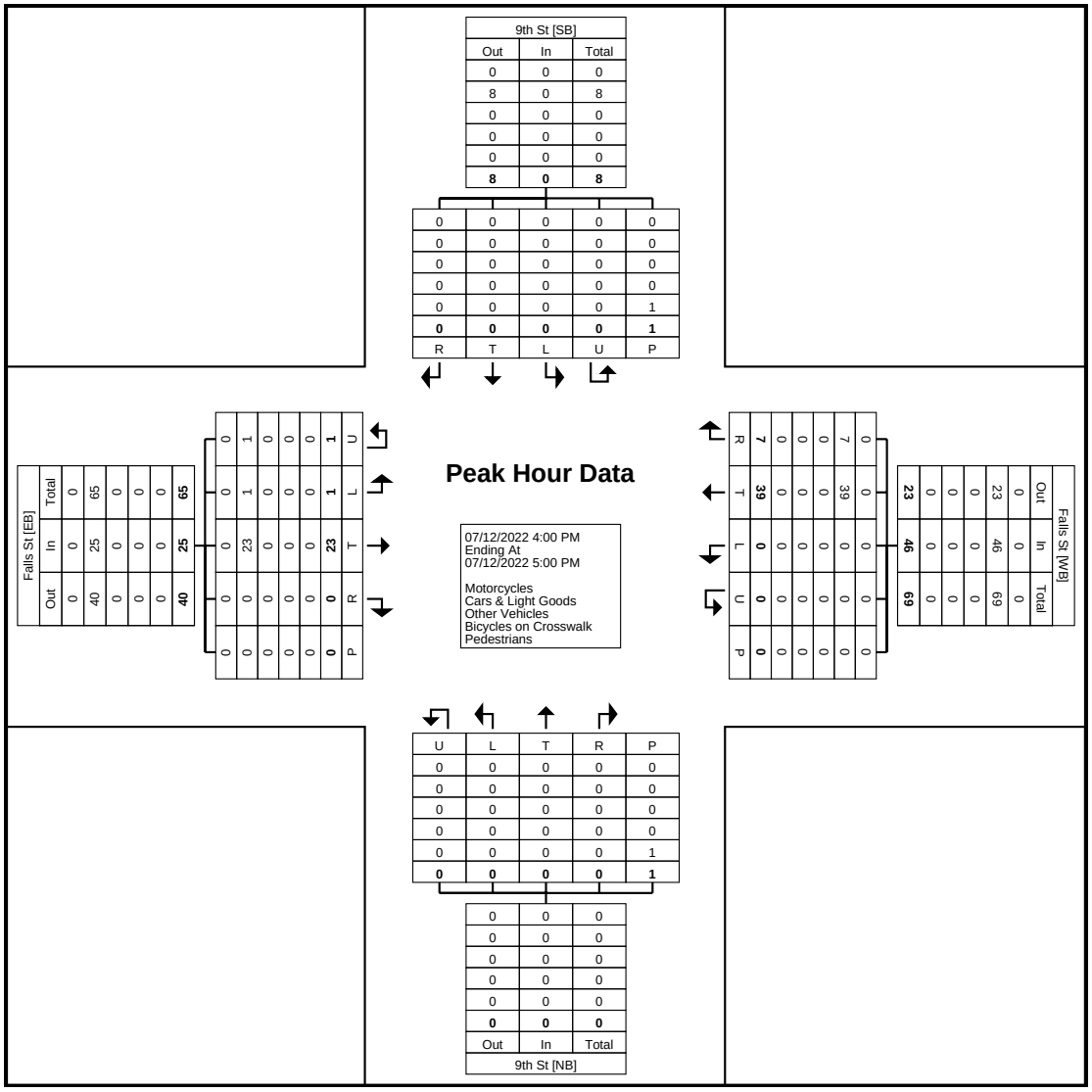
Count Name: Falls St & 9th St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (4:00 PM)

Start Time	9th St Southbound						Falls St Westbound						9th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	0	0	0	0	0	0	3	14	0	0	0	17	0	0	0	0	0	0	0	7	0	1	0	8	25
4:15 PM	0	0	0	0	0	0	2	5	0	0	0	7	0	0	0	0	0	0	0	5	1	0	0	6	13
4:30 PM	0	0	0	0	0	0	1	13	0	0	0	14	0	0	0	0	0	0	0	5	0	0	0	5	19
4:45 PM	0	0	0	0	1	0	1	7	0	0	0	8	0	0	0	0	1	0	0	6	0	0	0	6	14
Total	0	0	0	0	1	0	7	39	0	0	0	46	0	0	0	0	1	0	0	23	1	1	0	25	71
Approach %	0.0	0.0	0.0	0.0	-	-	15.2	84.8	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	92.0	4.0	4.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	9.9	54.9	0.0	0.0	-	64.8	0.0	0.0	0.0	0.0	-	0.0	0.0	32.4	1.4	1.4	-	35.2	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.583	0.696	0.000	0.000	-	0.676	0.000	0.000	0.000	0.000	-	0.000	0.000	0.821	0.250	0.250	-	0.781	0.710
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0	0.0
Cars & Light Goods	0	0	0	0	-	0	7	39	0	0	-	46	0	0	0	0	-	0	0	23	1	1	-	25	71
% Cars & Light Goods	-	-	-	-	-	-	100.0	100.0	-	-	-	100.0	-	-	-	-	-	-	-	100.0	100.0	100.0	-	100.0	100.0
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Other Vehicles	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Niagara, New York
July 12, 2022

Count Name: Falls St & 9th St
Site Code:
Start Date: 07/12/2022



9th St [SB]

Out	In	Total
0	0	0
8	0	8
0	0	0
0	0	0
0	0	0
8	**0**	**8**

R	T	L	U	P
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**	**1**

Falls St [EB]

Out	In	Total
0	0	0
40	25	65
0	0	0
0	0	0
0	0	0
40	**25**	**65**

U	L	T	R	P
0	0	0	0	0
1	1	23	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	**1**	**23**	**0**	**0**

Peak Hour Data

07/12/2022 4:00 PM
Ending At
07/12/2022 5:00 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

Falls St [WB]

Out	In	Total
0	0	0
23	46	69
0	0	0
0	0	0
0	0	0
23	**46**	**69**

R	T	L	U	P
0	0	0	0	0
7	39	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
7	**39**	**0**	**0**	**0**

U	L	T	R	P
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**	**1**

Out	In	Total
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	**0**	**0**

9th St [NB]

Turning Movement Peak Hour Data Plot (4:00 PM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Falls St & 9th St
Site Code:
Start Date: 08/06/2022

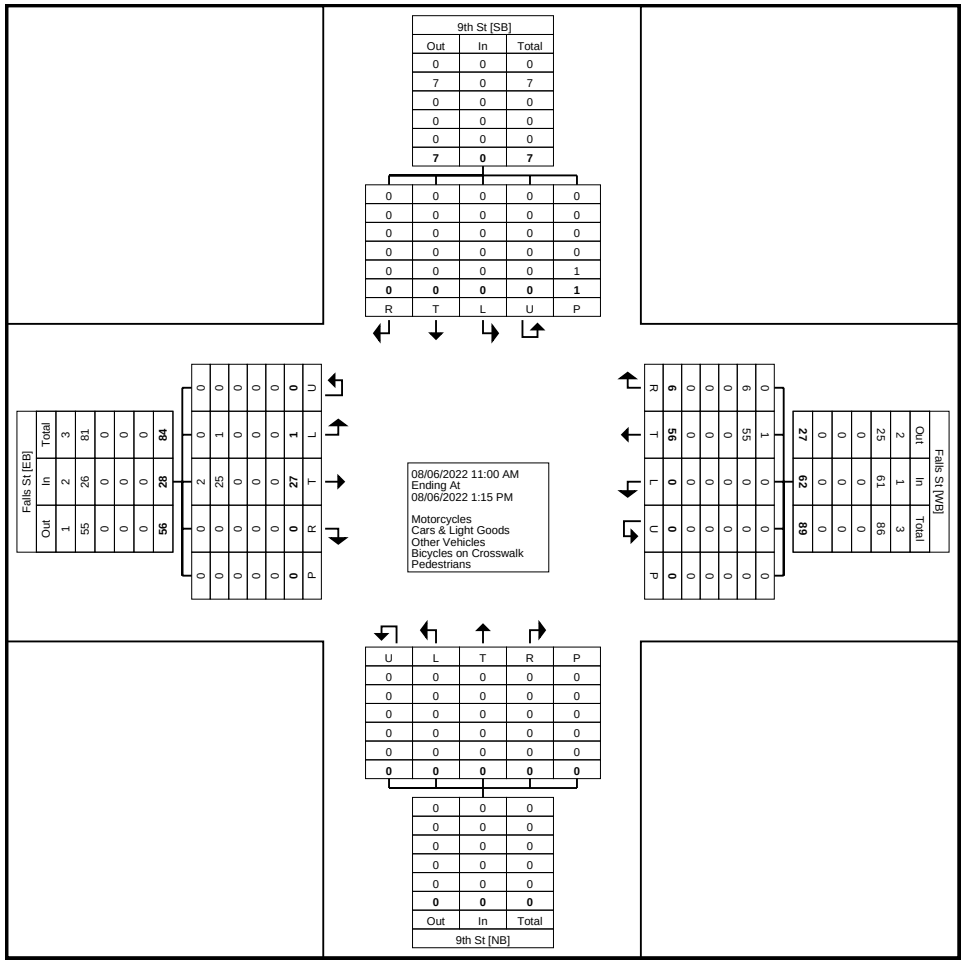
Turning Movement Data

Start Time	9th St Southbound						Falls St Westbound						9th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	2	6	0	0	0	8	0	0	0	0	0	0	0	4	0	0	0	4	12
11:15 AM	0	0	0	0	0	0	1	5	0	0	0	6	0	0	0	0	0	0	0	4	1	0	0	5	11
11:30 AM	0	0	0	0	1	0	0	6	0	0	0	6	0	0	0	0	0	0	0	4	0	0	0	4	10
11:45 AM	0	0	0	0	0	0	1	11	0	0	0	12	0	0	0	0	0	0	0	3	0	0	0	3	15
Hourly Total	0	0	0	0	1	0	4	28	0	0	0	32	0	0	0	0	0	0	0	15	1	0	0	16	48
12:00 PM	0	0	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	0	0	5	0	0	0	5	14
12:15 PM	0	0	0	0	0	0	2	6	0	0	0	8	0	0	0	0	0	0	0	4	0	0	0	4	12
12:30 PM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	1	0	0	0	1	6
12:45 PM	0	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	0	0	0	2	0	0	0	2	10
Hourly Total	0	0	0	0	0	0	2	28	0	0	0	30	0	0	0	0	0	0	0	12	0	0	0	12	42
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	6	56	0	0	0	62	0	0	0	0	0	0	0	27	1	0	0	28	90
Approach %	0.0	0.0	0.0	0.0	-	-	9.7	90.3	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	96.4	3.6	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	6.7	62.2	0.0	0.0	-	68.9	0.0	0.0	0.0	0.0	-	0.0	0.0	30.0	1.1	0.0	-	31.1	-
Motorcycles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	2	0	0	-	2	3
% Motorcycles	-	-	-	-	-	-	0.0	1.8	-	-	-	1.6	-	-	-	-	-	-	-	7.4	0.0	-	-	7.1	3.3
Cars & Light Goods	0	0	0	0	-	0	6	55	0	0	-	61	0	0	0	0	-	0	0	25	1	0	-	26	87
% Cars & Light Goods	-	-	-	-	-	-	100.0	98.2	-	-	-	98.4	-	-	-	-	-	-	-	92.6	100.0	-	-	92.9	96.7
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Other Vehicles	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Falls St & 9th St
Site Code:
Start Date: 08/06/2022



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Falls St & 9th St
Site Code:
Start Date: 08/06/2022

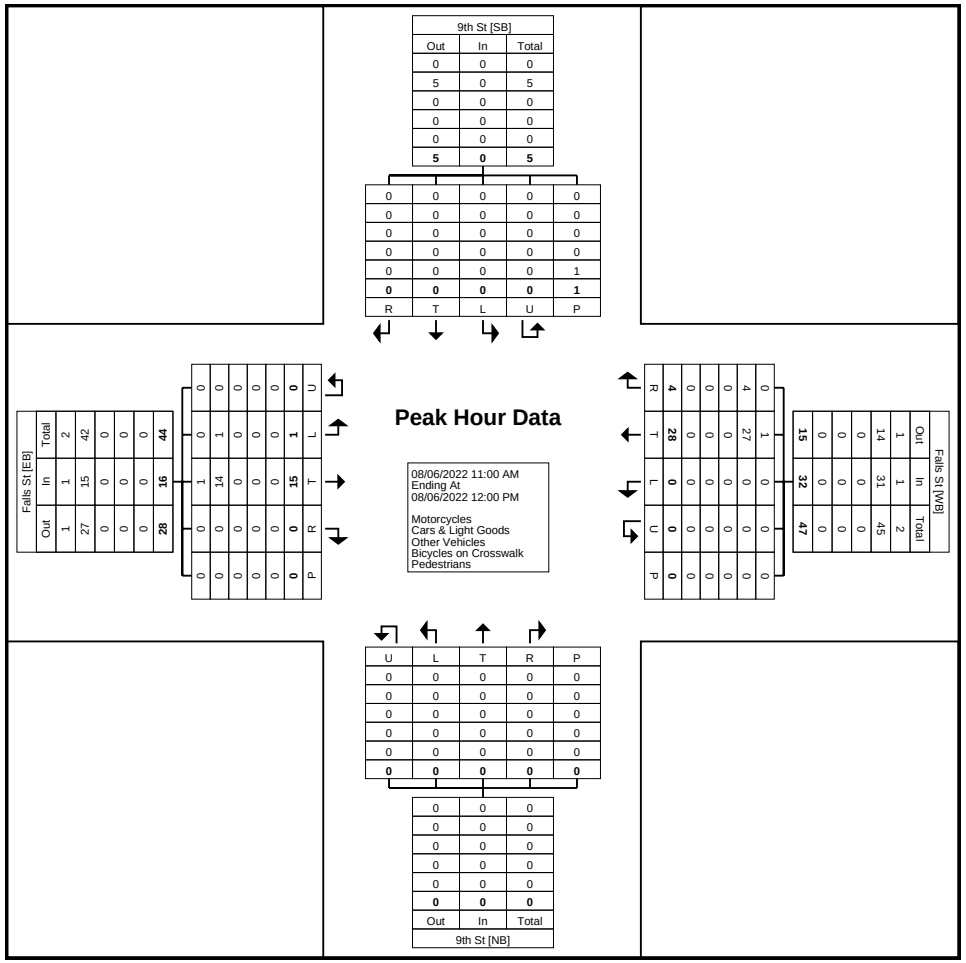
Turning Movement Peak Hour Data (11:00 AM)

Start Time	9th St Southbound						Falls St Westbound						9th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	2	6	0	0	0	8	0	0	0	0	0	0	0	4	0	0	0	4	12
11:15 AM	0	0	0	0	0	0	1	5	0	0	0	6	0	0	0	0	0	0	0	4	1	0	0	5	11
11:30 AM	0	0	0	0	1	0	0	6	0	0	0	6	0	0	0	0	0	0	0	4	0	0	0	4	10
11:45 AM	0	0	0	0	0	0	1	11	0	0	0	12	0	0	0	0	0	0	0	3	0	0	0	3	15
Total	0	0	0	0	1	0	4	28	0	0	0	32	0	0	0	0	0	0	0	15	1	0	0	16	48
Approach %	0.0	0.0	0.0	0.0	-	-	12.5	87.5	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	93.8	6.3	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	8.3	58.3	0.0	0.0	-	66.7	0.0	0.0	0.0	0.0	-	0.0	0.0	31.3	2.1	0.0	-	33.3	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.500	0.636	0.000	0.000	-	0.667	0.000	0.000	0.000	0.000	-	0.000	0.000	0.938	0.250	0.000	-	0.800	0.800
Motorcycles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	2
% Motorcycles	-	-	-	-	-	-	0.0	3.6	-	-	-	3.1	-	-	-	-	-	-	-	6.7	0.0	-	-	6.3	4.2
Cars & Light Goods	0	0	0	0	-	0	4	27	0	0	-	31	0	0	0	0	-	0	0	14	1	0	-	15	46
% Cars & Light Goods	-	-	-	-	-	-	100.0	96.4	-	-	-	96.9	-	-	-	-	-	-	-	93.3	100.0	-	-	93.8	95.8
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Other Vehicles	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Falls St & 9th St
Site Code:
Start Date: 08/06/2022



Turning Movement Peak Hour Data Plot (11:00 AM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Falls St & 9th St
Site Code:
Start Date: 08/06/2022

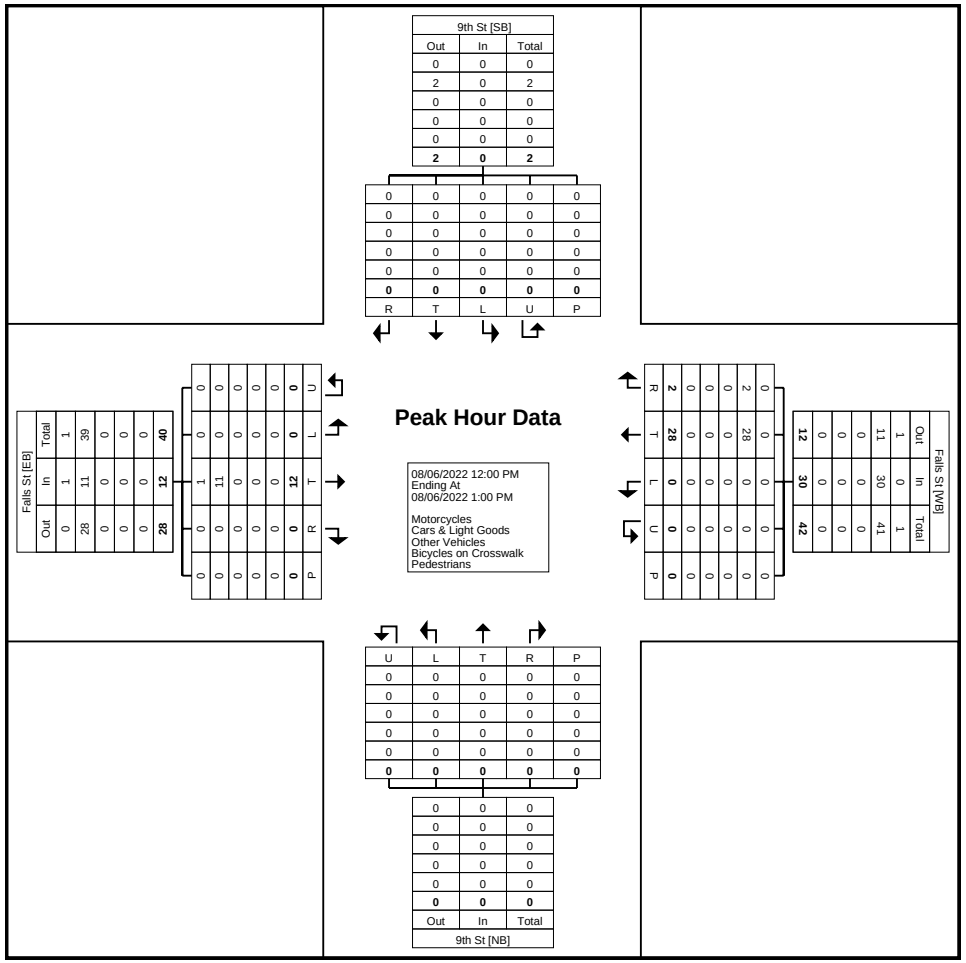
Turning Movement Peak Hour Data (12:00 PM)

Start Time	9th St Southbound						Falls St Westbound						9th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	0	0	5	0	0	0	5	14
12:15 PM	0	0	0	0	0	0	2	6	0	0	0	8	0	0	0	0	0	0	0	4	0	0	0	4	12
12:30 PM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	1	0	0	0	1	6
12:45 PM	0	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	0	0	0	2	0	0	0	2	10
Total	0	0	0	0	0	0	2	28	0	0	0	30	0	0	0	0	0	0	0	12	0	0	0	12	42
Approach %	0.0	0.0	0.0	0.0	-	-	6.7	93.3	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	100.0	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	4.8	66.7	0.0	0.0	-	71.4	0.0	0.0	0.0	0.0	-	0.0	0.0	28.6	0.0	0.0	-	28.6	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.250	0.778	0.000	0.000	-	0.833	0.000	0.000	0.000	0.000	-	0.000	0.000	0.600	0.000	0.000	-	0.600	0.750
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Motorcycles	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	-	8.3	-	-	-	8.3	2.4
Cars & Light Goods	0	0	0	0	-	0	2	28	0	0	-	30	0	0	0	0	-	0	0	11	0	0	-	11	41
% Cars & Light Goods	-	-	-	-	-	-	100.0	100.0	-	-	-	100.0	-	-	-	-	-	-	-	91.7	-	-	-	91.7	97.6
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Other Vehicles	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	-	0.0	-	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Falls St & 9th St
Site Code:
Start Date: 08/06/2022



Turning Movement Peak Hour Data Plot (12:00 PM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 1

Turning Movement Data

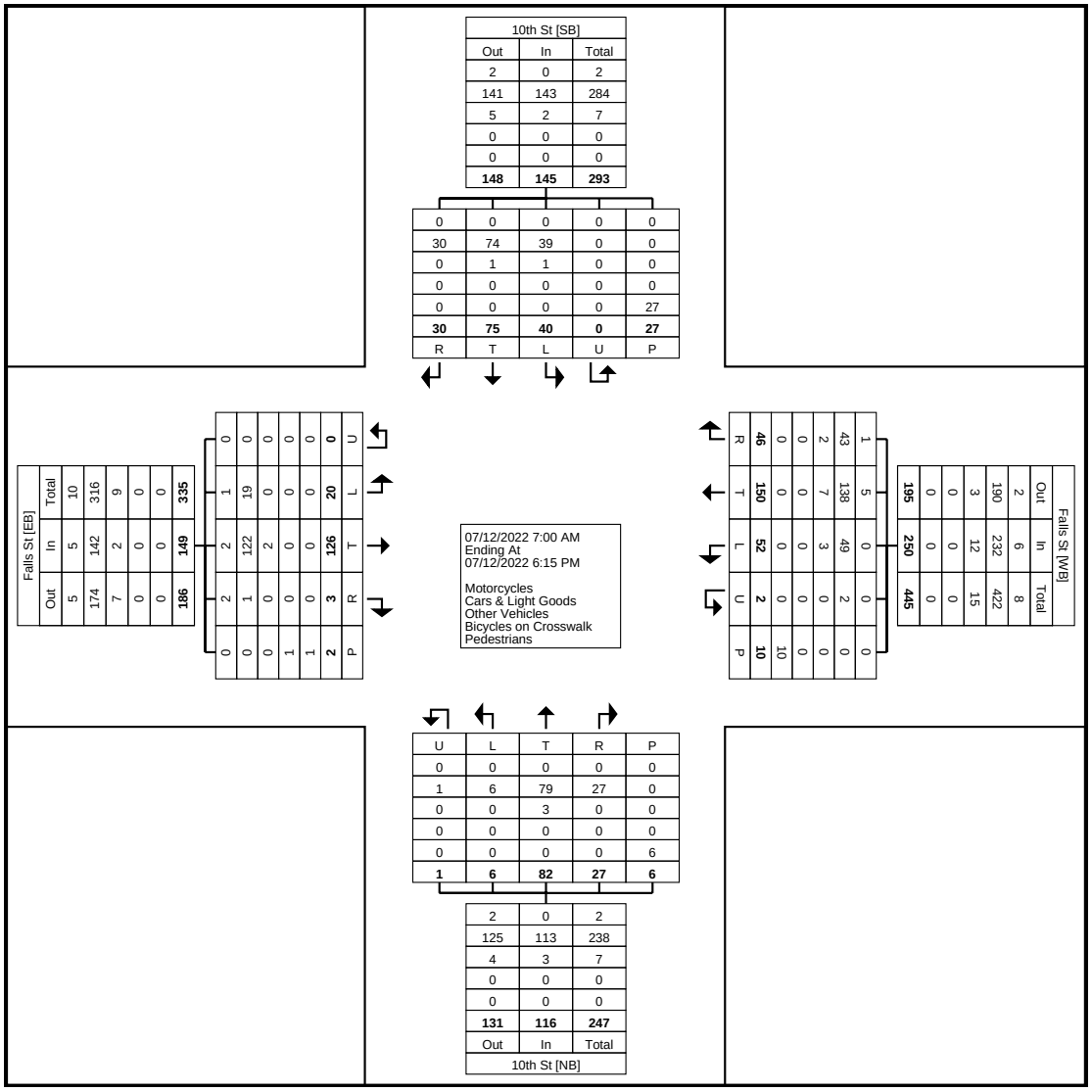
Start Time	10th St Southbound						Falls St Westbound						10th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	1	1	0	0	2	1	1	1	1	0	4	1	1	0	0	1	2	0	2	0	0	0	2	10
7:15 AM	0	1	0	0	0	1	1	1	0	0	0	2	3	2	0	0	0	5	0	4	0	0	0	4	12
7:30 AM	0	2	2	0	3	4	1	7	4	0	0	12	1	2	0	0	0	3	0	5	1	0	0	6	25
7:45 AM	0	3	0	0	0	3	2	6	1	0	0	9	7	4	1	0	0	12	0	20	1	0	0	21	45
Hourly Total	0	7	3	0	3	10	5	15	6	1	0	27	12	9	1	0	1	22	0	31	2	0	0	33	92
8:00 AM	1	3	3	0	1	7	3	4	0	0	2	7	4	7	0	0	0	11	0	5	1	0	0	6	31
8:15 AM	0	4	2	0	0	6	6	4	1	1	1	12	0	4	0	0	0	4	0	14	5	0	0	19	41
8:30 AM	1	0	0	0	2	1	2	4	3	0	1	9	1	4	0	1	1	6	0	5	1	0	0	6	22
8:45 AM	1	2	1	0	0	4	0	2	2	0	0	4	0	6	1	0	0	7	0	0	0	0	0	0	15
Hourly Total	3	9	6	0	3	18	11	14	6	1	4	32	5	21	1	1	1	28	0	24	7	0	0	31	109
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	2	6	2	0	0	10	0	7	1	0	1	8	2	2	0	0	0	4	0	5	0	0	0	5	27
11:15 AM	1	1	1	0	0	3	2	5	1	0	0	8	0	5	1	0	0	6	0	5	0	0	0	5	22
11:30 AM	5	3	1	0	2	9	2	10	2	0	0	14	2	5	0	0	1	7	0	3	0	0	0	3	33
11:45 AM	0	5	2	0	2	7	1	5	2	0	0	8	1	2	0	0	0	3	0	4	2	0	0	6	24
Hourly Total	8	15	6	0	4	29	5	27	6	0	1	38	5	14	1	0	1	20	0	17	2	0	0	19	106
12:00 PM	1	1	1	0	2	3	4	10	3	0	1	17	0	3	0	0	0	3	0	6	2	0	0	8	31
12:15 PM	2	6	2	0	0	10	1	5	0	0	0	6	0	4	0	0	0	4	1	4	1	0	0	6	26
12:30 PM	4	2	3	0	8	9	2	8	2	0	1	12	0	3	0	0	0	3	0	7	1	0	0	8	32
12:45 PM	4	5	1	0	2	10	3	7	0	0	1	10	1	9	0	0	1	10	2	2	2	0	0	6	36
Hourly Total	11	14	7	0	12	32	10	30	5	0	3	45	1	19	0	0	1	20	3	19	6	0	0	28	125
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	1	11	3	0	0	15	4	14	17	0	2	35	1	2	1	0	0	4	0	3	2	0	2	5	59
4:15 PM	0	2	0	0	0	2	0	6	3	0	0	9	1	1	2	0	0	4	0	7	0	0	0	7	22
4:30 PM	2	3	5	0	1	10	4	10	2	0	0	16	1	3	0	0	0	4	0	5	0	0	0	5	35
4:45 PM	1	6	2	0	2	9	2	7	4	0	0	13	1	2	0	0	1	3	0	5	0	0	0	5	30
Hourly Total	4	22	10	0	3	36	10	37	26	0	2	73	4	8	3	0	1	15	0	20	2	0	2	22	146
5:00 PM	3	3	4	0	0	10	2	7	0	0	0	9	0	4	0	0	1	4	0	1	1	0	0	2	25
5:15 PM	0	3	0	0	1	3	1	6	0	0	0	7	0	1	0	0	0	1	0	8	0	0	0	8	19
5:30 PM	0	1	0	0	0	1	0	4	0	0	0	4	0	2	0	0	0	2	0	4	0	0	0	4	11
5:45 PM	1	1	4	0	1	6	2	10	3	0	0	15	0	4	0	0	0	4	0	2	0	0	0	2	27
Hourly Total	4	8	8	0	2	20	5	27	3	0	0	35	0	11	0	0	1	11	0	15	1	0	0	16	82
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	30	75	40	0	27	145	46	150	52	2	10	250	27	82	6	1	6	116	3	126	20	0	2	149	660
Approach %	20.7	51.7	27.6	0.0	-	-	18.4	60.0	20.8	0.8	-	-	23.3	70.7	5.2	0.9	-	-	2.0	84.6	13.4	0.0	-	-	-
Total %	4.5	11.4	6.1	0.0	-	22.0	7.0	22.7	7.9	0.3	-	37.9	4.1	12.4	0.9	0.2	-	17.6	0.5	19.1	3.0	0.0	-	22.6	-
Motorcycles	0	0	0	0	-	0	1	5	0	0	-	6	0	0	0	0	-	0	2	2	1	0	-	5	11
% Motorcycles	0.0	0.0	0.0	-	-	0.0	2.2	3.3	0.0	0.0	-	2.4	0.0	0.0	0.0	0.0	-	0.0	66.7	1.6	5.0	-	-	3.4	1.7
Cars & Light Goods	30	74	39	0	-	143	43	138	49	2	-	232	27	79	6	1	-	113	1	122	19	0	-	142	630
% Cars & Light Goods	100.0	98.7	97.5	-	-	98.6	93.5	92.0	94.2	100.0	-	92.8	100.0	96.3	100.0	100.0	-	97.4	33.3	96.8	95.0	-	-	95.3	95.5
Other Vehicles	0	1	1	0	-	2	2	7	3	0	-	12	0	3	0	0	-	3	0	2	0	0	-	2	19
% Other Vehicles	0.0	1.3	2.5	-	-	1.4	4.3	4.7	5.8	0.0	-	4.8	0.0	3.7	0.0	0.0	-	2.6	0.0	1.6	0.0	-	-	1.3	2.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	50.0	-	-
Pedestrians	-	-	-	-	27	-	-	-	-	-	10	-	-	-	-	-	6	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	50.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/12/2022



10th St [SB]

Out	In	Total
2	0	2
141	143	284
5	2	7
0	0	0
0	0	0
148	**145**	**293**

R	T	L	U	P
0	0	0	0	0
30	74	39	0	0
0	1	1	0	0
0	0	0	0	0
0	0	0	0	27
30	**75**	**40**	**0**	**27**

Falls St [EB]

Out	In	Total
5	5	10
174	142	316
7	2	9
0	0	0
0	0	0
186	**149**	**335**

U	L	T	R	P
0	1	2	2	0
0	19	122	1	0
0	0	2	0	0
0	0	0	0	1
0	0	0	0	1
0	**20**	**126**	**3**	**2**

07/12/2022 7:00 AM
Ending At
07/12/2022 6:15 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

Falls St [WB]

Out	In	Total
2	6	8
190	232	422
3	12	15
0	0	0
0	0	0
195	**250**	**445**

R	T	L	U	P
1	5	0	0	0
43	138	49	2	0
2	7	3	0	0
0	0	0	0	0
0	0	0	0	10
46	**150**	**52**	**2**	**10**

U	L	T	R	P
0	0	0	0	0
1	6	79	27	0
0	0	3	0	0
0	0	0	0	0
0	0	0	0	6
1	**6**	**82**	**27**	**6**

Out	In	Total
2	0	2
125	113	238
4	3	7
0	0	0
0	0	0
131	**116**	**247**

10th St [NB]

Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	10th St Southbound						Falls St Westbound						10th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	0	2	2	0	3	4	1	7	4	0	0	12	1	2	0	0	0	3	0	5	1	0	0	6	25
7:45 AM	0	3	0	0	0	3	2	6	1	0	0	9	7	4	1	0	0	12	0	20	1	0	0	21	45
8:00 AM	1	3	3	0	1	7	3	4	0	0	2	7	4	7	0	0	0	11	0	5	1	0	0	6	31
8:15 AM	0	4	2	0	0	6	6	4	1	1	1	12	0	4	0	0	0	4	0	14	5	0	0	19	41
Total	1	12	7	0	4	20	12	21	6	1	3	40	12	17	1	0	0	30	0	44	8	0	0	52	142
Approach %	5.0	60.0	35.0	0.0	-	-	30.0	52.5	15.0	2.5	-	-	40.0	56.7	3.3	0.0	-	-	0.0	84.6	15.4	0.0	-	-	-
Total %	0.7	8.5	4.9	0.0	-	14.1	8.5	14.8	4.2	0.7	-	28.2	8.5	12.0	0.7	0.0	-	21.1	0.0	31.0	5.6	0.0	-	36.6	-
PHF	0.250	0.750	0.583	0.000	-	0.714	0.500	0.750	0.375	0.250	-	0.833	0.429	0.607	0.250	0.000	-	0.625	0.000	0.550	0.400	0.000	-	0.619	0.789
Motorcycles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	4.8	0.0	0.0	-	2.5	0.0	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	0.7
Cars & Light Goods	1	12	7	0	-	20	11	18	5	1	-	35	12	16	1	0	-	29	0	43	8	0	-	51	135
% Cars & Light Goods	100.0	100.0	100.0	-	-	100.0	91.7	85.7	83.3	100.0	-	87.5	100.0	94.1	100.0	-	-	96.7	-	97.7	100.0	-	-	98.1	95.1
Other Vehicles	0	0	0	0	-	0	1	2	1	0	-	4	0	1	0	0	-	1	0	1	0	0	-	1	6
% Other Vehicles	0.0	0.0	0.0	-	-	0.0	8.3	9.5	16.7	0.0	-	10.0	0.0	5.9	0.0	-	-	3.3	-	2.3	0.0	-	-	1.9	4.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
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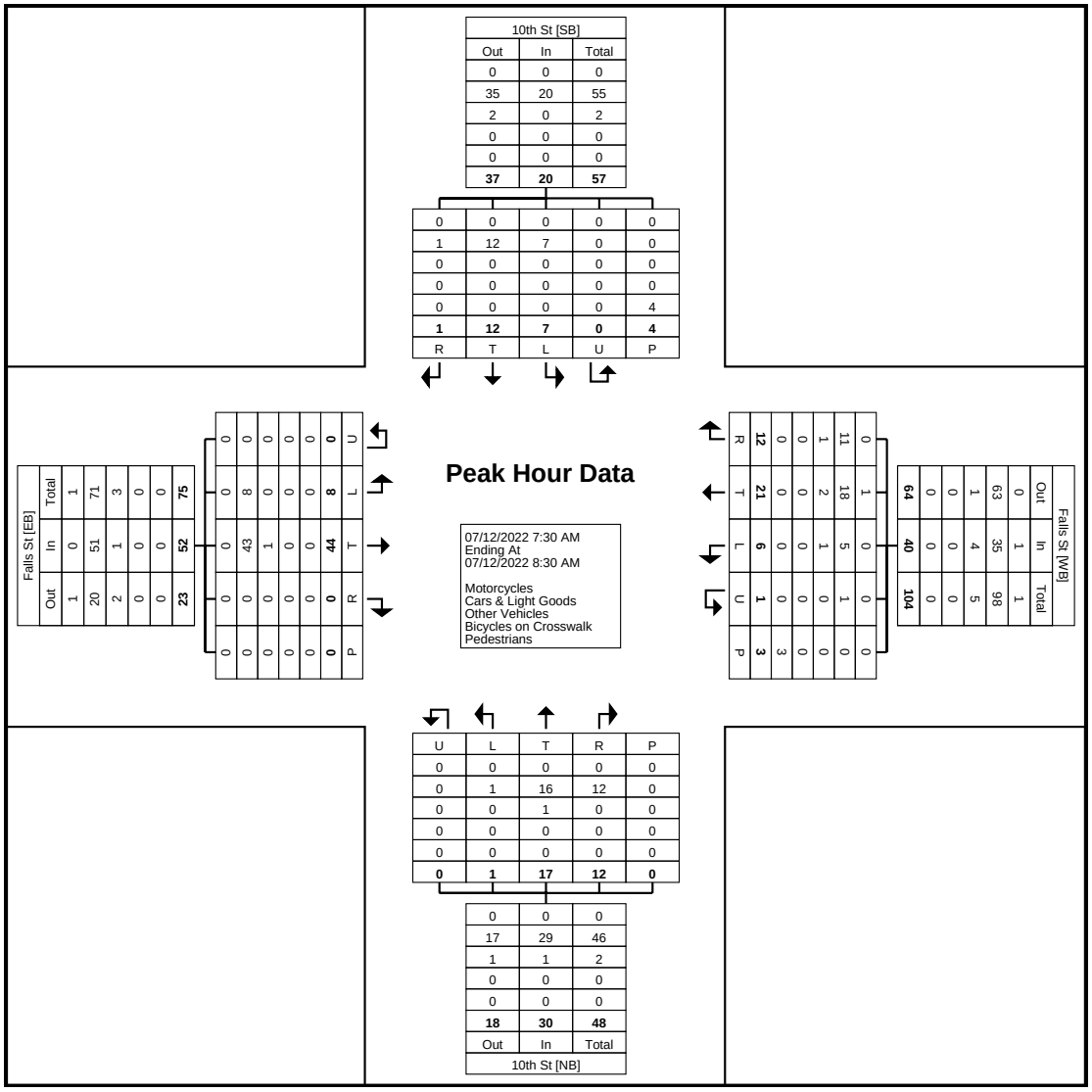
Niagara, New York
July 12, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 4



Peak Hour Data

07/12/2022 7:30 AM
Ending At
07/12/2022 8:30 AM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

10th St [SB]

Out	In	Total
0	0	0
35	20	55
2	0	2
0	0	0
0	0	0
37	**20**	**57**

R	T	L	U	P
0	0	0	0	0
1	12	7	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	4
1	**12**	**7**	**0**	**4**

Falls St [EB]

Out	In	Total
1	0	1
20	51	71
2	1	3
0	0	0
0	0	0
23	**52**	**75**

U	L	T	R	P
0	0	0	0	0
0	8	43	0	0
0	0	1	0	0
0	0	0	0	0
0	0	0	0	0
0	**8**	**44**	**0**	**0**

Falls St [WB]

Out	In	Total
0	1	1
63	35	98
1	4	5
0	0	0
0	0	0
64	**40**	**104**

R	T	L	U	P
0	1	0	0	0
11	18	5	1	0
1	2	1	0	0
0	0	0	0	0
0	0	0	0	3
12	**21**	**6**	**1**	**3**

10th St [NB]

U	L	T	R	P
0	0	0	0	0
0	1	16	12	0
0	0	1	0	0
0	0	0	0	0
0	0	0	0	0
0	**1**	**17**	**12**	**0**

Out	In	Total
0	0	0
17	29	46
1	1	2
0	0	0
0	0	0
18	**30**	**48**

Turning Movement Peak Hour Data Plot (7:30 AM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
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Niagara, New York
July 12, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 5

Turning Movement Peak Hour Data (12:00 PM)

Start Time	10th St Southbound						Falls St Westbound						10th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	1	1	1	0	2	3	4	10	3	0	1	17	0	3	0	0	0	3	0	6	2	0	0	8	31
12:15 PM	2	6	2	0	0	10	1	5	0	0	0	6	0	4	0	0	0	4	1	4	1	0	0	6	26
12:30 PM	4	2	3	0	8	9	2	8	2	0	1	12	0	3	0	0	0	3	0	7	1	0	0	8	32
12:45 PM	4	5	1	0	2	10	3	7	0	0	1	10	1	9	0	0	1	10	2	2	2	0	0	6	36
Total	11	14	7	0	12	32	10	30	5	0	3	45	1	19	0	0	1	20	3	19	6	0	0	28	125
Approach %	34.4	43.8	21.9	0.0	-	-	22.2	66.7	11.1	0.0	-	-	5.0	95.0	0.0	0.0	-	-	10.7	67.9	21.4	0.0	-	-	-
Total %	8.8	11.2	5.6	0.0	-	25.6	8.0	24.0	4.0	0.0	-	36.0	0.8	15.2	0.0	0.0	-	16.0	2.4	15.2	4.8	0.0	-	22.4	-
PHF	0.688	0.583	0.583	0.000	-	0.800	0.625	0.750	0.417	0.000	-	0.662	0.250	0.528	0.000	0.000	-	0.500	0.375	0.679	0.750	0.000	-	0.875	0.868
Motorcycles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	2	2	0	0	-	4	5
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	3.3	0.0	-	-	2.2	0.0	0.0	-	-	-	0.0	66.7	10.5	0.0	-	-	14.3	4.0
Cars & Light Goods	11	13	6	0	-	30	10	27	4	0	-	41	1	19	0	0	-	20	1	16	6	0	-	23	114
% Cars & Light Goods	100.0	92.9	85.7	-	-	93.8	100.0	90.0	80.0	-	-	91.1	100.0	100.0	-	-	-	100.0	33.3	84.2	100.0	-	-	82.1	91.2
Other Vehicles	0	1	1	0	-	2	0	2	1	0	-	3	0	0	0	0	-	0	0	1	0	0	-	1	6
% Other Vehicles	0.0	7.1	14.3	-	-	6.3	0.0	6.7	20.0	-	-	6.7	0.0	0.0	-	-	-	0.0	0.0	5.3	0.0	-	-	3.6	4.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	12	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

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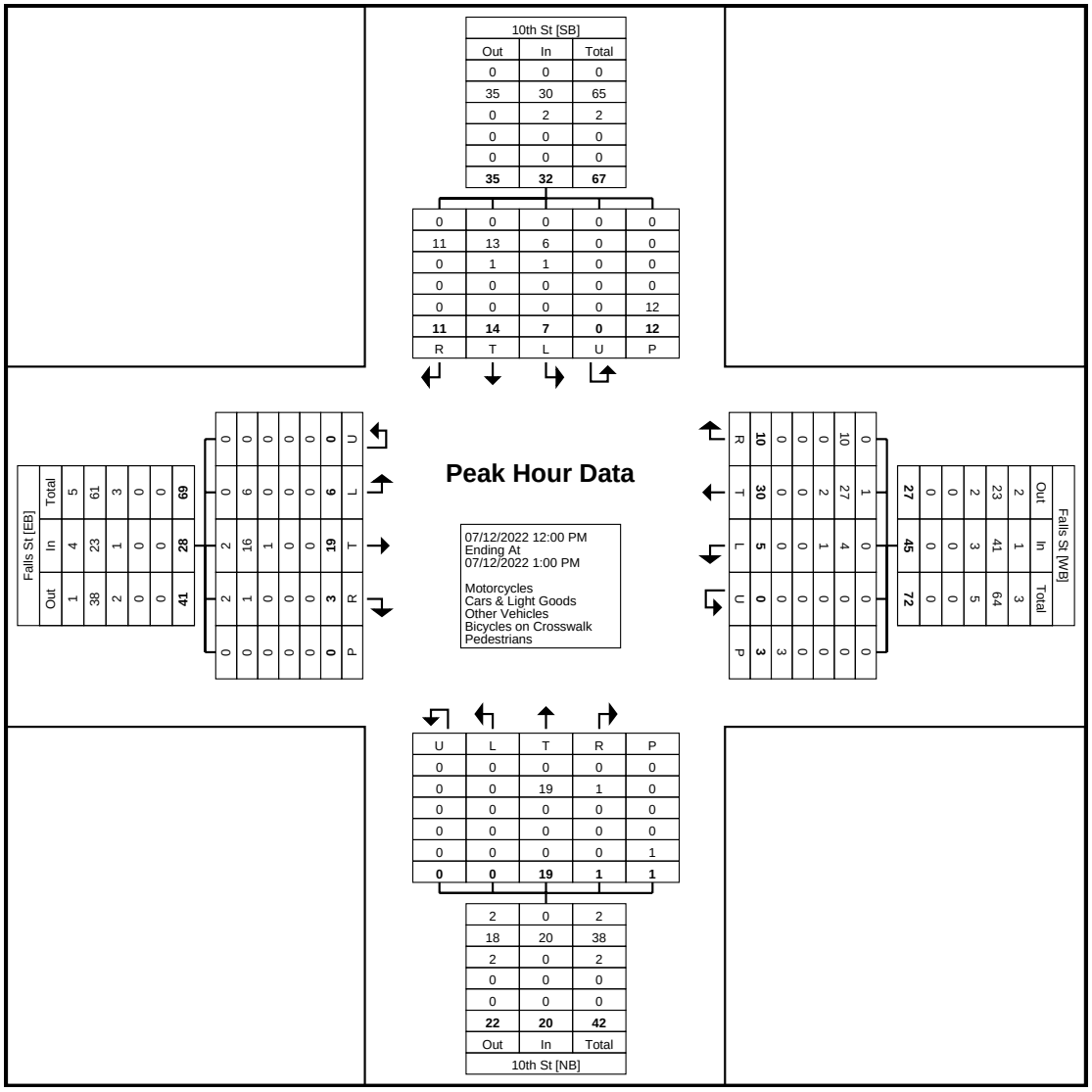

Turning Movement Peak Hour Data Plot (12:00 PM)

Tri-State Traffic Data: New York Division
184 Baker Rd

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Niagara, New York
July 12, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 7

Turning Movement Peak Hour Data (4:00 PM)

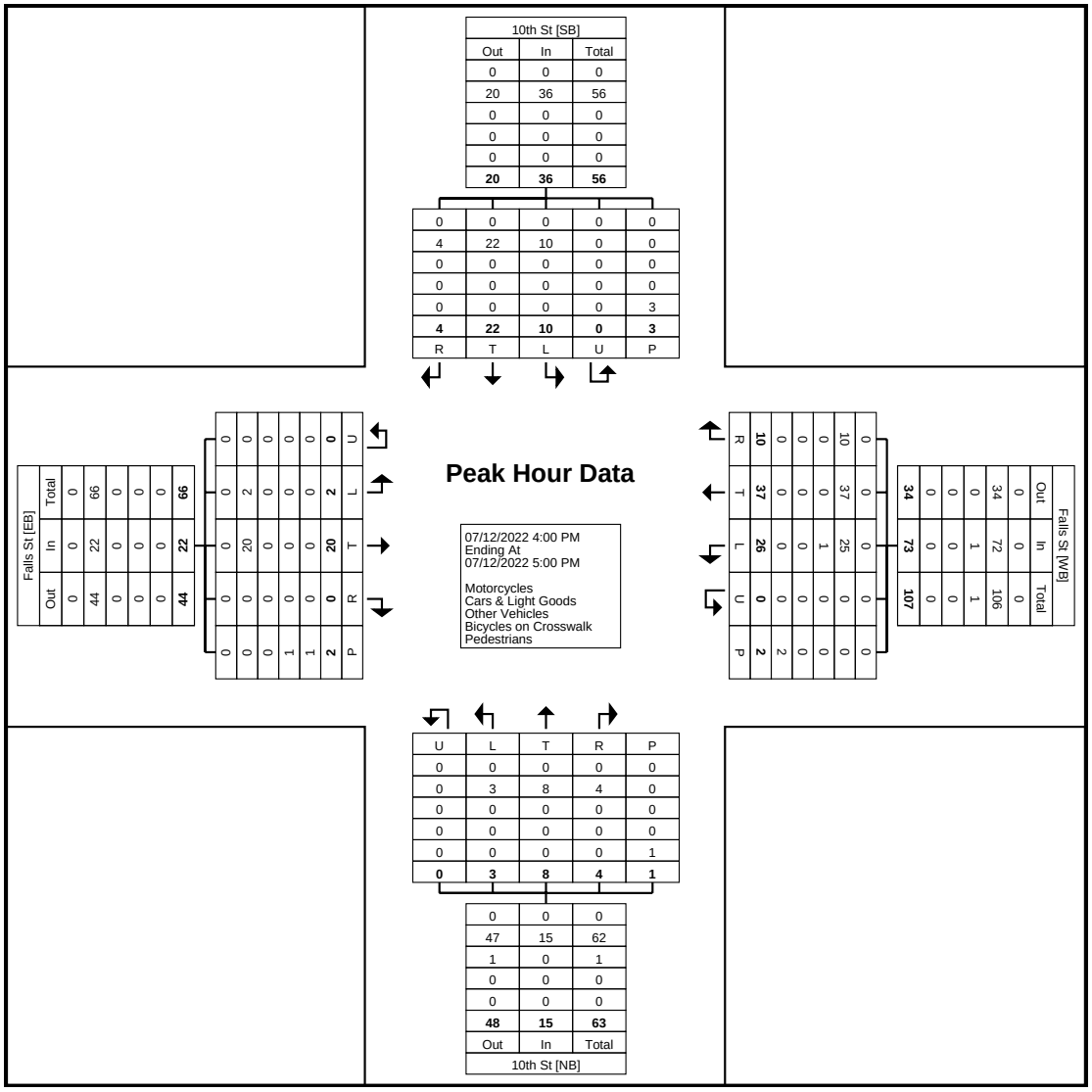
Start Time	10th St Southbound						Falls St Westbound						10th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	1	11	3	0	0	15	4	14	17	0	2	35	1	2	1	0	0	4	0	3	2	0	2	5	59
4:15 PM	0	2	0	0	0	2	0	6	3	0	0	9	1	1	2	0	0	4	0	7	0	0	0	7	22
4:30 PM	2	3	5	0	1	10	4	10	2	0	0	16	1	3	0	0	0	4	0	5	0	0	0	5	35
4:45 PM	1	6	2	0	2	9	2	7	4	0	0	13	1	2	0	0	1	3	0	5	0	0	0	5	30
Total	4	22	10	0	3	36	10	37	26	0	2	73	4	8	3	0	1	15	0	20	2	0	2	22	146
Approach %	11.1	61.1	27.8	0.0	-	-	13.7	50.7	35.6	0.0	-	-	26.7	53.3	20.0	0.0	-	-	0.0	90.9	9.1	0.0	-	-	-
Total %	2.7	15.1	6.8	0.0	-	24.7	6.8	25.3	17.8	0.0	-	50.0	2.7	5.5	2.1	0.0	-	10.3	0.0	13.7	1.4	0.0	-	15.1	-
PHF	0.500	0.500	0.500	0.000	-	0.600	0.625	0.661	0.382	0.000	-	0.521	1.000	0.667	0.375	0.000	-	0.938	0.000	0.714	0.250	0.000	-	0.786	0.619
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	4	22	10	0	-	36	10	37	25	0	-	72	4	8	3	0	-	15	0	20	2	0	-	22	145
% Cars & Light Goods	100.0	100.0	100.0	-	-	100.0	100.0	100.0	96.2	-	-	98.6	100.0	100.0	100.0	-	-	100.0	-	100.0	100.0	-	-	100.0	99.3
Other Vehicles	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Other Vehicles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	3.8	-	-	1.4	0.0	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	0.7
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	50.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	50.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 8



Turning Movement Peak Hour Data Plot (4:00 PM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 1

Turning Movement Data

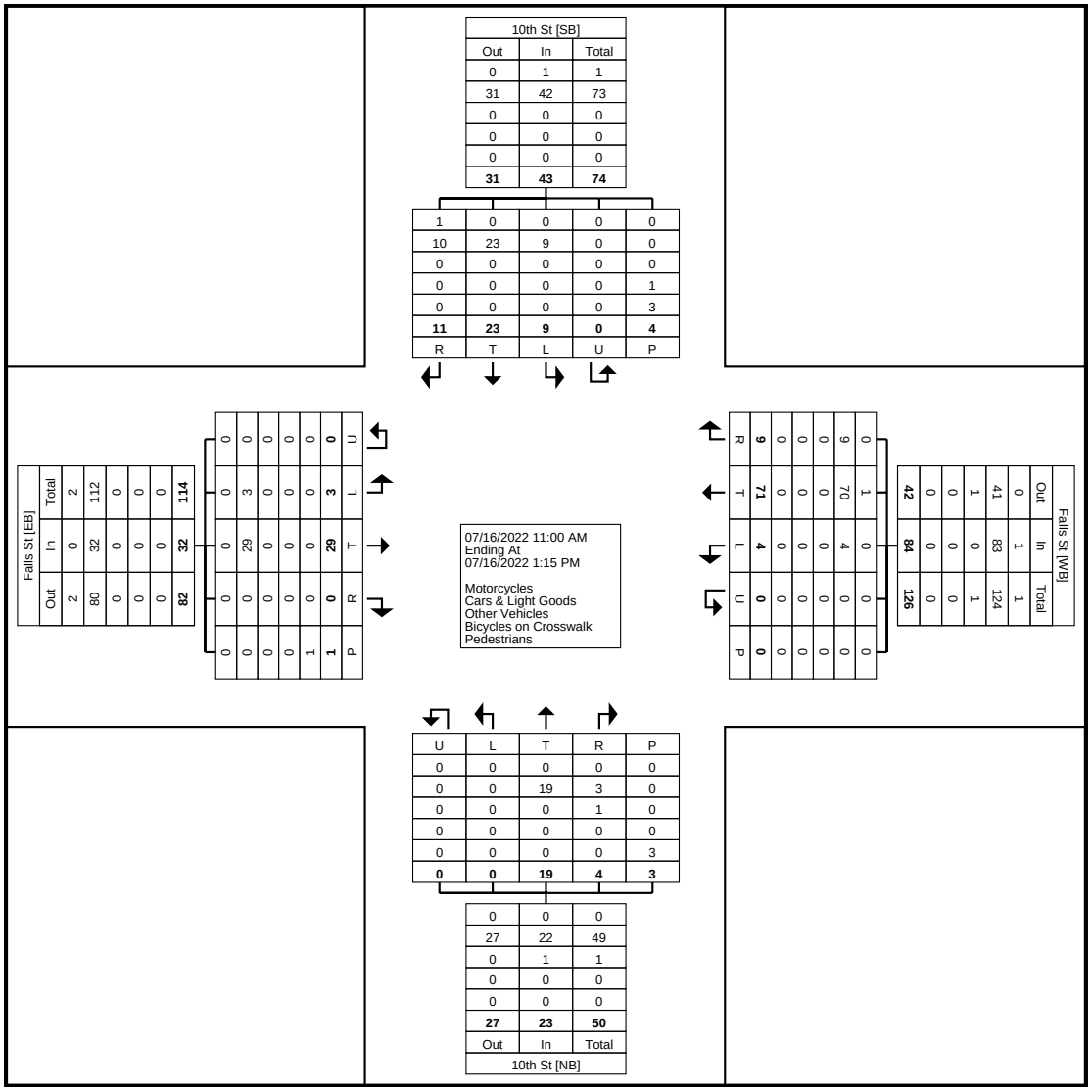
Start Time	10th St Southbound						Falls St Westbound						10th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	1	1	1	0	0	3	1	15	0	0	0	16	1	1	0	0	0	2	0	2	1	0	0	3	24
11:15 AM	3	5	0	0	0	8	0	11	0	0	0	11	0	4	0	0	2	4	0	5	0	0	0	5	28
11:30 AM	0	6	0	0	0	6	0	9	1	0	0	10	0	6	0	0	0	6	0	2	0	0	0	2	24
11:45 AM	1	3	0	0	1	4	3	6	1	0	0	10	0	4	0	0	0	4	0	2	0	0	0	2	20
Hourly Total	5	15	1	0	1	21	4	41	2	0	0	47	1	15	0	0	2	16	0	11	1	0	0	12	96
12:00 PM	2	1	4	0	0	7	0	9	2	0	0	11	1	2	0	0	0	3	0	7	1	0	1	8	29
12:15 PM	1	3	0	0	3	4	2	5	0	0	0	7	1	1	0	0	0	2	0	5	1	0	0	6	19
12:30 PM	3	0	1	0	0	4	3	7	0	0	0	10	0	0	0	0	0	0	0	3	0	0	0	3	17
12:45 PM	0	4	3	0	0	7	0	9	0	0	0	9	1	1	0	0	1	2	0	3	0	0	0	3	21
Hourly Total	6	8	8	0	3	22	5	30	2	0	0	37	3	4	0	0	1	7	0	18	2	0	1	20	86
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	11	23	9	0	4	43	9	71	4	0	0	84	4	19	0	0	3	23	0	29	3	0	1	32	182
Approach %	25.6	53.5	20.9	0.0	-	-	10.7	84.5	4.8	0.0	-	-	17.4	82.6	0.0	0.0	-	-	0.0	90.6	9.4	0.0	-	-	-
Total %	6.0	12.6	4.9	0.0	-	23.6	4.9	39.0	2.2	0.0	-	46.2	2.2	10.4	0.0	0.0	-	12.6	0.0	15.9	1.6	0.0	-	17.6	-
Motorcycles	1	0	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Motorcycles	9.1	0.0	0.0	-	-	2.3	0.0	1.4	0.0	-	-	1.2	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	1.1
Cars & Light Goods	10	23	9	0	-	42	9	70	4	0	-	83	3	19	0	0	-	22	0	29	3	0	-	32	179
% Cars & Light Goods	90.9	100.0	100.0	-	-	97.7	100.0	98.6	100.0	-	-	98.8	75.0	100.0	-	-	-	95.7	-	100.0	100.0	-	-	100.0	98.4
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	1
% Other Vehicles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	25.0	0.0	-	-	-	4.3	-	0.0	0.0	-	-	0.0	0.5
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	25.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	75.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 2



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 3

Turning Movement Peak Hour Data (11:00 AM)

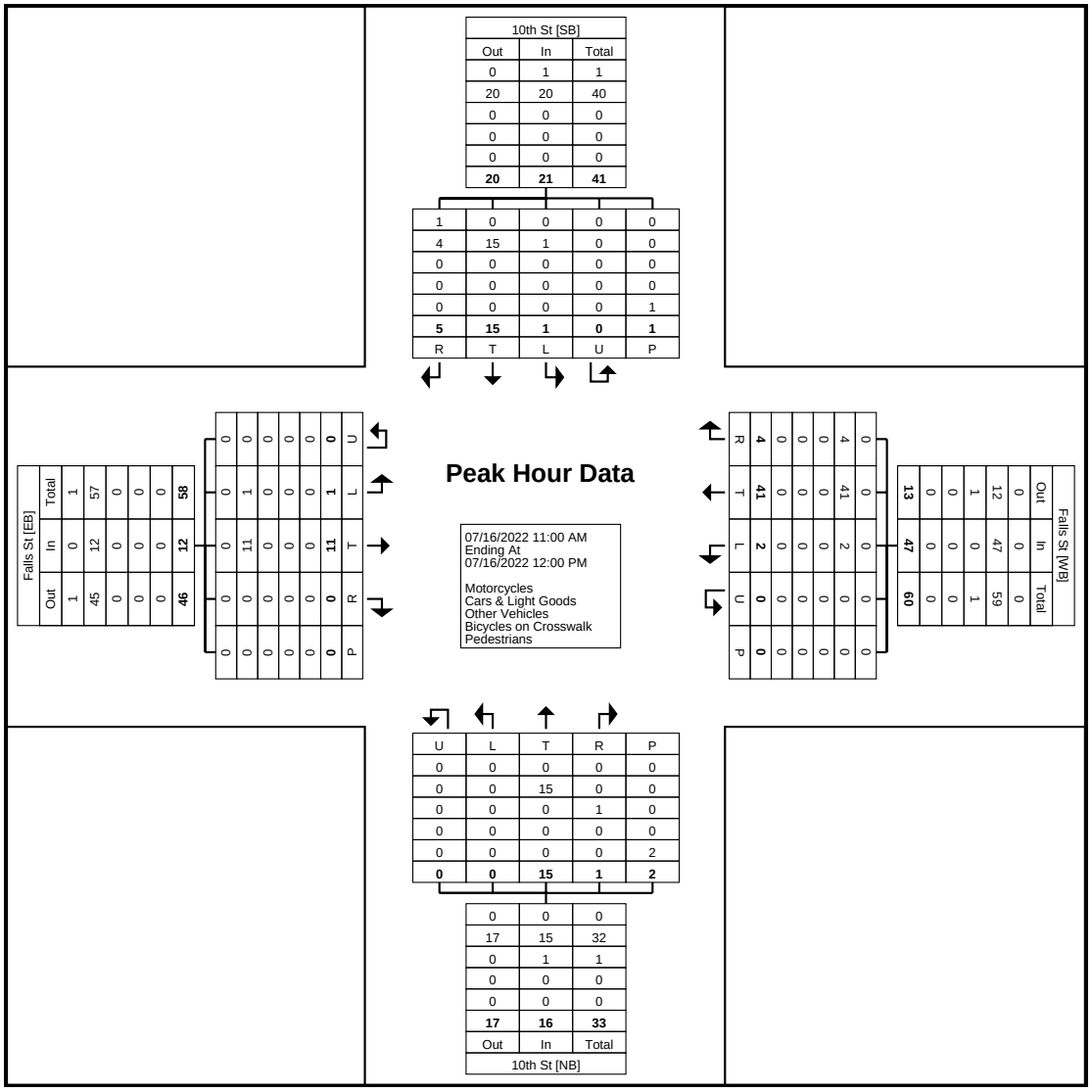
Start Time	10th St Southbound						Falls St Westbound						10th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	1	1	1	0	0	3	1	15	0	0	0	16	1	1	0	0	0	2	0	2	1	0	0	3	24
11:15 AM	3	5	0	0	0	8	0	11	0	0	0	11	0	4	0	0	2	4	0	5	0	0	0	5	28
11:30 AM	0	6	0	0	0	6	0	9	1	0	0	10	0	6	0	0	0	6	0	2	0	0	0	2	24
11:45 AM	1	3	0	0	1	4	3	6	1	0	0	10	0	4	0	0	0	4	0	2	0	0	0	2	20
Total	5	15	1	0	1	21	4	41	2	0	0	47	1	15	0	0	2	16	0	11	1	0	0	12	96
Approach %	23.8	71.4	4.8	0.0	-	-	8.5	87.2	4.3	0.0	-	-	6.3	93.8	0.0	0.0	-	-	0.0	91.7	8.3	0.0	-	-	-
Total %	5.2	15.6	1.0	0.0	-	21.9	4.2	42.7	2.1	0.0	-	49.0	1.0	15.6	0.0	0.0	-	16.7	0.0	11.5	1.0	0.0	-	12.5	-
PHF	0.417	0.625	0.250	0.000	-	0.656	0.333	0.683	0.500	0.000	-	0.734	0.250	0.625	0.000	0.000	-	0.667	0.000	0.550	0.250	0.000	-	0.600	0.857
Motorcycles	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Motorcycles	20.0	0.0	0.0	-	-	4.8	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	1.0
Cars & Light Goods	4	15	1	0	-	20	4	41	2	0	-	47	0	15	0	0	-	15	0	11	1	0	-	12	94
% Cars & Light Goods	80.0	100.0	100.0	-	-	95.2	100.0	100.0	100.0	-	-	100.0	0.0	100.0	-	-	-	93.8	-	100.0	100.0	-	-	100.0	97.9
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	1
% Other Vehicles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	100.0	0.0	-	-	-	6.3	-	0.0	0.0	-	-	0.0	1.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 4



Turning Movement Peak Hour Data Plot (11:00 AM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 5

Turning Movement Peak Hour Data (12:00 PM)

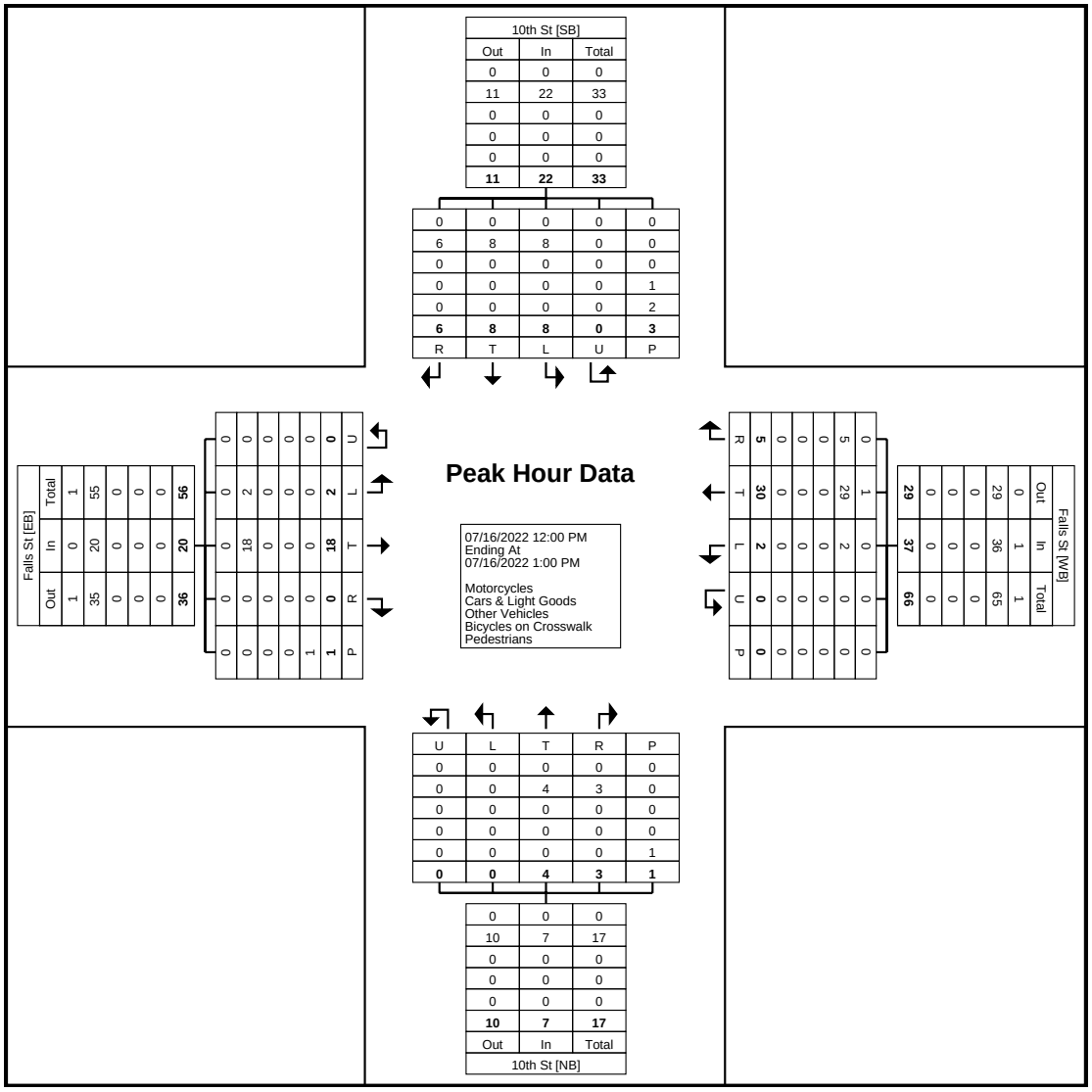
Start Time	10th St Southbound						Falls St Westbound						10th St Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	2	1	4	0	0	7	0	9	2	0	0	11	1	2	0	0	0	3	0	7	1	0	1	8	29
12:15 PM	1	3	0	0	3	4	2	5	0	0	0	7	1	1	0	0	0	2	0	5	1	0	0	6	19
12:30 PM	3	0	1	0	0	4	3	7	0	0	0	10	0	0	0	0	0	0	0	3	0	0	0	3	17
12:45 PM	0	4	3	0	0	7	0	9	0	0	0	9	1	1	0	0	1	2	0	3	0	0	0	3	21
Total	6	8	8	0	3	22	5	30	2	0	0	37	3	4	0	0	1	7	0	18	2	0	1	20	86
Approach %	27.3	36.4	36.4	0.0	-	-	13.5	81.1	5.4	0.0	-	-	42.9	57.1	0.0	0.0	-	-	0.0	90.0	10.0	0.0	-	-	-
Total %	7.0	9.3	9.3	0.0	-	25.6	5.8	34.9	2.3	0.0	-	43.0	3.5	4.7	0.0	0.0	-	8.1	0.0	20.9	2.3	0.0	-	23.3	-
PHF	0.500	0.500	0.500	0.000	-	0.786	0.417	0.833	0.250	0.000	-	0.841	0.750	0.500	0.000	0.000	-	0.583	0.000	0.643	0.500	0.000	-	0.625	0.741
Motorcycles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	3.3	0.0	-	-	2.7	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	1.2
Cars & Light Goods	6	8	8	0	-	22	5	29	2	0	-	36	3	4	0	0	-	7	0	18	2	0	-	20	85
% Cars & Light Goods	100.0	100.0	100.0	-	-	100.0	100.0	96.7	100.0	-	-	97.3	100.0	100.0	-	-	-	100.0	-	100.0	100.0	-	-	100.0	98.8
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Other Vehicles	0.0	0.0	0.0	-	-	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 Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	33.3	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	66.7	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Falls St & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/12/2022

Turning Movement Data

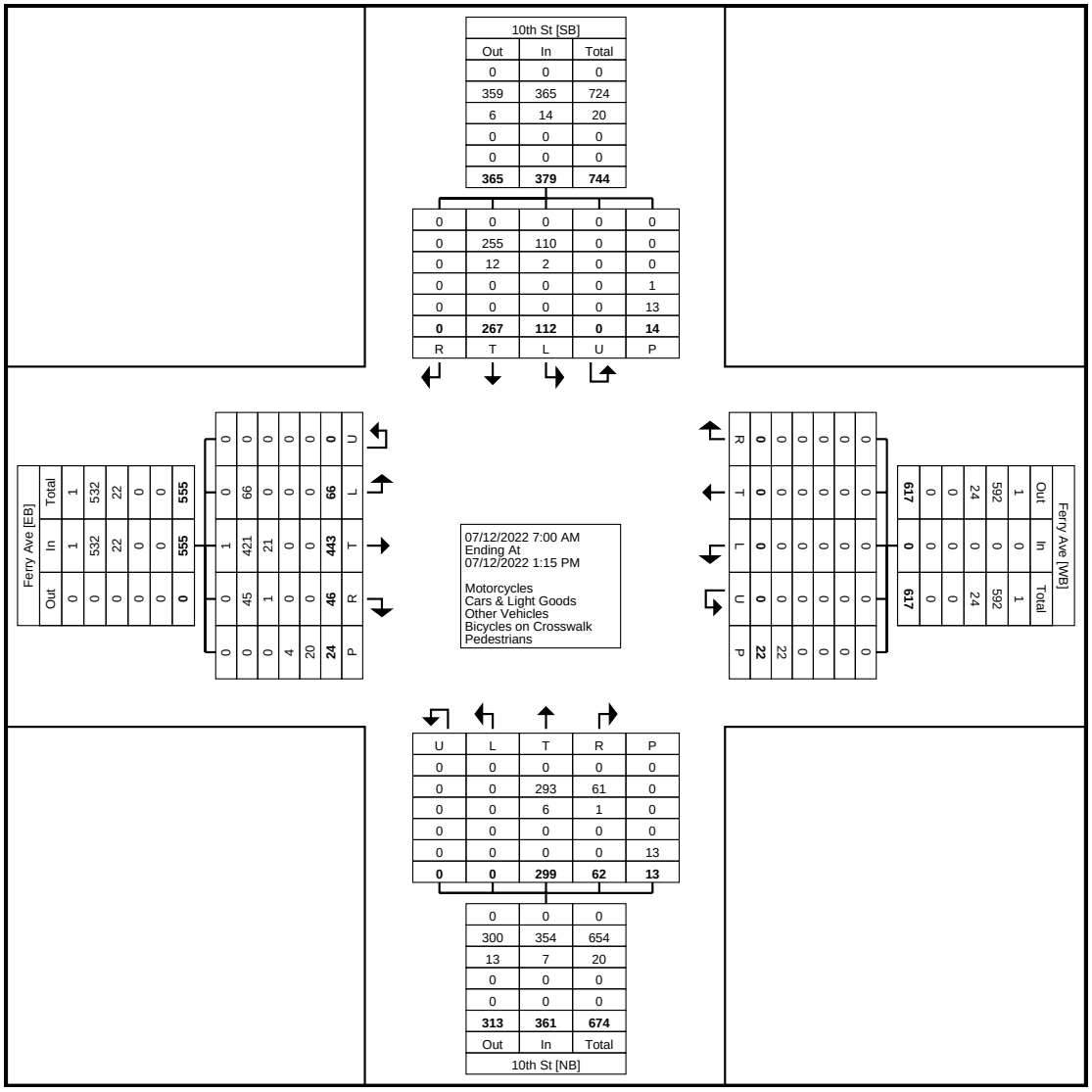
Start Time	10th St Southbound						Ferry Ave Westbound						10th St Northbound						Ferry Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	8	4	0	0	12	0	0	0	0	0	0	2	18	0	0	0	20	5	17	3	0	0	25	57
7:15 AM	0	8	3	0	0	11	0	0	0	0	3	0	3	11	0	0	0	14	3	13	2	0	0	18	43
7:30 AM	0	13	2	0	0	15	0	0	0	0	3	0	2	21	0	0	1	23	0	7	3	0	0	10	48
7:45 AM	0	9	5	0	2	14	0	0	0	0	1	0	6	28	0	0	0	34	3	25	4	0	0	32	80
Hourly Total	0	38	14	0	2	52	0	0	0	0	7	0	13	78	0	0	1	91	11	62	12	0	0	85	228
8:00 AM	0	14	6	0	0	20	0	0	0	0	0	0	7	28	0	0	1	35	1	24	4	0	0	29	84
8:15 AM	0	19	3	0	0	22	0	0	0	0	0	0	5	19	0	0	2	24	6	15	4	0	1	25	71
8:30 AM	0	12	6	0	1	18	0	0	0	0	3	0	1	13	0	0	2	14	3	18	3	0	6	24	56
8:45 AM	0	21	9	0	0	30	0	0	0	0	1	0	4	25	0	0	1	29	2	21	7	0	5	30	89
Hourly Total	0	66	24	0	1	90	0	0	0	0	4	0	17	85	0	0	6	102	12	78	18	0	12	108	300
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	17	8	0	0	25	0	0	0	0	3	0	4	13	0	0	0	17	2	36	3	0	0	41	83
11:15 AM	0	16	6	0	0	22	0	0	0	0	1	0	1	12	0	0	1	13	5	39	3	0	3	47	82
11:30 AM	0	21	7	0	2	28	0	0	0	0	0	0	6	20	0	0	0	26	3	34	4	0	2	41	95
11:45 AM	0	19	10	0	0	29	0	0	0	0	3	0	2	12	0	0	1	14	2	36	1	0	0	39	82
Hourly Total	0	73	31	0	2	104	0	0	0	0	7	0	13	57	0	0	2	70	12	145	11	0	5	168	342
12:00 PM	0	18	14	0	0	32	0	0	0	0	1	0	3	19	0	0	0	22	3	35	8	0	1	46	100
12:15 PM	0	27	11	0	3	38	0	0	0	0	1	0	7	22	0	0	2	29	1	33	3	0	3	37	104
12:30 PM	0	21	8	0	0	29	0	0	0	0	2	0	2	14	0	0	1	16	5	37	5	0	1	47	92
12:45 PM	0	24	10	0	6	34	0	0	0	0	0	0	7	24	0	0	1	31	2	53	9	0	2	64	129
Hourly Total	0	90	43	0	9	133	0	0	0	0	4	0	19	79	0	0	4	98	11	158	25	0	7	194	425
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	267	112	0	14	379	0	0	0	0	22	0	62	299	0	0	13	361	46	443	66	0	24	555	1295
Approach %	0.0	70.4	29.6	0.0	-	-	0.0	0.0	0.0	0.0	-	-	17.2	82.8	0.0	0.0	-	-	8.3	79.8	11.9	0.0	-	-	-
Total %	0.0	20.6	8.6	0.0	-	29.3	0.0	0.0	0.0	0.0	-	0.0	4.8	23.1	0.0	0.0	-	27.9	3.6	34.2	5.1	0.0	-	42.9	-
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Motorcycles	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	0.0	0.2	0.0	-	-	0.2	0.1
Cars & Light Goods	0	255	110	0	-	365	0	0	0	0	-	0	61	293	0	0	-	354	45	421	66	0	-	532	1251
% Cars & Light Goods	-	95.5	98.2	-	-	96.3	-	-	-	-	-	-	98.4	98.0	-	-	-	98.1	97.8	95.0	100.0	-	-	95.9	96.6
Other Vehicles	0	12	2	0	-	14	0	0	0	0	-	0	1	6	0	0	-	7	1	21	0	0	-	22	43
% Other Vehicles	-	4.5	1.8	-	-	3.7	-	-	-	-	-	-	1.6	2.0	-	-	-	1.9	2.2	4.7	0.0	-	-	4.0	3.3
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-
% Bicycles on Crosswalk	-	-	-	-	7.1	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	16.7	-	-
Pedestrians	-	-	-	-	13	-	-	-	-	-	22	-	-	-	-	-	13	-	-	-	-	-	20	-	-
% Pedestrians	-	-	-	-	92.9	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	83.3	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (8:00 AM)

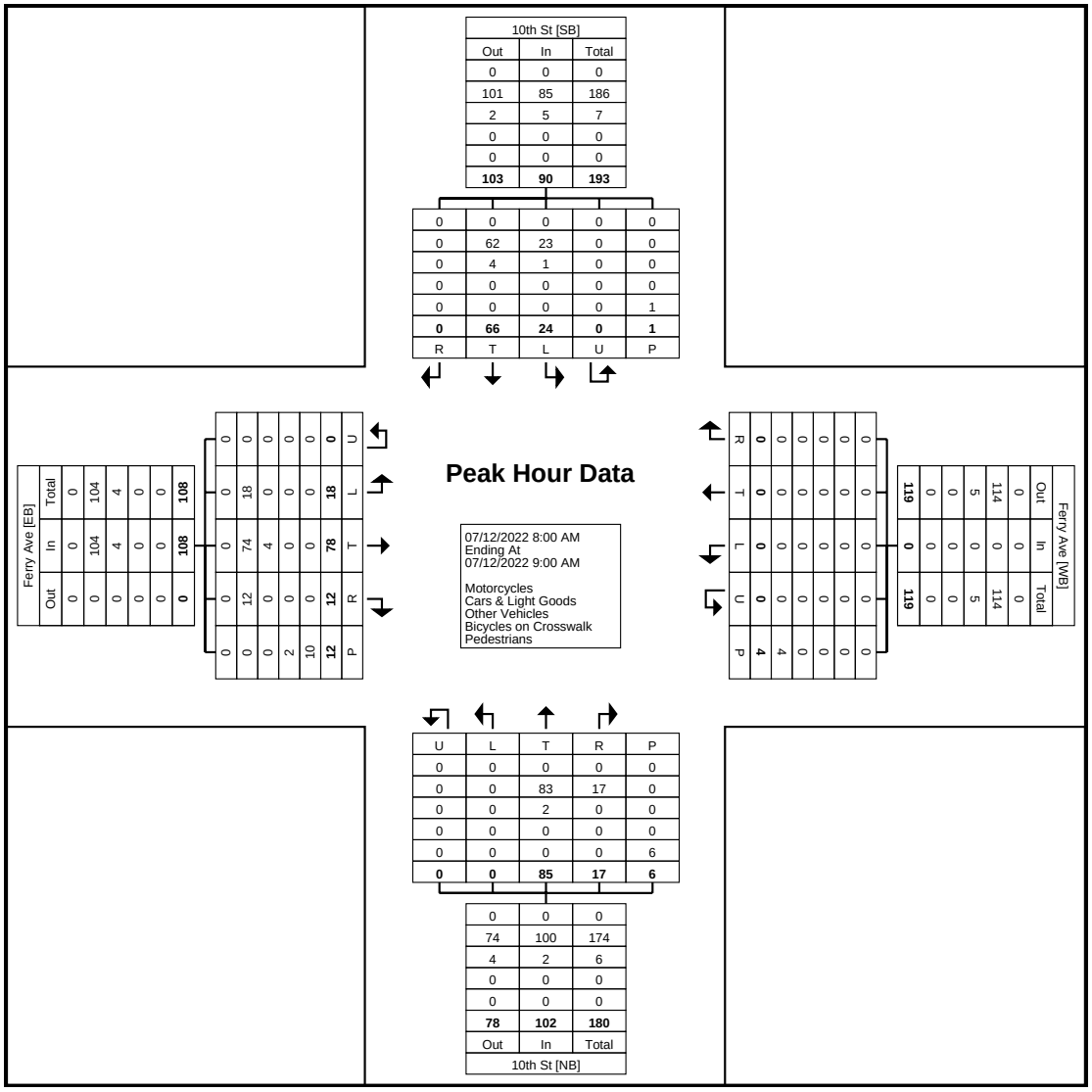
Start Time	10th St Southbound						Ferry Ave Westbound						10th St Northbound						Ferry Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
8:00 AM	0	14	6	0	0	20	0	0	0	0	0	0	7	28	0	0	1	35	1	24	4	0	0	29	84
8:15 AM	0	19	3	0	0	22	0	0	0	0	0	0	5	19	0	0	2	24	6	15	4	0	1	25	71
8:30 AM	0	12	6	0	1	18	0	0	0	0	3	0	1	13	0	0	2	14	3	18	3	0	6	24	56
8:45 AM	0	21	9	0	0	30	0	0	0	0	1	0	4	25	0	0	1	29	2	21	7	0	5	30	89
Total	0	66	24	0	1	90	0	0	0	0	4	0	17	85	0	0	6	102	12	78	18	0	12	108	300
Approach %	0.0	73.3	26.7	0.0	-	-	0.0	0.0	0.0	0.0	-	-	16.7	83.3	0.0	0.0	-	-	11.1	72.2	16.7	0.0	-	-	-
Total %	0.0	22.0	8.0	0.0	-	30.0	0.0	0.0	0.0	0.0	-	0.0	5.7	28.3	0.0	0.0	-	34.0	4.0	26.0	6.0	0.0	-	36.0	-
PHF	0.000	0.786	0.667	0.000	-	0.750	0.000	0.000	0.000	0.000	-	0.000	0.607	0.759	0.000	0.000	-	0.729	0.500	0.813	0.643	0.000	-	0.900	0.843
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	62	23	0	-	85	0	0	0	0	-	0	17	83	0	0	-	100	12	74	18	0	-	104	289
% Cars & Light Goods	-	93.9	95.8	-	-	94.4	-	-	-	-	-	-	100.0	97.6	-	-	-	98.0	100.0	94.9	100.0	-	-	96.3	96.3
Other Vehicles	0	4	1	0	-	5	0	0	0	0	-	0	0	2	0	0	-	2	0	4	0	0	-	4	11
% Other Vehicles	-	6.1	4.2	-	-	5.6	-	-	-	-	-	-	0.0	2.4	-	-	-	2.0	0.0	5.1	0.0	-	-	3.7	3.7
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	16.7	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	6	-	-	-	-	-	10	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	83.3	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 4



Turning Movement Peak Hour Data Plot (8:00 AM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (12:00 PM)

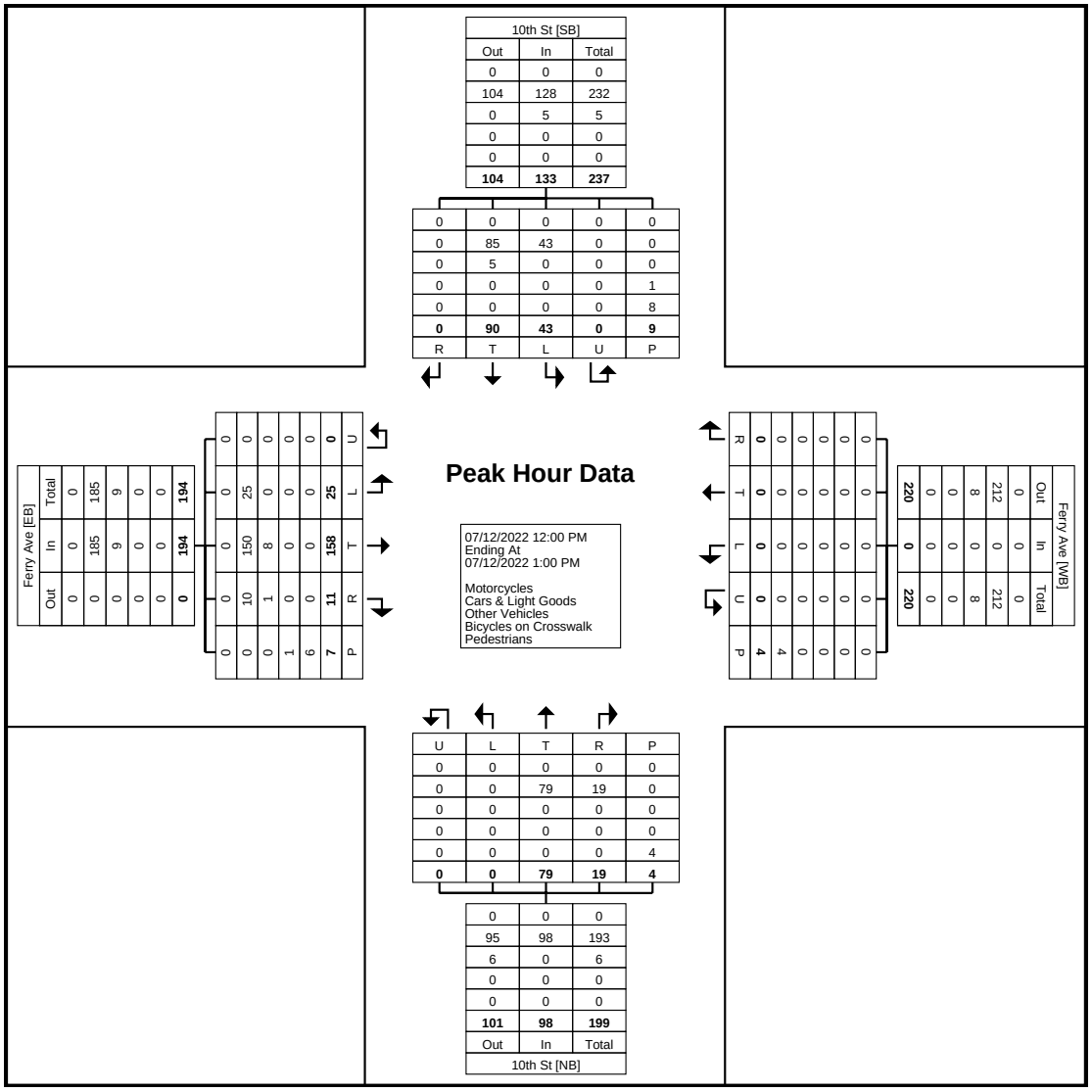
Start Time	10th St Southbound						Ferry Ave Westbound						10th St Northbound						Ferry Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	0	18	14	0	0	32	0	0	0	0	1	0	3	19	0	0	0	22	3	35	8	0	1	46	100
12:15 PM	0	27	11	0	3	38	0	0	0	0	1	0	7	22	0	0	2	29	1	33	3	0	3	37	104
12:30 PM	0	21	8	0	0	29	0	0	0	0	2	0	2	14	0	0	1	16	5	37	5	0	1	47	92
12:45 PM	0	24	10	0	6	34	0	0	0	0	0	0	7	24	0	0	1	31	2	53	9	0	2	64	129
Total	0	90	43	0	9	133	0	0	0	0	4	0	19	79	0	0	4	98	11	158	25	0	7	194	425
Approach %	0.0	67.7	32.3	0.0	-	-	0.0	0.0	0.0	0.0	-	-	19.4	80.6	0.0	0.0	-	-	5.7	81.4	12.9	0.0	-	-	-
Total %	0.0	21.2	10.1	0.0	-	31.3	0.0	0.0	0.0	0.0	-	0.0	4.5	18.6	0.0	0.0	-	23.1	2.6	37.2	5.9	0.0	-	45.6	-
PHF	0.000	0.833	0.768	0.000	-	0.875	0.000	0.000	0.000	0.000	-	0.000	0.679	0.823	0.000	0.000	-	0.790	0.550	0.745	0.694	0.000	-	0.758	0.824
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	85	43	0	-	128	0	0	0	0	-	0	19	79	0	0	-	98	10	150	25	0	-	185	411
% Cars & Light Goods	-	94.4	100.0	-	-	96.2	-	-	-	-	-	-	100.0	100.0	-	-	-	100.0	90.9	94.9	100.0	-	-	95.4	96.7
Other Vehicles	0	5	0	0	-	5	0	0	0	0	-	0	0	0	0	0	-	0	1	8	0	0	-	9	14
% Other Vehicles	-	5.6	0.0	-	-	3.8	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	9.1	5.1	0.0	-	-	4.6	3.3
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	11.1	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	14.3	-	-
Pedestrians	-	-	-	-	8	-	-	-	-	-	4	-	-	-	-	-	4	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	88.9	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	85.7	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/12/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/14/2022

Turning Movement Data

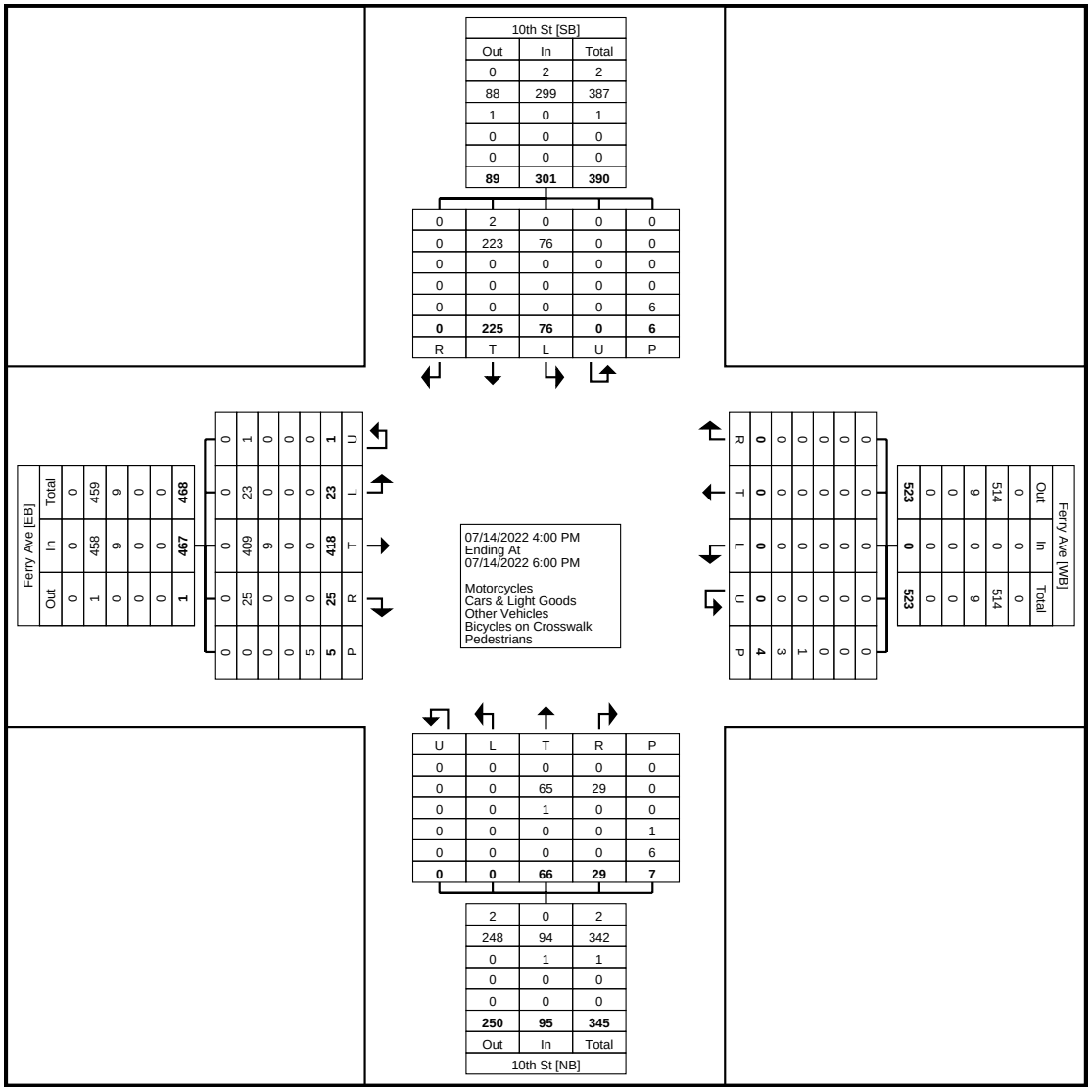
Start Time	10th St Southbound						Ferry Ave Westbound						10th St Northbound						Ferry Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	0	46	22	0	0	68	0	0	0	0	2	0	4	15	0	0	1	19	3	59	3	0	1	65	152
4:15 PM	0	25	10	0	0	35	0	0	0	0	0	0	5	5	0	0	0	10	4	58	2	0	0	64	109
4:30 PM	0	42	14	0	0	56	0	0	0	0	0	0	4	6	0	0	0	10	4	49	5	0	3	58	124
4:45 PM	0	20	11	0	0	31	0	0	0	0	0	0	1	11	0	0	2	12	2	55	3	0	0	60	103
Hourly Total	0	133	57	0	0	190	0	0	0	0	2	0	14	37	0	0	3	51	13	221	13	0	4	247	488
5:00 PM	0	30	4	0	0	34	0	0	0	0	0	0	5	8	0	0	0	13	2	58	4	0	0	64	111
5:15 PM	0	23	7	0	5	30	0	0	0	0	1	0	6	7	0	0	3	13	1	56	2	1	0	60	103
5:30 PM	0	19	3	0	0	22	0	0	0	0	1	0	3	6	0	0	0	9	4	40	2	0	0	46	77
5:45 PM	0	20	5	0	1	25	0	0	0	0	0	0	1	8	0	0	1	9	5	43	2	0	1	50	84
Hourly Total	0	92	19	0	6	111	0	0	0	0	2	0	15	29	0	0	4	44	12	197	10	1	1	220	375
Grand Total	0	225	76	0	6	301	0	0	0	0	4	0	29	66	0	0	7	95	25	418	23	1	5	467	863
Approach %	0.0	74.8	25.2	0.0	-	-	0.0	0.0	0.0	0.0	-	-	30.5	69.5	0.0	0.0	-	-	5.4	89.5	4.9	0.2	-	-	-
Total %	0.0	26.1	8.8	0.0	-	34.9	0.0	0.0	0.0	0.0	-	0.0	3.4	7.6	0.0	0.0	-	11.0	2.9	48.4	2.7	0.1	-	54.1	-
Motorcycles	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2
% Motorcycles	-	0.9	0.0	-	-	0.7	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.2
Cars & Light Goods	0	223	76	0	-	299	0	0	0	0	-	0	29	65	0	0	-	94	25	409	23	1	-	458	851
% Cars & Light Goods	-	99.1	100.0	-	-	99.3	-	-	-	-	-	-	100.0	98.5	-	-	-	98.9	100.0	97.8	100.0	100.0	-	98.1	98.6
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	9	0	0	-	9	10
% Other Vehicles	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	1.5	-	-	-	1.1	0.0	2.2	0.0	0.0	-	1.9	1.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	25.0	-	-	-	-	-	14.3	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	6	-	-	-	-	-	3	-	-	-	-	-	6	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	75.0	-	-	-	-	-	85.7	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/14/2022
Page No: 2



07/14/2022 4:00 PM
Ending At
07/14/2022 6:00 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

10th St [SB]

Out	In	Total
0	2	2
88	299	387
1	0	1
0	0	0
0	0	0
89	**301**	**390**

R	T	L	U	P
0	2	0	0	0
0	223	76	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	6
0	**225**	**76**	**0**	**6**

Ferry Ave [EB]

Out	In	Total
0	0	0
1	458	459
0	9	9
0	0	0
0	0	0
1	**467**	**468**

U	L	T	R	P
0	0	0	0	0
1	23	409	25	0
0	0	9	0	0
0	0	0	0	0
0	0	0	0	5
1	**23**	**418**	**25**	**5**

Ferry Ave [WB]

Out	In	Total
0	0	0
514	0	514
9	0	9
0	0	0
0	0	0
523	**0**	**523**

R	T	L	U	P
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	1
0	0	0	0	3
0	**0**	**0**	**0**	**4**

U	L	T	R	P
0	0	0	0	0
0	0	65	29	0
0	0	1	0	0
0	0	0	0	1
0	0	0	0	6
0	**0**	**66**	**29**	**7**

Out	In	Total
2	0	2
248	94	342
0	1	1
0	0	0
0	0	0
250	**95**	**345**

10th St [NB]

Turning Movement Data Plot

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

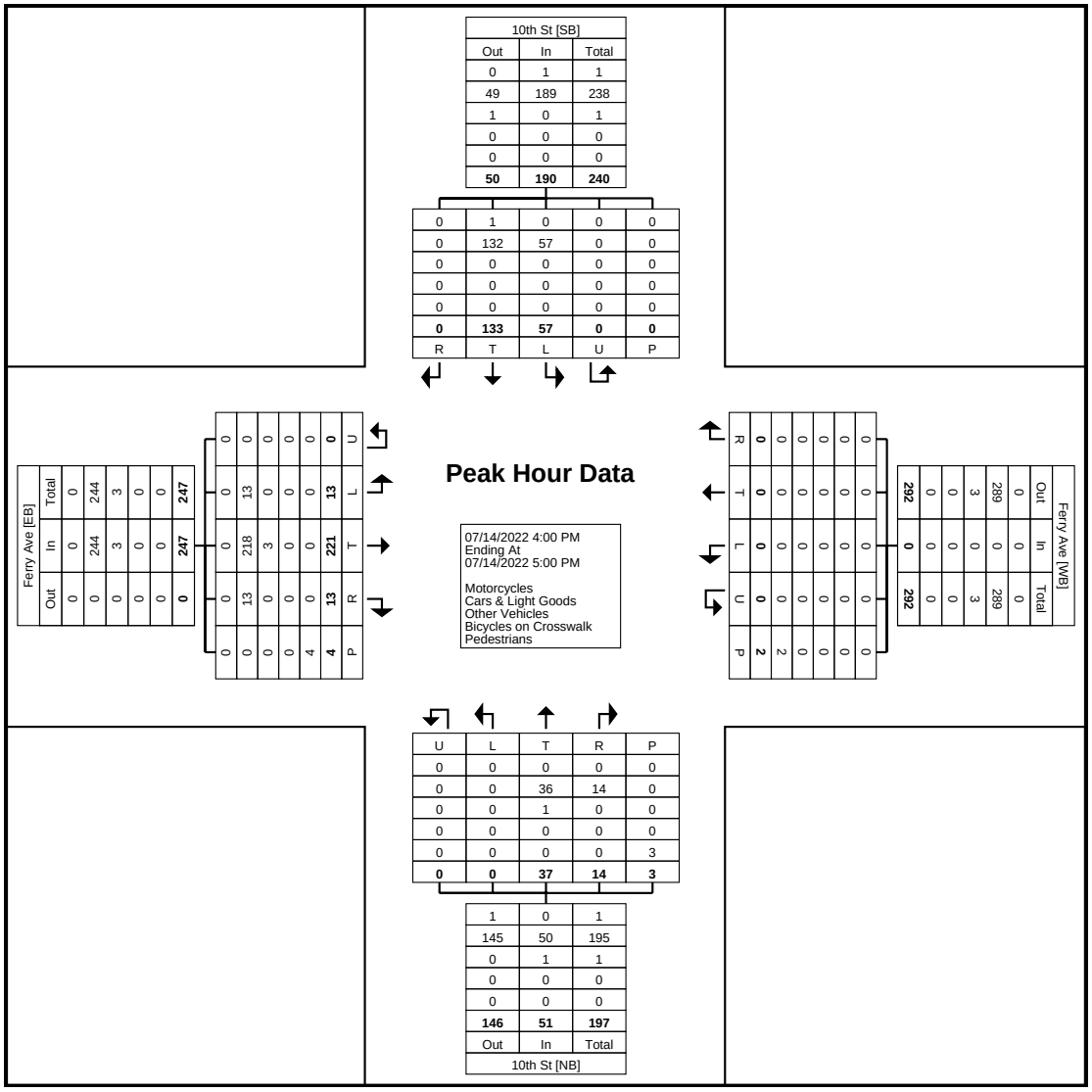
Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (4:00 PM)

Start Time	10th St Southbound						Ferry Ave Westbound						10th St Northbound						Ferry Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	0	46	22	0	0	68	0	0	0	0	2	0	4	15	0	0	1	19	3	59	3	0	1	65	152
4:15 PM	0	25	10	0	0	35	0	0	0	0	0	0	5	5	0	0	0	10	4	58	2	0	0	64	109
4:30 PM	0	42	14	0	0	56	0	0	0	0	0	0	4	6	0	0	0	10	4	49	5	0	3	58	124
4:45 PM	0	20	11	0	0	31	0	0	0	0	0	0	1	11	0	0	2	12	2	55	3	0	0	60	103
Total	0	133	57	0	0	190	0	0	0	0	2	0	14	37	0	0	3	51	13	221	13	0	4	247	488
Approach %	0.0	70.0	30.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	27.5	72.5	0.0	0.0	-	-	5.3	89.5	5.3	0.0	-	-	-
Total %	0.0	27.3	11.7	0.0	-	38.9	0.0	0.0	0.0	0.0	-	0.0	2.9	7.6	0.0	0.0	-	10.5	2.7	45.3	2.7	0.0	-	50.6	-
PHF	0.000	0.723	0.648	0.000	-	0.699	0.000	0.000	0.000	0.000	-	0.000	0.700	0.617	0.000	0.000	-	0.671	0.813	0.936	0.650	0.000	-	0.950	0.803
Motorcycles	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Motorcycles	-	0.8	0.0	-	-	0.5	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.2
Cars & Light Goods	0	132	57	0	-	189	0	0	0	0	-	0	14	36	0	0	-	50	13	218	13	0	-	244	483
% Cars & Light Goods	-	99.2	100.0	-	-	99.5	-	-	-	-	-	-	100.0	97.3	-	-	-	98.0	100.0	98.6	100.0	-	-	98.8	99.0
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	3	0	0	-	3	4
% Other Vehicles	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	2.7	-	-	-	2.0	0.0	1.4	0.0	-	-	1.2	0.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Niagara, New York
July 14, 2022

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/14/2022



Peak Hour Data

07/14/2022 4:00 PM
Ending At
07/14/2022 5:00 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

10th St [SB]

Out	In	Total
0	1	1
49	189	238
1	0	1
0	0	0
0	0	0
50	**190**	**240**

R	T	L	U	P
0	1	0	0	0
0	132	57	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	**133**	**57**	**0**	**0**

Ferry Ave [EB]

Out	In	Total
0	0	0
0	244	244
0	3	3
0	0	0
0	0	0
0	**247**	**247**

U	L	T	R	P
0	0	0	0	0
0	13	218	13	0
0	0	3	0	0
0	0	0	0	0
0	0	0	0	4
0	**13**	**221**	**13**	**4**

Ferry Ave [WB]

Out	In	Total
0	0	0
289	0	289
3	0	3
0	0	0
0	0	0
292	**0**	**292**

R	T	L	U	P
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**	**2**

U	L	T	R	P
0	0	0	0	0
0	0	36	14	0
0	0	1	0	0
0	0	0	0	0
0	0	0	0	3
0	**0**	**37**	**14**	**3**

Out	In	Total
1	0	1
145	50	195
0	1	1
0	0	0
0	0	0
146	**51**	**197**

10th St [NB]

Turning Movement Peak Hour Data Plot (4:00 PM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/16/2022

Turning Movement Data

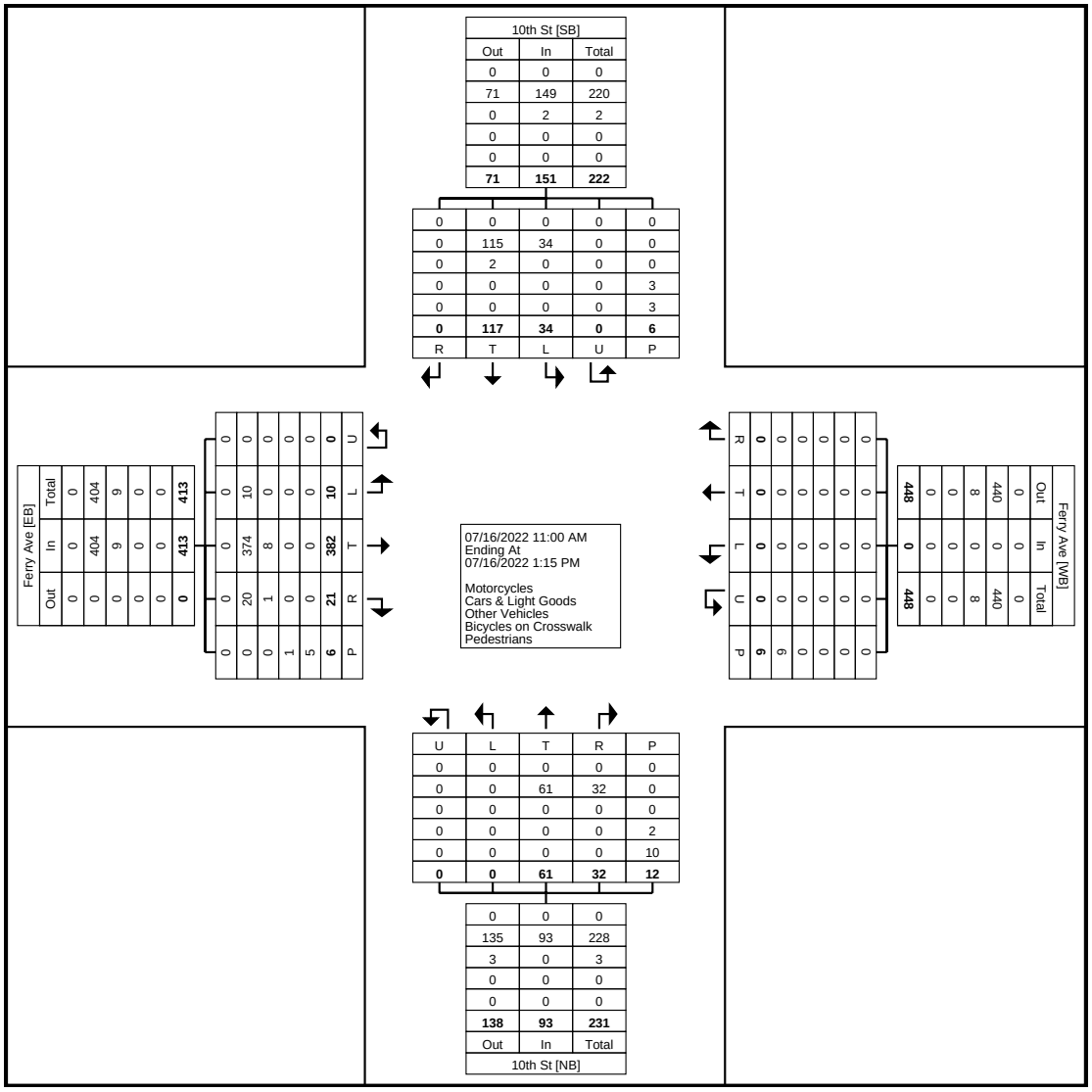
Start Time	10th St Southbound						Ferry Ave Westbound						10th St Northbound						Ferry Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	0	11	2	0	0	13	0	0	0	0	1	0	2	6	0	0	2	8	5	43	1	0	1	49	70
11:15 AM	0	16	3	0	0	19	0	0	0	0	0	0	5	3	0	0	1	8	2	33	3	0	1	38	65
11:30 AM	0	17	4	0	0	21	0	0	0	0	0	0	2	10	0	0	3	12	2	56	3	0	0	61	94
11:45 AM	0	5	3	0	0	8	0	0	0	0	0	0	10	9	0	0	1	19	5	52	1	0	1	58	85
Hourly Total	0	49	12	0	0	61	0	0	0	0	1	0	19	28	0	0	7	47	14	184	8	0	3	206	314
12:00 PM	0	16	4	0	0	20	0	0	0	0	5	0	4	7	0	0	2	11	4	50	0	0	3	54	85
12:15 PM	0	17	6	0	3	23	0	0	0	0	0	0	2	7	0	0	1	9	0	52	0	0	0	52	84
12:30 PM	0	18	4	0	0	22	0	0	0	0	0	0	3	7	0	0	0	10	1	51	2	0	0	54	86
12:45 PM	0	17	8	0	3	25	0	0	0	0	0	0	4	12	0	0	2	16	2	45	0	0	0	47	88
Hourly Total	0	68	22	0	6	90	0	0	0	0	5	0	13	33	0	0	5	46	7	198	2	0	3	207	343
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	117	34	0	6	151	0	0	0	0	6	0	32	61	0	0	12	93	21	382	10	0	6	413	657
Approach %	0.0	77.5	22.5	0.0	-	-	0.0	0.0	0.0	0.0	-	-	34.4	65.6	0.0	0.0	-	-	5.1	92.5	2.4	0.0	-	-	-
Total %	0.0	17.8	5.2	0.0	-	23.0	0.0	0.0	0.0	0.0	-	0.0	4.9	9.3	0.0	0.0	-	14.2	3.2	58.1	1.5	0.0	-	62.9	-
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	115	34	0	-	149	0	0	0	0	-	0	32	61	0	0	-	93	20	374	10	0	-	404	646
% Cars & Light Goods	-	98.3	100.0	-	-	98.7	-	-	-	-	-	-	100.0	100.0	-	-	-	100.0	95.2	97.9	100.0	-	-	97.8	98.3
Other Vehicles	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	1	8	0	0	-	9	11
% Other Vehicles	-	1.7	0.0	-	-	1.3	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	4.8	2.1	0.0	-	-	2.2	1.7
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	50.0	-	-	-	-	-	0.0	-	-	-	-	-	16.7	-	-	-	-	-	16.7	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	6	-	-	-	-	-	10	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	50.0	-	-	-	-	-	100.0	-	-	-	-	-	83.3	-	-	-	-	-	83.3	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (11:00 AM)

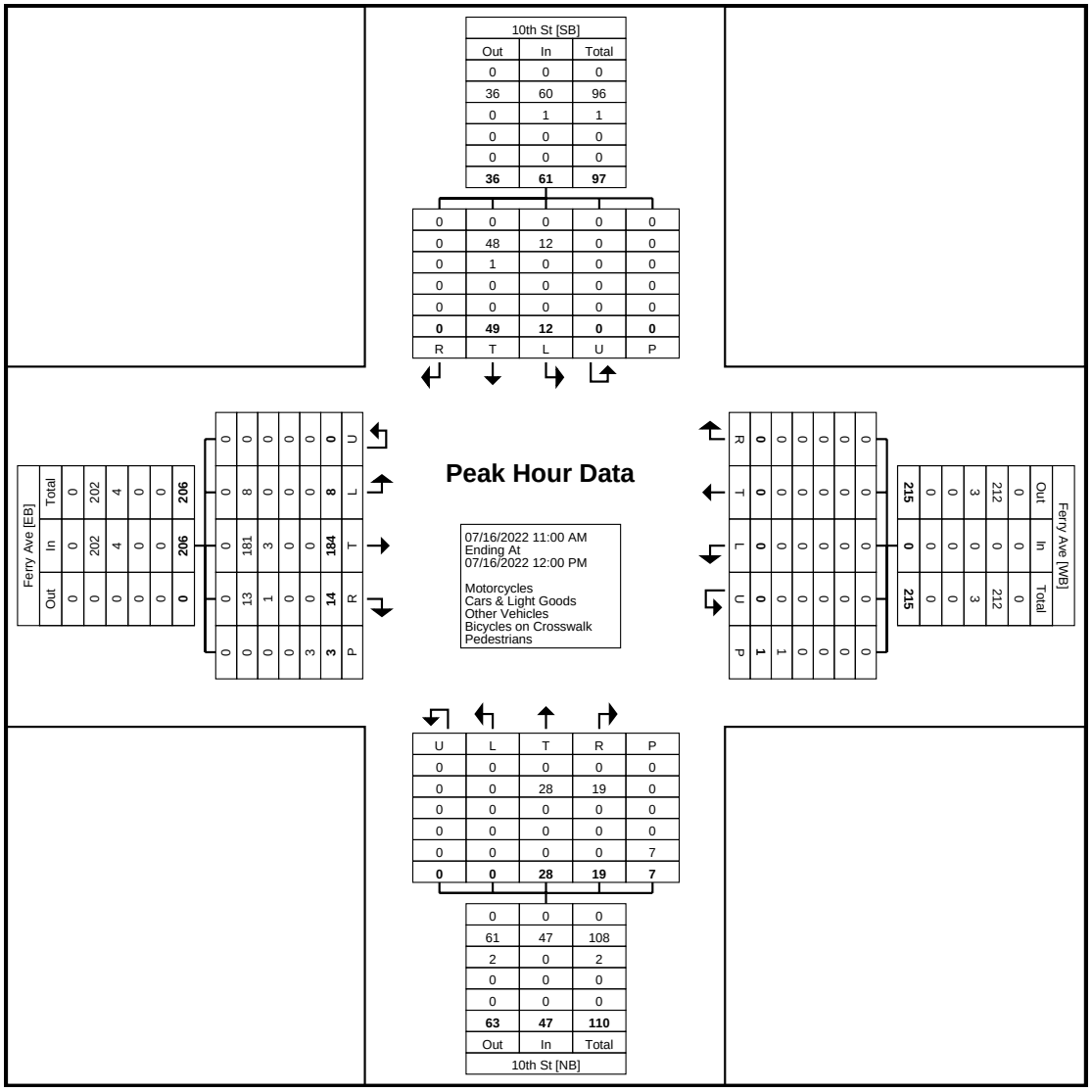
Start Time	10th St Southbound						Ferry Ave Westbound						10th St Northbound						Ferry Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	0	11	2	0	0	13	0	0	0	0	1	0	2	6	0	0	2	8	5	43	1	0	1	49	70
11:15 AM	0	16	3	0	0	19	0	0	0	0	0	0	5	3	0	0	1	8	2	33	3	0	1	38	65
11:30 AM	0	17	4	0	0	21	0	0	0	0	0	0	2	10	0	0	3	12	2	56	3	0	0	61	94
11:45 AM	0	5	3	0	0	8	0	0	0	0	0	0	10	9	0	0	1	19	5	52	1	0	1	58	85
Total	0	49	12	0	0	61	0	0	0	0	1	0	19	28	0	0	7	47	14	184	8	0	3	206	314
Approach %	0.0	80.3	19.7	0.0	-	-	0.0	0.0	0.0	0.0	-	-	40.4	59.6	0.0	0.0	-	-	6.8	89.3	3.9	0.0	-	-	-
Total %	0.0	15.6	3.8	0.0	-	19.4	0.0	0.0	0.0	0.0	-	0.0	6.1	8.9	0.0	0.0	-	15.0	4.5	58.6	2.5	0.0	-	65.6	-
PHF	0.000	0.721	0.750	0.000	-	0.726	0.000	0.000	0.000	0.000	-	0.000	0.475	0.700	0.000	0.000	-	0.618	0.700	0.821	0.667	0.000	-	0.844	0.835
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	48	12	0	-	60	0	0	0	0	-	0	19	28	0	0	-	47	13	181	8	0	-	202	309
% Cars & Light Goods	-	98.0	100.0	-	-	98.4	-	-	-	-	-	-	100.0	100.0	-	-	-	100.0	92.9	98.4	100.0	-	-	98.1	98.4
Other Vehicles	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1	3	0	0	-	4	5
% Other Vehicles	-	2.0	0.0	-	-	1.6	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	7.1	1.6	0.0	-	-	1.9	1.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	7	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 4



Turning Movement Peak Hour Data Plot (11:00 AM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (12:00 PM)

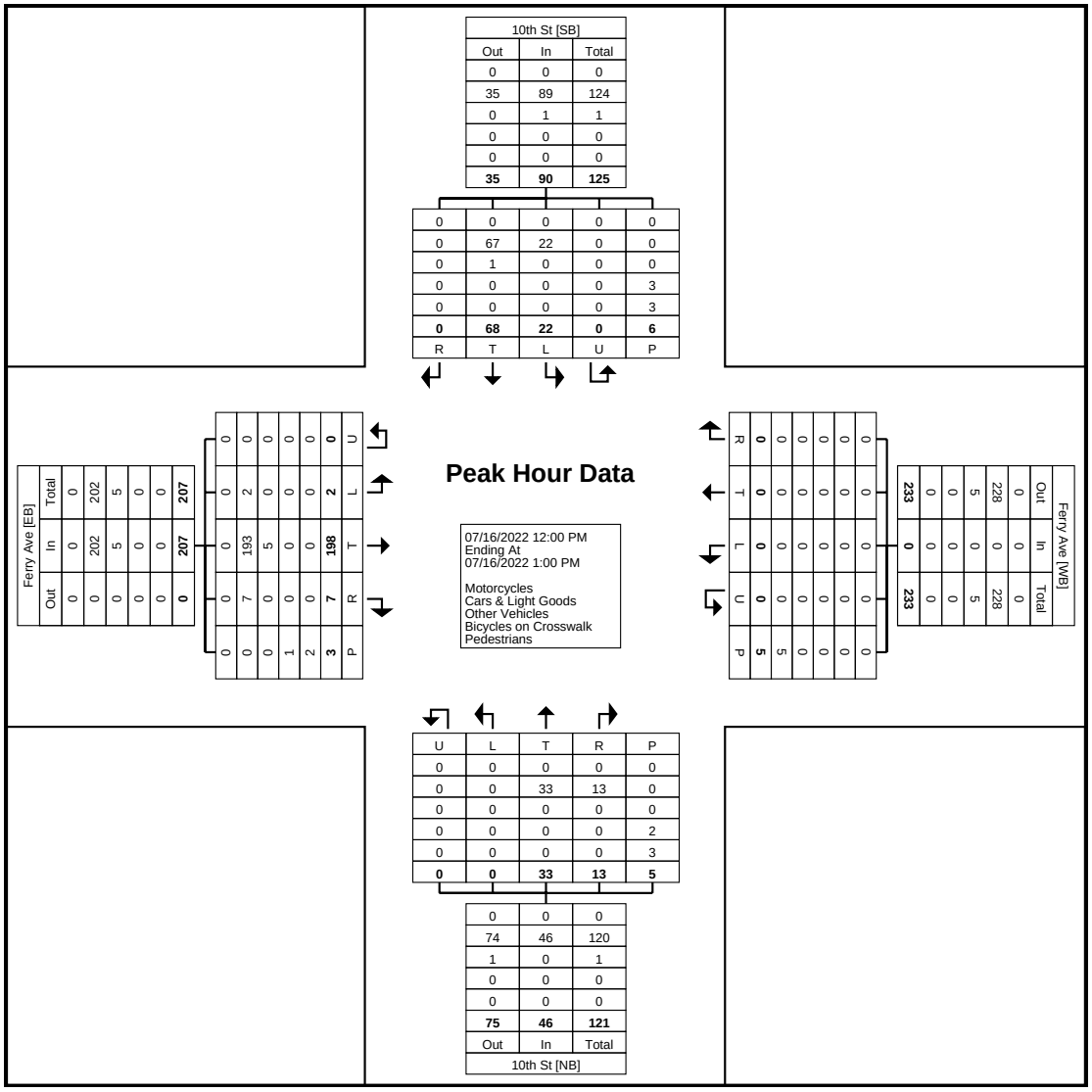
Start Time	10th St Southbound						Ferry Ave Westbound						10th St Northbound						Ferry Ave Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	0	16	4	0	0	20	0	0	0	0	5	0	4	7	0	0	2	11	4	50	0	0	3	54	85
12:15 PM	0	17	6	0	3	23	0	0	0	0	0	0	2	7	0	0	1	9	0	52	0	0	0	52	84
12:30 PM	0	18	4	0	0	22	0	0	0	0	0	0	3	7	0	0	0	10	1	51	2	0	0	54	86
12:45 PM	0	17	8	0	3	25	0	0	0	0	0	0	4	12	0	0	2	16	2	45	0	0	0	47	88
Total	0	68	22	0	6	90	0	0	0	0	5	0	13	33	0	0	5	46	7	198	2	0	3	207	343
Approach %	0.0	75.6	24.4	0.0	-	-	0.0	0.0	0.0	0.0	-	-	28.3	71.7	0.0	0.0	-	-	3.4	95.7	1.0	0.0	-	-	-
Total %	0.0	19.8	6.4	0.0	-	26.2	0.0	0.0	0.0	0.0	-	0.0	3.8	9.6	0.0	0.0	-	13.4	2.0	57.7	0.6	0.0	-	60.3	-
PHF	0.000	0.944	0.688	0.000	-	0.900	0.000	0.000	0.000	0.000	-	0.000	0.813	0.688	0.000	0.000	-	0.719	0.438	0.952	0.250	0.000	-	0.958	0.974
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	67	22	0	-	89	0	0	0	0	-	0	13	33	0	0	-	46	7	193	2	0	-	202	337
% Cars & Light Goods	-	98.5	100.0	-	-	98.9	-	-	-	-	-	-	100.0	100.0	-	-	-	100.0	100.0	97.5	100.0	-	-	97.6	98.3
Other Vehicles	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	5	0	0	-	5	6
% Other Vehicles	-	1.5	0.0	-	-	1.1	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	0.0	2.5	0.0	-	-	2.4	1.7
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	50.0	-	-	-	-	-	0.0	-	-	-	-	-	40.0	-	-	-	-	-	33.3	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	5	-	-	-	-	-	3	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	50.0	-	-	-	-	-	100.0	-	-	-	-	-	60.0	-	-	-	-	-	66.7	-	-

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: Ferry Ave & 10th St
Site Code:
Start Date: 07/16/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022
Page No: 1

Turning Movement Data

Start Time	John Daly Blvd Southbound							Buffalo Ave Westbound							John Daly Blvd Northbound							Buffalo Ave Eastbound							Int. Total
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	0	0	44	1	0	0	45	0	0	4	2	0	0	6	0	1	44	0	0	0	45	3	3	5	1	0	0	12	108
7:15 AM	0	0	48	0	0	0	48	0	0	2	3	0	0	5	3	0	70	8	0	0	81	4	2	1	0	0	0	7	141
7:30 AM	0	0	69	0	0	0	69	0	0	5	5	0	0	10	0	0	113	6	0	0	119	8	1	7	1	0	0	17	215
7:45 AM	2	0	55	0	0	0	57	1	0	3	3	0	0	7	13	2	154	17	0	0	186	6	3	2	1	0	0	12	262
Hourly Total	2	0	216	1	0	0	219	1	0	14	13	0	0	28	16	3	381	31	0	0	431	21	9	15	3	0	0	48	726
8:00 AM	0	0	79	1	0	0	80	0	0	5	1	0	0	6	8	2	92	7	0	0	109	8	2	3	0	0	0	13	208
8:15 AM	3	0	60	0	0	0	63	1	0	4	3	0	0	8	0	0	96	13	0	0	109	1	3	3	0	0	0	7	187
8:30 AM	3	1	67	1	0	0	72	2	0	5	5	0	0	12	1	0	88	19	0	0	108	5	1	3	0	0	0	9	201
8:45 AM	3	0	85	0	1	2	89	0	1	2	0	0	0	3	4	0	104	18	0	0	126	9	5	6	0	0	0	20	238
Hourly Total	9	1	291	2	1	2	304	3	1	16	9	0	0	29	13	2	380	57	0	0	452	23	11	15	0	0	0	49	834
9:00 AM	3	0	75	0	0	0	78	0	0	4	8	0	0	12	1	1	74	9	2	0	87	5	6	5	0	0	0	16	193
9:15 AM	1	0	96	1	0	4	98	0	0	5	7	0	0	12	3	4	52	11	0	0	70	2	4	6	1	0	0	13	193
9:30 AM	2	1	77	0	0	2	80	2	0	6	11	0	0	19	2	0	61	11	1	0	75	3	13	5	1	0	0	22	196
9:45 AM	5	1	80	1	1	0	88	0	0	7	6	0	0	13	1	0	77	13	1	0	92	5	4	12	2	0	0	23	216
Hourly Total	11	2	328	2	1	6	344	2	0	22	32	0	0	56	7	5	264	44	4	0	324	15	27	28	4	0	0	74	798
10:00 AM	3	0	108	0	1	0	112	1	1	7	7	0	0	16	3	2	60	14	2	1	81	12	7	4	2	0	0	25	234
10:15 AM	3	0	106	0	0	1	109	2	0	6	2	0	0	10	2	1	74	8	1	0	86	17	5	7	0	0	0	29	234
10:30 AM	7	0	90	0	0	0	97	2	0	9	8	0	0	19	2	1	85	15	0	0	103	17	4	8	0	0	0	29	248
10:45 AM	1	0	115	1	0	0	117	0	0	4	3	0	0	7	3	4	78	12	0	1	97	19	4	7	0	0	0	30	251
Hourly Total	14	0	419	1	1	1	435	5	1	26	20	0	0	52	10	8	297	49	3	2	367	65	20	26	2	0	0	113	967
11:00 AM	2	0	123	0	0	0	125	2	0	2	7	0	0	11	4	0	84	9	0	0	97	12	8	7	1	0	0	28	261
11:15 AM	2	1	103	1	0	0	107	0	0	2	6	0	0	8	4	4	93	13	0	0	114	16	8	7	1	0	0	32	261
11:30 AM	6	0	114	0	0	6	120	0	1	5	6	0	0	12	0	1	107	12	1	0	121	11	13	6	1	0	2	31	284
11:45 AM	1	0	117	0	0	0	118	0	0	3	7	0	0	10	4	0	121	9	0	0	134	17	2	7	1	0	2	27	289
Hourly Total	11	1	457	1	0	6	470	2	1	12	26	0	0	41	12	5	405	43	1	0	466	56	31	27	4	0	4	118	1095
12:00 PM	2	0	137	1	0	0	140	1	0	15	6	0	2	22	4	0	110	10	0	0	124	18	6	2	0	0	0	26	312
12:15 PM	2	0	106	0	0	0	108	1	0	6	4	0	0	11	1	1	94	13	2	0	111	9	2	12	2	0	0	25	255
12:30 PM	6	1	111	1	0	1	119	1	0	5	7	0	0	13	2	2	119	13	0	0	136	17	8	9	0	0	0	34	302
12:45 PM	1	0	120	1	0	0	122	0	0	4	3	0	0	7	3	2	88	15	0	0	108	23	1	8	0	0	0	32	269
Hourly Total	11	1	474	3	0	1	489	3	0	30	20	0	2	53	10	5	411	51	2	0	479	67	17	31	2	0	0	117	1138
1:00 PM	1	0	105	0	0	0	106	0	1	2	1	0	0	4	4	2	87	15	0	0	108	18	1	14	0	0	0	33	251
1:15 PM	2	0	121	0	0	0	123	1	0	6	3	0	0	10	2	2	91	13	1	1	109	18	5	9	0	0	0	32	274
1:30 PM	2	0	137	1	0	0	140	1	1	6	1	0	0	9	2	0	105	18	0	1	125	14	10	9	0	0	0	33	307
1:45 PM	3	0	145	1	0	0	149	0	0	6	6	0	0	12	3	0	85	14	0	1	102	26	9	3	1	0	0	39	302
Hourly Total	8	0	508	2	0	0	518	2	2	20	11	0	0	35	11	4	368	60	1	3	444	76	25	35	1	0	0	137	1134
2:00 PM	5	1	136	2	1	0	145	1	1	8	4	0	0	14	2	2	96	15	1	0	116	21	8	7	0	0	0	36	311
2:15 PM	1	1	142	1	0	2	145	0	0	8	4	0	0	12	2	0	88	13	0	2	103	20	12	9	1	0	0	42	302
2:30 PM	2	1	142	0	0	0	145	0	0	2	9	0	4	11	5	2	95	14	2	0	118	20	7	8	1	0	4	36	310
2:45 PM	0	0	138	1	0	2	139	1	0	5	3	0	0	9	3	0	101	10	0	0	114	26	8	7	2	0	2	43	305
Hourly Total	8	3	558	4	1	4	574	2	1	23	20	0	4	46	12	4	380	52	3	2	451	87	35	31	4	0	6	157	1228
3:00 PM	2	0	192	2	0	0	196	0	0	6	14	0	0	20	1	1	91	13	1	0	107	32	12	8	0	0	0	52	375
3:15 PM	1	0	179	2	0	0	182	1	0	6	5	0	0	12	5	0	99	15	0	0	119	29	7	6	0	0	0	42	355
3:30 PM	1	0	181	0	1	0	183	1	0	4	17	0	0	22	3	2	112	7	0	0	124	23	10	9	0	0	0	42	371
3:45 PM	6	0	193	1	0	0	200	0	1	6	13	0	0	20	6	0	123	14	0	0	143	32	14	10	0	0	0	56	419
Hourly Total	10	0	745	5	1	0	761	2	1	22	49	0	0	74	15	3	425	49	1	0	493	116	43	33	0	0	0	192	1520
4:00 PM	1	0	197	0	0	0	198	1	0	1	35	0	0	37	1	1	122	16	0	0	140	32	16	12	0	0	0	60	435
4:15 PM	3	0	167	0	0	5	170	1	0	3	5	0	0	9	1	1	91	16	1	0	110	28	9	7	1	0	0	45	334
4:30 PM	1	0	149	0	1	2	151	1	0	3	9	0	0	13	1	0	105	9	0	0	115	25	11	11	1	0	0	48	327
4:45 PM	6	0	162	3	1	0	172	0	2	7	6	0	0	15	3	0	99	16	0	0	118	22	12	6	2	0	0	42	347
Hourly Total	11	0	675	3	2	7	691	3	2	14	55	0	0	74	6	2	417	57	1	0	483	107	48	36	4	0	0	195	1443
5:00 PM	2	1	181	1	0	0	185	1	0	2	8	0	0	11	1	1	99	10	0	0	111	24	14	7	1	0	0	46	353
5:15 PM	5	0	144	0	0	0	149	1	0	6	2	0	0	9	1	0	74	8	1	0	84	23	13	6	2	0	0	44	286
5:30 PM	3	0	157	1	0	0	161	2	0	4	2	0	0	8	0	0	77	10	0	0	87	26	6	4	2	0	0	38	294
5:45 PM	3	0	134	1	0	0	138	0	0	3	3	0	0	6	3	1	82	17	1	0	104	20	7	4	0	0	0	31	279
Hourly Total	13	1	616	3	0	0	633	4	0	15	15	0	0	34	5	2	332	45	2	0	386	93	40	21	5	0	0	159	1212
6:00 PM	6	0	113	2	0	0	121	0	1	6	3	0	0	10	0	2	88	6	1	0	97	24	16	11	0	0	0	51	279
6:15 PM	3	0	116	0	0	0	119	1	0	4	3	0	0	8	0	0	83	10	0	0	93	15	5	6	2	0	0	28	248
6:30 PM	4	1	131	1	0	0	137	1	1	6	5	0	0	13	2	0	114	7	0	0	123	11	8	5	0	0	2	24	297
6:45 PM	2	1	109	0	0	5	112	1	0	6	4	0	1	11	3	2	93	7	1	0	106	12	14	5	1	0	0	32	261

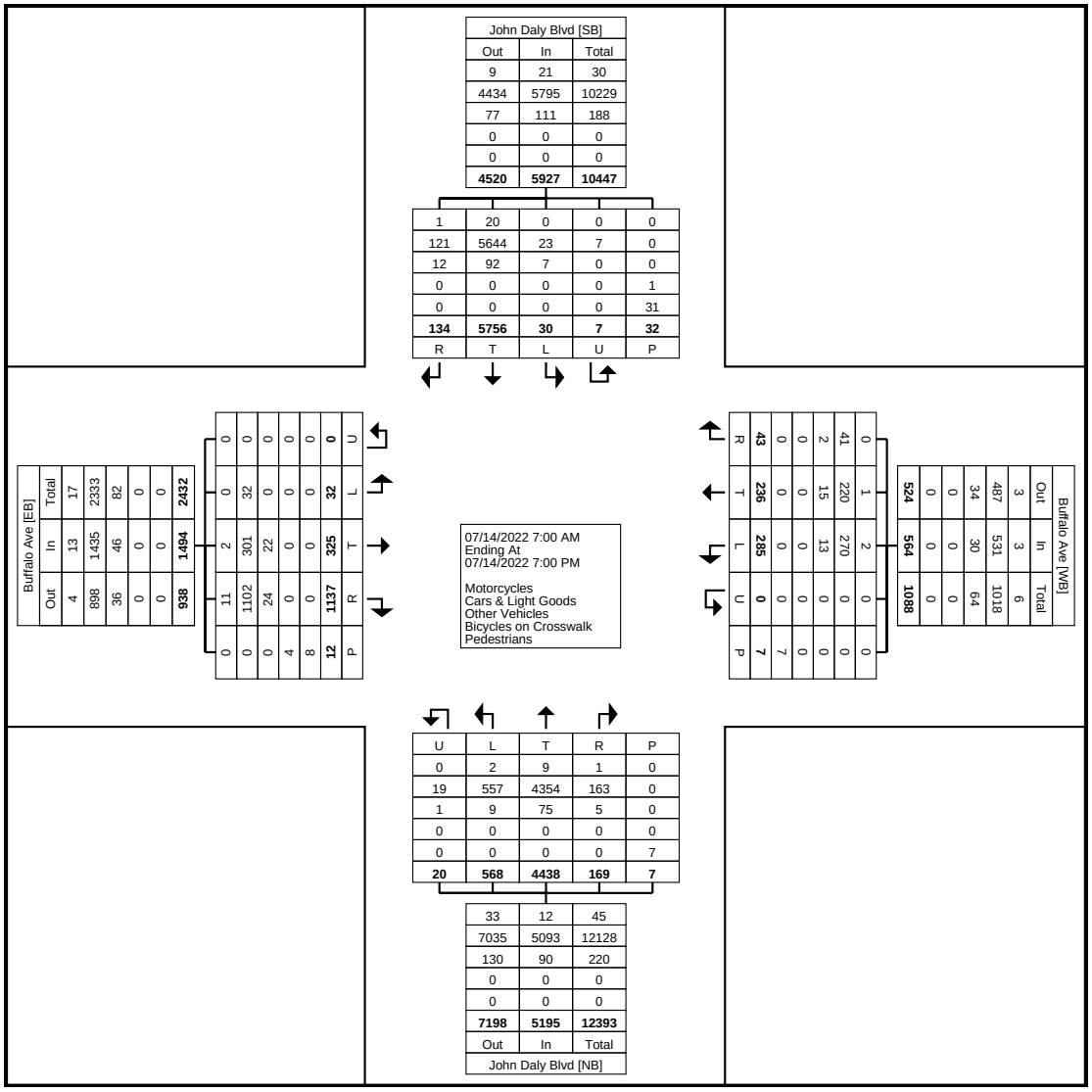
Hourly Total	15	2	469	3	0	5	489	3	2	22	15	0	1	42	5	4	378	30	2	0	419	62	43	27	3	0	2	135	1085
Grand Total	123	11	5756	30	7	32	5927	32	11	236	285	0	7	564	122	47	4438	568	20	7	5195	788	349	325	32	0	12	1494	13180
Approach %	2.1	0.2	97.1	0.5	0.1	-	-	5.7	2.0	41.8	50.5	0.0	-	-	2.3	0.9	85.4	10.9	0.4	-	-	52.7	23.4	21.8	2.1	0.0	-	-	-
Total %	0.9	0.1	43.7	0.2	0.1	-	45.0	0.2	0.1	1.8	2.2	0.0	-	4.3	0.9	0.4	33.7	4.3	0.2	-	39.4	6.0	2.6	2.5	0.2	0.0	-	11.3	-
Motorcycles	1	0	20	0	0	-	21	0	0	1	2	0	-	3	1	0	9	2	0	-	12	7	4	2	0	0	-	13	49
% Motorcycles	0.8	0.0	0.3	0.0	0.0	-	0.4	0.0	0.0	0.4	0.7	-	-	0.5	0.8	0.0	0.2	0.4	0.0	-	0.2	0.9	1.1	0.6	0.0	-	-	0.9	0.4
Cars & Light Goods	111	10	5644	23	7	-	5795	31	10	220	270	0	-	531	116	47	4354	557	19	-	5093	762	340	301	32	0	-	1435	12854
% Cars & Light Goods	90.2	90.9	98.1	76.7	100.0	-	97.8	96.9	90.9	93.2	94.7	-	-	94.1	95.1	100.0	98.1	98.1	95.0	-	98.0	96.7	97.4	92.6	100.0	-	-	96.1	97.5
Other Vehicles	11	1	92	7	0	-	111	1	1	15	13	0	-	30	5	0	75	9	1	-	90	19	5	22	0	0	-	46	277
% Other Vehicles	8.9	9.1	1.6	23.3	0.0	-	1.9	3.1	9.1	6.4	4.6	-	-	5.3	4.1	0.0	1.7	1.6	5.0	-	1.7	2.4	1.4	6.8	0.0	-	-	3.1	2.1
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	4	-	-
% Bicycles on Crosswalk	-	-	-	-	-	3.1	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	33.3	-	-
Pedestrians	-	-	-	-	-	31	-	-	-	-	-	-	7	-	-	-	-	-	-	7	-	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	-	96.9	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	66.7	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022
Page No: 3



Turning Movement Data Plot

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (7:30 AM)

Start Time	John Daly Blvd Southbound							Buffalo Ave Westbound							John Daly Blvd Northbound							Buffalo Ave Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	0	0	69	0	0	0	69	0	0	5	5	0	0	10	0	0	113	6	0	0	119	8	1	7	1	0	0	17	215
7:45 AM	2	0	55	0	0	0	57	1	0	3	3	0	0	7	13	2	154	17	0	0	186	6	3	2	1	0	0	12	262
8:00 AM	0	0	79	1	0	0	80	0	0	5	1	0	0	6	8	2	92	7	0	0	109	8	2	3	0	0	0	13	208
8:15 AM	3	0	60	0	0	0	63	1	0	4	3	0	0	8	0	0	96	13	0	0	109	1	3	3	0	0	0	7	187
Total	5	0	263	1	0	0	269	2	0	17	12	0	0	31	21	4	455	43	0	0	523	23	9	15	2	0	0	49	872
Approach %	1.9	0.0	97.8	0.4	0.0	-	-	6.5	0.0	54.8	38.7	0.0	-	-	4.0	0.8	87.0	8.2	0.0	-	-	46.9	18.4	30.6	4.1	0.0	-	-	-
Total %	0.6	0.0	30.2	0.1	0.0	-	30.8	0.2	0.0	1.9	1.4	0.0	-	3.6	2.4	0.5	52.2	4.9	0.0	-	60.0	2.6	1.0	1.7	0.2	0.0	-	5.6	-
PHF	0.417	0.000	0.832	0.250	0.000	-	0.841	0.500	0.000	0.850	0.600	0.000	-	0.775	0.404	0.500	0.739	0.632	0.000	-	0.703	0.719	0.750	0.536	0.500	0.000	-	0.721	0.832
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Motorcycles	0.0	-	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	5	0	256	0	0	-	261	2	0	15	11	0	-	28	21	4	451	43	0	-	519	21	9	13	2	0	-	45	853
% Cars & Light Goods	100.0	-	97.3	0.0	-	-	97.0	100.0	-	88.2	91.7	-	-	90.3	100.0	100.0	99.1	100.0	-	-	99.2	91.3	100.0	86.7	100.0	-	-	91.8	97.8
Other Vehicles	0	0	7	1	0	-	8	0	0	2	1	0	-	3	0	0	4	0	0	-	4	2	0	2	0	0	-	4	19
% Other Vehicles	0.0	-	2.7	100.0	-	-	3.0	0.0	-	11.8	8.3	-	-	9.7	0.0	0.0	0.9	0.0	-	-	0.8	8.7	0.0	13.3	0.0	-	-	8.2	2.2
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
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Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
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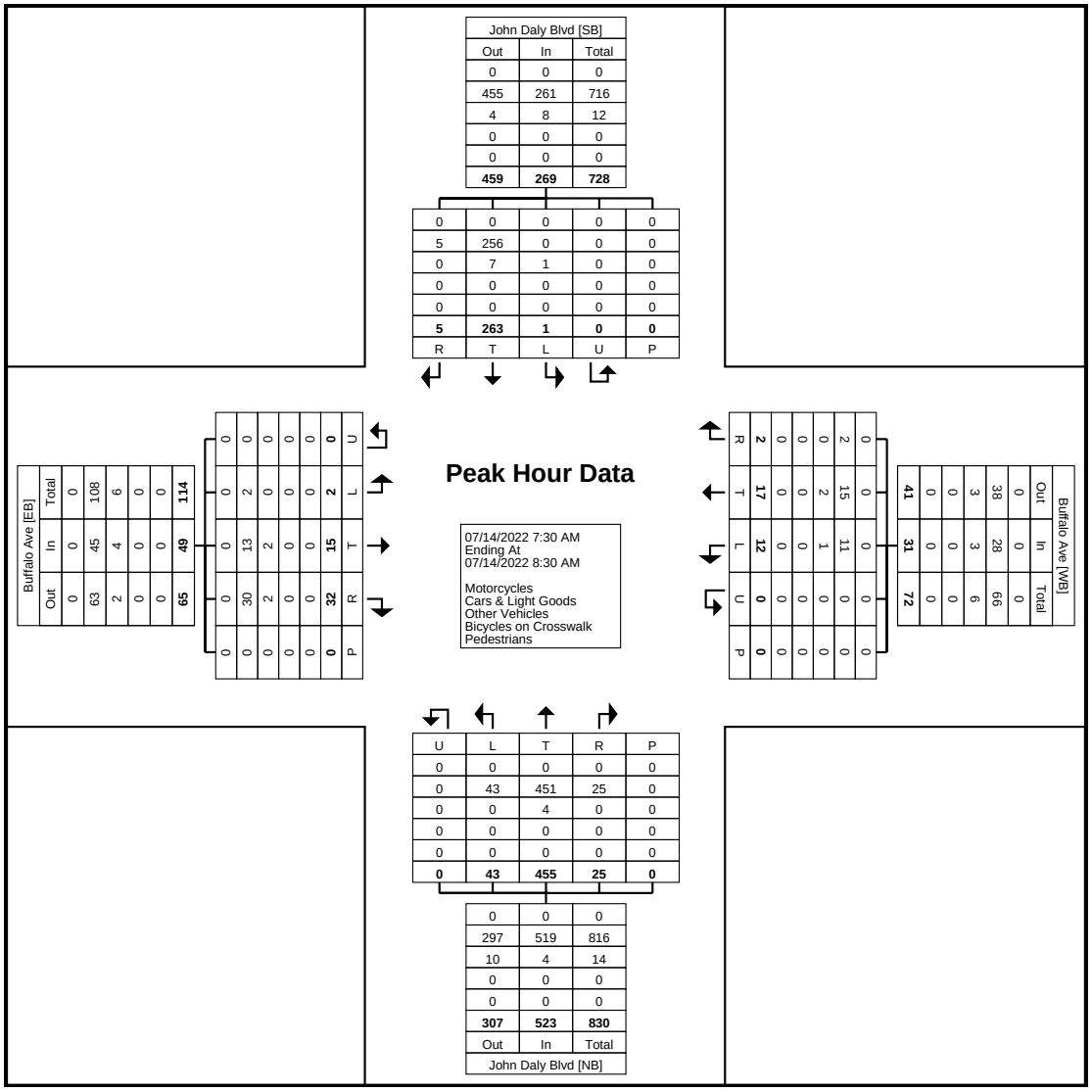

Turning Movement Peak Hour Data Plot (7:30 AM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (11:45 AM)

Start Time	John Daly Blvd Southbound							Buffalo Ave Westbound							John Daly Blvd Northbound							Buffalo Ave Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:45 AM	1	0	117	0	0	0	118	0	0	3	7	0	0	10	4	0	121	9	0	0	134	17	2	7	1	0	2	27	289
12:00 PM	2	0	137	1	0	0	140	1	0	15	6	0	2	22	4	0	110	10	0	0	124	18	6	2	0	0	0	26	312
12:15 PM	2	0	106	0	0	0	108	1	0	6	4	0	0	11	1	1	94	13	2	0	111	9	2	12	2	0	0	25	255
12:30 PM	6	1	111	1	0	1	119	1	0	5	7	0	0	13	2	2	119	13	0	0	136	17	8	9	0	0	0	34	302
Total	11	1	471	2	0	1	485	3	0	29	24	0	2	56	11	3	444	45	2	0	505	61	18	30	3	0	2	112	1158
Approach %	2.3	0.2	97.1	0.4	0.0	-	-	5.4	0.0	51.8	42.9	0.0	-	-	2.2	0.6	87.9	8.9	0.4	-	-	54.5	16.1	26.8	2.7	0.0	-	-	-
Total %	0.9	0.1	40.7	0.2	0.0	-	41.9	0.3	0.0	2.5	2.1	0.0	-	4.8	0.9	0.3	38.3	3.9	0.2	-	43.6	5.3	1.6	2.6	0.3	0.0	-	9.7	-
PHF	0.458	0.250	0.859	0.500	0.000	-	0.866	0.750	0.000	0.483	0.857	0.000	-	0.636	0.688	0.375	0.917	0.865	0.250	-	0.928	0.847	0.563	0.625	0.375	0.000	-	0.824	0.928
Motorcycles	0	0	3	0	0	-	3	0	0	1	0	0	-	1	0	0	0	0	0	-	0	0	0	0	0	0	-	0	4
% Motorcycles	0.0	0.0	0.6	0.0	-	-	0.6	0.0	-	3.4	0.0	-	-	1.8	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.3
Cars & Light Goods	9	1	452	1	0	-	463	3	0	25	23	0	-	51	10	3	434	43	2	-	492	57	18	30	3	0	-	108	1114
% Cars & Light Goods	81.8	100.0	96.0	50.0	-	-	95.5	100.0	-	86.2	95.8	-	-	91.1	90.9	100.0	97.7	95.6	100.0	-	97.4	93.4	100.0	100.0	100.0	-	-	96.4	96.2
Other Vehicles	2	0	16	1	0	-	19	0	0	3	1	0	-	4	1	0	10	2	0	-	13	4	0	0	0	0	-	4	40
% Other Vehicles	18.2	0.0	3.4	50.0	-	-	3.9	0.0	-	10.3	4.2	-	-	7.1	9.1	0.0	2.3	4.4	0.0	-	2.6	6.6	0.0	0.0	0.0	-	-	3.6	3.5
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-

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Niagara, New York
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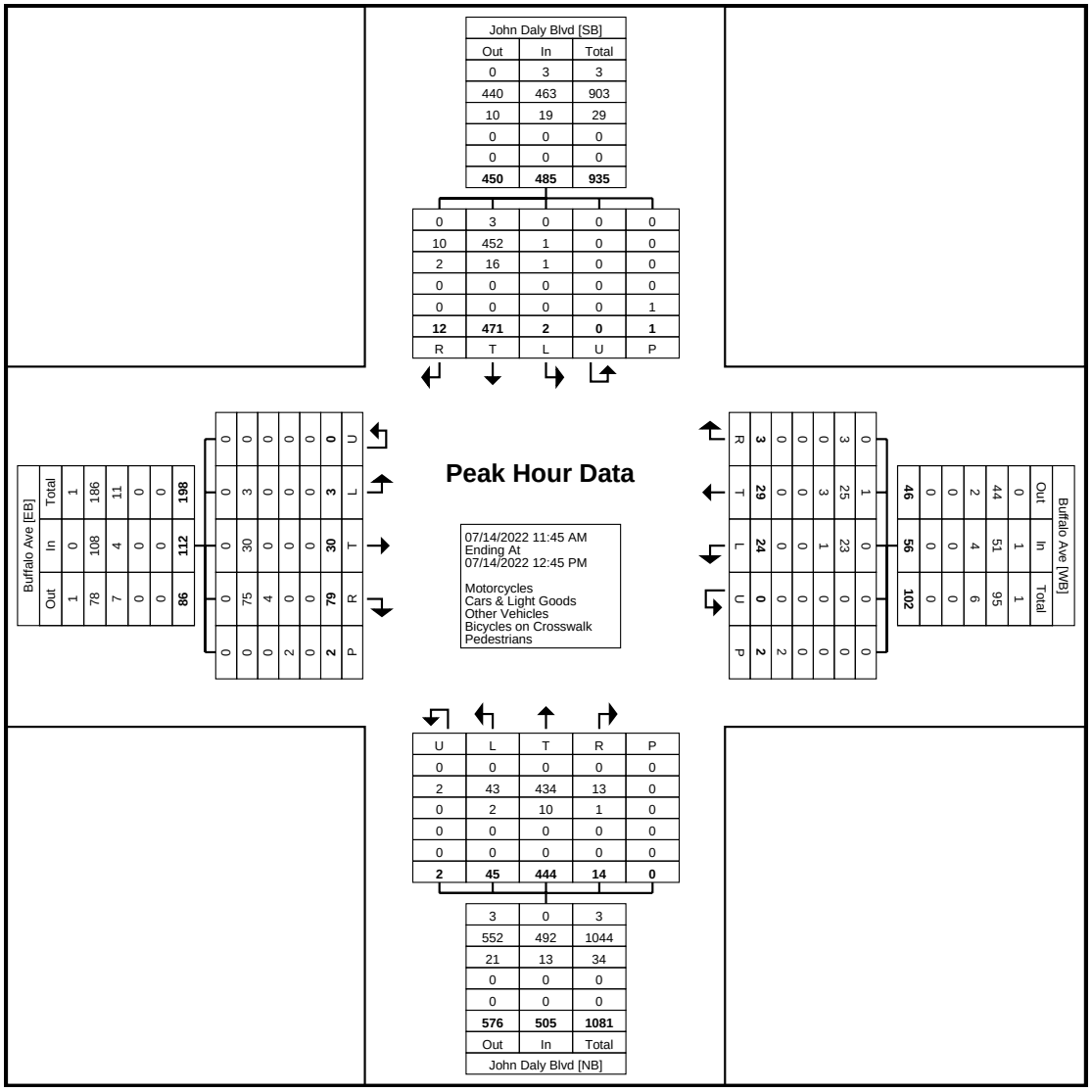


Turning Movement Peak Hour Data Plot (11:45 AM)

Niagara, New York
July 14, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022

Turning Movement Peak Hour Data (4:00 PM)

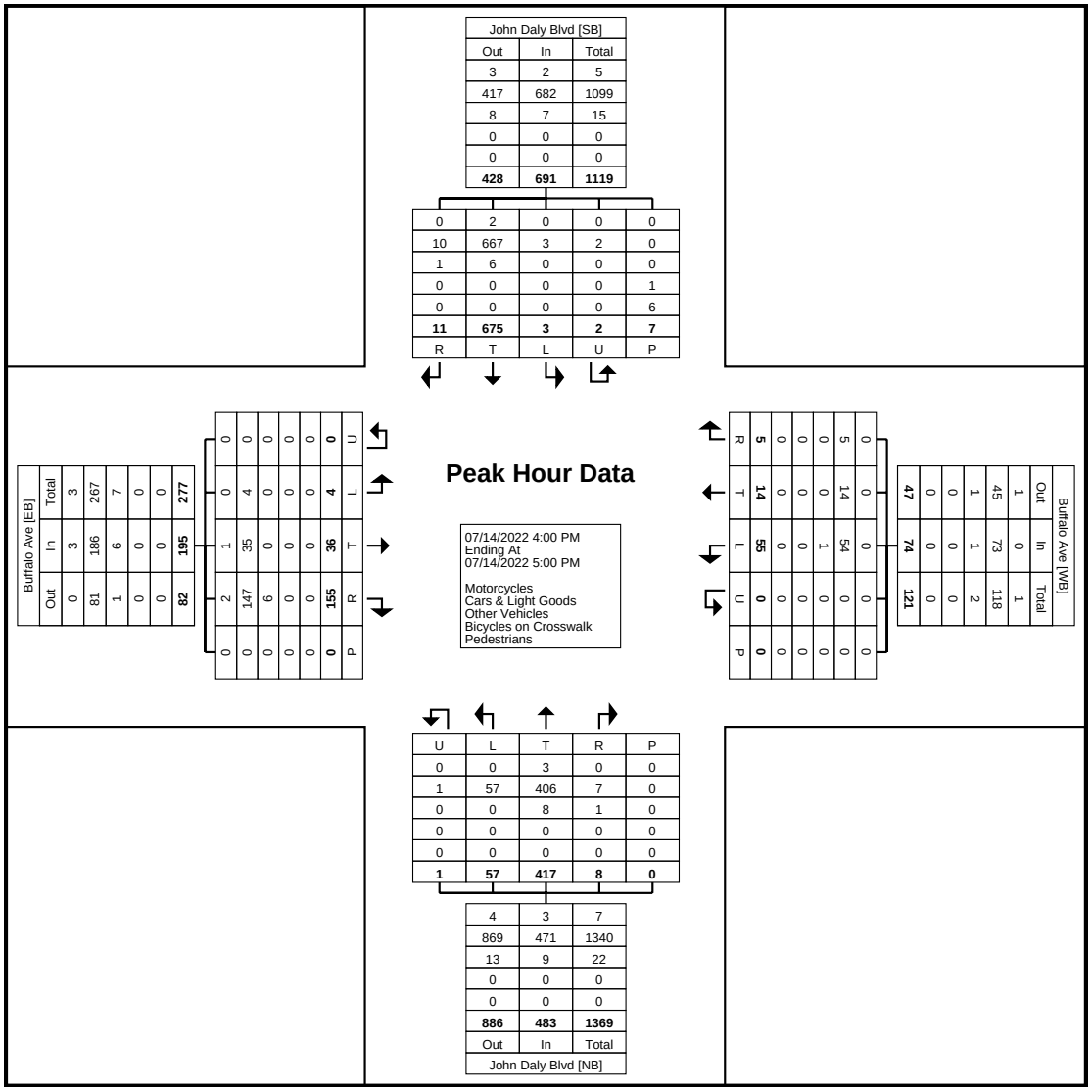
Start Time	John Daly Blvd Southbound							Buffalo Ave Westbound							John Daly Blvd Northbound							Buffalo Ave Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	1	0	197	0	0	0	198	1	0	1	35	0	0	37	1	1	122	16	0	0	140	32	16	12	0	0	0	60	435
4:15 PM	3	0	167	0	0	5	170	1	0	3	5	0	0	9	1	1	91	16	1	0	110	28	9	7	1	0	0	45	334
4:30 PM	1	0	149	0	1	2	151	1	0	3	9	0	0	13	1	0	105	9	0	0	115	25	11	11	1	0	0	48	327
4:45 PM	6	0	162	3	1	0	172	0	2	7	6	0	0	15	3	0	99	16	0	0	118	22	12	6	2	0	0	42	347
Total	11	0	675	3	2	7	691	3	2	14	55	0	0	74	6	2	417	57	1	0	483	107	48	36	4	0	0	195	1443
Approach %	1.6	0.0	97.7	0.4	0.3	-	-	4.1	2.7	18.9	74.3	0.0	-	-	1.2	0.4	86.3	11.8	0.2	-	-	54.9	24.6	18.5	2.1	0.0	-	-	-
Total %	0.8	0.0	46.8	0.2	0.1	-	47.9	0.2	0.1	1.0	3.8	0.0	-	5.1	0.4	0.1	28.9	4.0	0.1	-	33.5	7.4	3.3	2.5	0.3	0.0	-	13.5	-
PHF	0.458	0.000	0.857	0.250	0.500	-	0.872	0.750	0.250	0.500	0.393	0.000	-	0.500	0.500	0.500	0.855	0.891	0.250	-	0.863	0.836	0.750	0.750	0.500	0.000	-	0.813	0.829
Motorcycles	0	0	2	0	0	-	2	0	0	0	0	0	-	0	0	0	3	0	0	-	3	2	0	1	0	0	-	3	8
% Motorcycles	0.0	-	0.3	0.0	0.0	-	0.3	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.7	0.0	0.0	-	0.6	1.9	0.0	2.8	0.0	-	-	1.5	0.6
Cars & Light Goods	10	0	667	3	2	-	682	3	2	14	54	0	-	73	5	2	406	57	1	-	471	102	45	35	4	0	-	186	1412
% Cars & Light Goods	90.9	-	98.8	100.0	100.0	-	98.7	100.0	100.0	100.0	98.2	-	-	98.6	83.3	100.0	97.4	100.0	100.0	-	97.5	95.3	93.8	97.2	100.0	-	-	95.4	97.9
Other Vehicles	1	0	6	0	0	-	7	0	0	0	1	0	-	1	1	0	8	0	0	-	9	3	3	0	0	0	-	6	23
% Other Vehicles	9.1	-	0.9	0.0	0.0	-	1.0	0.0	0.0	0.0	1.8	-	-	1.4	16.7	0.0	1.9	0.0	0.0	-	1.9	2.8	6.3	0.0	0.0	-	-	3.1	1.6
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	14.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	6	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	85.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 14, 2022

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/14/2022
Page No: 9



Turning Movement Peak Hour Data Plot (4:00 PM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
Page No: 1

Turning Movement Data

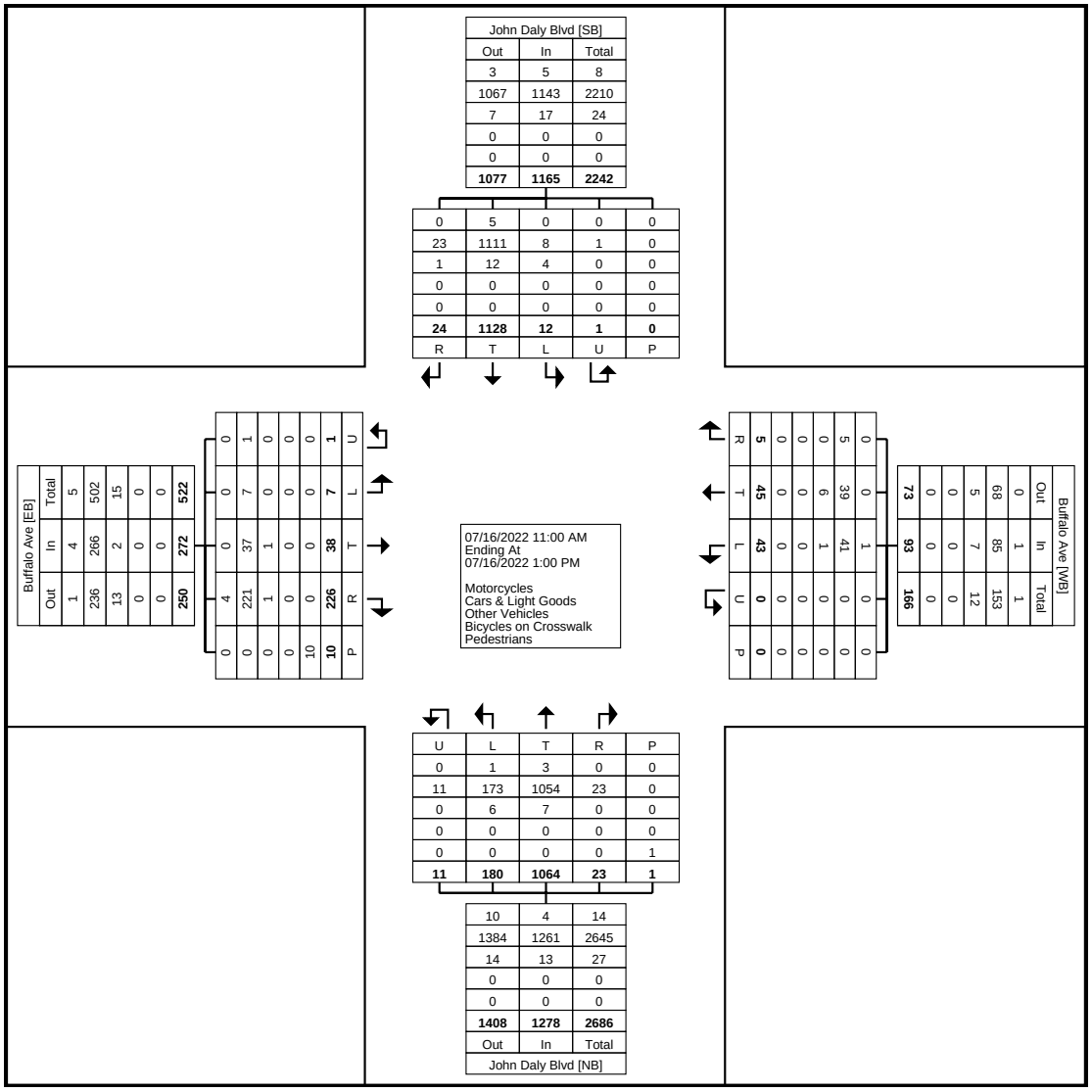
Start Time	John Daly Blvd Southbound							Buffalo Ave Westbound							John Daly Blvd Northbound							Buffalo Ave Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	2	0	110	0	0	0	112	2	0	2	4	0	0	8	0	0	147	28	1	0	176	16	13	5	0	0	0	34	330
11:15 AM	2	1	118	1	0	0	122	0	0	6	11	0	0	17	6	0	127	22	2	0	157	23	6	6	1	1	0	37	333
11:30 AM	6	0	145	4	0	0	155	0	0	5	2	0	0	7	2	0	172	20	1	0	195	21	11	4	1	0	0	37	394
11:45 AM	3	0	132	3	0	0	138	1	0	9	2	0	0	12	1	2	169	16	0	0	188	16	5	2	2	0	6	25	363
Hourly Total	13	1	505	8	0	0	527	3	0	22	19	0	0	44	9	2	615	86	4	0	716	76	35	17	4	1	6	133	1420
12:00 PM	5	0	180	1	0	0	186	1	0	4	10	0	0	15	4	0	103	29	1	1	137	21	13	8	1	0	0	43	381
12:15 PM	2	0	141	0	0	0	143	1	0	6	6	0	0	13	0	2	114	26	2	0	144	12	9	2	0	0	4	23	323
12:30 PM	2	0	156	0	1	0	159	0	0	3	5	0	0	8	1	1	111	20	2	0	135	14	13	5	2	0	0	34	336
12:45 PM	1	0	146	3	0	0	150	0	0	10	3	0	0	13	3	1	121	19	2	0	146	27	6	6	0	0	0	39	348
Hourly Total	10	0	623	4	1	0	638	2	0	23	24	0	0	49	8	4	449	94	7	1	562	74	41	21	3	0	4	139	1388
Grand Total	23	1	1128	12	1	0	1165	5	0	45	43	0	0	93	17	6	1064	180	11	1	1278	150	76	38	7	1	10	272	2808
Approach %	2.0	0.1	96.8	1.0	0.1	-	-	5.4	0.0	48.4	46.2	0.0	-	-	1.3	0.5	83.3	14.1	0.9	-	-	55.1	27.9	14.0	2.6	0.4	-	-	-
Total %	0.8	0.0	40.2	0.4	0.0	-	41.5	0.2	0.0	1.6	1.5	0.0	-	3.3	0.6	0.2	37.9	6.4	0.4	-	45.5	5.3	2.7	1.4	0.2	0.0	-	9.7	-
Motorcycles	0	0	5	0	0	-	5	0	0	0	1	0	-	1	0	0	3	1	0	-	4	1	3	0	0	0	-	4	14
% Motorcycles	0.0	0.0	0.4	0.0	0.0	-	0.4	0.0	-	0.0	2.3	-	-	1.1	0.0	0.0	0.3	0.6	0.0	-	0.3	0.7	3.9	0.0	0.0	0.0	-	1.5	0.5
Cars & Light Goods	22	1	1111	8	1	-	1143	5	0	39	41	0	-	85	17	6	1054	173	11	-	1261	148	73	37	7	1	-	266	2755
% Cars & Light Goods	95.7	100.0	98.5	66.7	100.0	-	98.1	100.0	-	86.7	95.3	-	-	91.4	100.0	100.0	99.1	96.1	100.0	-	98.7	98.7	96.1	97.4	100.0	100.0	-	97.8	98.1
Other Vehicles	1	0	12	4	0	-	17	0	0	6	1	0	-	7	0	0	7	6	0	-	13	1	0	1	0	0	-	2	39
% Other Vehicles	4.3	0.0	1.1	33.3	0.0	-	1.5	0.0	-	13.3	2.3	-	-	7.5	0.0	0.0	0.7	3.3	0.0	-	1.0	0.7	0.0	2.6	0.0	0.0	-	0.7	1.4
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	10	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
Page No: 2



Turning Movement Data Plot

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (11:00 AM)

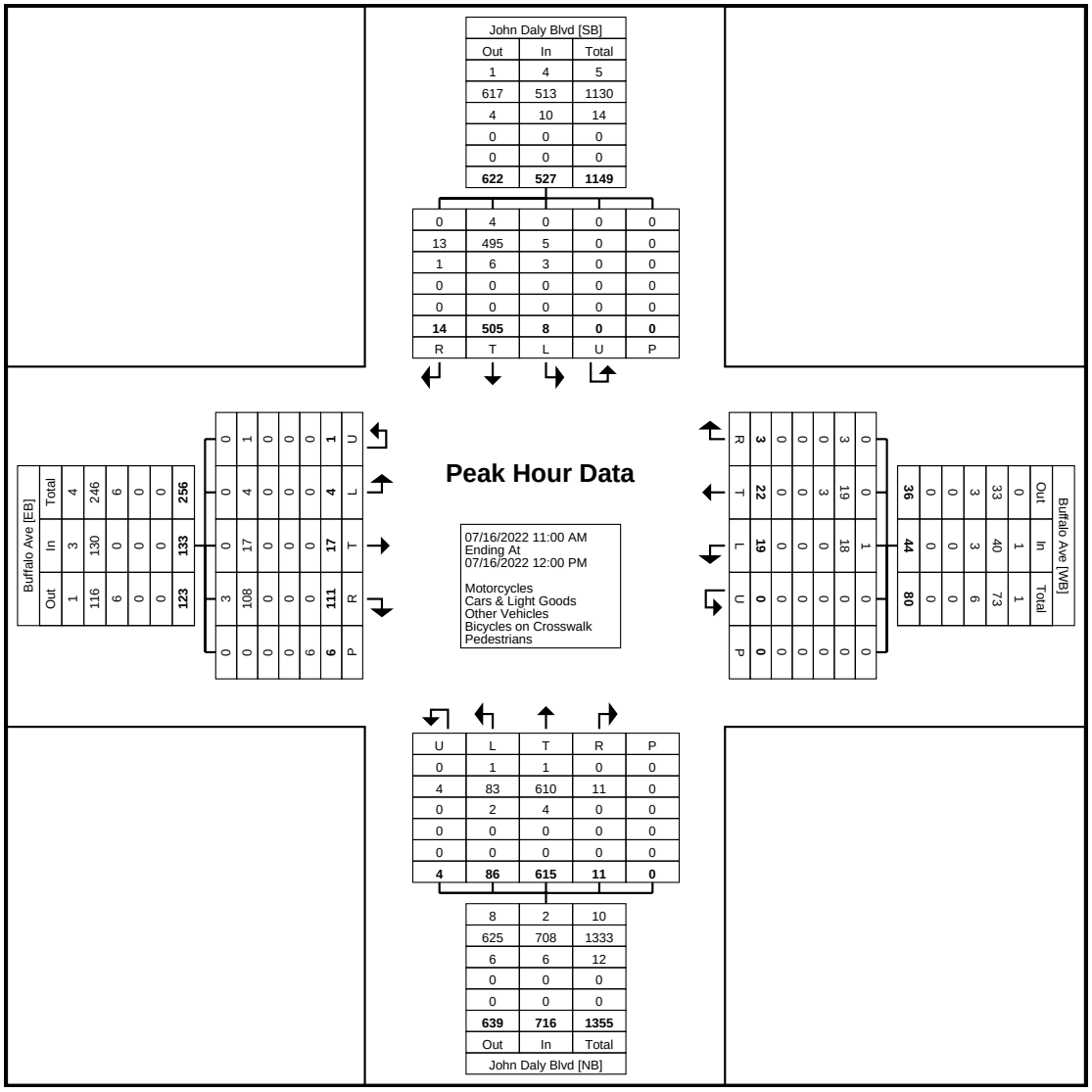
Start Time	John Daly Blvd Southbound							Buffalo Ave Westbound							John Daly Blvd Northbound							Buffalo Ave Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:00 AM	2	0	110	0	0	0	112	2	0	2	4	0	0	8	0	0	147	28	1	0	176	16	13	5	0	0	0	34	330
11:15 AM	2	1	118	1	0	0	122	0	0	6	11	0	0	17	6	0	127	22	2	0	157	23	6	6	1	1	0	37	333
11:30 AM	6	0	145	4	0	0	155	0	0	5	2	0	0	7	2	0	172	20	1	0	195	21	11	4	1	0	0	37	394
11:45 AM	3	0	132	3	0	0	138	1	0	9	2	0	0	12	1	2	169	16	0	0	188	16	5	2	2	0	6	25	363
Total	13	1	505	8	0	0	527	3	0	22	19	0	0	44	9	2	615	86	4	0	716	76	35	17	4	1	6	133	1420
Approach %	2.5	0.2	95.8	1.5	0.0	-	-	6.8	0.0	50.0	43.2	0.0	-	-	1.3	0.3	85.9	12.0	0.6	-	-	57.1	26.3	12.8	3.0	0.8	-	-	-
Total %	0.9	0.1	35.6	0.6	0.0	-	37.1	0.2	0.0	1.5	1.3	0.0	-	3.1	0.6	0.1	43.3	6.1	0.3	-	50.4	5.4	2.5	1.2	0.3	0.1	-	9.4	-
PHF	0.542	0.250	0.871	0.500	0.000	-	0.850	0.375	0.000	0.611	0.432	0.000	-	0.647	0.375	0.250	0.894	0.768	0.500	-	0.918	0.826	0.673	0.708	0.500	0.250	-	0.899	0.901
Motorcycles	0	0	4	0	0	-	4	0	0	0	1	0	-	1	0	0	1	1	0	-	2	0	3	0	0	0	-	3	10
% Motorcycles	0.0	0.0	0.8	0.0	-	-	0.8	0.0	-	0.0	5.3	-	-	2.3	0.0	0.0	0.2	1.2	0.0	-	0.3	0.0	8.6	0.0	0.0	0.0	-	2.3	0.7
Cars & Light Goods	12	1	495	5	0	-	513	3	0	19	18	0	-	40	9	2	610	83	4	-	708	76	32	17	4	1	-	130	1391
% Cars & Light Goods	92.3	100.0	98.0	62.5	-	-	97.3	100.0	-	86.4	94.7	-	-	90.9	100.0	100.0	99.2	96.5	100.0	-	98.9	100.0	91.4	100.0	100.0	100.0	-	97.7	98.0
Other Vehicles	1	0	6	3	0	-	10	0	0	3	0	0	-	3	0	0	4	2	0	-	6	0	0	0	0	0	-	0	19
% Other Vehicles	7.7	0.0	1.2	37.5	-	-	1.9	0.0	-	13.6	0.0	-	-	6.8	0.0	0.0	0.7	2.3	0.0	-	0.8	0.0	0.0	0.0	0.0	0.0	-	0.0	1.3
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
Page No: 4



Peak Hour Data

07/16/2022 11:00 AM
Ending At
07/16/2022 12:00 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

John Daly Blvd [SB]

Out	In	Total
1	4	5
617	513	1130
4	10	14
0	0	0
0	0	0
622	**527**	**1149**

R	T	L	U	P
0	4	0	0	0
13	495	5	0	0
1	6	3	0	0
0	0	0	0	0
0	0	0	0	0
14	**505**	**8**	**0**	**0**

Buffalo Ave [EB]

Out	In	Total
1	3	4
116	130	246
6	0	6
0	0	0
0	0	0
123	**133**	**256**

U	L	T	R	P
0	0	0	3	0
1	4	17	108	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	6
1	**4**	**17**	**111**	**6**

Buffalo Ave [WB]

Out	In	Total
0	1	1
33	40	73
3	3	6
0	0	0
0	0	0
36	**44**	**80**

R	T	L	U	P
0	0	1	0	0
3	19	18	0	0
0	3	0	0	0
0	0	0	0	0
0	0	0	0	0
3	**22**	**19**	**0**	**0**

U	L	T	R	P
0	1	1	0	0
4	83	610	11	0
0	2	4	0	0
0	0	0	0	0
0	0	0	0	0
4	**86**	**615**	**11**	**0**

Out	In	Total
8	2	10
625	708	1333
6	6	12
0	0	0
0	0	0
639	**716**	**1355**

John Daly Blvd [NB]

Turning Movement Peak Hour Data Plot (11:00 AM)

Niagara, New York
July 16, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022

Turning Movement Peak Hour Data (12:00 PM)

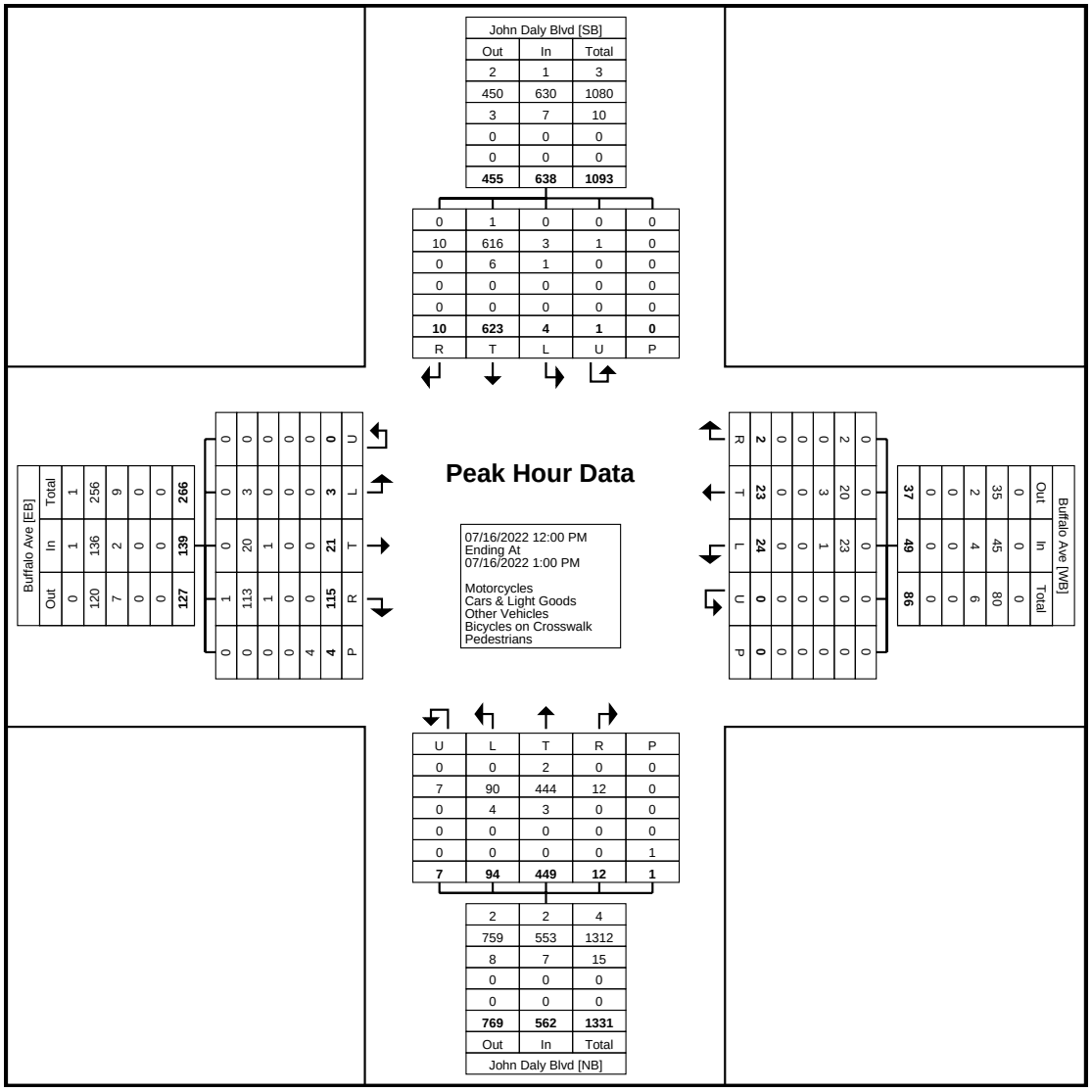
Start Time	John Daly Blvd Southbound							Buffalo Ave Westbound							John Daly Blvd Northbound							Buffalo Ave Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	5	0	180	1	0	0	186	1	0	4	10	0	0	15	4	0	103	29	1	1	137	21	13	8	1	0	0	43	381
12:15 PM	2	0	141	0	0	0	143	1	0	6	6	0	0	13	0	2	114	26	2	0	144	12	9	2	0	0	4	23	323
12:30 PM	2	0	156	0	1	0	159	0	0	3	5	0	0	8	1	1	111	20	2	0	135	14	13	5	2	0	0	34	336
12:45 PM	1	0	146	3	0	0	150	0	0	10	3	0	0	13	3	1	121	19	2	0	146	27	6	6	0	0	0	39	348
Total	10	0	623	4	1	0	638	2	0	23	24	0	0	49	8	4	449	94	7	1	562	74	41	21	3	0	4	139	1388
Approach %	1.6	0.0	97.6	0.6	0.2	-	-	4.1	0.0	46.9	49.0	0.0	-	-	1.4	0.7	79.9	16.7	1.2	-	-	53.2	29.5	15.1	2.2	0.0	-	-	-
Total %	0.7	0.0	44.9	0.3	0.1	-	46.0	0.1	0.0	1.7	1.7	0.0	-	3.5	0.6	0.3	32.3	6.8	0.5	-	40.5	5.3	3.0	1.5	0.2	0.0	-	10.0	-
PHF	0.500	0.000	0.865	0.333	0.250	-	0.858	0.500	0.000	0.575	0.600	0.000	-	0.817	0.500	0.500	0.928	0.810	0.875	-	0.962	0.685	0.788	0.656	0.375	0.000	-	0.808	0.911
Motorcycles	0	0	1	0	0	-	1	0	0	0	0	0	-	0	0	0	2	0	0	-	2	1	0	0	0	0	-	1	4
% Motorcycles	0.0	-	0.2	0.0	0.0	-	0.2	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.4	0.0	0.0	-	0.4	1.4	0.0	0.0	0.0	-	-	0.7	0.3
Cars & Light Goods	10	0	616	3	1	-	630	2	0	20	23	0	-	45	8	4	444	90	7	-	553	72	41	20	3	0	-	136	1364
% Cars & Light Goods	100.0	-	98.9	75.0	100.0	-	98.7	100.0	-	87.0	95.8	-	-	91.8	100.0	100.0	98.9	95.7	100.0	-	98.4	97.3	100.0	95.2	100.0	-	-	97.8	98.3
Other Vehicles	0	0	6	1	0	-	7	0	0	3	1	0	-	4	0	0	3	4	0	-	7	1	0	1	0	0	-	2	20
% Other Vehicles	0.0	-	1.0	25.0	0.0	-	1.1	0.0	-	13.0	4.2	-	-	8.2	0.0	0.0	0.7	4.3	0.0	-	1.2	1.4	0.0	4.8	0.0	-	-	1.4	1.4
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 16, 2022

Count Name: John Daly Blvd & Buffalo Ave
Site Code:
Start Date: 07/16/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

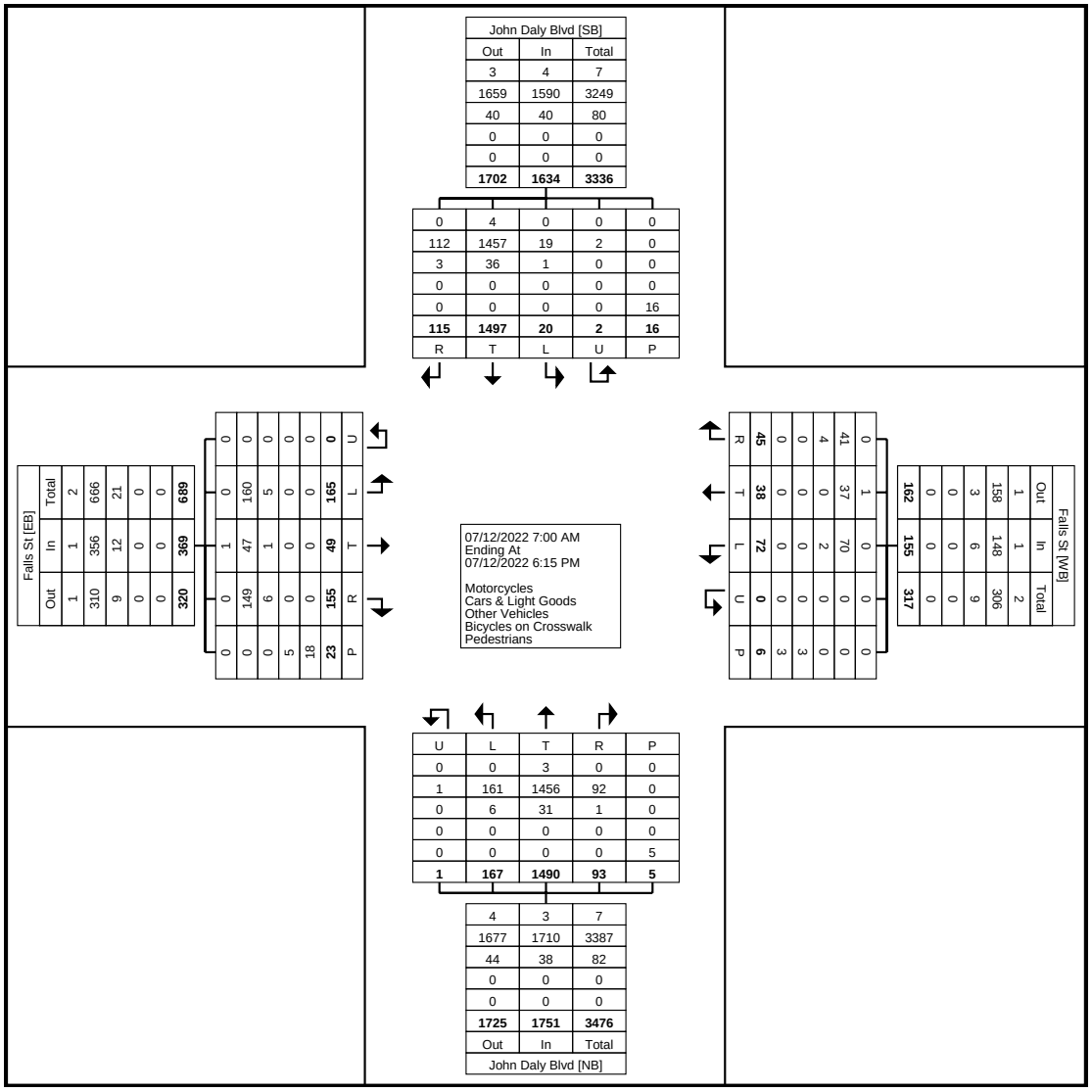
Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/12/2022

Turning Movement Data

Start Time	John Daly Blvd Southbound						Falls St Westbound						John Daly Blvd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	39	0	0	0	39	1	0	0	0	0	1	3	41	4	0	0	48	1	0	2	0	3	3	91
7:15 AM	1	37	0	1	0	39	0	0	1	0	0	1	4	48	4	0	1	56	1	1	5	0	0	7	103
7:30 AM	0	32	1	0	2	33	1	1	3	0	1	5	7	76	2	0	0	85	2	1	1	0	1	4	127
7:45 AM	4	31	2	0	0	37	2	1	2	0	1	5	16	102	3	0	0	121	3	3	4	0	1	10	173
Hourly Total	5	139	3	1	2	148	4	2	6	0	2	12	30	267	13	0	1	310	7	5	12	0	5	24	494
8:00 AM	0	28	0	0	0	28	0	2	2	0	0	4	6	81	2	0	0	89	5	2	3	0	0	10	131
8:15 AM	1	41	0	0	0	42	1	0	3	0	0	4	16	64	2	0	1	82	4	1	2	0	0	7	135
8:30 AM	3	37	0	0	3	40	3	1	2	0	0	6	5	74	0	0	0	79	7	0	4	0	3	11	136
8:45 AM	5	43	0	0	0	48	1	0	1	0	0	2	0	97	2	0	0	99	4	3	6	0	4	13	162
Hourly Total	9	149	0	0	3	158	5	3	8	0	0	16	27	316	6	0	1	349	20	6	15	0	7	41	564
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	6	57	1	0	0	64	1	2	2	0	0	5	2	57	7	1	0	67	10	3	9	0	1	22	158
11:15 AM	6	47	0	0	0	53	4	2	1	0	0	7	1	45	7	0	0	53	12	4	8	0	1	24	137
11:30 AM	7	60	0	0	0	67	4	2	5	0	0	11	1	61	3	0	0	65	7	2	8	0	0	17	160
11:45 AM	4	54	1	0	0	59	1	3	0	0	0	4	3	69	6	0	0	78	7	3	6	0	2	16	157
Hourly Total	23	218	2	0	0	243	10	9	8	0	0	27	7	232	23	1	0	263	36	12	31	0	4	79	612
12:00 PM	9	65	3	0	0	77	4	3	3	0	0	10	2	59	15	0	0	76	5	4	6	0	1	15	178
12:15 PM	5	68	1	1	1	75	2	0	3	0	0	5	2	57	2	0	0	61	3	2	4	0	0	9	150
12:30 PM	3	67	2	0	3	72	3	1	4	0	0	8	4	70	7	0	0	81	9	1	11	0	2	21	182
12:45 PM	5	61	1	0	3	67	3	4	2	0	0	9	2	73	10	0	0	85	5	1	14	0	3	20	181
Hourly Total	22	261	7	1	7	291	12	8	12	0	0	32	10	259	34	0	0	303	22	8	35	0	6	65	691
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	7	140	0	0	0	147	1	2	13	0	0	16	3	54	14	0	0	71	11	4	9	0	1	24	258
4:15 PM	6	84	4	0	0	94	1	1	4	0	0	6	1	53	5	0	0	59	10	2	7	0	0	19	178
4:30 PM	12	114	0	0	0	126	1	3	6	0	0	10	2	69	12	0	0	83	6	3	9	0	0	18	237
4:45 PM	6	80	0	0	0	86	3	1	3	0	0	7	5	59	17	0	1	81	6	1	11	0	0	18	192
Hourly Total	31	418	4	0	0	453	6	7	26	0	0	39	11	235	48	0	1	294	33	10	36	0	1	79	865
5:00 PM	9	92	0	0	1	101	4	4	2	0	3	10	0	40	10	0	1	50	6	2	11	0	0	19	180
5:15 PM	3	77	1	0	2	81	2	2	1	0	0	5	4	46	8	0	1	58	9	4	2	0	0	15	159
5:30 PM	8	75	2	0	1	85	1	1	1	0	0	3	2	48	12	0	0	62	15	2	15	0	0	32	182
5:45 PM	5	68	1	0	0	74	1	2	8	0	1	11	2	47	13	0	0	62	7	0	8	0	0	15	162
Hourly Total	25	312	4	0	4	341	8	9	12	0	4	29	8	181	43	0	2	232	37	8	36	0	0	81	683
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	115	1497	20	2	16	1634	45	38	72	0	6	155	93	1490	167	1	5	1751	155	49	165	0	23	369	3909
Approach %	7.0	91.6	1.2	0.1	-	-	29.0	24.5	46.5	0.0	-	-	5.3	85.1	9.5	0.1	-	-	42.0	13.3	44.7	0.0	-	-	-
Total %	2.9	38.3	0.5	0.1	-	41.8	1.2	1.0	1.8	0.0	-	4.0	2.4	38.1	4.3	0.0	-	44.8	4.0	1.3	4.2	0.0	-	9.4	-
Motorcycles	0	4	0	0	-	4	0	1	0	0	-	1	0	3	0	0	-	3	0	1	0	0	-	1	9
% Motorcycles	0.0	0.3	0.0	0.0	-	0.2	0.0	2.6	0.0	-	-	0.6	0.0	0.2	0.0	0.0	-	0.2	0.0	2.0	0.0	-	-	0.3	0.2
Cars & Light Goods	112	1457	19	2	-	1590	41	37	70	0	-	148	92	1456	161	1	-	1710	149	47	160	0	-	356	3804
% Cars & Light Goods	97.4	97.3	95.0	100.0	-	97.3	91.1	97.4	97.2	-	-	95.5	98.9	97.7	96.4	100.0	-	97.7	96.1	95.9	97.0	-	-	96.5	97.3
Other Vehicles	3	36	1	0	-	40	4	0	2	0	-	6	1	31	6	0	-	38	6	1	5	0	-	12	96
% Other Vehicles	2.6	2.4	5.0	0.0	-	2.4	8.9	0.0	2.8	-	-	3.9	1.1	2.1	3.6	0.0	-	2.2	3.9	2.0	3.0	-	-	3.3	2.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	5	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	50.0	-	-	-	-	-	0.0	-	-	-	-	-	21.7	-	-
Pedestrians	-	-	-	-	16	-	-	-	-	-	3	-	-	-	-	-	5	-	-	-	-	-	18	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	50.0	-	-	-	-	-	100.0	-	-	-	-	-	78.3	-	-



John Daly Blvd [SB]

Out	In	Total
3	4	7
1659	1590	3249
40	40	80
0	0	0
0	0	0
1702	**1634**	**3336**

R	T	L	U	P
0	4	0	0	0
112	1457	19	2	0
3	36	1	0	0
0	0	0	0	0
0	0	0	0	16
115	**1497**	**20**	**2**	**16**

Falls St [EB]

Out	In	Total
1	1	2
310	356	666
9	12	21
0	0	0
0	0	0
320	**369**	**689**

U	L	T	R	P
0	0	1	0	0
0	160	47	149	0
0	5	1	6	0
0	0	0	0	5
0	0	0	0	18
0	**165**	**49**	**155**	**23**

Falls St [WB]

Out	In	Total
1	1	2
158	148	306
3	6	9
0	0	0
0	0	0
162	**155**	**317**

R	T	L	U	P
0	1	0	0	0
41	37	70	0	0
4	0	2	0	0
0	0	0	0	3
0	0	0	0	3
45	**38**	**72**	**0**	**6**

U	L	T	R	P
0	0	3	0	0
1	161	1456	92	0
0	6	31	1	0
0	0	0	0	0
0	0	0	0	5
1	**167**	**1490**	**93**	**5**

Out	In	Total
4	3	7
1677	1710	3387
44	38	82
0	0	0
0	0	0
1725	**1751**	**3476**

John Daly Blvd [NB]

07/12/2022 7:00 AM
Ending At
07/12/2022 6:15 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

Turning Movement Data Plot

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

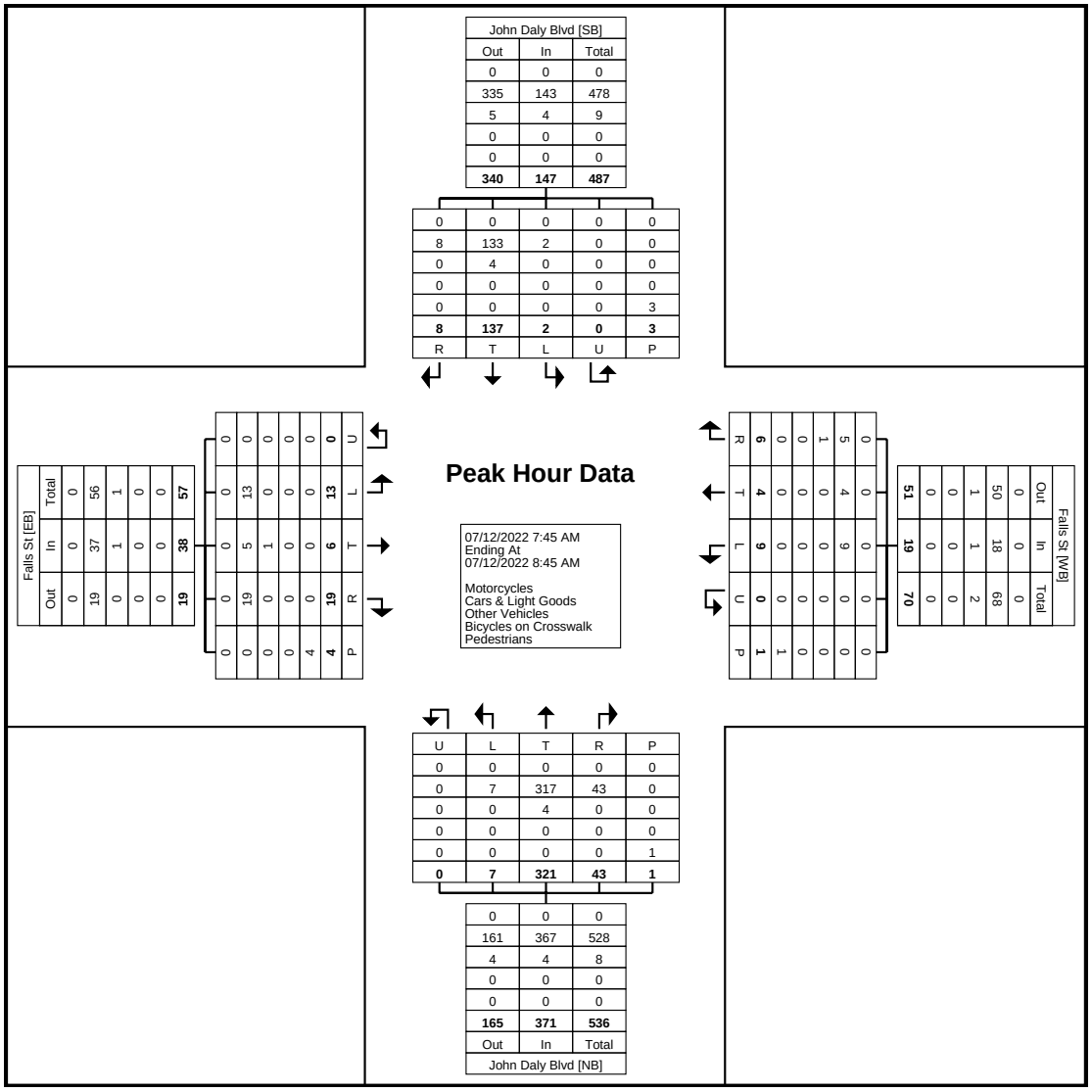
Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (7:45 AM)

Start Time	John Daly Blvd Southbound						Falls St Westbound						John Daly Blvd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:45 AM	4	31	2	0	0	37	2	1	2	0	1	5	16	102	3	0	0	121	3	3	4	0	1	10	173
8:00 AM	0	28	0	0	0	28	0	2	2	0	0	4	6	81	2	0	0	89	5	2	3	0	0	10	131
8:15 AM	1	41	0	0	0	42	1	0	3	0	0	4	16	64	2	0	1	82	4	1	2	0	0	7	135
8:30 AM	3	37	0	0	3	40	3	1	2	0	0	6	5	74	0	0	0	79	7	0	4	0	3	11	136
Total	8	137	2	0	3	147	6	4	9	0	1	19	43	321	7	0	1	371	19	6	13	0	4	38	575
Approach %	5.4	93.2	1.4	0.0	-	-	31.6	21.1	47.4	0.0	-	-	11.6	86.5	1.9	0.0	-	-	50.0	15.8	34.2	0.0	-	-	-
Total %	1.4	23.8	0.3	0.0	-	25.6	1.0	0.7	1.6	0.0	-	3.3	7.5	55.8	1.2	0.0	-	64.5	3.3	1.0	2.3	0.0	-	6.6	-
PHF	0.500	0.835	0.250	0.000	-	0.875	0.500	0.500	0.750	0.000	-	0.792	0.672	0.787	0.583	0.000	-	0.767	0.679	0.500	0.813	0.000	-	0.864	0.831
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	8	133	2	0	-	143	5	4	9	0	-	18	43	317	7	0	-	367	19	5	13	0	-	37	565
% Cars & Light Goods	100.0	97.1	100.0	-	-	97.3	83.3	100.0	100.0	-	-	94.7	100.0	98.8	100.0	-	-	98.9	100.0	83.3	100.0	-	-	97.4	98.3
Other Vehicles	0	4	0	0	-	4	1	0	0	0	-	1	0	4	0	0	-	4	0	1	0	0	-	1	10
% Other Vehicles	0.0	2.9	0.0	-	-	2.7	16.7	0.0	0.0	-	-	5.3	0.0	1.2	0.0	-	-	1.1	0.0	16.7	0.0	-	-	2.6	1.7
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Niagara, New York
July 12, 2022

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/12/2022



John Daly Blvd [SB]

Out	In	Total
0	0	0
335	143	478
5	4	9
0	0	0
0	0	0
340	**147**	**487**

R	T	L	U	P
0	0	0	0	0
8	133	2	0	0
0	4	0	0	0
0	0	0	0	0
0	0	0	0	3
8	**137**	**2**	**0**	**3**

Falls St [EB]

Out	In	Total
0	0	0
19	37	56
0	1	1
0	0	0
0	0	0
19	**38**	**57**

U	L	T	R	P
0	0	0	0	0
0	13	5	19	0
0	0	1	0	0
0	0	0	0	0
0	0	0	0	4
0	**13**	**6**	**19**	**4**

Peak Hour Data

07/12/2022 7:45 AM
Ending At
07/12/2022 8:45 AM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

Falls St [WB]

Out	In	Total
0	0	0
50	18	68
1	1	2
0	0	0
0	0	0
51	**19**	**70**

R	T	L	U	P
0	0	0	0	0
5	4	6	0	0
1	0	0	0	0
0	0	0	0	0
0	0	0	0	1
6	**4**	**6**	**0**	**1**

U	L	T	R	P
0	0	0	0	0
0	7	317	43	0
0	0	4	0	0
0	0	0	0	0
0	0	0	0	1
0	**7**	**321**	**43**	**1**

Out	In	Total
0	0	0
161	367	528
4	4	8
0	0	0
0	0	0
165	**371**	**536**

John Daly Blvd [NB]

Turning Movement Peak Hour Data Plot (7:45 AM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (12:00 PM)

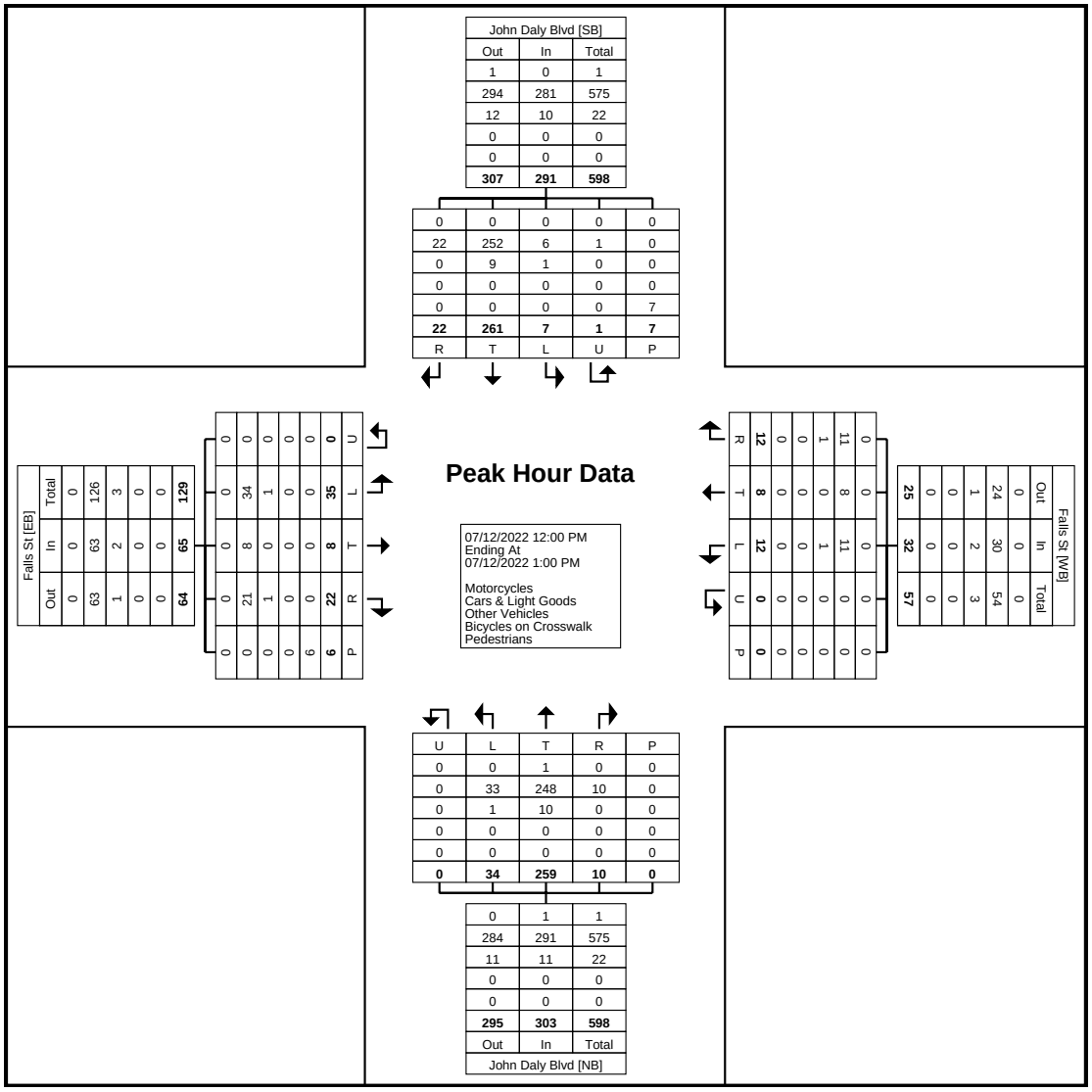
Start Time	John Daly Blvd Southbound						Falls St Westbound						John Daly Blvd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
12:00 PM	9	65	3	0	0	77	4	3	3	0	0	10	2	59	15	0	0	76	5	4	6	0	1	15	178
12:15 PM	5	68	1	1	1	75	2	0	3	0	0	5	2	57	2	0	0	61	3	2	4	0	0	9	150
12:30 PM	3	67	2	0	3	72	3	1	4	0	0	8	4	70	7	0	0	81	9	1	11	0	2	21	182
12:45 PM	5	61	1	0	3	67	3	4	2	0	0	9	2	73	10	0	0	85	5	1	14	0	3	20	181
Total	22	261	7	1	7	291	12	8	12	0	0	32	10	259	34	0	0	303	22	8	35	0	6	65	691
Approach %	7.6	89.7	2.4	0.3	-	-	37.5	25.0	37.5	0.0	-	-	3.3	85.5	11.2	0.0	-	-	33.8	12.3	53.8	0.0	-	-	-
Total %	3.2	37.8	1.0	0.1	-	42.1	1.7	1.2	1.7	0.0	-	4.6	1.4	37.5	4.9	0.0	-	43.8	3.2	1.2	5.1	0.0	-	9.4	-
PHF	0.611	0.960	0.583	0.250	-	0.945	0.750	0.500	0.750	0.000	-	0.800	0.625	0.887	0.567	0.000	-	0.891	0.611	0.500	0.625	0.000	-	0.774	0.949
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	1
% Motorcycles	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.4	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.1
Cars & Light Goods	22	252	6	1	-	281	11	8	11	0	-	30	10	248	33	0	-	291	21	8	34	0	-	63	665
% Cars & Light Goods	100.0	96.6	85.7	100.0	-	96.6	91.7	100.0	91.7	-	-	93.8	100.0	95.8	97.1	-	-	96.0	95.5	100.0	97.1	-	-	96.9	96.2
Other Vehicles	0	9	1	0	-	10	1	0	1	0	-	2	0	10	1	0	-	11	1	0	1	0	-	2	25
% Other Vehicles	0.0	3.4	14.3	0.0	-	3.4	8.3	0.0	8.3	-	-	6.3	0.0	3.9	2.9	-	-	3.6	4.5	0.0	2.9	-	-	3.1	3.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/12/2022
Page No: 6



Turning Movement Peak Hour Data Plot (12:00 PM)

Niagara, New York
July 12, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/12/2022

Turning Movement Peak Hour Data (4:00 PM)

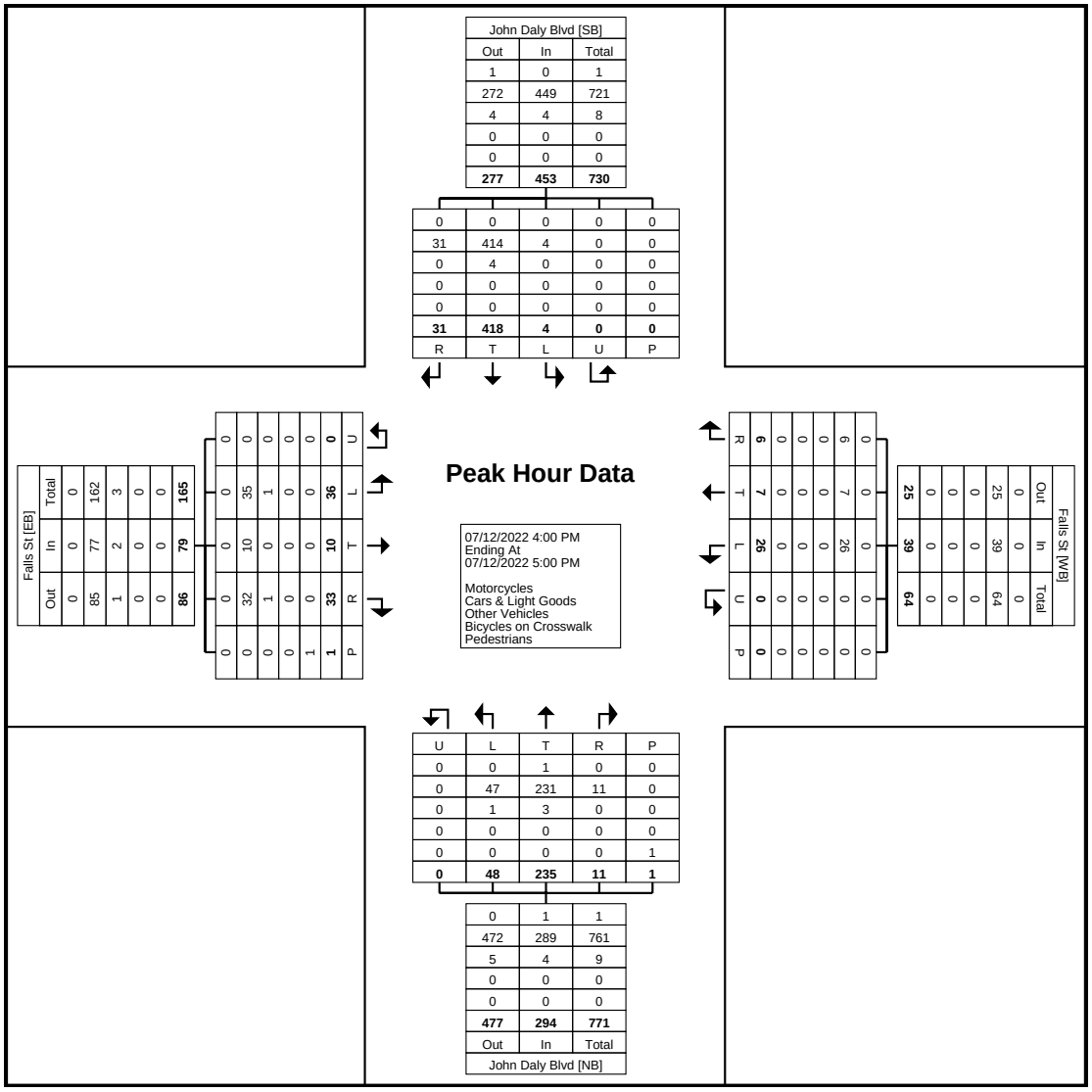
Start Time	John Daly Blvd Southbound						Falls St Westbound						John Daly Blvd Northbound						Falls St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	7	140	0	0	0	147	1	2	13	0	0	16	3	54	14	0	0	71	11	4	9	0	1	24	258
4:15 PM	6	84	4	0	0	94	1	1	4	0	0	6	1	53	5	0	0	59	10	2	7	0	0	19	178
4:30 PM	12	114	0	0	0	126	1	3	6	0	0	10	2	69	12	0	0	83	6	3	9	0	0	18	237
4:45 PM	6	80	0	0	0	86	3	1	3	0	0	7	5	59	17	0	1	81	6	1	11	0	0	18	192
Total	31	418	4	0	0	453	6	7	26	0	0	39	11	235	48	0	1	294	33	10	36	0	1	79	865
Approach %	6.8	92.3	0.9	0.0	-	-	15.4	17.9	66.7	0.0	-	-	3.7	79.9	16.3	0.0	-	-	41.8	12.7	45.6	0.0	-	-	-
Total %	3.6	48.3	0.5	0.0	-	52.4	0.7	0.8	3.0	0.0	-	4.5	1.3	27.2	5.5	0.0	-	34.0	3.8	1.2	4.2	0.0	-	9.1	-
PHF	0.646	0.746	0.250	0.000	-	0.770	0.500	0.583	0.500	0.000	-	0.609	0.550	0.851	0.706	0.000	-	0.886	0.750	0.625	0.818	0.000	-	0.823	0.838
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	1
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.4	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.1
Cars & Light Goods	31	414	4	0	-	449	6	7	26	0	-	39	11	231	47	0	-	289	32	10	35	0	-	77	854
% Cars & Light Goods	100.0	99.0	100.0	-	-	99.1	100.0	100.0	100.0	-	-	100.0	100.0	98.3	97.9	-	-	98.3	97.0	100.0	97.2	-	-	97.5	98.7
Other Vehicles	0	4	0	0	-	4	0	0	0	0	-	0	0	3	1	0	-	4	1	0	1	0	-	2	10
% Other Vehicles	0.0	1.0	0.0	-	-	0.9	0.0	0.0	0.0	-	-	0.0	0.0	1.3	2.1	-	-	1.4	3.0	0.0	2.8	-	-	2.5	1.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Niagara, New York
July 12, 2022

Count Name: John Daly Blvd & Falls St
Site Code:
Start Date: 07/12/2022
Page No: 8



Turning Movement Peak Hour Data Plot (4:00 PM)

Trip Generation Calculations

Niagara Falls Centennial Park
Niagara Falls, NY
Trip Generation Estimate - Weekday AM + PM

Trip Generation Summary						
	AM Peak Hour			PM Peak Hour		
Project Component:	**Total Trips**	**Entering**	**Exiting**	**Total Trips**	**Entering**	**Exiting**
Land Use 411 - Public Park	32	19	13	25	14	11
Land Use 465 - Ice Skating Rink	5	2	3	61	34	27
Arena Employees	75	68	7	100	10	90
Total Trips Generated	**112**	**89**	**23**	**186**	**58**	**128**
Public Transit and Local Trolley Use 10% Reduction	-11	-9	-2	-19	-6	-13
Charter Bus Use 5% Reduction	-6	-4	-1	-9	-3	-6
Pedestrian/Bicycle Access from Adjoining Facilities 15% Reduction	-17	-13	-3	-28	-9	-19
Total Trips Generated After Reduction	**78**	**62**	**16**	**130**	**40**	**90**

Niagara Falls Centennial Park
Niagara Falls, NY
Trip Generation Estimate - Saturday Peak Hour

Trip Generation Summary			
	Saturday Peak Hour		
Project Component:	**Total Trips**	**Entering**	**Exiting**
Land Use 411 - Public Park	32	18	14
Land Use 465 - Ice Skating Rink	111	59	52
Arena Employees	25	25	0
Total Trips Generated	**168**	**102**	**66**
Public Transit and Local Trolley Use 10% Reduction	-17	-10	-7
Charter Bus Use 5% Reduction	-8	-5	-3
Pedestrian/Bicycle Access from Adjoining Facilities 15% Reduction	-25	-15	-10
Total Trips Generated After Reduction	**118**	**72**	**46**

Niagara Falls Centennial Park
Niagara Falls, NY
Trip Generation Estimate - Weekday AM + PM

NF Centennial Park:	**Public Park**	7 Acres	*Land Use 411 - Public Park*
	Ice Skating Rink	23655 SF	*Land Use 465 - Ice Skating Rink*

ITE Trip Generation -9th Edition

Land Use 411 - Public Park			
AM Peak Hour - Weekday	4.5 Trips/Acre	59% Enter	41% Exit
PM Peak Hour - Weekday	3.5 Trips/Acre	55% Enter	45% Exit
Land Use 465 - Ice Skating Rink			
AM Peak Hour - Weekday	0.17 Trips/1,000 SF GFA	37% Enter	63% Exit
PM Peak Hour - Weekday	2.57 Trips/1,000 SF GFA	55% Enter	45% Exit

Trip Generation Summary							
		AM Peak Hour			**PM Peak Hour**		
Development	**Fields/Acre/Square Feet**	**Total Trips**	**Entering**	**Exiting**	**Total Trips**	**Entering**	**Exiting**
Land Use 411 - Public Park	7	32	19	13	25	14	11
Land Use 465 - Ice Skating Rink	23,655	5	2	3	61	34	27
SubTotal		**37**	**21**	**16**	**86**	**48**	**38**

Niagara Falls Centennial Park
Niagara Falls, NY
Trip Generation Estimate - Sat/Sun Peak Hour of Generator

NF Centennial Park: **Public Park** 7 Acres *Land Use 411 - Public Park*
Ice Skating Rink 23655 SF *Land Use 465 - Ice Skating Rink*

ITE Trip Generation - 9th Edition

Land Use 411 - Public Park
Peak Hour of Generator- Saturday 4.5 Trips/Acre 55% Enter 45% Exit

Land Use 465 - Ice Skating Rink
Peak Hour of Generator- Saturday 4.68 Trips/1,000 SF GFA 53% Enter 47% Exit

Trip Generation Summary				
		Saturday Peak Hour		
Development	**Fields/Acre/Square Feet**	**Total Trips**	**Entering**	**Exiting**
Land Use 411 - Public Park	7	32	18	14
Land Use 465 - Ice Skating Rink	23,655	111	59	52
SubTotal		**143**	**77**	**66**

Niagara Falls Centennial Park
Niagara Falls, NY
Arena Trip Generation Estimate

NF Centennial Park: **Arena**

Arena - Vehicle Occupancy Rate **2.88 Persons/Car**

Arena Trip Generation		
	Event Related Trips	
Development	**Entering**	**Exiting**
Arena	7000	7000
SUBTOTAL FOR ARENA	**7000**	**7000**
Public Transit and Local Trolley Use 10% Reduction	-700	-700
Charter Bus Use 5% Reduction	-350	-350
Pedestrian Access from Adjoining Facilities 15% Reduction	-1050	-1050
SUBTOTAL FOR ARENA AFTER REDUCTION	**4900**	**4900**
*Vehicle Occupancy Rate**	2.88	2.88
TOTAL VEHICLES	1701	1701

*Reference the Trip Generation Study from the Allentown Arena and City Center Development Traffic Analysis by Traffic Planning and Design, Inc. in Allentown, PA

Traffic Simulation Results

Lanes, Volumes, Timings
2: John Daly Boulevard & Buffalo Avenue

11/04/2022

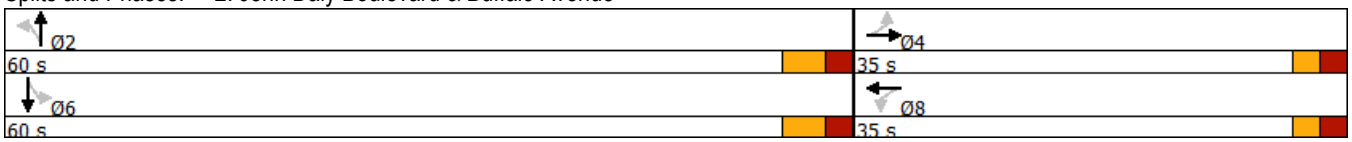
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	15	32	12	17	2	44	465	25	1	266	5
Future Volume (vph)	2	15	32	12	17	2	44	465	25	1	266	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1603	0	0	1679	0	0	3535	0	1752	3494	0
Flt Permitted		0.985			0.856			0.904		0.362		
Satd. Flow (perm)	0	1582	0	0	1464	0	0	3209	0	668	3494	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44			3			9			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Peak Hour Factor	0.72	0.72	0.72	0.78	0.78	0.78	0.70	0.70	0.70	0.84	0.84	0.84
Heavy Vehicles (%)	8%	8%	8%	10%	10%	10%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	40	0	0	763	0	1	323	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		10.1			10.1			24.5		24.5	24.5	
Actuated g/C Ratio		0.29			0.29			0.70		0.70	0.70	
v/c Ratio		0.14			0.09			0.34		0.00	0.13	
Control Delay		6.6			10.4			5.3		5.0	4.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		6.6			10.4			5.3		5.0	4.5	
LOS		A			B			A		A	A	
Approach Delay		6.6			10.4			5.3			4.5	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		4			7			46		0	16	
Queue Length 95th (ft)		15			17			53		1	27	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		1405			1296			3209		668	3494	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.05			0.03			0.24		0.00	0.09	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 35.2
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 5.3 Intersection LOS: A
Intersection Capacity Utilization 43.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



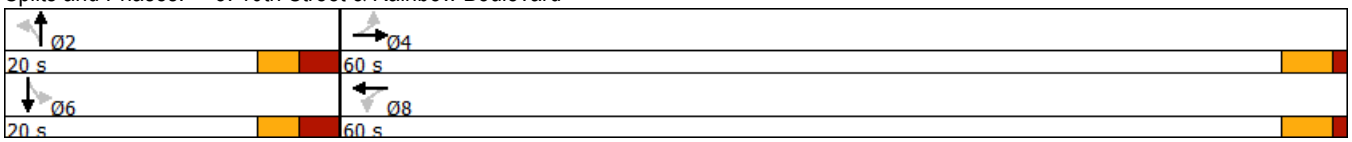
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	40	2	20	80	12	1	12	1	9	9	4
Future Volume (vph)	6	40	2	20	80	12	1	12	1	9	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3514	0	1770	3468	0	0	1840	0	0	1784	0
Flt Permitted	0.689			0.726								
Satd. Flow (perm)	1283	3514	0	1352	3468	0	0	1846	0	0	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			13			1			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	45	0	22	100	0	0	15	0	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	26.7	26.7		26.7	26.7			9.0			9.0	
Actuated g/C Ratio	0.89	0.89		0.89	0.89			0.30			0.30	
v/c Ratio	0.01	0.01		0.02	0.03			0.03			0.04	
Control Delay	3.0	2.4		2.8	2.1			8.2			7.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	3.0	2.4		2.8	2.1			8.2			7.9	
LOS	A	A		A	A			A			A	
Approach Delay		2.5			2.2			8.2			7.9	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	0	0		0	0			1			2	
Queue Length 95th (ft)	4	6		8	10			9			12	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)	175			125								
Base Capacity (vph)	1283	3514		1352	3468			928			917	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.01	0.01		0.02	0.03			0.02			0.03	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 29.9
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.04
Intersection Signal Delay: 3.3 Intersection LOS: A
Intersection Capacity Utilization 23.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	62	3	15	96	49	2	2	3	21	3	14
Future Volume (vph)	12	62	3	15	96	49	2	2	3	21	3	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1629	0	0	1617	0	0	1368	0	0	1641	0
Flt Permitted		0.992			0.995			0.986			0.973	
Satd. Flow (perm)	0	1629	0	0	1617	0	0	1368	0	0	1641	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.50	0.50	0.50	0.88	0.88	0.88
Heavy Vehicles (%)	15%	15%	15%	12%	12%	12%	29%	29%	29%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	0	172	0	0	14	0	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.2% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	2.6											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	62	3	15	96	49	2	2	3	21	3	14
Future Vol, veh/h	12	62	3	15	96	49	2	2	3	21	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	93	93	93	50	50	50	88	88	88
Heavy Vehicles, %	15	15	15	12	12	12	29	29	29	7	7	7
Mvmt Flow	14	74	4	16	103	53	4	4	6	24	3	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	156	0	0	78	0	0	275	292	76	271	268	130
Stage 1	-	-	-	-	-	-	104	104	-	162	162	-
Stage 2	-	-	-	-	-	-	171	188	-	109	106	-
Critical Hdwy	4.25	-	-	4.22	-	-	7.39	6.79	6.49	7.17	6.57	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.39	5.79	-	6.17	5.57	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.39	5.79	-	6.17	5.57	-
Follow-up Hdwy	2.335	-	-	2.308	-	-	3.761	4.261	3.561	3.563	4.063	3.363
Pot Cap-1 Maneuver	1348	-	-	1459	-	-	626	576	915	671	630	906
Stage 1	-	-	-	-	-	-	840	760	-	828	755	-
Stage 2	-	-	-	-	-	-	772	696	-	884	798	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1348	-	-	1459	-	-	602	563	915	652	616	906
Mov Cap-2 Maneuver	-	-	-	-	-	-	602	563	-	652	616	-
Stage 1	-	-	-	-	-	-	831	752	-	819	746	-
Stage 2	-	-	-	-	-	-	746	688	-	864	789	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.7	10.3	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	689	1348	-	-	1459	-	-	723
HCM Lane V/C Ratio	0.02	0.011	-	-	0.011	-	-	0.06
HCM Control Delay (s)	10.3	7.7	0	-	7.5	0	-	10.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

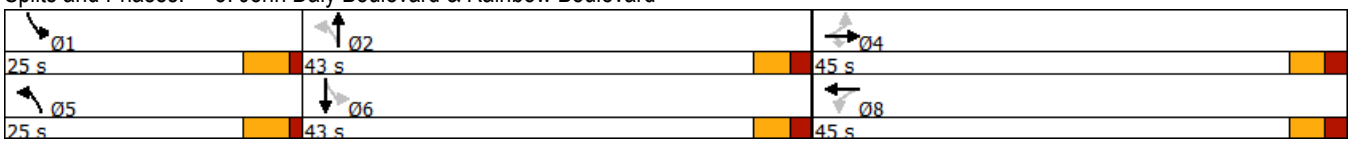
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	31	132	8	55	22	113	349	7	9	132	23
Future Volume (vph)	20	31	132	8	55	22	113	349	7	9	132	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1736	3471	1553	1687	4622	0	1787	3564	0	1752	3428	0
Flt Permitted	0.690			0.733			0.485			0.468		
Satd. Flow (perm)	1260	3471	1533	1301	4622	0	912	3564	0	863	3428	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			148		27			2			18	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.71	0.71	0.71	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	7%	7%	7%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	35	148	10	95	0	159	502	0	9	158	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	10.7	10.7	10.7	10.7	10.7		22.0	22.0		15.9	13.4	
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28		0.57	0.57		0.42	0.35	
v/c Ratio	0.06	0.04	0.28	0.03	0.07		0.22	0.25		0.02	0.13	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	14.2	13.5	5.3	13.8	10.5		5.9	7.7		5.7	13.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.2	13.5	5.3	13.8	10.5		5.9	7.7		5.7	13.7	
LOS	B	B	A	B	B		A	A		A	B	
Approach Delay		7.6			10.9			7.3			13.3	
Approach LOS		A			B			A			B	
Queue Length 50th (ft)	4	3	0	2	4		17	29		1	14	
Queue Length 95th (ft)	18	12	32	10	12		28	64		5	34	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	1203	3315	1471	1243	4416		1042	3271		1020	3147	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.01	0.10	0.01	0.02		0.15	0.15		0.01	0.05	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 38.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.28
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 34.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	7	14	14	11	4	12	334	46	3	136	5
Future Volume (vph)	10	7	14	14	11	4	12	334	46	3	136	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1791	1568	0	1734	0	1787	3510	0	1752	3484	0
Flt Permitted		0.971			0.976		0.950			0.950		
Satd. Flow (perm)	0	1791	1568	0	1734	0	1787	3510	0	1752	3484	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)	3		1	1		3	4		1	1		4
Peak Hour Factor	0.86	0.86	0.86	0.79	0.79	0.79	0.77	0.77	0.77	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	16	0	37	0	16	494	0	3	161	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 26.3% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	1.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	7	14	14	11	4	12	334	46	3	136	5
Future Vol, veh/h	10	7	14	14	11	4	12	334	46	3	136	5
Conflicting Peds, #/hr	3	0	1	1	0	3	4	0	1	1	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	79	79	79	77	77	77	88	88	88
Heavy Vehicles, %	3	3	3	5	5	5	1	1	1	3	3	3
Mvmt Flow	12	8	16	18	14	5	16	434	60	3	155	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	427	695	86	586	668	251	165	0	0	495	0	0
Stage 1	168	168	-	497	497	-	-	-	-	-	-	-
Stage 2	259	527	-	89	171	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.6	6.6	7	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.55	4.05	3.35	2.21	-	-	2.23	-	-
Pot Cap-1 Maneuver	509	362	952	387	372	740	1418	-	-	1058	-	-
Stage 1	814	756	-	516	536	-	-	-	-	-	-	-
Stage 2	720	524	-	900	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	483	355	947	369	365	737	1413	-	-	1057	-	-
Mov Cap-2 Maneuver	483	355	-	369	365	-	-	-	-	-	-	-
Stage 1	802	751	-	510	530	-	-	-	-	-	-	-
Stage 2	686	518	-	872	744	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	15	0.2	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1413	-	-	421	947	395	1057	-	-
HCM Lane V/C Ratio	0.011	-	-	0.047	0.017	0.093	0.003	-	-
HCM Control Delay (s)	7.6	-	-	14	8.9	15	8.4	-	-
HCM Lane LOS	A	-	-	B	A	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.3	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	55	29	4	0	0
Future Volume (vph)	1	55	29	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1861	1713	0	0	0
Flt Permitted		0.999				
Satd. Flow (perm)	0	1861	1713	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Confl. Peds. (#/hr)	3			3		
Peak Hour Factor	0.71	0.71	0.69	0.69	0.90	0.90
Heavy Vehicles (%)	2%	2%	9%	9%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	78	48	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 7.6% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	47	0	10	31	20	1	17	12	7	12	1
Future Volume (vph)	8	47	0	10	31	20	1	17	12	7	12	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1850	0	0	1638	0	0	1743	0	0	1838	0
Flt Permitted		0.993			0.992			0.998			0.982	
Satd. Flow (perm)	0	1850	0	0	1638	0	0	1743	0	0	1838	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	4					4			3	3		
Peak Hour Factor	0.62	0.62	0.62	0.83	0.83	0.83	0.63	0.63	0.63	0.71	0.71	0.71
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	0	73	0	0	48	0	0	28	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 16.9% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	47	0	10	31	20	1	17	12	7	12	1
Future Vol, veh/h	8	47	0	10	31	20	1	17	12	7	12	1
Peak Hour Factor	0.62	0.62	0.62	0.83	0.83	0.83	0.63	0.63	0.63	0.71	0.71	0.71
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	1	1	1
Mvmt Flow	13	76	0	12	37	24	2	27	19	10	17	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.5	7.3	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	15%	16%	35%
Vol Thru, %	57%	85%	51%	60%
Vol Right, %	40%	0%	33%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	55	61	20
LT Vol	1	8	10	7
Through Vol	17	47	31	12
RT Vol	12	0	20	1
Lane Flow Rate	48	89	73	28
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.102	0.084	0.033
Departure Headway (Hd)	4.018	4.15	4.105	4.274
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	878	858	866	825
Service Time	2.106	2.204	2.162	2.365
HCM Lane V/C Ratio	0.055	0.104	0.084	0.034
HCM Control Delay	7.3	7.7	7.5	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.3	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	40	8	2	43	9	11	51	1	8	28	8
Future Volume (vph)	18	40	8	2	43	9	11	51	1	8	28	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1551	0	0	1669	0	0	1740	0	0	1750	0
Flt Permitted		0.987			0.998			0.991			0.991	
Satd. Flow (perm)	0	1551	0	0	1669	0	0	1740	0	0	1750	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Peak Hour Factor	0.72	0.72	0.72	0.78	0.78	0.78	0.78	0.78	0.78	0.85	0.85	0.85
Heavy Vehicles (%)	19%	19%	19%	11%	11%	11%	8%	8%	8%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	0	70	0	0	80	0	0	51	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.4% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	40	8	2	43	9	11	51	1	8	28	8
Future Vol, veh/h	18	40	8	2	43	9	11	51	1	8	28	8
Peak Hour Factor	0.72	0.72	0.72	0.78	0.78	0.78	0.78	0.78	0.78	0.85	0.85	0.85
Heavy Vehicles, %	19	19	19	11	11	11	8	8	8	5	5	5
Mvmt Flow	25	56	11	3	55	12	14	65	1	9	33	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	7.8	8	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	27%	4%	18%
Vol Thru, %	81%	61%	80%	64%
Vol Right, %	2%	12%	17%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	63	66	54	44
LT Vol	11	18	2	8
Through Vol	51	40	43	28
RT Vol	1	8	9	8
Lane Flow Rate	81	92	69	52
Geometry Grp	1	1	1	1
Degree of Util (X)	0.101	0.117	0.085	0.063
Departure Headway (Hd)	4.498	4.6	4.406	4.383
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	800	784	816	820
Service Time	2.51	2.6	2.418	2.395
HCM Lane V/C Ratio	0.101	0.117	0.085	0.063
HCM Control Delay	8	8.2	7.8	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.3	0.2

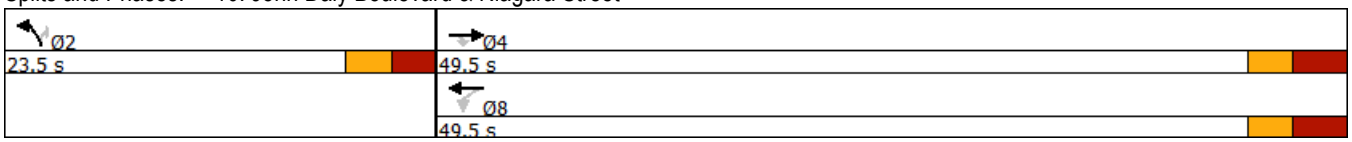
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	116	28	68	194	154
Future Volume (vph)	50	116	28	68	194	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1845	1568	0	3390	1770	1583
Flt Permitted				0.864	0.950	
Satd. Flow (perm)	1845	1548	0	2970	1768	1549
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		161				195
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		1	1		1	1
Peak Hour Factor	0.72	0.72	0.80	0.80	0.79	0.79
Heavy Vehicles (%)	3%	3%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	161	0	120	246	195
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	9.6	9.6		9.6	9.7	9.7
Actuated g/C Ratio	0.32	0.32		0.32	0.33	0.33
v/c Ratio	0.12	0.27		0.13	0.43	0.31
Control Delay	8.6	3.5		8.4	10.2	2.9
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	8.6	3.5		8.4	10.2	2.9

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A		A	B	A
Approach Delay	5.0			8.4	7.0	
Approach LOS	A			A	A	
Queue Length 50th (ft)	7	0		6	28	0
Queue Length 95th (ft)	19	13		16	48	14
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1845	1548		2970	1105	1040
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.04	0.10		0.04	0.22	0.19

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 29.8
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 6.6 Intersection LOS: A
Intersection Capacity Utilization 27.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	167	0	0	94	7	2	3	0	0	0	0
Future Volume (vph)	37	167	0	0	94	7	2	3	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1864	0	0	1793	0	0	1844	0	0	0	0
Flt Permitted		0.991						0.980				
Satd. Flow (perm)	0	1864	0	0	1793	0	0	1844	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	14		7	7		14	1		1	1		1
Peak Hour Factor	0.83	0.83	0.83	0.67	0.67	0.67	0.50	0.50	0.50	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	5%	5%	5%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	246	0	0	150	0	0	10	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.8% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	1.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	167	0	0	94	7	2	3	0	0	0	0
Future Vol, veh/h	37	167	0	0	94	7	2	3	0	0	0	0
Conflicting Peds, #/hr	14	0	7	7	0	14	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	67	67	67	50	50	50	90	90	90
Heavy Vehicles, %	1	1	1	5	5	5	1	1	1	2	2	2
Mvmt Flow	45	201	0	0	140	10	4	6	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	164	0	-	-	-	0	437	455	202
Stage 1	-	-	-	-	-	-	291	291	-
Stage 2	-	-	-	-	-	-	146	164	-
Critical Hdwy	4.11	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1421	-	0	0	-	-	579	503	841
Stage 1	-	-	0	0	-	-	761	673	-
Stage 2	-	-	0	0	-	-	884	764	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1421	-	-	-	-	-	558	0	840
Mov Cap-2 Maneuver	-	-	-	-	-	-	558	0	-
Stage 1	-	-	-	-	-	-	734	0	-
Stage 2	-	-	-	-	-	-	883	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.4	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	558	1421	-	-	-
HCM Lane V/C Ratio	0.018	0.031	-	-	-
HCM Control Delay (s)	11.6	7.6	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-

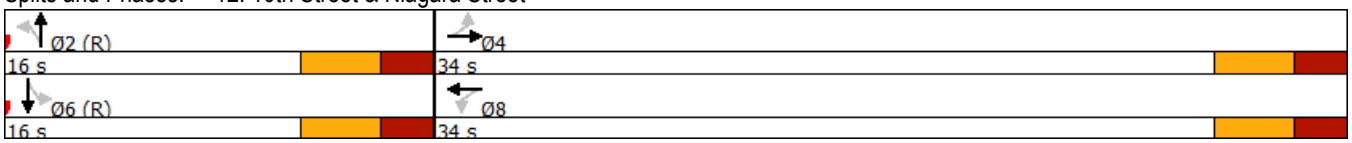
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	68	9	1	67	2	2	41	3	4	29	32
Future Volume (vph)	90	68	9	1	67	2	2	41	3	4	29	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1799	0	0	1801	0	0	1756	0	0	1735	0
Flt Permitted		0.811			0.998			0.986			0.982	
Satd. Flow (perm)	0	1496	0	0	1797	0	0	1735	0	0	1708	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			3			4			47	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	3		6	6		3						
Peak Hour Factor	0.83	0.83	0.83	0.67	0.67	0.67	0.73	0.73	0.73	0.68	0.68	0.68
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	7%	7%	7%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	201	0	0	104	0	0	63	0	0	96	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.23			0.10			0.16			0.23	
Control Delay		5.7			4.9			16.3			11.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.7			4.9			16.3			11.4	
LOS		A			A			B			B	
Approach Delay		5.7			4.9			16.3			11.4	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		23			11			14			12	
Queue Length 95th (ft)		42			19			30			27	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		871			1043			384			412	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.23			0.10			0.16			0.23	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.23
Intersection Signal Delay: 8.1 Intersection LOS: A
Intersection Capacity Utilization 41.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	72	10	0	0	0	0	108	25	16	56	0
Future Volume (vph)	15	72	10	0	0	0	0	108	25	16	56	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3392	0	0	0	0	0	1816	0	0	1773	0
Flt Permitted		0.992									0.989	
Satd. Flow (perm)	0	3392	0	0	0	0	0	1816	0	0	1773	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)	1		6	6		1	12		4	4		12
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.73	0.73	0.73	0.75	0.75	0.75
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	6%	6%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	0	0	0	0	182	0	0	96	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.1% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	72	10	0	0	0	0	108	25	16	56	0
Future Vol, veh/h	15	72	10	0	0	0	0	108	25	16	56	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.73	0.73	0.73	0.75	0.75	0.75
Heavy Vehicles, %	4	4	4	2	2	2	2	2	2	6	6	6
Mvmt Flow	17	80	11	0	0	0	0	148	34	21	75	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	8.3	8.4	8.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	29%	0%	22%
Vol Thru, %	81%	71%	78%	78%
Vol Right, %	19%	0%	22%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	51	46	72
LT Vol	0	15	0	16
Through Vol	108	36	36	56
RT Vol	25	0	10	0
Lane Flow Rate	182	57	51	96
Geometry Grp	2	7	7	2
Degree of Util (X)	0.213	0.084	0.071	0.12
Departure Headway (Hd)	4.209	5.334	5.033	4.515
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	856	674	714	796
Service Time	2.219	3.052	2.751	2.529
HCM Lane V/C Ratio	0.213	0.085	0.071	0.121
HCM Control Delay	8.4	8.5	8.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.3	0.2	0.4

Lanes, Volumes, Timings
2: John Daly Boulevard & Buffalo Avenue

11/04/2022

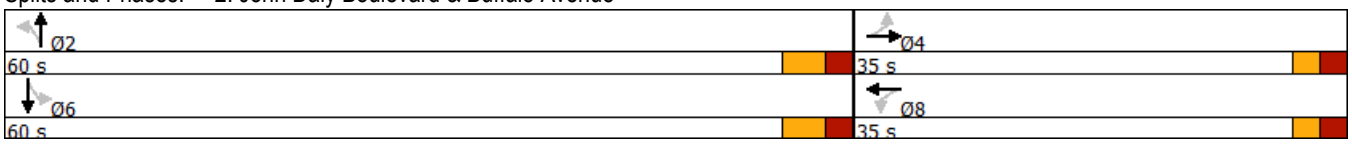
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	37	157	56	14	5	58	423	8	3	700	25
Future Volume (vph)	4	37	157	56	14	5	58	423	8	3	700	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1646	0	0	1795	0	0	3511	0	1787	3556	0
Flt Permitted		0.994			0.710			0.796		0.439		
Satd. Flow (perm)	0	1637	0	0	1322	0	0	2812	0	826	3556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		176			4			3			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Confl. Peds. (#/hr)	7					7						
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.86	0.86	0.86	0.87	0.87	0.87
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	245	0	0	150	0	0	568	0	3	834	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		12.2			12.2			16.9		16.9	16.9	
Actuated g/C Ratio		0.32			0.32			0.44		0.44	0.44	
v/c Ratio		0.38			0.36			0.46		0.01	0.53	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		6.3			14.0			8.9		6.3	9.2	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		6.3			14.0			8.9		6.3	9.2	
LOS		A			B			A		A	A	
Approach Delay		6.3			14.0			8.9			9.2	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		10			22			35		0	54	
Queue Length 95th (ft)		44			35			78		3	112	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		1389			1098			2812		826	3556	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.18			0.14			0.20		0.00	0.23	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 38.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 9.1 Intersection LOS: A
Intersection Capacity Utilization 68.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



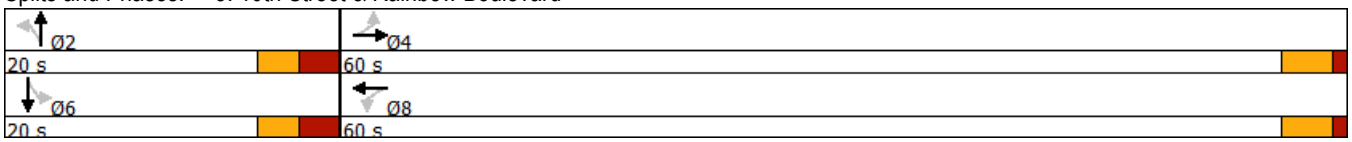
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	102	15	29	90	12	2	4	1	10	30	8
Future Volume (vph)	1	102	15	29	90	12	2	4	1	10	30	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3472	0	1770	3476	0	0	1802	0	0	1802	0
Flt Permitted	0.682			0.671								
Satd. Flow (perm)	1270	3472	0	1250	3476	0	0	1827	0	0	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			13			1			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	127	0	32	111	0	0	7	0	0	53	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	25.3	25.3		25.3	25.3			9.0			9.0	
Actuated g/C Ratio	0.88	0.88		0.88	0.88			0.31			0.31	
v/c Ratio	0.00	0.04		0.03	0.04			0.01			0.09	
Control Delay	4.0	2.4		3.2	2.4			6.7			6.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	4.0	2.4		3.2	2.4			6.7			6.6	
LOS	A	A		A	A			A			A	
Approach Delay		2.4			2.6			6.7			6.6	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	0	0		0	0			1			4	
Queue Length 95th (ft)	1	12		10	11			4			15	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)	175			125								
Base Capacity (vph)	1270	3472		1250	3476			948			948	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.00	0.04		0.03	0.03			0.01			0.06	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 28.9
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.09
Intersection Signal Delay: 3.2 Intersection LOS: A
Intersection Capacity Utilization 23.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	139	2	2	119	42	2	2	28	64	1	11
Future Volume (vph)	12	139	2	2	119	42	2	2	28	64	1	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1852	0	0	1814	0	0	1654	0	0	1704	0
Flt Permitted		0.996			0.999			0.997			0.960	
Satd. Flow (perm)	0	1852	0	0	1814	0	0	1654	0	0	1704	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.50	0.50	0.50	0.54	0.54	0.54
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	169	0	0	177	0	0	64	0	0	141	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.5% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	4.8											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	139	2	2	119	42	2	2	28	64	1	11
Future Vol, veh/h	12	139	2	2	119	42	2	2	28	64	1	11
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	92	92	92	50	50	50	54	54	54
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	5	5	5
Mvmt Flow	13	154	2	2	129	46	4	4	56	119	2	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	176	0	0	157	0	0	349	362	156	368	340	153
Stage 1	-	-	-	-	-	-	182	182	-	157	157	-
Stage 2	-	-	-	-	-	-	167	180	-	211	183	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	3.545	4.045	3.345
Pot Cap-1 Maneuver	1400	-	-	1429	-	-	608	567	892	583	577	885
Stage 1	-	-	-	-	-	-	822	751	-	838	762	-
Stage 2	-	-	-	-	-	-	837	752	-	784	743	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1399	-	-	1428	-	-	587	559	891	538	569	884
Mov Cap-2 Maneuver	-	-	-	-	-	-	587	559	-	538	569	-
Stage 1	-	-	-	-	-	-	813	743	-	829	760	-
Stage 2	-	-	-	-	-	-	814	750	-	723	735	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	9.7	13.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	833	1399	-	-	1428	-	-	571
HCM Lane V/C Ratio	0.077	0.01	-	-	0.002	-	-	0.246
HCM Control Delay (s)	9.7	7.6	0	-	7.5	0	-	13.4
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	1

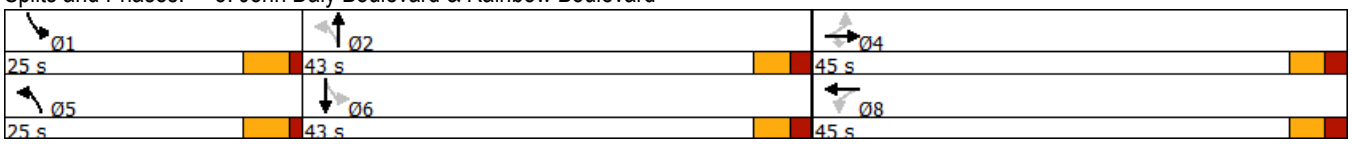
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	85	323	8	67	25	161	266	5	27	398	59
Future Volume (vph)	39	85	323	8	67	25	161	266	5	27	398	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	1787	4908	0	1770	3529	0	1787	3499	0
Flt Permitted	0.686			0.693			0.278			0.572		
Satd. Flow (perm)	1277	3539	1559	1300	4908	0	517	3529	0	1076	3499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			359		27			2			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		4	4		1	4					4
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	94	359	9	100	0	175	294	0	36	602	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	11.1	11.1	11.1	11.1	11.1		30.7	26.6		21.0	14.7	
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21		0.59	0.51		0.40	0.28	
v/c Ratio	0.16	0.12	0.58	0.03	0.09		0.31	0.16		0.07	0.60	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	20.6	18.9	7.3	19.2	14.6		6.3	8.5		6.0	18.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.6	18.9	7.3	19.2	14.6		6.3	8.5		6.0	18.8	
LOS	C	B	A	B	B		A	A		A	B	
Approach Delay		10.6			15.0			7.7			18.1	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)	11	12	0	2	6		19	16		4	77	
Queue Length 95th (ft)	38	33	61	13	20		49	58		12	120	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	1004	2784	1303	1022	3866		797	2720		913	2700	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.04	0.03	0.28	0.01	0.03		0.22	0.11		0.04	0.22	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 52
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 12.9 Intersection LOS: B
Intersection Capacity Utilization 54.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	29	33	26	7	6	68	251	11	11	424	31
Future Volume (vph)	37	29	33	26	7	6	68	251	11	11	424	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1795	1568	0	1781	0	1787	3553	0	1787	3539	0
Flt Permitted		0.973			0.967		0.950			0.950		
Satd. Flow (perm)	0	1795	1568	0	1781	0	1787	3553	0	1787	3539	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.82	0.82	0.82	0.61	0.61	0.61	0.89	0.89	0.89	0.77	0.77	0.77
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	40	0	64	0	76	294	0	14	591	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 35.3% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	4.7											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	29	33	26	7	6	68	251	11	11	424	31
Future Vol, veh/h	37	29	33	26	7	6	68	251	11	11	424	31
Conflicting Peds, #/hr	0	0	1	1	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	61	61	61	89	89	89	77	77	77
Heavy Vehicles, %	3	3	3	1	1	1	1	1	1	1	1	1
Mvmt Flow	45	35	40	43	11	10	76	282	12	14	551	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	899	1046	298	762	1060	147	592	0	0	294	0	0
Stage 1	600	600	-	440	440	-	-	-	-	-	-	-
Stage 2	299	446	-	322	620	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.52	6.52	6.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.51	4.01	3.31	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	232	225	695	296	224	877	987	-	-	1272	-	-
Stage 1	452	486	-	569	578	-	-	-	-	-	-	-
Stage 2	682	570	-	667	480	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	205	205	694	226	204	877	986	-	-	1272	-	-
Mov Cap-2 Maneuver	205	205	-	226	204	-	-	-	-	-	-	-
Stage 1	417	480	-	525	533	-	-	-	-	-	-	-
Stage 2	609	526	-	575	474	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.8	24.3	1.8	0.2
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	986	-	-	205	694	250	1272	-	-
HCM Lane V/C Ratio	0.077	-	-	0.393	0.058	0.256	0.011	-	-
HCM Control Delay (s)	9	-	-	33.5	10.5	24.3	7.9	-	-
HCM Lane LOS	A	-	-	D	B	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.7	0.2	1	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	50	40	7	0	0
Future Volume (vph)	2	50	40	7	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1877	1844	0	0	0
Flt Permitted		0.998				
Satd. Flow (perm)	0	1877	1844	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.78	0.78	0.68	0.68	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	67	69	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 7.6% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	48	0	26	38	10	5	8	4	14	22	4
Future Volume (vph)	2	48	0	26	38	10	5	8	4	14	22	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1877	0	0	1816	0	0	1799	0	0	1823	0
Flt Permitted		0.998			0.983			0.986			0.983	
Satd. Flow (perm)	0	1877	0	0	1816	0	0	1799	0	0	1823	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	3		1	1		3	2		2	2		2
Peak Hour Factor	0.79	0.79	0.79	0.52	0.52	0.52	0.94	0.94	0.94	0.60	0.60	0.60
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	142	0	0	18	0	0	67	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.6% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	48	0	26	38	10	5	8	4	14	22	4
Future Vol, veh/h	2	48	0	26	38	10	5	8	4	14	22	4
Peak Hour Factor	0.79	0.79	0.79	0.52	0.52	0.52	0.94	0.94	0.94	0.60	0.60	0.60
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	61	0	50	73	19	5	9	4	23	37	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	8	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	4%	35%	35%
Vol Thru, %	47%	96%	51%	55%
Vol Right, %	24%	0%	14%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	50	74	40
LT Vol	5	2	26	14
Through Vol	8	48	38	22
RT Vol	4	0	10	4
Lane Flow Rate	18	63	142	67
Geometry Grp	1	1	1	1
Degree of Util (X)	0.022	0.074	0.162	0.082
Departure Headway (Hd)	4.364	4.181	4.101	4.401
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	825	844	865	819
Service Time	2.366	2.27	2.174	2.402
HCM Lane V/C Ratio	0.022	0.075	0.164	0.082
HCM Control Delay	7.5	7.6	8	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.6	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	41	10	6	44	16	10	41	5	24	60	20
Future Volume (vph)	15	41	10	6	44	16	10	41	5	24	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1821	0	0	1709	0	0	1824	0	0	1812	0
Flt Permitted		0.989			0.995			0.991			0.989	
Satd. Flow (perm)	0	1821	0	0	1709	0	0	1824	0	0	1812	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Confl. Peds. (#/hr)	1		2	2		1			7	7		
Peak Hour Factor	0.60	0.60	0.60	0.80	0.80	0.80	0.73	0.73	0.73	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	7%	7%	7%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	110	0	0	83	0	0	77	0	0	113	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 22.4% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	41	10	6	44	16	10	41	5	24	60	20
Future Vol, veh/h	15	41	10	6	44	16	10	41	5	24	60	20
Peak Hour Factor	0.60	0.60	0.60	0.80	0.80	0.80	0.73	0.73	0.73	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	7	7	7	2	2	2	1	1	1
Mvmt Flow	25	68	17	8	55	20	14	56	7	26	65	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	23%	9%	23%
Vol Thru, %	73%	62%	67%	58%
Vol Right, %	9%	15%	24%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	66	66	104
LT Vol	10	15	6	24
Through Vol	41	41	44	60
RT Vol	5	10	16	20
Lane Flow Rate	77	110	82	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.095	0.134	0.102	0.136
Departure Headway (Hd)	4.481	4.395	4.445	4.374
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	802	817	808	822
Service Time	2.498	2.412	2.462	2.391
HCM Lane V/C Ratio	0.096	0.135	0.101	0.136
HCM Control Delay	8	8.1	8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3	0.5

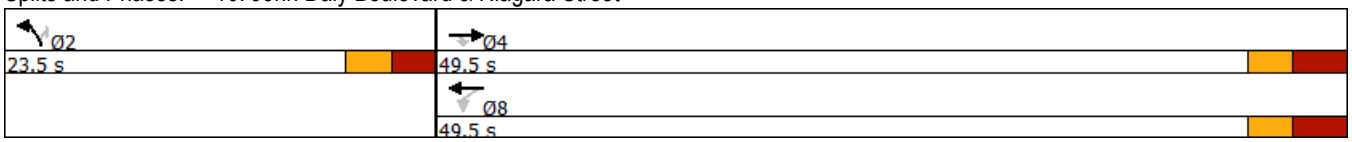
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	130	350	117	120	212	81
Future Volume (vph)	130	350	117	120	212	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1863	1583	0	3488	1770	1583
Flt Permitted				0.762	0.950	
Satd. Flow (perm)	1863	1560	0	2720	1770	1549
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		427				89
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		6	6			1
Peak Hour Factor	0.82	0.82	0.81	0.81	0.91	0.91
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	159	427	0	292	233	89
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	12.1	12.1		12.1	9.7	9.7
Actuated g/C Ratio	0.37	0.37		0.37	0.30	0.30
v/c Ratio	0.23	0.50		0.29	0.44	0.17
Control Delay	8.8	3.7		8.7	11.6	3.5
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	8.8	3.7		8.7	11.6	3.5

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A		A	B	A
Approach Delay	5.1			8.7	9.4	
Approach LOS	A			A	A	
Queue Length 50th (ft)	17	0		16	26	0
Queue Length 95th (ft)	44	27		36	71	17
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1863	1560		2720	1020	931
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.09	0.27		0.11	0.23	0.10

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 32.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 7.1 Intersection LOS: A
Intersection Capacity Utilization 40.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	166	0	0	231	25	5	4	0	0	0	0
Future Volume (vph)	45	166	0	0	231	25	5	4	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1860	0	0	1857	0	0	1830	0	0	0	0
Flt Permitted		0.989						0.973				
Satd. Flow (perm)	0	1860	0	0	1857	0	0	1830	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	9		8	8		9						
Peak Hour Factor	0.68	0.68	0.68	0.78	0.78	0.78	0.56	0.56	0.56	0.50	0.50	0.50
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	310	0	0	328	0	0	16	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 38.8% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	1.2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	166	0	0	231	25	5	4	0	0	0	0
Future Vol, veh/h	45	166	0	0	231	25	5	4	0	0	0	0
Conflicting Peds, #/hr	9	0	8	8	0	9	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	78	78	78	56	56	56	50	50	50
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	66	244	0	0	296	32	9	7	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	337	0	-	-	-	0	688	713	244
Stage 1	-	-	-	-	-	-	376	376	-
Stage 2	-	-	-	-	-	-	312	337	-
Critical Hdwy	4.11	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1228	-	0	0	-	-	414	358	797
Stage 1	-	-	0	0	-	-	696	618	-
Stage 2	-	-	0	0	-	-	744	643	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1228	-	-	-	-	-	388	0	797
Mov Cap-2 Maneuver	-	-	-	-	-	-	388	0	-
Stage 1	-	-	-	-	-	-	653	0	-
Stage 2	-	-	-	-	-	-	744	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.7	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	388	1228	-	-	-
HCM Lane V/C Ratio	0.041	0.054	-	-	-
HCM Control Delay (s)	14.7	8.1	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	-

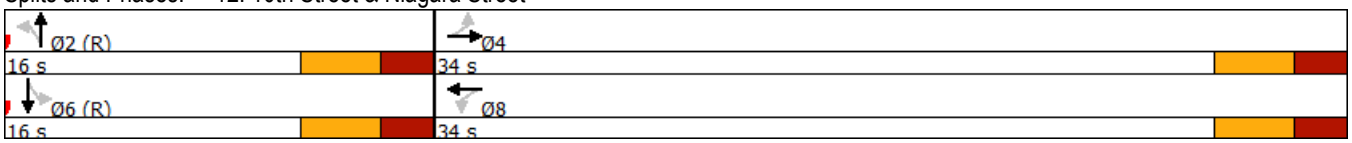
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	127	5	1	124	10	5	13	2	5	35	128
Future Volume (vph)	35	127	5	1	124	10	5	13	2	5	35	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1835	0	0	1841	0	0	1830	0	0	1657	0
Flt Permitted		0.921			0.999			0.900			0.993	
Satd. Flow (perm)	0	1706	0	0	1839	0	0	1667	0	0	1647	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			11			3			164	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	6		5	5		6	1		2	2		1
Peak Hour Factor	0.64	0.64	0.64	0.90	0.90	0.90	0.63	0.63	0.63	0.78	0.78	0.78
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	261	0	0	150	0	0	32	0	0	215	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.26			0.14			0.09			0.44	
Control Delay		6.0			4.9			15.3			8.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.0			4.9			15.3			8.8	
LOS		A			A			B			A	
Approach Delay		6.0			4.9			15.3			8.8	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		31			16			7			12	
Queue Length 95th (ft)		39			34			16			42	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		991			1071			369			490	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.26			0.14			0.09			0.44	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 7.1 Intersection LOS: A
Intersection Capacity Utilization 51.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	224	13	0	0	0	0	42	16	58	154	0
Future Volume (vph)	13	224	13	0	0	0	0	42	16	58	154	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3535	0	0	0	0	0	1794	0	0	1855	0
Flt Permitted		0.997									0.986	
Satd. Flow (perm)	0	3535	0	0	0	0	0	1794	0	0	1855	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)			3	3			4		2	2		4
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.67	0.67	0.67	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	264	0	0	0	0	0	87	0	0	303	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.2% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	224	13	0	0	0	0	42	16	58	154	0
Future Vol, veh/h	13	224	13	0	0	0	0	42	16	58	154	0
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.67	0.67	0.67	0.70	0.70	0.70
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	1	1	1
Mvmt Flow	14	236	14	0	0	0	0	63	24	83	220	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.5	8.5	10.9
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	27%
Vol Thru, %	72%	90%	90%	73%
Vol Right, %	28%	0%	10%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	125	125	212
LT Vol	0	13	0	58
Through Vol	42	112	112	154
RT Vol	16	0	13	0
Lane Flow Rate	87	132	132	303
Geometry Grp	2	7	7	2
Degree of Util (X)	0.116	0.201	0.196	0.399
Departure Headway (Hd)	4.805	5.49	5.364	4.744
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	742	651	666	757
Service Time	2.86	3.249	3.123	2.784
HCM Lane V/C Ratio	0.117	0.203	0.198	0.4
HCM Control Delay	8.5	9.6	9.4	10.9
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.4	0.7	0.7	1.9

Lanes, Volumes, Timings
2: John Daly Boulevard & Buffalo Avenue

11/04/2022

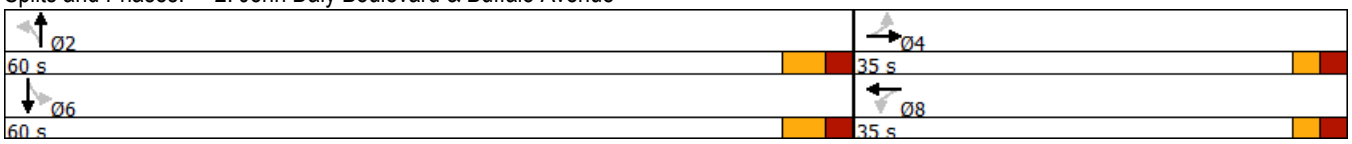
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	21	117	24	23	2	97	466	12	4	640	10
Future Volume (vph)	3	21	117	24	23	2	97	466	12	4	640	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1651	0	0	1708	0	0	3535	0	1787	3566	0
Flt Permitted		0.995			0.826			0.747		0.426		
Satd. Flow (perm)	0	1644	0	0	1445	0	0	2661	0	801	3566	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		144			2			4			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Confl. Peds. (#/hr)			1	1			4					4
Peak Hour Factor	0.81	0.81	0.81	0.82	0.82	0.82	0.96	0.96	0.96	0.86	0.86	0.86
Heavy Vehicles (%)	1%	1%	1%	8%	8%	8%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	174	0	0	59	0	0	599	0	5	756	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		10.2			10.2			16.3		16.3	16.3	
Actuated g/C Ratio		0.29			0.29			0.46		0.46	0.46	
v/c Ratio		0.30			0.14			0.49		0.01	0.46	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		5.1			10.2			8.3		5.2	7.7	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		5.1			10.2			8.3		5.2	7.7	
LOS		A			B			A		A	A	
Approach Delay		5.1			10.2			8.3			7.7	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		4			7			36		1	45	
Queue Length 95th (ft)		27			24			62		3	67	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		1466			1274			2661		801	3566	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.12			0.05			0.23		0.01	0.21	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 35.6
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 7.7 Intersection LOS: A
Intersection Capacity Utilization 62.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



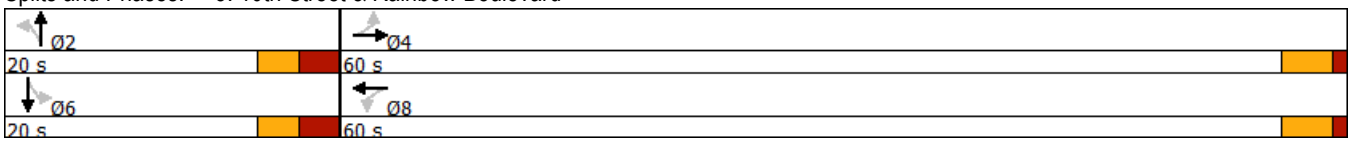
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	86	8	36	139	4	2	3	0	1	6	3
Future Volume (vph)	0	86	8	36	139	4	2	3	0	1	6	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1863	3493	0	1770	3525	0	0	1825	0	0	1785	0
Flt Permitted				0.688								
Satd. Flow (perm)	1863	3493	0	1282	3525	0	0	1863	0	0	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			4						3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	39	155	0	0	5	0	0	11	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		29.1		29.1	29.1			9.2			9.2	
Actuated g/C Ratio		0.92		0.92	0.92			0.29			0.29	
v/c Ratio		0.03		0.03	0.05			0.01			0.02	
Control Delay		1.6		2.1	1.6			11.0			9.9	
Queue Delay		0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		1.6		2.1	1.6			11.0			9.9	
LOS		A		A	A			B			A	
Approach Delay		1.6			1.7			11.0			9.9	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0		0	0			1			1	
Queue Length 95th (ft)		10		11	14			7			10	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)				125								
Base Capacity (vph)		3493		1282	3525			900			869	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.03		0.03	0.04			0.01			0.01	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 31.8
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.05
Intersection Signal Delay: 2.1 Intersection LOS: A
Intersection Capacity Utilization 23.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	114	0	3	170	28	0	3	6	27	0	9
Future Volume (vph)	7	114	0	3	170	28	0	3	6	27	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1770	0	0	1808	0	0	1530	0	0	1752	0
Flt Permitted		0.997			0.999						0.964	
Satd. Flow (perm)	0	1770	0	0	1808	0	0	1530	0	0	1752	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.79	0.79	0.79	0.89	0.89	0.89	0.50	0.50	0.50	0.69	0.69	0.69
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	13%	13%	13%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	153	0	0	225	0	0	18	0	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.0% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	114	0	3	170	28	0	3	6	27	0	9
Future Vol, veh/h	7	114	0	3	170	28	0	3	6	27	0	9
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	89	89	89	50	50	50	69	69	69
Heavy Vehicles, %	7	7	7	3	3	3	13	13	13	1	1	1
Mvmt Flow	9	144	0	3	191	31	0	6	12	39	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	223	0	0	145	0	0	382	392	145	385	377	208
Stage 1	-	-	-	-	-	-	163	163	-	214	214	-
Stage 2	-	-	-	-	-	-	219	229	-	171	163	-
Critical Hdwy	4.17	-	-	4.13	-	-	7.23	6.63	6.33	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.23	5.63	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.23	5.63	-	6.11	5.51	-
Follow-up Hdwy	2.263	-	-	2.227	-	-	3.617	4.117	3.417	3.509	4.009	3.309
Pot Cap-1 Maneuver	1317	-	-	1431	-	-	556	527	874	575	556	835
Stage 1	-	-	-	-	-	-	814	743	-	790	727	-
Stage 2	-	-	-	-	-	-	759	695	-	833	765	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1316	-	-	1430	-	-	543	521	873	558	550	834
Mov Cap-2 Maneuver	-	-	-	-	-	-	543	521	-	558	550	-
Stage 1	-	-	-	-	-	-	807	737	-	784	725	-
Stage 2	-	-	-	-	-	-	746	693	-	809	759	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	10.2	11.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	713	1316	-	-	1430	-	-	608
HCM Lane V/C Ratio	0.025	0.007	-	-	0.002	-	-	0.086
HCM Control Delay (s)	10.2	7.8	0	-	7.5	0	-	11.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

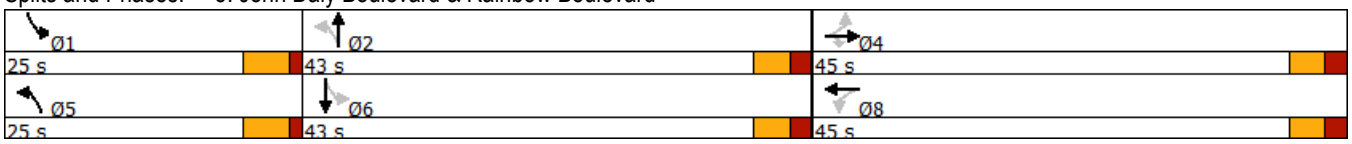
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	78	296	9	100	35	155	314	2	14	349	40
Future Volume (vph)	36	78	296	9	100	35	155	314	2	14	349	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	1736	4777	0	1787	3571	0	1787	3515	0
Flt Permitted	0.649			0.694			0.386			0.541		
Satd. Flow (perm)	1208	3539	1563	1267	4777	0	725	3571	0	1018	3515	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			352		40			1			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		1	1		1	3					3
Peak Hour Factor	0.84	0.84	0.84	0.87	0.87	0.87	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	93	352	10	155	0	172	351	0	15	409	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	10.9	10.9	10.9	10.9	10.9		26.4	24.5		17.1	11.1	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.56	0.52		0.36	0.23	
v/c Ratio	0.16	0.11	0.56	0.03	0.14		0.27	0.19		0.03	0.49	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	17.9	16.3	6.5	16.4	12.7		6.3	7.5		6.1	17.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.9	16.3	6.5	16.4	12.7		6.3	7.5		6.1	17.9	
LOS	B	B	A	B	B		A	A		A	B	
Approach Delay		9.4			12.9			7.1			17.5	
Approach LOS		A			B			A			B	
Queue Length 50th (ft)	9	10	0	2	8		19	20		2	47	
Queue Length 95th (ft)	31	26	43	12	24		47	67		8	95	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	1035	3034	1390	1086	4101		858	2908		896	2865	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.04	0.03	0.25	0.01	0.04		0.20	0.12		0.02	0.14	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 47.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 11.2 Intersection LOS: B
Intersection Capacity Utilization 52.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	10	79	12	14	6	107	273	4	7	312	12
Future Volume (vph)	13	10	79	12	14	6	107	273	4	7	312	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1830	1599	0	1799	0	1787	3567	0	1787	3556	0
Flt Permitted		0.973			0.982		0.950			0.950		
Satd. Flow (perm)	0	1830	1599	0	1799	0	1787	3567	0	1787	3556	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)			1	1			3					3
Peak Hour Factor	0.84	0.84	0.84	0.80	0.80	0.80	0.87	0.87	0.87	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	94	0	41	0	123	319	0	7	334	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 33.8% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	10	79	12	14	6	107	273	4	7	312	12
Future Vol, veh/h	13	10	79	12	14	6	107	273	4	7	312	12
Conflicting Peds, #/hr	0	0	1	1	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	80	80	80	87	87	87	97	97	97
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	15	12	94	15	18	8	123	314	5	7	322	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	757	910	171	745	914	160	337	0	0	319	0	0
Stage 1	345	345	-	563	563	-	-	-	-	-	-	-
Stage 2	412	565	-	182	351	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.31	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	298	275	846	304	273	860	1226	-	-	1245	-	-
Stage 1	647	637	-	481	510	-	-	-	-	-	-	-
Stage 2	591	509	-	805	633	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	256	245	843	239	243	860	1222	-	-	1245	-	-
Mov Cap-2 Maneuver	256	245	-	239	243	-	-	-	-	-	-	-
Stage 1	580	631	-	432	458	-	-	-	-	-	-	-
Stage 2	507	458	-	697	627	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	20.1	2.3	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1222	-	-	251	843	279	1245	-	-
HCM Lane V/C Ratio	0.101	-	-	0.109	0.112	0.143	0.006	-	-
HCM Control Delay (s)	8.3	-	-	21.1	9.8	20.1	7.9	-	-
HCM Lane LOS	A	-	-	C	A	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.4	0.4	0.5	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	21	32	4	0	0
Future Volume (vph)	0	21	32	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1881	1853	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1881	1853	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Peak Hour Factor	0.60	0.60	0.83	0.83	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	35	44	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 6.7% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	19	0	2	30	5	0	4	3	8	8	6
Future Volume (vph)	2	19	0	2	30	5	0	4	3	8	8	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1872	0	0	1844	0	0	1776	0	0	1775	0
Flt Permitted		0.995			0.998						0.982	
Satd. Flow (perm)	0	1872	0	0	1844	0	0	1776	0	0	1775	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	3		1	1		3	1					1
Peak Hour Factor	0.63	0.63	0.63	0.84	0.84	0.84	0.58	0.58	0.58	0.79	0.79	0.79
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	44	0	0	12	0	0	28	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 19.1% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	19	0	2	30	5	0	4	3	8	8	6
Future Vol, veh/h	2	19	0	2	30	5	0	4	3	8	8	6
Peak Hour Factor	0.63	0.63	0.63	0.84	0.84	0.84	0.58	0.58	0.58	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	30	0	2	36	6	0	7	5	10	10	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7.2	6.9	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	10%	5%	36%
Vol Thru, %	57%	90%	81%	36%
Vol Right, %	43%	0%	14%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	21	37	22
LT Vol	0	2	2	8
Through Vol	4	19	30	8
RT Vol	3	0	5	6
Lane Flow Rate	12	33	44	28
Geometry Grp	1	1	1	1
Degree of Util (X)	0.013	0.037	0.048	0.031
Departure Headway (Hd)	3.816	4.04	3.942	3.97
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	935	887	909	900
Service Time	1.852	2.063	1.964	2.003
HCM Lane V/C Ratio	0.013	0.037	0.048	0.031
HCM Control Delay	6.9	7.2	7.2	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.2	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	23	3	4	28	10	3	29	6	18	29	6
Future Volume (vph)	4	23	3	4	28	10	3	29	6	18	29	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1842	0	0	1794	0	0	1836	0	0	1821	0
Flt Permitted		0.993			0.995			0.997			0.983	
Satd. Flow (perm)	0	1842	0	0	1794	0	0	1836	0	0	1821	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Confl. Peds. (#/hr)	12		1	1		12						
Peak Hour Factor	0.61	0.61	0.61	0.67	0.67	0.67	0.86	0.86	0.86	0.74	0.74	0.74
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	63	0	0	44	0	0	71	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.0% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	23	3	4	28	10	3	29	6	18	29	6
Future Vol, veh/h	4	23	3	4	28	10	3	29	6	18	29	6
Peak Hour Factor	0.61	0.61	0.61	0.67	0.67	0.67	0.86	0.86	0.86	0.74	0.74	0.74
Heavy Vehicles, %	1	1	1	2	2	2	1	1	1	1	1	1
Mvmt Flow	7	38	5	6	42	15	3	34	7	24	39	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.4	7.4	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	13%	10%	34%
Vol Thru, %	76%	77%	67%	55%
Vol Right, %	16%	10%	24%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	30	42	53
LT Vol	3	4	4	18
Through Vol	29	23	28	29
RT Vol	6	3	10	6
Lane Flow Rate	44	49	63	72
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.056	0.071	0.082
Departure Headway (Hd)	4.088	4.133	4.049	4.146
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	866	857	876	857
Service Time	2.157	2.203	2.116	2.208
HCM Lane V/C Ratio	0.051	0.057	0.072	0.084
HCM Control Delay	7.4	7.5	7.4	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.3

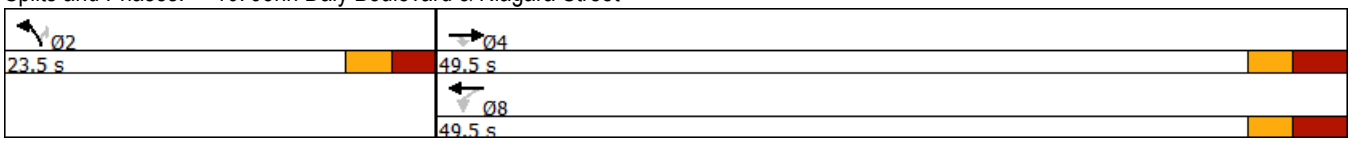
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	116	289	42	91	227	65
Future Volume (vph)	116	289	42	91	227	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1881	1599	0	3486	1787	1599
Flt Permitted				0.837	0.950	
Satd. Flow (perm)	1881	1571	0	2958	1787	1564
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		325				79
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		11	11			1
Peak Hour Factor	0.89	0.89	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	130	325	0	162	277	79
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	10.7	10.7		10.7	10.2	10.2
Actuated g/C Ratio	0.34	0.34		0.34	0.32	0.32
v/c Ratio	0.20	0.43		0.16	0.48	0.14
Control Delay	9.3	3.7		8.6	11.3	3.0
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	9.3	3.7		8.6	11.3	3.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A		A	B	A
Approach Delay	5.3			8.6	9.4	
Approach LOS	A			A	A	
Queue Length 50th (ft)	14	0		8	32	0
Queue Length 95th (ft)	42	32		22	65	12
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1881	1571		2958	1058	958
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.07	0.21		0.05	0.26	0.08

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 31.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 7.3 Intersection LOS: A
Intersection Capacity Utilization 36.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	152	0	0	133	23	0	4	0	0	0	0
Future Volume (vph)	28	152	0	0	133	23	0	4	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1848	0	0	1844	0	0	1881	0	0	0	0
Flt Permitted		0.992										
Satd. Flow (perm)	0	1848	0	0	1844	0	0	1881	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	3		8	8		3						
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.75	0.75	0.75	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	205	0	0	183	0	0	5	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.7% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	0.6											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	152	0	0	133	23	0	4	0	0	0	0
Future Vol, veh/h	28	152	0	0	133	23	0	4	0	0	0	0
Conflicting Peds, #/hr	3	0	8	8	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	85	85	85	75	75	75	90	90	90
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	1	1	1
Mvmt Flow	32	173	0	0	156	27	0	5	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	186	0	-	-	-	0	407	423	173
Stage 1	-	-	-	-	-	-	237	237	-
Stage 2	-	-	-	-	-	-	170	186	-
Critical Hdwy	4.12	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1388	-	0	0	-	-	602	524	873
Stage 1	-	-	0	0	-	-	805	711	-
Stage 2	-	-	0	0	-	-	862	748	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1388	-	-	-	-	-	586	0	873
Mov Cap-2 Maneuver	-	-	-	-	-	-	586	0	-
Stage 1	-	-	-	-	-	-	784	0	-
Stage 2	-	-	-	-	-	-	862	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.2	0	
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	-	1388	-	-	-
HCM Lane V/C Ratio	-	0.023	-	-	-
HCM Control Delay (s)	-	7.7	0	-	-
HCM Lane LOS	-	A	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-	-

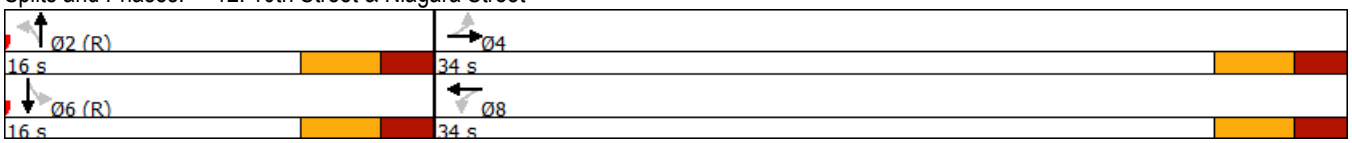
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	119	2	0	93	5	1	10	0	3	20	62
Future Volume (vph)	31	119	2	0	93	5	1	10	0	3	20	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1842	0	0	1829	0	0	1727	0	0	1692	0
Flt Permitted		0.935						0.950			0.993	
Satd. Flow (perm)	0	1737	0	0	1829	0	0	1656	0	0	1682	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			7						68	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	9		1	1		9			6	6		
Peak Hour Factor	0.82	0.82	0.82	0.75	0.75	0.75	0.25	0.55	0.55	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	9%	9%	9%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	185	0	0	131	0	0	22	0	0	93	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.18			0.12			0.06			0.22	
Control Delay		5.5			4.9			16.0			8.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.5			4.9			16.0			8.8	
LOS		A			A			B			A	
Approach Delay		5.5			4.9			16.0			8.8	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		21			14			5			6	
Queue Length 95th (ft)		39			25			11			34	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		1008			1063			364			423	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.18			0.12			0.06			0.22	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.22
Intersection Signal Delay: 6.5 Intersection LOS: A
Intersection Capacity Utilization 41.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	201	11	0	0	0	0	33	13	22	74	0
Future Volume (vph)	2	201	11	0	0	0	0	33	13	22	74	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3514	0	0	0	0	0	1810	0	0	1860	0
Flt Permitted											0.989	
Satd. Flow (perm)	0	3514	0	0	0	0	0	1810	0	0	1860	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)	6		5	5		6	3		5	5		3
Peak Hour Factor	0.96	0.90	0.96	0.90	0.90	0.90	0.72	0.72	0.72	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	236	0	0	0	0	0	64	0	0	106	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 26.9% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	201	11	0	0	0	0	33	13	22	74	0
Future Vol, veh/h	2	201	11	0	0	0	0	33	13	22	74	0
Peak Hour Factor	0.96	0.90	0.96	0.90	0.90	0.90	0.72	0.72	0.72	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	1	1	1
Mvmt Flow	2	223	11	0	0	0	0	46	18	24	82	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	8.5	7.8	8.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	2%	0%	23%
Vol Thru, %	72%	98%	90%	77%
Vol Right, %	28%	0%	10%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	103	112	96
LT Vol	0	2	0	22
Through Vol	33	101	101	74
RT Vol	13	0	11	0
Lane Flow Rate	64	114	123	107
Geometry Grp	2	7	7	2
Degree of Util (X)	0.079	0.156	0.166	0.136
Departure Headway (Hd)	4.439	4.94	4.86	4.602
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	809	728	740	782
Service Time	2.455	2.659	2.579	2.616
HCM Lane V/C Ratio	0.079	0.157	0.166	0.137
HCM Control Delay	7.8	8.6	8.5	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.6	0.5

Lanes, Volumes, Timings
2: John Daly Boulevard & Buffalo Avenue

11/04/2022

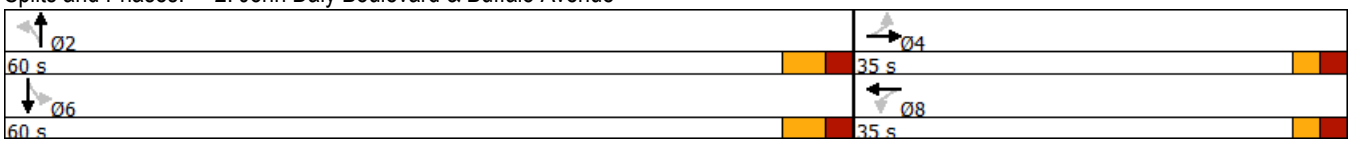
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	37	157	56	14	5	58	1359	8	3	700	25
Future Volume (vph)	4	37	157	56	14	5	58	1359	8	3	700	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1646	0	0	1795	0	0	3529	0	1787	3556	0
Flt Permitted		0.995			0.450			0.874		0.089		
Satd. Flow (perm)	0	1639	0	0	838	0	0	3090	0	167	3556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		176			4			1			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Confl. Peds. (#/hr)	7					7						
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.86	0.86	0.86	0.87	0.87	0.87
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	245	0	0	150	0	0	1656	0	3	834	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		16.5			16.5			47.8		47.8	47.8	
Actuated g/C Ratio		0.22			0.22			0.65		0.65	0.65	
v/c Ratio		0.49			0.79			0.83		0.03	0.36	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		12.2			56.9			15.2		6.7	6.8	
Queue Delay		0.0			0.0			0.0		0.0	0.1	
Total Delay		12.2			56.9			15.2		6.7	6.9	
LOS		B			E			B		A	A	
Approach Delay		12.2			56.9			15.2			6.9	
Approach LOS		B			E			B			A	
Queue Length 50th (ft)		28			70			250		0	75	
Queue Length 95th (ft)		69			65			440		4	140	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		817			369			2361		127	2718	
Starvation Cap Reductn		0			0			0		0	762	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.30			0.41			0.70		0.02	0.43	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 73.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 14.7 Intersection LOS: B
Intersection Capacity Utilization 94.8% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



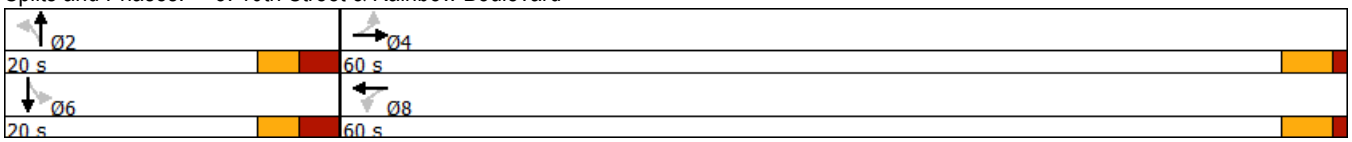
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	102	15	29	226	46	2	4	1	10	30	8
Future Volume (vph)	1	102	15	29	226	46	2	4	1	10	30	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3472	0	1770	3451	0	0	1802	0	0	1802	0
Flt Permitted	0.571			0.671								
Satd. Flow (perm)	1064	3472	0	1250	3451	0	0	1827	0	0	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			50			1			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	127	0	32	296	0	0	7	0	0	53	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	25.3	25.3		25.3	25.3			9.0			9.0	
Actuated g/C Ratio	0.88	0.88		0.88	0.88			0.31			0.31	
v/c Ratio	0.00	0.04		0.03	0.10			0.01			0.09	
Control Delay	4.0	2.4		3.2	2.1			6.7			6.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	4.0	2.4		3.2	2.1			6.7			6.6	
LOS	A	A		A	A			A			A	
Approach Delay		2.4			2.2			6.7			6.6	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	0	0		0	0			1			4	
Queue Length 95th (ft)	1	12		10	23			4			15	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)	175			125								
Base Capacity (vph)	1064	3472		1250	3451			948			948	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.00	0.04		0.03	0.09			0.01			0.06	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 28.9
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.10
Intersection Signal Delay: 2.7 Intersection LOS: A
Intersection Capacity Utilization 23.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	139	2	2	289	42	2	2	28	64	1	11
Future Volume (vph)	12	139	2	2	289	42	2	2	28	64	1	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1852	0	0	1849	0	0	1654	0	0	1704	0
Flt Permitted		0.996						0.997			0.960	
Satd. Flow (perm)	0	1852	0	0	1849	0	0	1654	0	0	1704	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.50	0.50	0.50	0.54	0.54	0.54
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	169	0	0	362	0	0	64	0	0	141	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 35.9% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	4.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	139	2	2	289	42	2	2	28	64	1	11
Future Vol, veh/h	12	139	2	2	289	42	2	2	28	64	1	11
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	92	92	92	50	50	50	54	54	54
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	5	5	5
Mvmt Flow	13	154	2	2	314	46	4	4	56	119	2	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	361	0	0	157	0	0	534	547	156	553	525	338
Stage 1	-	-	-	-	-	-	182	182	-	342	342	-
Stage 2	-	-	-	-	-	-	352	365	-	211	183	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	3.545	4.045	3.345
Pot Cap-1 Maneuver	1198	-	-	1429	-	-	458	446	892	439	453	697
Stage 1	-	-	-	-	-	-	822	751	-	667	633	-
Stage 2	-	-	-	-	-	-	667	625	-	784	743	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1197	-	-	1428	-	-	438	439	891	404	446	696
Mov Cap-2 Maneuver	-	-	-	-	-	-	438	439	-	404	446	-
Stage 1	-	-	-	-	-	-	811	741	-	658	631	-
Stage 2	-	-	-	-	-	-	644	623	-	722	733	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	10	17.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	789	1197	-	-	1428	-	-	431
HCM Lane V/C Ratio	0.081	0.011	-	-	0.002	-	-	0.327
HCM Control Delay (s)	10	8	0	-	7.5	0	-	17.4
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	1.4

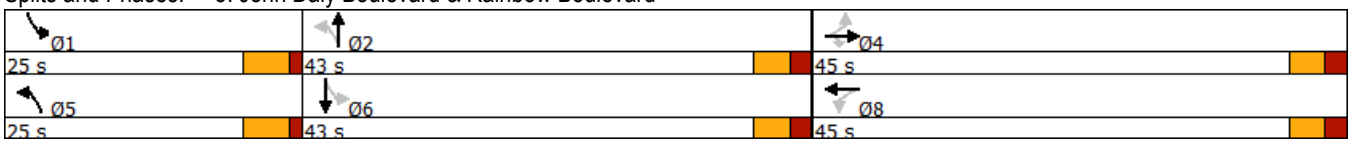
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	85	323	8	203	26	671	691	5	27	398	59
Future Volume (vph)	124	85	323	8	203	26	671	691	5	27	398	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	1787	5041	0	3433	1861	0	1787	3499	0
Flt Permitted	0.591			0.693			0.300			0.260		
Satd. Flow (perm)	1100	3539	1559	1300	5041	0	1083	1861	0	489	3499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			359		22						16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		4	4		1	4					4
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	94	359	9	249	0	729	756	0	36	602	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	15.6	15.6	15.6	15.6	15.6		45.3	39.0		32.0	25.5	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22		0.64	0.55		0.45	0.36	
v/c Ratio	0.57	0.12	0.58	0.03	0.22		0.62	0.74		0.11	0.48	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	35.7	23.2	7.1	22.9	21.4		9.1	21.6		8.5	20.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.1	1.5		0.0	0.0	
Total Delay	35.7	23.2	7.1	22.9	21.4		9.2	23.2		8.5	20.1	
LOS	D	C	A	C	C		A	C		A	C	
Approach Delay		16.3			21.5			16.3			19.5	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	58	18	0	3	32		64	273		5	100	
Queue Length 95th (ft)	115	37	61	14	53		128	#597		16	154	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	633	2038	1050	748	2912		1366	1019		676	1921	
Starvation Cap Reductn	0	0	0	0	0		65	120		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.22	0.05	0.34	0.01	0.09		0.56	0.84		0.05	0.31	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 71.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 17.4 Intersection LOS: B
Intersection Capacity Utilization 73.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



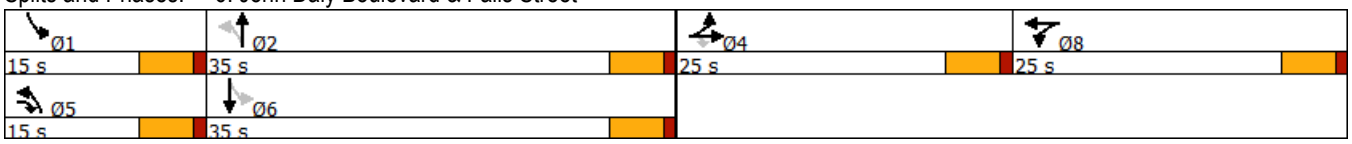
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	29	33	26	92	6	68	370	402	11	424	31
Future Volume (vph)	37	29	33	26	92	6	68	370	402	11	424	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1795	1568	1787	1864	0	1787	3295	0	1787	3535	0
Flt Permitted		0.973		0.950			0.293			0.283		
Satd. Flow (perm)	0	1795	1548	1785	1864	0	551	3295	0	532	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			76		3			280			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.82	0.82	0.82	0.61	0.61	0.61	0.89	0.89	0.89	0.77	0.77	0.77
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	40	43	161	0	76	868	0	14	591	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4				2			6		
Detector Phase	4	4	5	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	3.0	6.0	6.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	11.0	11.0	8.0	11.0	11.0		8.0	15.0		8.0	15.0	
Total Split (s)	25.0	25.0	15.0	25.0	25.0		15.0	35.0		15.0	35.0	
Total Split (%)	25.0%	25.0%	15.0%	25.0%	25.0%		15.0%	35.0%		15.0%	35.0%	
Maximum Green (s)	20.0	20.0	10.0	20.0	20.0		10.0	30.0		10.0	30.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)		9.0	15.2	11.6	11.6		31.2	29.7		26.1	21.5	
Actuated g/C Ratio		0.14	0.24	0.18	0.18		0.48	0.46		0.40	0.33	
v/c Ratio		0.32	0.09	0.13	0.48		0.18	0.52		0.04	0.50	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		33.1	1.4	27.1	31.8		12.2	11.4		11.7	22.4	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		33.1	1.4	27.1	31.8		12.2	11.4		11.7	22.4	
LOS		C	A	C	C		B	B		B	C	
Approach Delay		22.5			30.8			11.5			22.2	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)		29	0	15	58		16	76		3	107	
Queue Length 95th (ft)		74	3	31	87		45	201		12	156	
Internal Link Dist (ft)		529			285			955			697	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		594	484	591	619		470	1814		446	1760	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.13	0.08	0.07	0.26		0.16	0.48		0.03	0.34	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 64.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 17.7 Intersection LOS: B
Intersection Capacity Utilization 49.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: John Daly Boulevard & Falls Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	441	124	7	0	0
Future Volume (vph)	2	441	124	7	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3574	3546	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	3574	3546	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.78	0.78	0.68	0.68	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	568	192	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 16.9% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	48	391	26	38	10	5	8	4	14	107	174
Future Volume (vph)	2	48	391	26	38	10	5	8	4	14	107	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1877	1599	0	1816	0	0	1799	0	0	1727	0
Flt Permitted		0.998			0.983			0.986			0.998	
Satd. Flow (perm)	0	1877	1599	0	1816	0	0	1799	0	0	1727	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	3		1	1		3	2		2	2		2
Peak Hour Factor	0.79	0.79	0.79	0.52	0.52	0.52	0.94	0.94	0.94	0.60	0.60	0.60
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	495	0	142	0	0	18	0	0	491	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 56.5% ICU Level of Service B
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	21
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	48	391	26	38	10	5	8	4	14	107	174
Future Vol, veh/h	2	48	391	26	38	10	5	8	4	14	107	174
Peak Hour Factor	0.79	0.79	0.79	0.52	0.52	0.52	0.94	0.94	0.94	0.60	0.60	0.60
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	61	495	50	73	19	5	9	4	23	178	290
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	22.3	11.6	10.1	22.7
HCM LOS	C	B	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	29%	4%	0%	35%	5%
Vol Thru, %	47%	96%	0%	51%	36%
Vol Right, %	24%	0%	100%	14%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	50	391	74	295
LT Vol	5	2	0	26	14
Through Vol	8	48	0	38	107
RT Vol	4	0	391	10	174
Lane Flow Rate	18	63	495	142	492
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.034	0.11	0.761	0.252	0.743
Departure Headway (Hd)	6.826	6.266	5.534	6.375	5.438
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	528	570	648	559	664
Service Time	4.826	4.032	3.3	4.466	3.502
HCM Lane V/C Ratio	0.034	0.111	0.764	0.254	0.741
HCM Control Delay	10.1	9.8	23.9	11.6	22.7
HCM Lane LOS	B	A	C	B	C
HCM 95th-tile Q	0.1	0.4	7	1	6.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	41	10	6	44	16	10	41	5	24	60	20
Future Volume (vph)	15	41	10	6	44	16	10	41	5	24	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1821	0	0	1709	0	0	1824	0	0	1812	0
Flt Permitted		0.989			0.995			0.991			0.989	
Satd. Flow (perm)	0	1821	0	0	1709	0	0	1824	0	0	1812	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Confl. Peds. (#/hr)	1		2	2		1			7	7		
Peak Hour Factor	0.60	0.60	0.60	0.80	0.80	0.80	0.73	0.73	0.73	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	7%	7%	7%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	110	0	0	83	0	0	77	0	0	113	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 22.4% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	41	10	6	44	16	10	41	5	24	60	20
Future Vol, veh/h	15	41	10	6	44	16	10	41	5	24	60	20
Peak Hour Factor	0.60	0.60	0.60	0.80	0.80	0.80	0.73	0.73	0.73	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	7	7	7	2	2	2	1	1	1
Mvmt Flow	25	68	17	8	55	20	14	56	7	26	65	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	23%	9%	23%
Vol Thru, %	73%	62%	67%	58%
Vol Right, %	9%	15%	24%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	66	66	104
LT Vol	10	15	6	24
Through Vol	41	41	44	60
RT Vol	5	10	16	20
Lane Flow Rate	77	110	82	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.095	0.134	0.102	0.136
Departure Headway (Hd)	4.481	4.395	4.445	4.374
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	802	817	808	822
Service Time	2.498	2.412	2.462	2.391
HCM Lane V/C Ratio	0.096	0.135	0.101	0.136
HCM Control Delay	8	8.1	8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3	0.5

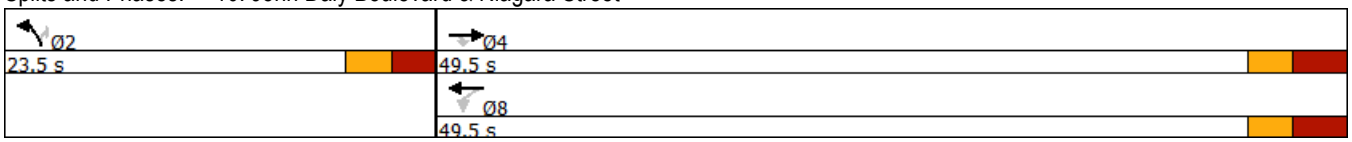
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	215	350	117	120	331	81
Future Volume (vph)	215	350	117	120	331	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1863	1583	0	3488	1770	1583
Flt Permitted				0.725	0.950	
Satd. Flow (perm)	1863	1560	0	2589	1770	1549
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		427				89
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		6	6			1
Peak Hour Factor	0.82	0.82	0.81	0.81	0.91	0.91
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	262	427	0	292	364	89
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	12.6	12.6		12.6	13.8	13.8
Actuated g/C Ratio	0.34	0.34		0.34	0.37	0.37
v/c Ratio	0.42	0.53		0.33	0.55	0.14
Control Delay	12.4	4.2		10.9	13.4	3.3
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	12.4	4.2		10.9	13.4	3.3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	B	A		B	B	A
Approach Delay	7.3			10.9	11.4	
Approach LOS	A			B	B	
Queue Length 50th (ft)	38	0		21	52	0
Queue Length 95th (ft)	83	30		44	131	19
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1843	1548		2561	906	836
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.14	0.28		0.11	0.40	0.11

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 37.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 9.3 Intersection LOS: A
Intersection Capacity Utilization 50.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	251	0	0	231	25	5	4	85	0	0	0
Future Volume (vph)	45	251	0	0	231	25	5	4	85	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1866	0	0	1857	0	0	1647	0	0	0	0
Flt Permitted		0.992						0.997				
Satd. Flow (perm)	0	1866	0	0	1857	0	0	1647	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	9		8	8		9						
Peak Hour Factor	0.68	0.68	0.68	0.78	0.78	0.78	0.56	0.56	0.56	0.50	0.50	0.50
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	435	0	0	328	0	0	168	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 45.2% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	2.8											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	251	0	0	231	25	5	4	85	0	0	0
Future Vol, veh/h	45	251	0	0	231	25	5	4	85	0	0	0
Conflicting Peds, #/hr	9	0	8	8	0	9	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	78	78	78	56	56	56	50	50	50
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	66	369	0	0	296	32	9	7	152	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	337	0	-	-	-	0	813	838	369
Stage 1	-	-	-	-	-	-	501	501	-
Stage 2	-	-	-	-	-	-	312	337	-
Critical Hdwy	4.11	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1228	-	0	0	-	-	349	303	679
Stage 1	-	-	0	0	-	-	611	544	-
Stage 2	-	-	0	0	-	-	744	643	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1228	-	-	-	-	-	325	0	679
Mov Cap-2 Maneuver	-	-	-	-	-	-	325	0	-
Stage 1	-	-	-	-	-	-	569	0	-
Stage 2	-	-	-	-	-	-	744	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.2	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	640	1228	-	-	-
HCM Lane V/C Ratio	0.262	0.054	-	-	-
HCM Control Delay (s)	12.6	8.1	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	1	0.2	-	-	-

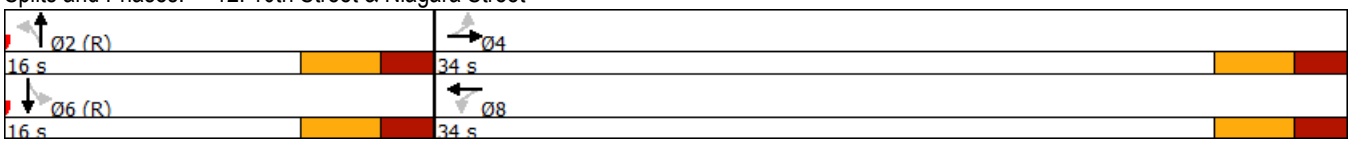
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	212	90	86	124	10	5	13	2	5	120	128
Future Volume (vph)	35	212	90	86	124	10	5	13	2	5	120	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1775	0	0	1814	0	0	1830	0	0	1732	0
Flt Permitted		0.948			0.716			0.898			0.995	
Satd. Flow (perm)	0	1691	0	0	1323	0	0	1663	0	0	1725	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63			8			3			95	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	6		5	5		6	1		2	2		1
Peak Hour Factor	0.64	0.64	0.64	0.90	0.90	0.90	0.63	0.63	0.63	0.78	0.78	0.78
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	527	0	0	245	0	0	32	0	0	324	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.52			0.32			0.09			0.72	
Control Delay		7.8			6.6			15.3			24.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.8			6.6			15.3			24.0	
LOS		A			A			B			C	
Approach Delay		7.8			6.6			15.3			24.0	
Approach LOS		A			A			B			C	
Queue Length 50th (ft)		67			30			7			61	
Queue Length 95th (ft)		70			62			16			104	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		1007			770			368			453	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.52			0.32			0.09			0.72	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 12.4 Intersection LOS: B
Intersection Capacity Utilization 54.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	224	13	0	0	0	0	42	16	58	239	0
Future Volume (vph)	13	224	13	0	0	0	0	42	16	58	239	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3535	0	0	0	0	0	1794	0	0	1862	0
Flt Permitted		0.997									0.990	
Satd. Flow (perm)	0	3535	0	0	0	0	0	1794	0	0	1862	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)			3	3			4		2	2		4
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.67	0.67	0.67	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	264	0	0	0	0	0	87	0	0	424	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 36.7% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	224	13	0	0	0	0	42	16	58	239	0
Future Vol, veh/h	13	224	13	0	0	0	0	42	16	58	239	0
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.67	0.67	0.67	0.70	0.70	0.70
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	1	1	1
Mvmt Flow	14	236	14	0	0	0	0	63	24	83	341	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	10	8.7	13.7
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	20%
Vol Thru, %	72%	90%	90%	80%
Vol Right, %	28%	0%	10%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	125	125	297
LT Vol	0	13	0	58
Through Vol	42	112	112	239
RT Vol	16	0	13	0
Lane Flow Rate	87	132	132	424
Geometry Grp	2	7	7	2
Degree of Util (X)	0.12	0.211	0.206	0.56
Departure Headway (Hd)	4.979	5.775	5.649	4.755
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	617	630	755
Service Time	3.055	3.558	3.432	2.804
HCM Lane V/C Ratio	0.122	0.214	0.21	0.562
HCM Control Delay	8.7	10.1	9.9	13.7
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.4	0.8	0.8	3.5

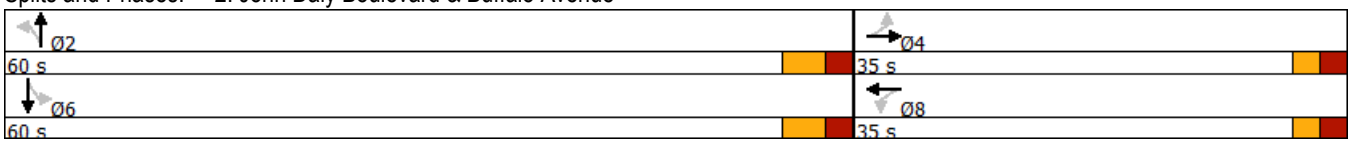
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	19	82	29	7	3	30	220	4	2	1300	13
Future Volume (vph)	2	19	82	29	7	3	30	220	4	2	1300	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1644	0	0	1793	0	0	3507	0	1787	3571	0
Flt Permitted		0.996			0.747			0.780		0.571		
Satd. Flow (perm)	0	1639	0	0	1389	0	0	2752	0	1074	3571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			5			3			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Confl. Peds. (#/hr)	7					7						
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.86	0.86	0.86	0.87	0.87	0.87
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	0	0	78	0	0	296	0	2	1509	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		11.3			11.3			35.9		35.9	35.9	
Actuated g/C Ratio		0.22			0.22			0.70		0.70	0.70	
v/c Ratio		0.32			0.25			0.15		0.00	0.60	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		18.4			21.4			4.2		4.0	7.1	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		18.4			21.4			4.2		4.0	7.1	
LOS		B			C			A		A	A	
Approach Delay		18.4			21.4			4.2			7.1	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		22			17			15		0	123	
Queue Length 95th (ft)		68			32			31		2	205	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		1093			919			2638		1029	3423	
Starvation Cap Reductn		0			0			0		0	130	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.12			0.08			0.11		0.00	0.46	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 51.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 7.9 Intersection LOS: A
Intersection Capacity Utilization 52.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



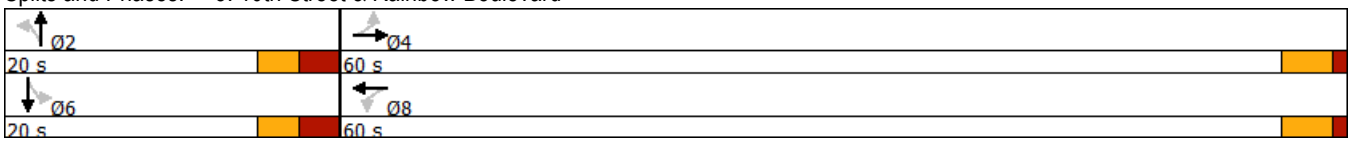
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	189	8	15	47	6	1	2	1	39	15	4
Future Volume (vph)	1	189	8	15	47	6	1	2	1	39	15	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3518	0	1770	3476	0	0	1778	0	0	1785	0
Flt Permitted	0.717			0.618				0.895			0.987	
Satd. Flow (perm)	1336	3518	0	1151	3476	0	0	1610	0	0	1822	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			7			1			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	214	0	16	58	0	0	4	0	0	62	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	23.4	23.4		23.4	23.4			9.1			9.1	
Actuated g/C Ratio	0.77	0.77		0.77	0.77			0.30			0.30	
v/c Ratio	0.00	0.08		0.02	0.02			0.01			0.11	
Control Delay	5.0	3.6		4.9	3.9			7.2			8.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	5.0	3.6		4.9	3.9			7.2			8.2	
LOS	A	A		A	A			A			A	
Approach Delay		3.6			4.1			7.3			8.2	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	0	0		0	0			0			6	
Queue Length 95th (ft)	1	19		6	6			3			16	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)	175			125								
Base Capacity (vph)	1336	3518		1151	3476			805			913	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.00	0.06		0.01	0.02			0.00			0.07	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 30.3
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.11
Intersection Signal Delay: 4.6 Intersection LOS: A
Intersection Capacity Utilization 27.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	242	1	1	62	22	1	1	15	33	1	6
Future Volume (vph)	6	242	1	1	62	22	1	1	15	33	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1861	0	0	1814	0	0	1652	0	0	1702	0
Flt Permitted		0.999			0.999			0.997			0.960	
Satd. Flow (perm)	0	1861	0	0	1814	0	0	1652	0	0	1702	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.50	0.50	0.50	0.54	0.54	0.54
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	277	0	0	92	0	0	34	0	0	74	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.0% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	242	1	1	62	22	1	1	15	33	1	6
Future Vol, veh/h	6	242	1	1	62	22	1	1	15	33	1	6
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	92	92	92	50	50	50	54	54	54
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	5	5	5
Mvmt Flow	7	269	1	1	67	24	2	2	30	61	2	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	92	0	0	271	0	0	373	379	271	382	367	80
Stage 1	-	-	-	-	-	-	285	285	-	82	82	-
Stage 2	-	-	-	-	-	-	88	94	-	300	285	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	3.545	4.045	3.345
Pot Cap-1 Maneuver	1503	-	-	1298	-	-	586	555	770	571	557	972
Stage 1	-	-	-	-	-	-	724	678	-	919	821	-
Stage 2	-	-	-	-	-	-	922	819	-	703	670	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1502	-	-	1297	-	-	575	551	769	544	553	971
Mov Cap-2 Maneuver	-	-	-	-	-	-	575	551	-	544	553	-
Stage 1	-	-	-	-	-	-	720	674	-	913	819	-
Stage 2	-	-	-	-	-	-	908	817	-	670	666	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	10.1	12.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	737	1502	-	-	1297	-	-	583
HCM Lane V/C Ratio	0.046	0.004	-	-	0.001	-	-	0.127
HCM Control Delay (s)	10.1	7.4	0	-	7.8	0	-	12.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.4

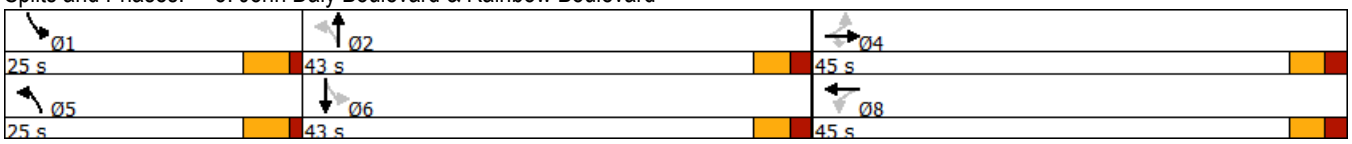
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	180	338	4	35	13	84	138	3	14	972	116
Future Volume (vph)	20	180	338	4	35	13	84	138	3	14	972	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	1787	4913	0	1770	3529	0	1787	3511	0
Flt Permitted	0.720			0.626			0.087			0.655		
Satd. Flow (perm)	1340	3539	1559	1175	4913	0	162	3529	0	1232	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			376		14			2			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		4	4		1	4					4
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	200	376	4	52	0	91	153	0	18	1432	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	11.6	11.6	11.6	11.6	11.6		49.8	47.8		43.1	38.5	
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16		0.70	0.67		0.60	0.54	
v/c Ratio	0.10	0.35	0.66	0.02	0.06		0.29	0.06		0.02	0.76	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	28.2	29.5	9.8	26.8	21.3		6.7	5.3		4.4	18.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.2	29.5	9.8	26.8	21.3		6.7	5.3		4.4	18.1	
LOS	C	C	A	C	C		A	A		A	B	
Approach Delay		17.1			21.7			5.8			17.9	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)	9	43	0	2	5		10	8		2	251	
Queue Length 95th (ft)	28	75	71	10	16		32	32		7	316	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	758	2002	1045	664	2785		567	2358		1014	1892	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.03	0.10	0.36	0.01	0.02		0.16	0.06		0.02	0.76	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 71.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 16.5 Intersection LOS: B
Intersection Capacity Utilization 72.8% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



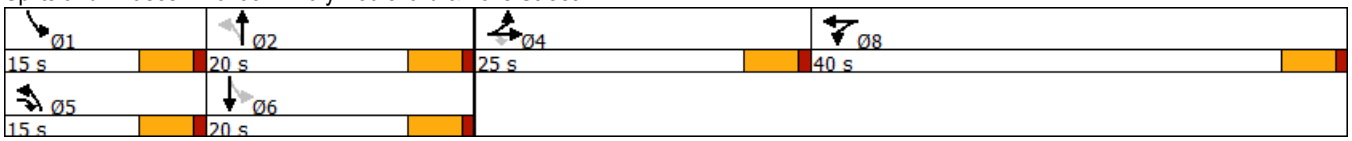
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	100	357	405	4	3	35	131	6	6	339	16
Future Volume (vph)	19	100	357	405	4	3	35	131	6	6	339	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1830	1568	1787	1763	0	1787	3549	0	1787	3547	0
Flt Permitted		0.992		0.950			0.239			0.654		
Satd. Flow (perm)	0	1830	1548	1786	1763	0	449	3549	0	1230	3547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			76		5			4			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.82	0.82	0.82	0.61	0.61	0.61	0.89	0.89	0.89	0.77	0.77	0.77
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	145	435	664	12	0	39	154	0	8	461	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4				2			6		
Detector Phase	4	4	5	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	3.0	6.0	6.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	11.0	11.0	8.0	11.0	11.0		8.0	15.0		8.0	15.0	
Total Split (s)	25.0	25.0	15.0	40.0	40.0		15.0	20.0		15.0	20.0	
Total Split (%)	25.0%	25.0%	15.0%	40.0%	40.0%		15.0%	20.0%		15.0%	20.0%	
Maximum Green (s)	20.0	20.0	10.0	35.0	35.0		10.0	15.0		10.0	15.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)		12.7	22.8	35.1	35.1		29.3	27.5		20.7	14.7	
Actuated g/C Ratio		0.14	0.25	0.38	0.38		0.32	0.30		0.22	0.16	
v/c Ratio		0.58	0.99	0.98	0.02		0.14	0.15		0.03	0.82	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		46.7	61.6	61.0	15.7		24.3	26.0		23.7	50.8	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		46.7	61.6	61.0	15.7		24.3	26.0		23.7	50.8	
LOS		D	E	E	B		C	C		C	D	
Approach Delay		57.9			60.2			25.6			50.3	
Approach LOS		E			E			C			D	
Queue Length 50th (ft)		81	130	380	3		16	32		3	137	
Queue Length 95th (ft)		127	#218	325	10		41	70		12	170	
Internal Link Dist (ft)		529			285			955			697	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		396	440	677	671		287	1056		388	579	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.37	0.99	0.98	0.02		0.14	0.15		0.02	0.80	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 92.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 53.6 Intersection LOS: D
Intersection Capacity Utilization 67.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: John Daly Boulevard & Falls Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	111	412	4	0	0
Future Volume (vph)	1	111	412	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3574	3571	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	3574	3571	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.78	0.78	0.68	0.68	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	143	612	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 14.9% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	25	0	14	20	5	394	89	2	7	11	87
Future Volume (vph)	86	25	0	14	20	5	394	89	2	7	11	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1812	1881	0	1814	0	0	1806	0	0	1665	0
Flt Permitted		0.963			0.982			0.961			0.997	
Satd. Flow (perm)	0	1812	1881	0	1814	0	0	1806	0	0	1665	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	3		1	1		3	2		2	2		2
Peak Hour Factor	0.79	0.79	0.79	0.52	0.52	0.52	0.94	0.94	0.94	0.60	0.60	0.60
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	141	0	0	75	0	0	516	0	0	175	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 52.0% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	16.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	86	25	0	14	20	5	394	89	2	7	11	87
Future Vol, veh/h	86	25	0	14	20	5	394	89	2	7	11	87
Peak Hour Factor	0.79	0.79	0.79	0.52	0.52	0.52	0.94	0.94	0.94	0.60	0.60	0.60
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	109	32	0	27	38	10	419	95	2	12	18	145
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	12	10.1	20.4	9.5
HCM LOS	B	B	C	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	81%	77%	0%	36%	7%
Vol Thru, %	18%	23%	100%	51%	10%
Vol Right, %	0%	0%	0%	13%	83%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	485	111	0	39	105
LT Vol	394	86	0	14	7
Through Vol	89	25	0	20	11
RT Vol	2	0	0	5	87
Lane Flow Rate	516	141	0	75	175
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.727	0.266	0	0.127	0.238
Departure Headway (Hd)	5.072	6.808	6.414	6.109	4.889
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	717	527	0	585	733
Service Time	3.072	4.555	4.161	4.164	2.927
HCM Lane V/C Ratio	0.72	0.268	0	0.128	0.239
HCM Control Delay	20.4	12	9.2	10.1	9.5
HCM Lane LOS	C	B	N	B	A
HCM 95th-tile Q	6.3	1.1	0	0.4	0.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	21	5	3	23	8	5	21	3	12	31	10
Future Volume (vph)	8	21	5	3	23	8	5	21	3	12	31	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1825	0	0	1712	0	0	1820	0	0	1812	0
Flt Permitted		0.989			0.995			0.991			0.989	
Satd. Flow (perm)	0	1825	0	0	1712	0	0	1820	0	0	1812	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Confl. Peds. (#/hr)	1		2	2		1			7	7		
Peak Hour Factor	0.60	0.60	0.60	0.80	0.80	0.80	0.73	0.73	0.73	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	7%	7%	7%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	43	0	0	40	0	0	57	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 16.4% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	21	5	3	23	8	5	21	3	12	31	10
Future Vol, veh/h	8	21	5	3	23	8	5	21	3	12	31	10
Peak Hour Factor	0.60	0.60	0.60	0.80	0.80	0.80	0.73	0.73	0.73	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	7	7	7	2	2	2	1	1	1
Mvmt Flow	13	35	8	4	29	10	7	29	4	13	33	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.4	7.4	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	24%	9%	23%
Vol Thru, %	72%	62%	68%	58%
Vol Right, %	10%	15%	24%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	34	34	53
LT Vol	5	8	3	12
Through Vol	21	21	23	31
RT Vol	3	5	8	10
Lane Flow Rate	40	57	42	57
Geometry Grp	1	1	1	1
Degree of Util (X)	0.045	0.064	0.048	0.064
Departure Headway (Hd)	4.122	4.076	4.106	4.051
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	862	873	865	878
Service Time	2.18	2.13	2.164	2.106
HCM Lane V/C Ratio	0.046	0.065	0.049	0.065
HCM Control Delay	7.4	7.4	7.4	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.2	0.2

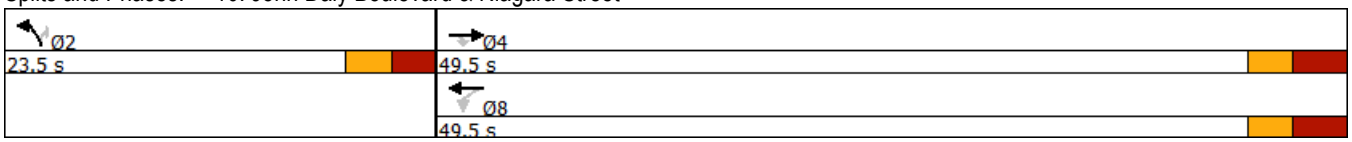
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	68	301	61	147	110	42
Future Volume (vph)	68	301	61	147	110	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1863	1583	0	3524	1770	1583
Flt Permitted				0.858	0.950	
Satd. Flow (perm)	1863	1560	0	3064	1770	1549
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		367				46
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		6	6			1
Peak Hour Factor	0.82	0.82	0.81	0.81	0.91	0.91
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	83	367	0	256	121	46
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	15.5	15.5		15.5	7.6	7.6
Actuated g/C Ratio	0.51	0.51		0.51	0.25	0.25
v/c Ratio	0.09	0.38		0.16	0.27	0.11
Control Delay	6.6	2.4		6.5	10.2	3.9
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	6.6	2.4		6.5	10.2	3.9

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A		A	B	A
Approach Delay	3.2			6.5	8.5	
Approach LOS	A			A	A	
Queue Length 50th (ft)	7	0		12	13	0
Queue Length 95th (ft)	20	19		23	34	11
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1863	1560		3064	1089	970
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.04	0.24		0.08	0.11	0.05

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 30.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.38
Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 36.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	86	0	0	205	13	3	2	85	0	0	0
Future Volume (vph)	23	86	0	0	205	13	3	2	85	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1860	0	0	1866	0	0	1639	0	0	0	0
Flt Permitted		0.989						0.998				
Satd. Flow (perm)	0	1860	0	0	1866	0	0	1639	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	9		8	8		9						
Peak Hour Factor	0.68	0.68	0.68	0.78	0.78	0.78	0.56	0.56	0.56	0.50	0.50	0.50
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	160	0	0	280	0	0	161	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 35.2% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	3.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	86	0	0	205	13	3	2	85	0	0	0
Future Vol, veh/h	23	86	0	0	205	13	3	2	85	0	0	0
Conflicting Peds, #/hr	9	0	8	8	0	9	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	78	78	78	56	56	56	50	50	50
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	34	126	0	0	263	17	5	4	152	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	289	0	-	-	-	0	466	483	126
Stage 1	-	-	-	-	-	-	194	194	-
Stage 2	-	-	-	-	-	-	272	289	-
Critical Hdwy	4.11	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1279	-	0	0	-	-	557	485	927
Stage 1	-	-	0	0	-	-	841	742	-
Stage 2	-	-	0	0	-	-	776	675	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1279	-	-	-	-	-	541	0	927
Mov Cap-2 Maneuver	-	-	-	-	-	-	541	0	-
Stage 1	-	-	-	-	-	-	817	0	-
Stage 2	-	-	-	-	-	-	776	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.7	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	905	1279	-	-	-
HCM Lane V/C Ratio	0.178	0.026	-	-	-
HCM Control Delay (s)	9.8	7.9	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.6	0.1	-	-	-

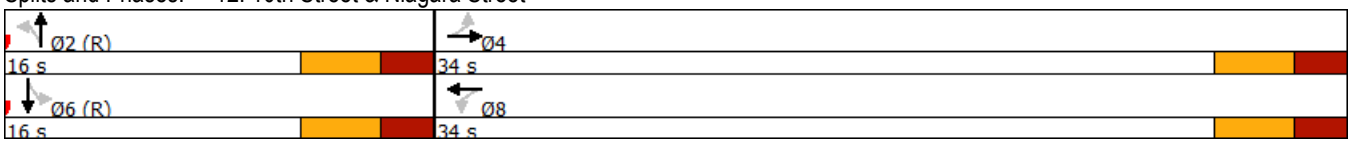
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	151	3	86	64	5	88	92	1	3	18	67
Future Volume (vph)	18	151	3	86	64	5	88	92	1	3	18	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1847	0	0	1802	0	0	1834	0	0	1656	0
Flt Permitted		0.965			0.744			0.817			0.987	
Satd. Flow (perm)	0	1791	0	0	1376	0	0	1534	0	0	1637	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			6			1			86	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	6		5	5		6	1		2	2		1
Peak Hour Factor	0.64	0.64	0.64	0.90	0.90	0.90	0.63	0.63	0.63	0.78	0.78	0.78
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	269	0	0	173	0	0	288	0	0	113	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.26			0.22			0.85			0.26	
Control Delay		5.9			5.7			46.1			8.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.9			5.7			46.1			8.5	
LOS		A			A			D			A	
Approach Delay		5.9			5.7			46.1			8.5	
Approach LOS		A			A			D			A	
Queue Length 50th (ft)		33			20			81			6	
Queue Length 95th (ft)		40			43			96			29	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		1040			800			338			427	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.26			0.22			0.85			0.26	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Pretimed
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 20.0 Intersection LOS: B
Intersection Capacity Utilization 54.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	116	7	0	0	0	0	56	59	30	80	0
Future Volume (vph)	7	116	7	0	0	0	0	56	59	30	80	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3535	0	0	0	0	0	1734	0	0	1855	0
Flt Permitted		0.997									0.986	
Satd. Flow (perm)	0	3535	0	0	0	0	0	1734	0	0	1855	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)			3	3			4		2	2		4
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.67	0.67	0.67	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	0	0	0	0	172	0	0	157	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.9% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	116	7	0	0	0	0	56	59	30	80	0
Future Vol, veh/h	7	116	7	0	0	0	0	56	59	30	80	0
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.67	0.67	0.67	0.70	0.70	0.70
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	1	1	1
Mvmt Flow	7	122	7	0	0	0	0	84	88	43	114	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	8.6	8.2	8.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	11%	0%	27%
Vol Thru, %	49%	89%	89%	73%
Vol Right, %	51%	0%	11%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	65	65	110
LT Vol	0	7	0	30
Through Vol	56	58	58	80
RT Vol	59	0	7	0
Lane Flow Rate	172	68	68	157
Geometry Grp	2	7	7	2
Degree of Util (X)	0.198	0.101	0.098	0.197
Departure Headway (Hd)	4.156	5.291	5.161	4.504
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	865	678	694	798
Service Time	2.174	3.02	2.89	2.522
HCM Lane V/C Ratio	0.199	0.1	0.098	0.197
HCM Control Delay	8.2	8.6	8.5	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.3	0.3	0.7

Lanes, Volumes, Timings
2: John Daly Boulevard & Buffalo Avenue

11/04/2022

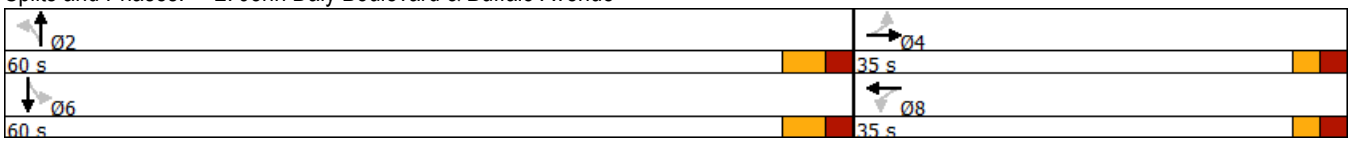
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	15	32	12	17	2	44	487	25	1	272	5
Future Volume (vph)	2	15	32	12	17	2	44	487	25	1	272	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1603	0	0	1679	0	0	3535	0	1752	3494	0
Flt Permitted		0.985			0.856			0.905		0.351		
Satd. Flow (perm)	0	1582	0	0	1464	0	0	3212	0	647	3494	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44			3			8			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Peak Hour Factor	0.72	0.72	0.72	0.78	0.78	0.78	0.70	0.70	0.70	0.84	0.84	0.84
Heavy Vehicles (%)	8%	8%	8%	10%	10%	10%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	40	0	0	795	0	1	330	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		10.1			10.1			24.9		24.9	24.9	
Actuated g/C Ratio		0.28			0.28			0.70		0.70	0.70	
v/c Ratio		0.14			0.10			0.35		0.00	0.13	
Control Delay		6.8			10.6			5.3		5.0	4.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		6.8			10.6			5.3		5.0	4.4	
LOS		A			B			A		A	A	
Approach Delay		6.8			10.6			5.3			4.4	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		4			7			49		0	17	
Queue Length 95th (ft)		16			17			55		1	28	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		1393			1285			3212		647	3494	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.05			0.03			0.25		0.00	0.09	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 35.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.35
Intersection Signal Delay: 5.3 Intersection LOS: A
Intersection Capacity Utilization 43.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



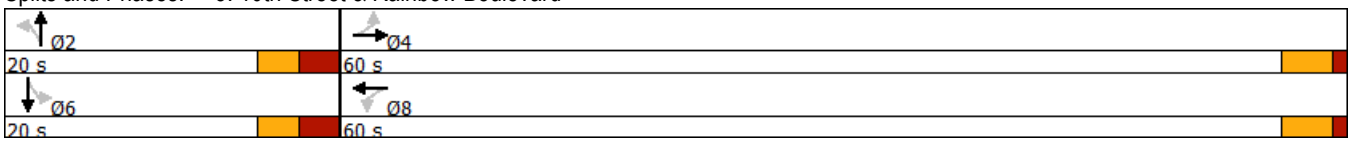
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	40	2	20	80	21	1	12	1	11	9	5
Future Volume (vph)	9	40	2	20	80	21	1	12	1	11	9	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3514	0	1770	3429	0	0	1840	0	0	1776	0
Flt Permitted	0.682			0.726								
Satd. Flow (perm)	1270	3514	0	1352	3429	0	0	1846	0	0	1816	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			23			1			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	45	0	22	110	0	0	15	0	0	27	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	26.4	26.4		26.4	26.4			9.0			9.0	
Actuated g/C Ratio	0.89	0.89		0.89	0.89			0.30			0.30	
v/c Ratio	0.01	0.01		0.02	0.04			0.03			0.05	
Control Delay	3.0	2.5		2.9	2.0			7.9			7.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	3.0	2.5		2.9	2.0			7.9			7.5	
LOS	A	A		A	A			A			A	
Approach Delay		2.6			2.2			7.9			7.5	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	0	0		0	0			1			2	
Queue Length 95th (ft)	5	6		8	10			9			12	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)	175			125								
Base Capacity (vph)	1270	3514		1352	3429			934			920	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.01	0.01		0.02	0.03			0.02			0.03	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 29.7
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.05
Intersection Signal Delay: 3.3 Intersection LOS: A
Intersection Capacity Utilization 23.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	64	3	15	105	52	2	2	3	22	3	14
Future Volume (vph)	12	64	3	15	105	52	2	2	3	22	3	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1631	0	0	1620	0	0	1368	0	0	1641	0
Flt Permitted		0.993			0.996			0.986			0.972	
Satd. Flow (perm)	0	1631	0	0	1620	0	0	1368	0	0	1641	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.50	0.50	0.50	0.88	0.88	0.88
Heavy Vehicles (%)	15%	15%	15%	12%	12%	12%	29%	29%	29%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	0	0	185	0	0	14	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 22.0% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	2.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	64	3	15	105	52	2	2	3	22	3	14
Future Vol, veh/h	12	64	3	15	105	52	2	2	3	22	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	93	93	93	50	50	50	88	88	88
Heavy Vehicles, %	15	15	15	12	12	12	29	29	29	7	7	7
Mvmt Flow	14	76	4	16	113	56	4	4	6	25	3	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	169	0	0	80	0	0	289	307	78	284	281	141
Stage 1	-	-	-	-	-	-	106	106	-	173	173	-
Stage 2	-	-	-	-	-	-	183	201	-	111	108	-
Critical Hdwy	4.25	-	-	4.22	-	-	7.39	6.79	6.49	7.17	6.57	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.39	5.79	-	6.17	5.57	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.39	5.79	-	6.17	5.57	-
Follow-up Hdwy	2.335	-	-	2.308	-	-	3.761	4.261	3.561	3.563	4.063	3.363
Pot Cap-1 Maneuver	1333	-	-	1457	-	-	613	565	913	658	619	894
Stage 1	-	-	-	-	-	-	838	758	-	817	746	-
Stage 2	-	-	-	-	-	-	760	687	-	882	796	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1333	-	-	1457	-	-	589	552	913	639	605	894
Mov Cap-2 Maneuver	-	-	-	-	-	-	589	552	-	639	605	-
Stage 1	-	-	-	-	-	-	829	750	-	808	737	-
Stage 2	-	-	-	-	-	-	734	679	-	862	787	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.7	10.4	10.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	679	1333	-	-	1457	-	-	708
HCM Lane V/C Ratio	0.021	0.011	-	-	0.011	-	-	0.063
HCM Control Delay (s)	10.4	7.7	0	-	7.5	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

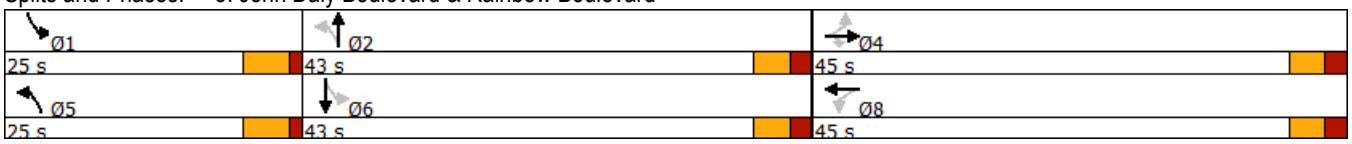
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	31	132	8	55	23	113	371	7	12	138	24
Future Volume (vph)	23	31	132	8	55	23	113	371	7	12	138	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1736	3471	1553	1687	4617	0	1787	3564	0	1752	3428	0
Flt Permitted	0.689			0.733			0.482			0.454		
Satd. Flow (perm)	1258	3471	1533	1301	4617	0	907	3564	0	837	3428	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			148		28			2			18	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.71	0.71	0.71	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	7%	7%	7%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	35	148	10	96	0	159	533	0	12	165	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	10.7	10.7	10.7	10.7	10.7		22.2	22.2		16.1	13.6	
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28		0.58	0.58		0.42	0.35	
v/c Ratio	0.07	0.04	0.28	0.03	0.07		0.22	0.26		0.02	0.14	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	14.4	13.6	5.3	14.0	10.6		5.9	7.7		5.7	13.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.4	13.6	5.3	14.0	10.6		5.9	7.7		5.7	13.7	
LOS	B	B	A	B	B		A	A		A	B	
Approach Delay		7.9			10.9			7.3			13.1	
Approach LOS		A			B			A			B	
Queue Length 50th (ft)	5	3	0	2	4		17	32		1	15	
Queue Length 95th (ft)	20	12	32	10	13		27	67		6	35	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	1197	3304	1466	1238	4397		1040	3259		1017	3136	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.01	0.10	0.01	0.02		0.15	0.16		0.01	0.05	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 38.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.28
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 34.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



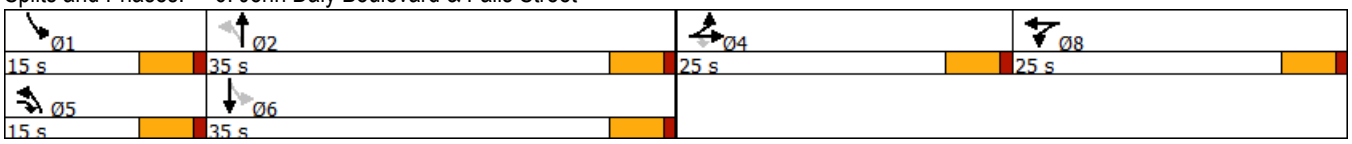
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	7	14	20	11	5	12	339	71	6	143	5
Future Volume (vph)	10	7	14	20	11	5	12	339	71	6	143	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1791	1568	1719	1720	0	1787	3474	0	1752	3485	0
Flt Permitted		0.971		0.950			0.611			0.454		
Satd. Flow (perm)	0	1786	1548	1717	1720	0	1147	3474	0	837	3485	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			76		6			25			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)	3		1	1		3	4		1	1		4
Peak Hour Factor	0.86	0.86	0.86	0.79	0.79	0.79	0.77	0.77	0.77	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	16	25	20	0	16	532	0	7	169	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4				2			6		
Detector Phase	4	4	5	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	3.0	6.0	6.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	11.0	11.0	8.0	11.0	11.0		8.0	15.0		8.0	15.0	
Total Split (s)	25.0	25.0	15.0	25.0	25.0		15.0	35.0		15.0	35.0	
Total Split (%)	25.0%	25.0%	15.0%	25.0%	25.0%		15.0%	35.0%		15.0%	35.0%	
Maximum Green (s)	20.0	20.0	10.0	20.0	20.0		10.0	30.0		10.0	30.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)		6.8	7.4	6.9	6.9		25.6	28.6		24.5	26.4	
Actuated g/C Ratio		0.18	0.20	0.19	0.19		0.69	0.77		0.66	0.71	
v/c Ratio		0.06	0.04	0.08	0.06		0.02	0.20		0.01	0.07	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		18.1	0.2	18.0	15.7		5.7	6.5		6.0	9.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		18.1	0.2	18.0	15.7		5.7	6.5		6.0	9.1	
LOS		B	A	B	B		A	A		A	A	
Approach Delay		10.2			17.0			6.5			8.9	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		2	0	3	2		1	0		0	0	
Queue Length 95th (ft)		22	0	23	18		9	97		6	42	
Internal Link Dist (ft)		529			285			955			697	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		1047	549	1004	1007		992	2983		848	2990	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.02	0.03	0.02	0.02		0.02	0.18		0.01	0.06	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 37.1
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.20
Intersection Signal Delay: 7.7 Intersection LOS: A
Intersection Capacity Utilization 29.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: John Daly Boulevard & Falls Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	93	36	5	0	0
Future Volume (vph)	1	93	36	5	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3539	3252	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	3539	3252	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Confl. Peds. (#/hr)	3			3		
Peak Hour Factor	0.71	0.71	0.69	0.69	0.90	0.90
Heavy Vehicles (%)	2%	2%	9%	9%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	132	59	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 7.6% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	47	28	16	31	20	9	19	14	7	21	5
Future Volume (vph)	8	47	28	16	31	20	9	19	14	7	21	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1850	1583	0	1637	0	0	1744	0	0	1823	0
Flt Permitted		0.993			0.988			0.990			0.989	
Satd. Flow (perm)	0	1850	1583	0	1637	0	0	1744	0	0	1823	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	4					4			3	3		
Peak Hour Factor	0.62	0.62	0.62	0.83	0.83	0.83	0.63	0.63	0.63	0.71	0.71	0.71
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	45	0	80	0	0	66	0	0	47	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.8% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	47	28	16	31	20	9	19	14	7	21	5
Future Vol, veh/h	8	47	28	16	31	20	9	19	14	7	21	5
Peak Hour Factor	0.62	0.62	0.62	0.83	0.83	0.83	0.63	0.63	0.63	0.71	0.71	0.71
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	1	1	1
Mvmt Flow	13	76	45	19	37	24	14	30	22	10	30	7
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	7.9	7.9	7.7	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	21%	15%	0%	24%	21%
Vol Thru, %	45%	85%	0%	46%	64%
Vol Right, %	33%	0%	100%	30%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	55	28	67	33
LT Vol	9	8	0	16	7
Through Vol	19	47	0	31	21
RT Vol	14	0	28	20	5
Lane Flow Rate	67	89	45	81	46
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.08	0.119	0.051	0.1	0.057
Departure Headway (Hd)	4.341	4.846	4.072	4.443	4.438
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	829	730	865	810	811
Service Time	2.349	2.638	1.863	2.451	2.446
HCM Lane V/C Ratio	0.081	0.122	0.052	0.1	0.057
HCM Control Delay	7.7	8.3	7.1	7.9	7.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.2	0.3	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	40	9	2	43	9	14	51	1	8	28	11
Future Volume (vph)	19	40	9	2	43	9	14	51	1	8	28	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1548	0	0	1669	0	0	1736	0	0	1738	0
Flt Permitted		0.987			0.998			0.989			0.992	
Satd. Flow (perm)	0	1548	0	0	1669	0	0	1736	0	0	1738	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Peak Hour Factor	0.72	0.72	0.72	0.78	0.78	0.78	0.78	0.78	0.78	0.85	0.85	0.85
Heavy Vehicles (%)	19%	19%	19%	11%	11%	11%	8%	8%	8%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	70	0	0	84	0	0	55	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 22.1% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	40	9	2	43	9	14	51	1	8	28	11
Future Vol, veh/h	19	40	9	2	43	9	14	51	1	8	28	11
Peak Hour Factor	0.72	0.72	0.72	0.78	0.78	0.78	0.78	0.78	0.78	0.85	0.85	0.85
Heavy Vehicles, %	19	19	19	11	11	11	8	8	8	5	5	5
Mvmt Flow	26	56	13	3	55	12	18	65	1	9	33	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	7.9	8.1	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	28%	4%	17%
Vol Thru, %	77%	59%	80%	60%
Vol Right, %	2%	13%	17%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	68	54	47
LT Vol	14	19	2	8
Through Vol	51	40	43	28
RT Vol	1	9	9	11
Lane Flow Rate	85	94	69	55
Geometry Grp	1	1	1	1
Degree of Util (X)	0.106	0.121	0.085	0.067
Departure Headway (Hd)	4.518	4.601	4.427	4.361
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	796	782	812	824
Service Time	2.529	2.613	2.44	2.374
HCM Lane V/C Ratio	0.107	0.12	0.085	0.067
HCM Control Delay	8.1	8.2	7.9	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0.3	0.2

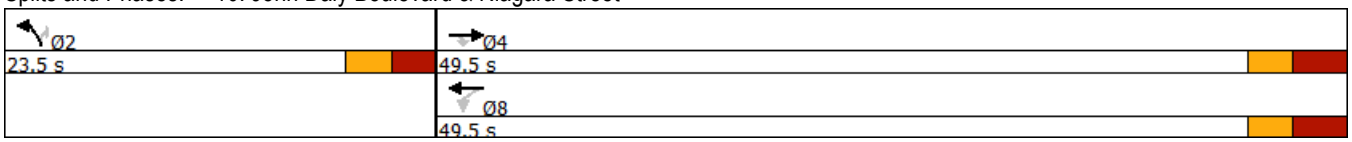
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	56	126	28	70	199	154
Future Volume (vph)	56	126	28	70	199	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1845	1568	0	3390	1770	1583
Flt Permitted				0.863	0.950	
Satd. Flow (perm)	1845	1548	0	2967	1768	1549
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		175				195
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		1	1		1	1
Peak Hour Factor	0.72	0.72	0.80	0.80	0.79	0.79
Heavy Vehicles (%)	3%	3%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	175	0	123	252	195
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	9.6	9.6		9.6	9.8	9.8
Actuated g/C Ratio	0.32	0.32		0.32	0.33	0.33
v/c Ratio	0.13	0.29		0.13	0.44	0.31
Control Delay	8.8	3.5		8.4	10.3	2.9
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	8.8	3.5		8.4	10.3	2.9

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A		A	B	A
Approach Delay	5.1			8.4	7.1	
Approach LOS	A			A	A	
Queue Length 50th (ft)	8	0		6	29	0
Queue Length 95th (ft)	21	13		16	50	14
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1845	1548		2967	1101	1037
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.04	0.11		0.04	0.23	0.19

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 29.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 6.7 Intersection LOS: A
Intersection Capacity Utilization 28.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	173	0	0	95	7	3	3	4	0	0	0
Future Volume (vph)	37	173	0	0	95	7	3	3	4	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1864	0	0	1793	0	0	1753	0	0	0	0
Flt Permitted		0.991						0.985				
Satd. Flow (perm)	0	1864	0	0	1793	0	0	1753	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	14		7	7		14	1		1	1		1
Peak Hour Factor	0.83	0.83	0.83	0.67	0.67	0.67	0.50	0.50	0.50	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	5%	5%	5%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	253	0	0	152	0	0	20	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 28.1% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	1.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	173	0	0	95	7	3	3	4	0	0	0
Future Vol, veh/h	37	173	0	0	95	7	3	3	4	0	0	0
Conflicting Peds, #/hr	14	0	7	7	0	14	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	67	67	67	50	50	50	90	90	90
Heavy Vehicles, %	1	1	1	5	5	5	1	1	1	2	2	2
Mvmt Flow	45	208	0	0	142	10	6	6	8	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	166	0	-	-	-	0	446	464	209
Stage 1	-	-	-	-	-	-	298	298	-
Stage 2	-	-	-	-	-	-	148	166	-
Critical Hdwy	4.11	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1418	-	0	0	-	-	572	497	834
Stage 1	-	-	0	0	-	-	755	669	-
Stage 2	-	-	0	0	-	-	882	763	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1418	-	-	-	-	-	551	0	833
Mov Cap-2 Maneuver	-	-	-	-	-	-	551	0	-
Stage 1	-	-	-	-	-	-	728	0	-
Stage 2	-	-	-	-	-	-	881	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	683	1418	-	-	-
HCM Lane V/C Ratio	0.029	0.031	-	-	-
HCM Control Delay (s)	10.4	7.6	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-

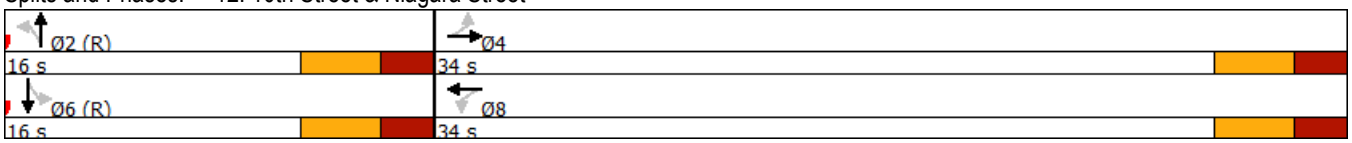
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	72	15	5	67	2	3	42	3	4	32	32
Future Volume (vph)	90	72	15	5	67	2	3	42	3	4	32	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1792	0	0	1796	0	0	1756	0	0	1740	0
Flt Permitted		0.817			0.985			0.982			0.983	
Satd. Flow (perm)	0	1500	0	0	1774	0	0	1730	0	0	1716	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			3			4			47	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	3		6	6		3						
Peak Hour Factor	0.83	0.83	0.83	0.67	0.67	0.67	0.73	0.73	0.73	0.68	0.68	0.68
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	7%	7%	7%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	213	0	0	110	0	0	66	0	0	100	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.24			0.11			0.17			0.24	
Control Delay		5.6			4.9			16.5			11.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.6			4.9			16.5			11.7	
LOS		A			A			B			B	
Approach Delay		5.6			4.9			16.5			11.7	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		24			12			15			13	
Queue Length 95th (ft)		44			20			31			29	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		876			1030			383			414	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.24			0.11			0.17			0.24	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.24
Intersection Signal Delay: 8.2 Intersection LOS: A
Intersection Capacity Utilization 41.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	72	10	0	0	0	0	108	25	16	59	0
Future Volume (vph)	15	72	10	0	0	0	0	108	25	16	59	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3392	0	0	0	0	0	1816	0	0	1775	0
Flt Permitted		0.992									0.990	
Satd. Flow (perm)	0	3392	0	0	0	0	0	1816	0	0	1775	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)	1		6	6		1	12		4	4		12
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.73	0.73	0.73	0.75	0.75	0.75
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	6%	6%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	0	0	0	0	182	0	0	100	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.2% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	72	10	0	0	0	0	108	25	16	59	0
Future Vol, veh/h	15	72	10	0	0	0	0	108	25	16	59	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.73	0.73	0.73	0.75	0.75	0.75
Heavy Vehicles, %	4	4	4	2	2	2	2	2	2	6	6	6
Mvmt Flow	17	80	11	0	0	0	0	148	34	21	79	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	8.4	8.4	8.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	29%	0%	21%
Vol Thru, %	81%	71%	78%	79%
Vol Right, %	19%	0%	22%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	51	46	75
LT Vol	0	15	0	16
Through Vol	108	36	36	59
RT Vol	25	0	10	0
Lane Flow Rate	182	57	51	100
Geometry Grp	2	7	7	2
Degree of Util (X)	0.213	0.084	0.072	0.125
Departure Headway (Hd)	4.215	5.341	5.04	4.515
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	854	673	712	796
Service Time	2.226	3.061	2.761	2.529
HCM Lane V/C Ratio	0.213	0.085	0.072	0.126
HCM Control Delay	8.4	8.6	8.2	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.3	0.2	0.4

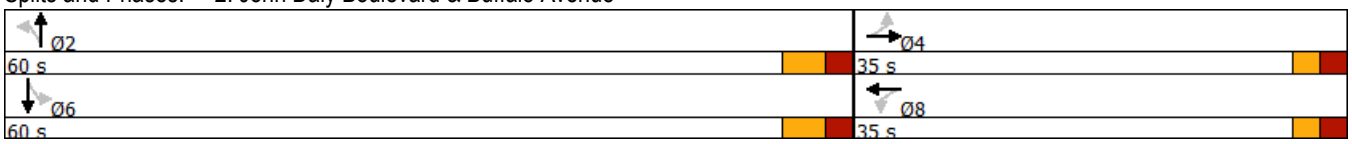
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	37	157	56	14	5	58	437	8	3	732	25
Future Volume (vph)	4	37	157	56	14	5	58	437	8	3	732	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1646	0	0	1795	0	0	3511	0	1787	3556	0
Flt Permitted		0.994			0.706			0.794		0.432		
Satd. Flow (perm)	0	1637	0	0	1315	0	0	2805	0	813	3556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		162			4			3			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Confl. Peds. (#/hr)	7					7						
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.86	0.86	0.86	0.87	0.87	0.87
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	245	0	0	150	0	0	584	0	3	870	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		12.3			12.3			17.4		17.4	17.4	
Actuated g/C Ratio		0.32			0.32			0.45		0.45	0.45	
v/c Ratio		0.39			0.36			0.47		0.01	0.55	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		7.0			14.4			9.0		6.3	9.4	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		7.0			14.4			9.0		6.3	9.4	
LOS		A			B			A		A	A	
Approach Delay		7.0			14.4			9.0			9.4	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		12			22			37		0	58	
Queue Length 95th (ft)		48			36			81		3	119	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		1371			1078			2805		813	3556	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.18			0.14			0.21		0.00	0.24	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 39
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 9.3 Intersection LOS: A
Intersection Capacity Utilization 70.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



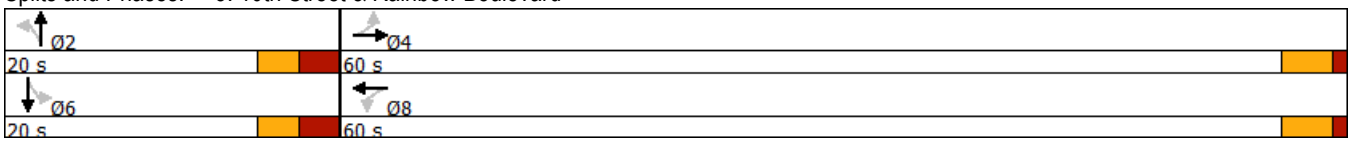
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	102	15	29	90	18	2	4	1	24	30	13
Future Volume (vph)	3	102	15	29	90	18	2	4	1	24	30	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3472	0	1770	3451	0	0	1802	0	0	1783	0
Flt Permitted	0.677			0.671				0.878			0.879	
Satd. Flow (perm)	1261	3472	0	1250	3451	0	0	1604	0	0	1595	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			20			1			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	127	0	32	118	0	0	7	0	0	73	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	21.8	21.8		21.8	21.8			9.2			9.2	
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.29			0.29	
v/c Ratio	0.00	0.05		0.04	0.05			0.02			0.16	
Control Delay	5.3	4.5		5.5	4.3			7.5			8.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	5.3	4.5		5.5	4.3			7.5			8.4	
LOS	A	A		A	A			A			A	
Approach Delay		4.5			4.6			7.5			8.4	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	0	5		3	4			1			12	
Queue Length 95th (ft)	2	12		10	11			4			18	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)	175			125								
Base Capacity (vph)	1261	3472		1250	3451			765			767	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.00	0.04		0.03	0.03			0.01			0.10	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 32.2
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.16
Intersection Signal Delay: 5.4 Intersection LOS: A
Intersection Capacity Utilization 23.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	153	2	2	125	44	2	2	28	69	1	11
Future Volume (vph)	12	153	2	2	125	44	2	2	28	69	1	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1853	0	0	1814	0	0	1654	0	0	1704	0
Flt Permitted		0.996			0.999			0.997			0.959	
Satd. Flow (perm)	0	1853	0	0	1814	0	0	1654	0	0	1704	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.50	0.50	0.50	0.54	0.54	0.54
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	185	0	0	186	0	0	64	0	0	150	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 33.5% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	4.8											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	153	2	2	125	44	2	2	28	69	1	11
Future Vol, veh/h	12	153	2	2	125	44	2	2	28	69	1	11
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	92	92	92	50	50	50	54	54	54
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	5	5	5
Mvmt Flow	13	170	2	2	136	48	4	4	56	128	2	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	185	0	0	173	0	0	373	387	172	392	364	161
Stage 1	-	-	-	-	-	-	198	198	-	165	165	-
Stage 2	-	-	-	-	-	-	175	189	-	227	199	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	3.545	4.045	3.345
Pot Cap-1 Maneuver	1390	-	-	1410	-	-	586	549	874	562	559	876
Stage 1	-	-	-	-	-	-	806	739	-	830	756	-
Stage 2	-	-	-	-	-	-	829	746	-	769	731	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1389	-	-	1409	-	-	565	541	873	518	551	875
Mov Cap-2 Maneuver	-	-	-	-	-	-	565	541	-	518	551	-
Stage 1	-	-	-	-	-	-	797	731	-	821	754	-
Stage 2	-	-	-	-	-	-	806	744	-	709	723	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	9.8	14
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	814	1389	-	-	1409	-	-	549
HCM Lane V/C Ratio	0.079	0.01	-	-	0.002	-	-	0.273
HCM Control Delay (s)	9.8	7.6	0	-	7.6	0	-	14
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	1.1

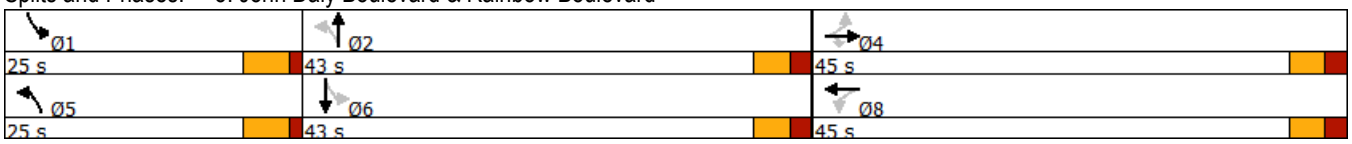
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	85	323	8	67	30	161	280	5	29	430	64
Future Volume (vph)	41	85	323	8	67	30	161	280	5	29	430	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	1787	4875	0	1770	3532	0	1787	3499	0
Flt Permitted	0.682			0.693			0.258			0.564		
Satd. Flow (perm)	1269	3539	1559	1300	4875	0	480	3532	0	1061	3499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			359		33			2			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		4	4		1	4					4
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	94	359	9	106	0	175	309	0	38	650	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	11.1	11.1	11.1	11.1	11.1		31.9	27.9		22.0	15.8	
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21		0.60	0.52		0.41	0.30	
v/c Ratio	0.17	0.13	0.59	0.03	0.10		0.32	0.17		0.07	0.62	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	21.5	19.6	7.5	19.9	14.5		6.3	8.4		5.9	19.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.5	19.6	7.5	19.9	14.5		6.3	8.4		5.9	19.1	
LOS	C	B	A	B	B		A	A		A	B	
Approach Delay		11.0			14.9			7.6			18.3	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)	12	12	0	2	6		19	17		4	85	
Queue Length 95th (ft)	41	34	62	14	21		50	62		12	131	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	974	2717	1280	998	3751		783	2577		912	2556	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.03	0.28	0.01	0.03		0.22	0.12		0.04	0.25	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 53.3
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 13.2 Intersection LOS: B
Intersection Capacity Utilization 55.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



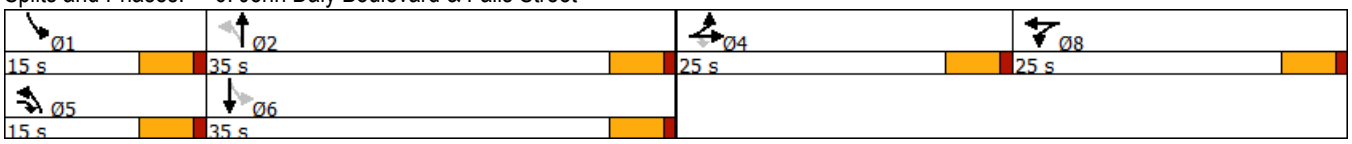
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	29	33	62	7	11	68	262	27	13	433	31
Future Volume (vph)	37	29	33	62	7	11	68	262	27	13	433	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1795	1568	1787	1706	0	1787	3524	0	1787	3535	0
Flt Permitted		0.973		0.950			0.307			0.556		
Satd. Flow (perm)	0	1795	1548	1785	1706	0	577	3524	0	1046	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			76		18			11			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.82	0.82	0.82	0.61	0.61	0.61	0.89	0.89	0.89	0.77	0.77	0.77
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	40	102	29	0	76	324	0	17	602	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4				2			6		
Detector Phase	4	4	5	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	3.0	6.0	6.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	11.0	11.0	8.0	11.0	11.0		8.0	15.0		8.0	15.0	
Total Split (s)	25.0	25.0	15.0	25.0	25.0		15.0	35.0		15.0	35.0	
Total Split (%)	25.0%	25.0%	15.0%	25.0%	25.0%		15.0%	35.0%		15.0%	35.0%	
Maximum Green (s)	20.0	20.0	10.0	20.0	20.0		10.0	30.0		10.0	30.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)		9.2	15.3	9.9	9.9		32.8	33.3		27.7	25.2	
Actuated g/C Ratio		0.15	0.25	0.16	0.16		0.55	0.55		0.46	0.42	
v/c Ratio		0.29	0.09	0.35	0.10		0.16	0.17		0.03	0.41	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		30.7	1.3	30.6	17.6		10.9	12.1		10.5	20.5	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		30.7	1.3	30.6	17.6		10.9	12.1		10.5	20.5	
LOS		C	A	C	B		B	B		B	C	
Approach Delay		20.9			27.7			11.8			20.2	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)		28	0	36	4		15	33		3	105	
Queue Length 95th (ft)		69	3	60	16		41	90		12	150	
Internal Link Dist (ft)		529			285			955			697	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		672	520	668	649		541	2026		668	1987	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.12	0.08	0.15	0.04		0.14	0.16		0.03	0.30	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 60.1
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.41
Intersection Signal Delay: 18.4 Intersection LOS: B
Intersection Capacity Utilization 39.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: John Daly Boulevard & Falls Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	68	80	12	0	0
Future Volume (vph)	2	68	80	12	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3567	3503	0	0	0
Flt Permitted		0.998				
Satd. Flow (perm)	0	3567	3503	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.78	0.78	0.68	0.68	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	90	136	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 7.0% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	48	18	30	38	10	50	17	13	14	28	11
Future Volume (vph)	2	48	18	30	38	10	50	17	13	14	28	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1877	1599	0	1814	0	0	1785	0	0	1805	0
Flt Permitted		0.998			0.981			0.970			0.987	
Satd. Flow (perm)	0	1877	1599	0	1814	0	0	1785	0	0	1805	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	3		1	1		3	2		2	2		2
Peak Hour Factor	0.79	0.79	0.79	0.52	0.52	0.52	0.94	0.94	0.94	0.60	0.60	0.60
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	23	0	150	0	0	85	0	0	88	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.5% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	48	18	30	38	10	50	17	13	14	28	11
Future Vol, veh/h	2	48	18	30	38	10	50	17	13	14	28	11
Peak Hour Factor	0.79	0.79	0.79	0.52	0.52	0.52	0.94	0.94	0.94	0.60	0.60	0.60
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	61	23	58	73	19	53	18	14	23	47	18
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8	8.6	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	62%	4%	0%	38%	26%
Vol Thru, %	21%	96%	0%	49%	53%
Vol Right, %	16%	0%	100%	13%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	50	18	78	53
LT Vol	50	2	0	30	14
Through Vol	17	48	0	38	28
RT Vol	13	0	18	10	11
Lane Flow Rate	85	63	23	150	88
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.109	0.089	0.028	0.189	0.111
Departure Headway (Hd)	4.606	5.07	4.347	4.527	4.505
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	780	708	824	794	797
Service Time	2.628	2.795	2.071	2.55	2.526
HCM Lane V/C Ratio	0.109	0.089	0.028	0.189	0.11
HCM Control Delay	8.2	8.3	7.2	8.6	8.1
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.4	0.3	0.1	0.7	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	41	15	6	44	16	12	41	5	24	60	22
Future Volume (vph)	20	41	15	6	44	16	12	41	5	24	60	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1807	0	0	1709	0	0	1822	0	0	1808	0
Flt Permitted		0.987			0.995			0.990			0.989	
Satd. Flow (perm)	0	1807	0	0	1709	0	0	1822	0	0	1808	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Confl. Peds. (#/hr)	1		2	2		1			7	7		
Peak Hour Factor	0.60	0.60	0.60	0.80	0.80	0.80	0.73	0.73	0.73	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	7%	7%	7%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	0	0	83	0	0	79	0	0	115	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.8% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	41	15	6	44	16	12	41	5	24	60	22
Future Vol, veh/h	20	41	15	6	44	16	12	41	5	24	60	22
Peak Hour Factor	0.60	0.60	0.60	0.80	0.80	0.80	0.73	0.73	0.73	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	7	7	7	2	2	2	1	1	1
Mvmt Flow	33	68	25	8	55	20	16	56	7	26	65	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8	8.1	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	26%	9%	23%
Vol Thru, %	71%	54%	67%	57%
Vol Right, %	9%	20%	24%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	76	66	106
LT Vol	12	20	6	24
Through Vol	41	41	44	60
RT Vol	5	15	16	22
Lane Flow Rate	79	127	82	114
Geometry Grp	1	1	1	1
Degree of Util (X)	0.1	0.154	0.103	0.14
Departure Headway (Hd)	4.531	4.39	4.479	4.408
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	792	818	801	815
Service Time	2.551	2.41	2.499	2.426
HCM Lane V/C Ratio	0.1	0.155	0.102	0.14
HCM Control Delay	8.1	8.2	8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3	0.5

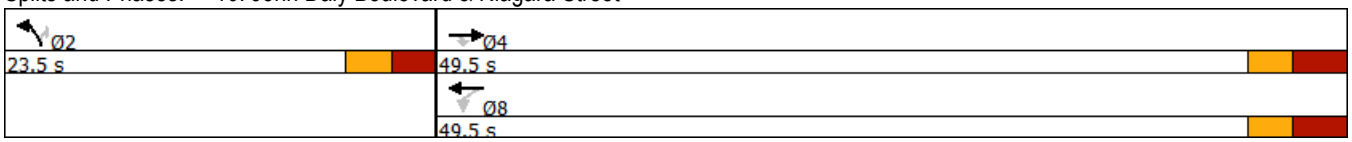
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	134	361	117	129	228	81
Future Volume (vph)	134	361	117	129	228	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1863	1583	0	3492	1770	1583
Flt Permitted				0.765	0.950	
Satd. Flow (perm)	1863	1560	0	2731	1770	1549
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		440				89
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		6	6			1
Peak Hour Factor	0.82	0.82	0.81	0.81	0.91	0.91
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	163	440	0	303	251	89
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	12.0	12.0		12.0	10.1	10.1
Actuated g/C Ratio	0.37	0.37		0.37	0.31	0.31
v/c Ratio	0.24	0.52		0.30	0.46	0.17
Control Delay	9.1	3.8		9.0	12.0	3.5
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	9.1	3.8		9.0	12.0	3.5

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A		A	B	A
Approach Delay	5.2			9.0	9.8	
Approach LOS	A			A	A	
Queue Length 50th (ft)	17	0		17	29	0
Queue Length 95th (ft)	47	29		39	81	18
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1863	1560		2731	1016	927
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.09	0.28		0.11	0.25	0.10

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 32.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 7.4 Intersection LOS: A
Intersection Capacity Utilization 41.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	170	0	0	236	25	10	4	7	0	0	0
Future Volume (vph)	45	170	0	0	236	25	10	4	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1862	0	0	1857	0	0	1753	0	0	0	0
Flt Permitted		0.990						0.977				
Satd. Flow (perm)	0	1862	0	0	1857	0	0	1753	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	9		8	8		9						
Peak Hour Factor	0.68	0.68	0.68	0.78	0.78	0.78	0.56	0.56	0.56	0.50	0.50	0.50
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	316	0	0	335	0	0	38	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 39.2% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	1.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	170	0	0	236	25	10	4	7	0	0	0
Future Vol, veh/h	45	170	0	0	236	25	10	4	7	0	0	0
Conflicting Peds, #/hr	9	0	8	8	0	9	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	78	78	78	56	56	56	50	50	50
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	66	250	0	0	303	32	18	7	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	344	0	-	-	-	0	701	726	250
Stage 1	-	-	-	-	-	-	382	382	-
Stage 2	-	-	-	-	-	-	319	344	-
Critical Hdwy	4.11	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1221	-	0	0	-	-	406	352	791
Stage 1	-	-	0	0	-	-	692	614	-
Stage 2	-	-	0	0	-	-	739	638	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1221	-	-	-	-	-	380	0	791
Mov Cap-2 Maneuver	-	-	-	-	-	-	380	0	-
Stage 1	-	-	-	-	-	-	648	0	-
Stage 2	-	-	-	-	-	-	739	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.7	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	483	1221	-	-	-
HCM Lane V/C Ratio	0.078	0.054	-	-	-
HCM Control Delay (s)	13.1	8.1	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0.2	-	-	-

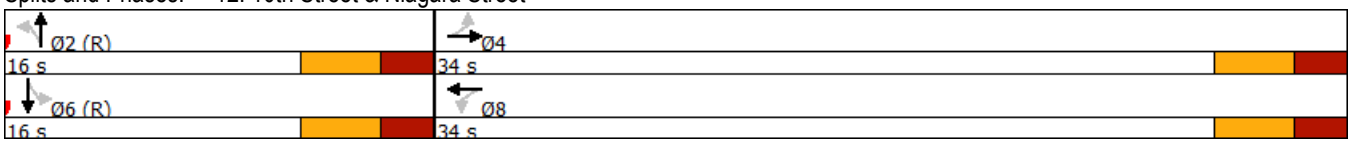
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	134	9	8	124	10	10	18	2	5	37	128
Future Volume (vph)	35	134	9	8	124	10	10	18	2	5	37	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1829	0	0	1837	0	0	1833	0	0	1659	0
Flt Permitted		0.924			0.983			0.890			0.992	
Satd. Flow (perm)	0	1706	0	0	1811	0	0	1658	0	0	1647	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			11			3			164	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	6		5	5		6	1		2	2		1
Peak Hour Factor	0.64	0.64	0.64	0.90	0.90	0.90	0.63	0.63	0.63	0.78	0.78	0.78
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	278	0	0	158	0	0	48	0	0	217	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.28			0.15			0.13			0.44	
Control Delay		6.0			4.9			16.1			9.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.0			4.9			16.1			9.0	
LOS		A			A			B			A	
Approach Delay		6.0			4.9			16.1			9.0	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		33			17			11			13	
Queue Length 95th (ft)		41			36			21			42	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		993			1055			367			490	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.28			0.15			0.13			0.44	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 7.4 Intersection LOS: A
Intersection Capacity Utilization 42.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	224	13	0	0	0	0	44	19	58	156	0
Future Volume (vph)	13	224	13	0	0	0	0	44	19	58	156	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3535	0	0	0	0	0	1788	0	0	1857	0
Flt Permitted		0.997									0.987	
Satd. Flow (perm)	0	3535	0	0	0	0	0	1788	0	0	1857	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)			3	3			4		2	2		4
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.67	0.67	0.67	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	264	0	0	0	0	0	94	0	0	306	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.4% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	224	13	0	0	0	0	44	19	58	156	0
Future Vol, veh/h	13	224	13	0	0	0	0	44	19	58	156	0
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.67	0.67	0.67	0.70	0.70	0.70
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	1	1	1
Mvmt Flow	14	236	14	0	0	0	0	66	28	83	223	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.6	8.5	11
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	27%
Vol Thru, %	70%	90%	90%	73%
Vol Right, %	30%	0%	10%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	63	125	125	214
LT Vol	0	13	0	58
Through Vol	44	112	112	156
RT Vol	19	0	13	0
Lane Flow Rate	94	132	132	306
Geometry Grp	2	7	7	2
Degree of Util (X)	0.125	0.201	0.197	0.404
Departure Headway (Hd)	4.795	5.513	5.387	4.754
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	647	663	755
Service Time	2.852	3.273	3.147	2.794
HCM Lane V/C Ratio	0.126	0.204	0.199	0.405
HCM Control Delay	8.5	9.7	9.5	11
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.4	0.7	0.7	2

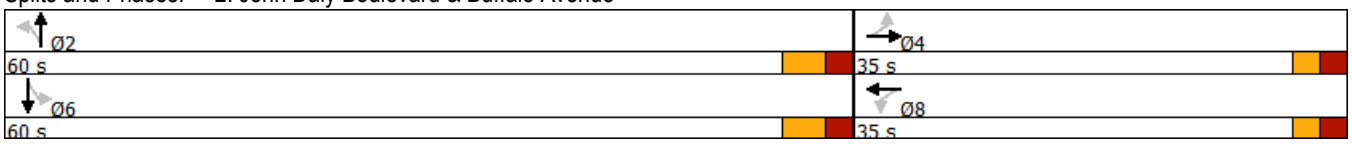
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	21	117	24	23	2	97	491	12	4	656	10
Future Volume (vph)	3	21	117	24	23	2	97	491	12	4	656	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1651	0	0	1708	0	0	3535	0	1787	3566	0
Flt Permitted		0.995			0.825			0.749		0.415		
Satd. Flow (perm)	0	1644	0	0	1444	0	0	2669	0	781	3566	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		144			2			4			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Confl. Peds. (#/hr)			1	1			4					4
Peak Hour Factor	0.81	0.81	0.81	0.82	0.82	0.82	0.96	0.96	0.96	0.86	0.86	0.86
Heavy Vehicles (%)	1%	1%	1%	8%	8%	8%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	174	0	0	59	0	0	625	0	5	775	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		10.2			10.2			17.0		17.0	17.0	
Actuated g/C Ratio		0.28			0.28			0.47		0.47	0.47	
v/c Ratio		0.31			0.15			0.50		0.01	0.46	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		5.3			10.5			8.3		5.2	7.6	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		5.3			10.5			8.3		5.2	7.6	
LOS		A			B			A		A	A	
Approach Delay		5.3			10.5			8.3			7.6	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		4			7			38		1	46	
Queue Length 95th (ft)		28			25			65		3	70	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		1445			1253			2669		781	3566	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.12			0.05			0.23		0.01	0.22	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 36.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 7.7 Intersection LOS: A
Intersection Capacity Utilization 63.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



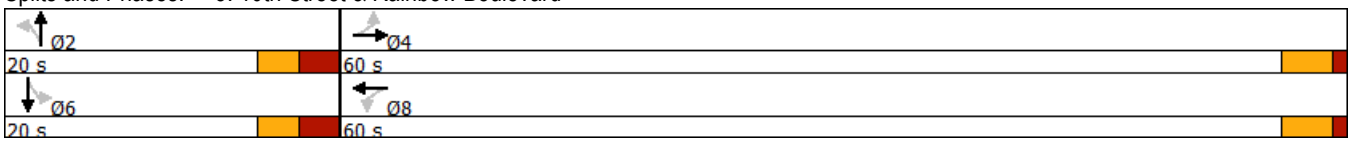
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	86	8	36	139	15	2	3	0	8	6	5
Future Volume (vph)	4	86	8	36	139	15	2	3	0	8	6	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3493	0	1770	3490	0	0	1825	0	0	1765	0
Flt Permitted	0.646			0.688								
Satd. Flow (perm)	1203	3493	0	1282	3490	0	0	1863	0	0	1803	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			16						5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	102	0	39	167	0	0	5	0	0	21	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	28.8	28.8		28.8	28.8			9.2			9.2	
Actuated g/C Ratio	0.91	0.91		0.91	0.91			0.29			0.29	
v/c Ratio	0.00	0.03		0.03	0.05			0.01			0.04	
Control Delay	2.5	1.7		2.2	1.6			10.6			9.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	2.5	1.7		2.2	1.6			10.6			9.5	
LOS	A	A		A	A			B			A	
Approach Delay		1.7			1.7			10.6			9.5	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)	0	0		0	0			1			2	
Queue Length 95th (ft)	3	10		11	15			7			15	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)	175			125								
Base Capacity (vph)	1203	3493		1282	3490			905			879	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.00	0.03		0.03	0.05			0.01			0.02	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 31.5
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.05
Intersection Signal Delay: 2.3 Intersection LOS: A
Intersection Capacity Utilization 23.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	121	0	3	181	32	0	3	6	29	0	9
Future Volume (vph)	7	121	0	3	181	32	0	3	6	29	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1770	0	0	1806	0	0	1530	0	0	1754	0
Flt Permitted		0.997			0.999						0.963	
Satd. Flow (perm)	0	1770	0	0	1806	0	0	1530	0	0	1754	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.79	0.79	0.79	0.89	0.89	0.89	0.50	0.50	0.50	0.69	0.69	0.69
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	13%	13%	13%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	162	0	0	242	0	0	18	0	0	55	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.9% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	1.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	121	0	3	181	32	0	3	6	29	0	9
Future Vol, veh/h	7	121	0	3	181	32	0	3	6	29	0	9
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	89	89	89	50	50	50	69	69	69
Heavy Vehicles, %	7	7	7	3	3	3	13	13	13	1	1	1
Mvmt Flow	9	153	0	3	203	36	0	6	12	42	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	240	0	0	154	0	0	406	418	154	408	400	222
Stage 1	-	-	-	-	-	-	172	172	-	228	228	-
Stage 2	-	-	-	-	-	-	234	246	-	180	172	-
Critical Hdwy	4.17	-	-	4.13	-	-	7.23	6.63	6.33	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.23	5.63	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.23	5.63	-	6.11	5.51	-
Follow-up Hdwy	2.263	-	-	2.227	-	-	3.617	4.117	3.417	3.509	4.009	3.309
Pot Cap-1 Maneuver	1298	-	-	1420	-	-	536	509	864	555	540	820
Stage 1	-	-	-	-	-	-	805	736	-	777	717	-
Stage 2	-	-	-	-	-	-	745	683	-	824	758	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1297	-	-	1419	-	-	523	503	863	538	534	819
Mov Cap-2 Maneuver	-	-	-	-	-	-	523	503	-	538	534	-
Stage 1	-	-	-	-	-	-	798	729	-	770	715	-
Stage 2	-	-	-	-	-	-	732	681	-	799	751	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	10.3	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	697	1297	-	-	1419	-	-	586
HCM Lane V/C Ratio	0.026	0.007	-	-	0.002	-	-	0.094
HCM Control Delay (s)	10.3	7.8	0	-	7.5	0	-	11.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

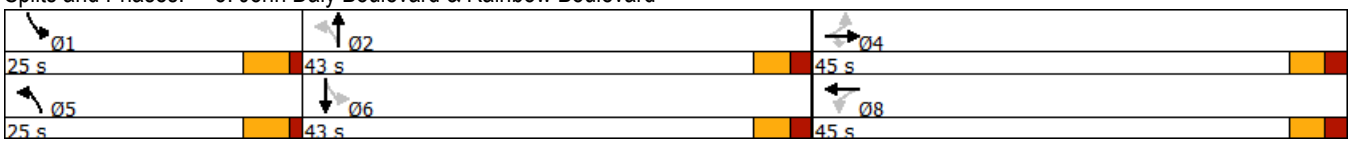
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	78	296	9	100	37	155	339	2	18	365	42
Future Volume (vph)	40	78	296	9	100	37	155	339	2	18	365	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	1736	4766	0	1787	3571	0	1787	3515	0
Flt Permitted	0.648			0.694			0.376			0.527		
Satd. Flow (perm)	1206	3539	1563	1267	4766	0	707	3571	0	991	3515	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			352		43						12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		1	1		1	3					3
Peak Hour Factor	0.84	0.84	0.84	0.87	0.87	0.87	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	93	352	10	158	0	172	379	0	19	428	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	10.9	10.9	10.9	10.9	10.9		26.7	24.8		17.3	11.3	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.56	0.52		0.36	0.24	
v/c Ratio	0.18	0.12	0.56	0.03	0.14		0.27	0.20		0.04	0.51	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	18.3	16.4	6.6	16.7	12.6		6.3	7.6		6.2	18.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.3	16.4	6.6	16.7	12.6		6.3	7.6		6.2	18.0	
LOS	B	B	A	B	B		A	A		A	B	
Approach Delay		9.6			12.9			7.2			17.5	
Approach LOS		A			B			A			B	
Queue Length 50th (ft)	10	10	0	2	9		19	21		2	50	
Queue Length 95th (ft)	34	26	43	12	24		47	73		9	100	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	1026	3012	1382	1078	4063		855	2887		893	2844	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.03	0.25	0.01	0.04		0.20	0.13		0.02	0.15	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 47.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 11.3 Intersection LOS: B
Intersection Capacity Utilization 53.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



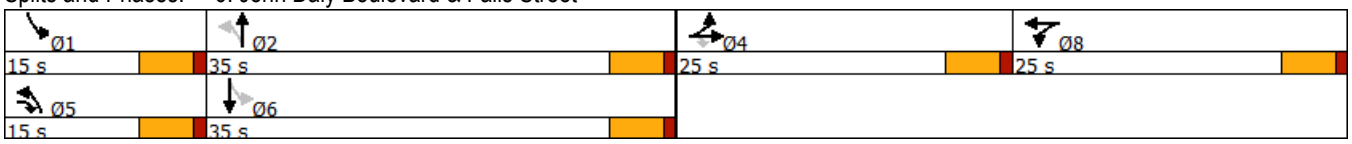
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	10	79	30	14	8	107	282	33	11	321	12
Future Volume (vph)	13	10	79	30	14	8	107	282	33	11	321	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1830	1599	1787	1780	0	1787	3517	0	1787	3555	0
Flt Permitted		0.973		0.950			0.433			0.536		
Satd. Flow (perm)	0	1830	1578	1785	1780	0	813	3517	0	1008	3555	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			94		10			13			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)			1	1			3					3
Peak Hour Factor	0.84	0.84	0.84	0.80	0.80	0.80	0.87	0.87	0.87	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	94	38	28	0	123	362	0	11	343	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4				2			6		
Detector Phase	4	4	5	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	3.0	6.0	6.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	11.0	11.0	8.0	11.0	11.0		8.0	15.0		8.0	15.0	
Total Split (s)	25.0	25.0	15.0	25.0	25.0		15.0	35.0		15.0	35.0	
Total Split (%)	25.0%	25.0%	15.0%	25.0%	25.0%		15.0%	35.0%		15.0%	35.0%	
Maximum Green (s)	20.0	20.0	10.0	20.0	20.0		10.0	30.0		10.0	30.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)		7.0	9.6	7.2	7.2		26.5	28.0		20.5	17.0	
Actuated g/C Ratio		0.17	0.24	0.18	0.18		0.66	0.70		0.51	0.42	
v/c Ratio		0.08	0.21	0.12	0.09		0.17	0.15		0.02	0.23	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		20.0	4.0	19.6	16.1		6.1	7.4		6.9	13.7	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		20.0	4.0	19.6	16.1		6.1	7.4		6.9	13.7	
LOS		C	A	B	B		A	A		A	B	
Approach Delay		7.6			18.1			7.0			13.5	
Approach LOS		A			B			A			B	
Queue Length 50th (ft)		5	0	7	3		10	15		1	32	
Queue Length 95th (ft)		26	12	31	22		47	81		9	89	
Internal Link Dist (ft)		529			285			955			697	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		988	539	965	966		798	2766		809	2794	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.03	0.17	0.04	0.03		0.15	0.13		0.01	0.12	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 40.2
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.23
Intersection Signal Delay: 10.1 Intersection LOS: B
Intersection Capacity Utilization 36.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: John Daly Boulevard & Falls Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	53	52	6	0	0
Future Volume (vph)	0	53	52	6	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3574	3521	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	3574	3521	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Peak Hour Factor	0.60	0.60	0.83	0.83	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	88	70	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 6.7% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	19	32	9	30	5	23	9	8	8	19	12
Future Volume (vph)	2	19	32	9	30	5	23	9	8	8	19	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1872	1599	0	1834	0	0	1779	0	0	1786	0
Flt Permitted		0.995			0.990			0.972			0.990	
Satd. Flow (perm)	0	1872	1599	0	1834	0	0	1779	0	0	1786	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	3		1	1		3	1					1
Peak Hour Factor	0.63	0.63	0.63	0.84	0.84	0.84	0.58	0.58	0.58	0.79	0.79	0.79
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	51	0	53	0	0	70	0	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.6% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	19	32	9	30	5	23	9	8	8	19	12
Future Vol, veh/h	2	19	32	9	30	5	23	9	8	8	19	12
Peak Hour Factor	0.63	0.63	0.63	0.84	0.84	0.84	0.58	0.58	0.58	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	30	51	11	36	6	40	16	14	10	24	15
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	7.4	7.6	7.6	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	57%	10%	0%	20%	21%
Vol Thru, %	23%	90%	0%	68%	49%
Vol Right, %	20%	0%	100%	11%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	21	32	44	39
LT Vol	23	2	0	9	8
Through Vol	9	19	0	30	19
RT Vol	8	0	32	5	12
Lane Flow Rate	69	33	51	52	49
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.08	0.044	0.057	0.062	0.056
Departure Headway (Hd)	4.182	4.799	4.049	4.259	4.059
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	844	740	875	830	867
Service Time	2.27	2.569	1.819	2.342	2.153
HCM Lane V/C Ratio	0.082	0.045	0.058	0.063	0.057
HCM Control Delay	7.6	7.8	7.1	7.6	7.4
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.3	0.1	0.2	0.2	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	23	5	4	28	10	7	29	6	18	29	10
Future Volume (vph)	6	23	5	4	28	10	7	29	6	18	29	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1829	0	0	1794	0	0	1831	0	0	1807	0
Flt Permitted		0.991			0.995			0.992			0.985	
Satd. Flow (perm)	0	1829	0	0	1794	0	0	1831	0	0	1807	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Confl. Peds. (#/hr)	12		1	1		12						
Peak Hour Factor	0.61	0.61	0.61	0.67	0.67	0.67	0.86	0.86	0.86	0.74	0.74	0.74
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	63	0	0	49	0	0	77	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 18.8% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	23	5	4	28	10	7	29	6	18	29	10
Future Vol, veh/h	6	23	5	4	28	10	7	29	6	18	29	10
Peak Hour Factor	0.61	0.61	0.61	0.67	0.67	0.67	0.86	0.86	0.86	0.74	0.74	0.74
Heavy Vehicles, %	1	1	1	2	2	2	1	1	1	1	1	1
Mvmt Flow	10	38	8	6	42	15	8	34	7	24	39	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.5	7.5	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	18%	10%	32%
Vol Thru, %	69%	68%	67%	51%
Vol Right, %	14%	15%	24%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	34	42	57
LT Vol	7	6	4	18
Through Vol	29	23	28	29
RT Vol	6	5	10	10
Lane Flow Rate	49	56	63	77
Geometry Grp	1	1	1	1
Degree of Util (X)	0.056	0.064	0.071	0.088
Departure Headway (Hd)	4.13	4.129	4.07	4.119
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	857	857	869	861
Service Time	2.205	2.207	2.146	2.186
HCM Lane V/C Ratio	0.057	0.065	0.072	0.089
HCM Control Delay	7.5	7.5	7.5	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.3

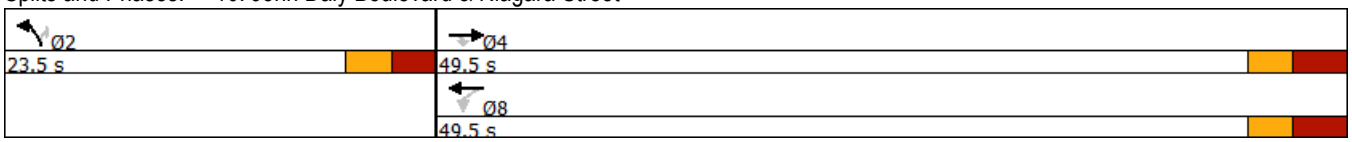
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	123	302	42	96	238	65
Future Volume (vph)	123	302	42	96	238	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1881	1599	0	3486	1787	1599
Flt Permitted				0.838	0.950	
Satd. Flow (perm)	1881	1571	0	2962	1787	1564
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		339				79
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		11	11			1
Peak Hour Factor	0.89	0.89	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	138	339	0	168	290	79
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	10.7	10.7		10.7	10.5	10.5
Actuated g/C Ratio	0.34	0.34		0.34	0.33	0.33
v/c Ratio	0.22	0.45		0.17	0.49	0.14
Control Delay	9.5	3.8		8.7	11.6	3.1
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	9.5	3.8		8.7	11.6	3.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A		A	B	A
Approach Delay	5.4			8.7	9.8	
Approach LOS	A			A	A	
Queue Length 50th (ft)	15	0		9	34	0
Queue Length 95th (ft)	46	35		24	73	13
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1881	1571		2962	1051	952
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.07	0.22		0.06	0.28	0.08

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 31.8
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 7.5 Intersection LOS: A
Intersection Capacity Utilization 42.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	159	0	0	135	23	2	4	6	0	0	0
Future Volume (vph)	28	159	0	0	135	23	2	4	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1850	0	0	1844	0	0	1737	0	0	0	0
Flt Permitted		0.993						0.991				
Satd. Flow (perm)	0	1850	0	0	1844	0	0	1737	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	3		8	8		3						
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.75	0.75	0.75	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	213	0	0	186	0	0	16	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 33.1% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	0.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	159	0	0	135	23	2	4	6	0	0	0
Future Vol, veh/h	28	159	0	0	135	23	2	4	6	0	0	0
Conflicting Peds, #/hr	3	0	8	8	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	85	85	85	75	75	75	90	90	90
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	1	1	1
Mvmt Flow	32	181	0	0	159	27	3	5	8	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	189	0	-	-	-	0	418	434	181
Stage 1	-	-	-	-	-	-	245	245	-
Stage 2	-	-	-	-	-	-	173	189	-
Critical Hdwy	4.12	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1385	-	0	0	-	-	593	517	864
Stage 1	-	-	0	0	-	-	798	705	-
Stage 2	-	-	0	0	-	-	860	746	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1385	-	-	-	-	-	578	0	864
Mov Cap-2 Maneuver	-	-	-	-	-	-	578	0	-
Stage 1	-	-	-	-	-	-	777	0	-
Stage 2	-	-	-	-	-	-	860	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.1	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	769	1385	-	-	-
HCM Lane V/C Ratio	0.021	0.023	-	-	-
HCM Control Delay (s)	9.8	7.7	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-

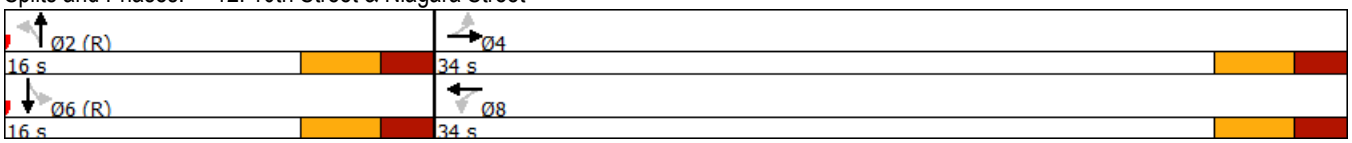
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	125	9	6	93	5	3	12	0	3	24	62
Future Volume (vph)	31	125	9	6	93	5	3	12	0	3	24	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1831	0	0	1824	0	0	1713	0	0	1699	0
Flt Permitted		0.938			0.986			0.891			0.993	
Satd. Flow (perm)	0	1731	0	0	1804	0	0	1553	0	0	1690	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			7						68	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	9		1	1		9			6	6		
Peak Hour Factor	0.82	0.82	0.82	0.75	0.75	0.75	0.25	0.55	0.55	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	9%	9%	9%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	201	0	0	139	0	0	34	0	0	97	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.20			0.13			0.10			0.23	
Control Delay		5.4			4.9			16.5			9.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.4			4.9			16.5			9.1	
LOS		A			A			B			A	
Approach Delay		5.4			4.9			16.5			9.1	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		23			15			8			7	
Queue Length 95th (ft)		41			26			15			36	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		1008			1049			341			424	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.13			0.10			0.23	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.23
Intersection Signal Delay: 6.8 Intersection LOS: A
Intersection Capacity Utilization 41.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	201	11	0	0	0	0	34	14	22	78	0
Future Volume (vph)	2	201	11	0	0	0	0	34	14	22	78	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3514	0	0	0	0	0	1808	0	0	1860	0
Flt Permitted											0.989	
Satd. Flow (perm)	0	3514	0	0	0	0	0	1808	0	0	1860	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)	6		5	5		6	3		5	5		3
Peak Hour Factor	0.96	0.90	0.96	0.90	0.90	0.90	0.72	0.72	0.72	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	236	0	0	0	0	0	66	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.1% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	201	11	0	0	0	0	34	14	22	78	0
Future Vol, veh/h	2	201	11	0	0	0	0	34	14	22	78	0
Peak Hour Factor	0.96	0.90	0.96	0.90	0.90	0.90	0.72	0.72	0.72	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	1	1	1
Mvmt Flow	2	223	11	0	0	0	0	47	19	24	87	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	8.6	7.9	8.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	2%	0%	22%
Vol Thru, %	71%	98%	90%	78%
Vol Right, %	29%	0%	10%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	103	112	100
LT Vol	0	2	0	22
Through Vol	34	101	101	78
RT Vol	14	0	11	0
Lane Flow Rate	67	114	123	111
Geometry Grp	2	7	7	2
Degree of Util (X)	0.082	0.157	0.167	0.142
Departure Headway (Hd)	4.439	4.957	4.878	4.603
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	809	726	738	781
Service Time	2.458	2.676	2.596	2.621
HCM Lane V/C Ratio	0.083	0.157	0.167	0.142
HCM Control Delay	7.9	8.6	8.6	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.6	0.5

Lanes, Volumes, Timings
2: John Daly Boulevard & Buffalo Avenue

09/06/2022

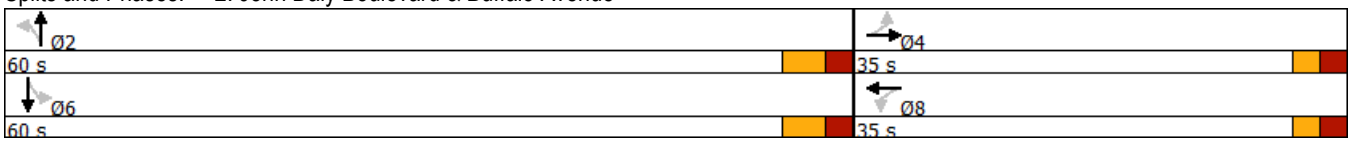
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	15	32	12	17	2	43	458	25	1	262	5
Future Volume (vph)	2	15	32	12	17	2	43	458	25	1	262	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1603	0	0	1679	0	0	3535	0	1752	3494	0
Flt Permitted		0.985			0.856			0.905		0.367		
Satd. Flow (perm)	0	1582	0	0	1464	0	0	3212	0	677	3494	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44			3			9			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Peak Hour Factor	0.72	0.72	0.72	0.78	0.78	0.78	0.70	0.70	0.70	0.84	0.84	0.84
Heavy Vehicles (%)	8%	8%	8%	10%	10%	10%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	40	0	0	751	0	1	318	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		10.1			10.1			24.3		24.3	24.3	
Actuated g/C Ratio		0.29			0.29			0.69		0.69	0.69	
v/c Ratio		0.14			0.09			0.34		0.00	0.13	
Control Delay		6.5			10.3			5.3		5.0	4.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		6.5			10.3			5.3		5.0	4.5	
LOS		A			B			A		A	A	
Approach Delay		6.5			10.3			5.3			4.5	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		4			7			45		0	16	
Queue Length 95th (ft)		15			17			52		1	27	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		1411			1301			3212		677	3494	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.05			0.03			0.23		0.00	0.09	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 35
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 5.3 Intersection LOS: A
Intersection Capacity Utilization 43.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



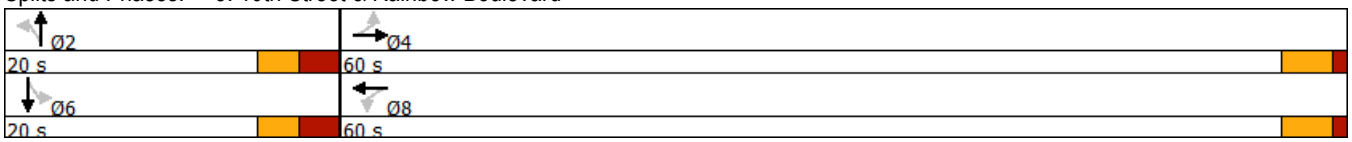
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	39	2	20	79	12	1	12	1	9	9	4
Future Volume (vph)	6	39	2	20	79	12	1	12	1	9	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3514	0	1770	3468	0	0	1840	0	0	1784	0
Flt Permitted	0.690			0.727								
Satd. Flow (perm)	1285	3514	0	1354	3468	0	0	1846	0	0	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			13			1			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	44	0	22	99	0	0	15	0	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	26.7	26.7		26.7	26.7			9.0			9.0	
Actuated g/C Ratio	0.89	0.89		0.89	0.89			0.30			0.30	
v/c Ratio	0.01	0.01		0.02	0.03			0.03			0.04	
Control Delay	3.0	2.4		2.8	2.1			8.2			7.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	3.0	2.4		2.8	2.1			8.2			7.9	
LOS	A	A		A	A			A			A	
Approach Delay		2.5			2.2			8.2			7.9	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	0	0		0	0			1			2	
Queue Length 95th (ft)	4	5		8	10			9			12	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)	175			125								
Base Capacity (vph)	1285	3514		1354	3468			928			917	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.01	0.01		0.02	0.03			0.02			0.03	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 29.9
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.04
Intersection Signal Delay: 3.3 Intersection LOS: A
Intersection Capacity Utilization 23.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	61	3	15	95	48	2	2	3	21	3	14
Future Volume (vph)	12	61	3	15	95	48	2	2	3	21	3	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1629	0	0	1619	0	0	1368	0	0	1641	0
Flt Permitted		0.992			0.995			0.986			0.973	
Satd. Flow (perm)	0	1629	0	0	1619	0	0	1368	0	0	1641	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.50	0.50	0.50	0.88	0.88	0.88
Heavy Vehicles (%)	15%	15%	15%	12%	12%	12%	29%	29%	29%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	0	0	170	0	0	14	0	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.0% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	61	3	15	95	48	2	2	3	21	3	14
Future Vol, veh/h	12	61	3	15	95	48	2	2	3	21	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	93	93	93	50	50	50	88	88	88
Heavy Vehicles, %	15	15	15	12	12	12	29	29	29	7	7	7
Mvmt Flow	14	73	4	16	102	52	4	4	6	24	3	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	154	0	0	77	0	0	273	289	75	268	265	128
Stage 1	-	-	-	-	-	-	103	103	-	160	160	-
Stage 2	-	-	-	-	-	-	170	186	-	108	105	-
Critical Hdwy	4.25	-	-	4.22	-	-	7.39	6.79	6.49	7.17	6.57	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.39	5.79	-	6.17	5.57	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.39	5.79	-	6.17	5.57	-
Follow-up Hdwy	2.335	-	-	2.308	-	-	3.761	4.261	3.561	3.563	4.063	3.363
Pot Cap-1 Maneuver	1351	-	-	1461	-	-	628	578	916	675	632	909
Stage 1	-	-	-	-	-	-	841	760	-	830	756	-
Stage 2	-	-	-	-	-	-	773	698	-	885	799	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1351	-	-	1461	-	-	604	565	916	655	617	909
Mov Cap-2 Maneuver	-	-	-	-	-	-	604	565	-	655	617	-
Stage 1	-	-	-	-	-	-	832	752	-	821	747	-
Stage 2	-	-	-	-	-	-	747	690	-	865	790	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.7	10.3	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	691	1351	-	-	1461	-	-	726
HCM Lane V/C Ratio	0.02	0.011	-	-	0.011	-	-	0.059
HCM Control Delay (s)	10.3	7.7	0	-	7.5	0	-	10.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

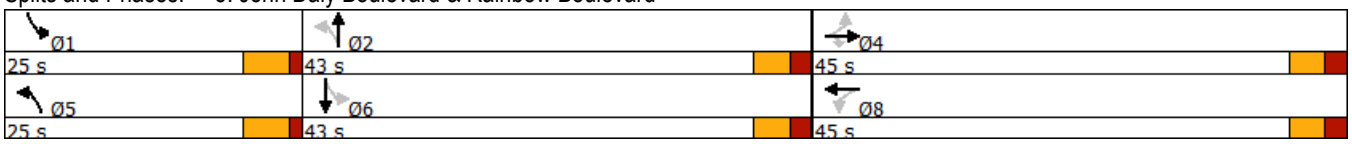
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	31	130	8	54	22	111	344	7	9	130	23
Future Volume (vph)	20	31	130	8	54	22	111	344	7	9	130	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1736	3471	1553	1687	4622	0	1787	3564	0	1752	3428	0
Flt Permitted	0.690			0.733			0.485			0.471		
Satd. Flow (perm)	1260	3471	1533	1301	4622	0	912	3564	0	869	3428	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			146		27			2			19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.71	0.71	0.71	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	7%	7%	7%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	35	146	10	94	0	156	495	0	9	156	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	10.7	10.7	10.7	10.7	10.7		22.0	21.9		15.9	13.4	
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28		0.57	0.57		0.42	0.35	
v/c Ratio	0.06	0.04	0.27	0.03	0.07		0.21	0.24		0.02	0.13	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	14.1	13.4	5.3	13.8	10.5		5.9	7.7		5.7	13.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.1	13.4	5.3	13.8	10.5		5.9	7.7		5.7	13.6	
LOS	B	B	A	B	B		A	A		A	B	
Approach Delay		7.6			10.8			7.3			13.1	
Approach LOS		A			B			A			B	
Queue Length 50th (ft)	4	3	0	2	4		17	29		1	14	
Queue Length 95th (ft)	18	12	32	10	12		27	63		5	33	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	1205	3321	1473	1245	4424		1038	3279		1017	3155	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.01	0.10	0.01	0.02		0.15	0.15		0.01	0.05	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 38.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.27
Intersection Signal Delay: 8.5 Intersection LOS: A
Intersection Capacity Utilization 34.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	7	14	14	11	46	12	329	45	3	134	5
Future Volume (vph)	10	7	14	14	11	46	12	329	45	3	134	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1706	0	0	1636	0	0	3506	0	0	3480	0
Flt Permitted		0.984			0.990			0.998			0.999	
Satd. Flow (perm)	0	1706	0	0	1636	0	0	3506	0	0	3480	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)	3		1	1		3	4		1	1		4
Peak Hour Factor	0.86	0.86	0.86	0.79	0.79	0.79	0.77	0.77	0.77	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	90	0	0	501	0	0	161	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 31.9% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	7	14	14	11	46	12	329	45	3	134	5
Future Vol, veh/h	10	7	14	14	11	46	12	329	45	3	134	5
Conflicting Peds, #/hr	3	0	1	1	0	3	4	0	1	1	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	79	79	79	77	77	77	88	88	88
Heavy Vehicles, %	3	3	3	5	5	5	1	1	1	3	3	3
Mvmt Flow	12	8	16	18	14	58	16	427	58	3	152	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	421	683	84	576	657	247	162	0	0	486	0	0
Stage 1	165	165	-	489	489	-	-	-	-	-	-	-
Stage 2	256	518	-	87	168	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.6	6.6	7	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.55	4.05	3.35	2.21	-	-	2.23	-	-
Pot Cap-1 Maneuver	514	368	955	394	377	744	1422	-	-	1066	-	-
Stage 1	818	758	-	521	540	-	-	-	-	-	-	-
Stage 2	723	529	-	902	751	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	450	359	950	374	368	741	1417	-	-	1065	-	-
Mov Cap-2 Maneuver	450	359	-	374	368	-	-	-	-	-	-	-
Stage 1	802	753	-	512	531	-	-	-	-	-	-	-
Stage 2	637	520	-	873	746	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	12.8	0.3	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1417	-	-	549	549	1065	-	-
HCM Lane V/C Ratio	0.011	-	-	0.066	0.164	0.003	-	-
HCM Control Delay (s)	7.6	0.1	-	12	12.8	8.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.6	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	54	29	4	0	0
Future Volume (vph)	1	54	29	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1861	1713	0	0	0
Flt Permitted		0.999				
Satd. Flow (perm)	0	1861	1713	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Confl. Peds. (#/hr)	3			3		
Peak Hour Factor	0.71	0.71	0.69	0.69	0.90	0.90
Heavy Vehicles (%)	2%	2%	9%	9%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	77	48	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 7.6% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	46	0	10	31	20	1	17	12	7	12	1
Future Volume (vph)	8	46	0	10	31	20	1	17	12	7	12	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1850	0	0	1638	0	0	1743	0	0	1838	0
Flt Permitted		0.993			0.992			0.998			0.982	
Satd. Flow (perm)	0	1850	0	0	1638	0	0	1743	0	0	1838	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	4					4			3	3		
Peak Hour Factor	0.62	0.62	0.62	0.83	0.83	0.83	0.63	0.63	0.63	0.71	0.71	0.71
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	73	0	0	48	0	0	28	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 16.9% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	46	0	10	31	20	1	17	12	7	12	1
Future Vol, veh/h	8	46	0	10	31	20	1	17	12	7	12	1
Peak Hour Factor	0.62	0.62	0.62	0.83	0.83	0.83	0.63	0.63	0.63	0.71	0.71	0.71
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	1	1	1
Mvmt Flow	13	74	0	12	37	24	2	27	19	10	17	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.5	7.3	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	15%	16%	35%
Vol Thru, %	57%	85%	51%	60%
Vol Right, %	40%	0%	33%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	54	61	20
LT Vol	1	8	10	7
Through Vol	17	46	31	12
RT Vol	12	0	20	1
Lane Flow Rate	48	87	73	28
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.1	0.084	0.033
Departure Headway (Hd)	4.015	4.15	4.103	4.27
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	879	858	866	826
Service Time	2.102	2.204	2.161	2.361
HCM Lane V/C Ratio	0.055	0.101	0.084	0.034
HCM Control Delay	7.3	7.7	7.5	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.3	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	39	8	2	42	9	11	50	1	8	28	8
Future Volume (vph)	18	39	8	2	42	9	11	50	1	8	28	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1548	0	0	1669	0	0	1740	0	0	1750	0
Flt Permitted		0.986			0.998			0.991			0.991	
Satd. Flow (perm)	0	1548	0	0	1669	0	0	1740	0	0	1750	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Peak Hour Factor	0.72	0.72	0.72	0.78	0.78	0.78	0.78	0.78	0.78	0.85	0.85	0.85
Heavy Vehicles (%)	19%	19%	19%	11%	11%	11%	8%	8%	8%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	0	0	69	0	0	79	0	0	51	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.3% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	39	8	2	42	9	11	50	1	8	28	8
Future Vol, veh/h	18	39	8	2	42	9	11	50	1	8	28	8
Peak Hour Factor	0.72	0.72	0.72	0.78	0.78	0.78	0.78	0.78	0.78	0.85	0.85	0.85
Heavy Vehicles, %	19	19	19	11	11	11	8	8	8	5	5	5
Mvmt Flow	25	54	11	3	54	12	14	64	1	9	33	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	7.8	8	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	28%	4%	18%
Vol Thru, %	81%	60%	79%	64%
Vol Right, %	2%	12%	17%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	65	53	44
LT Vol	11	18	2	8
Through Vol	50	39	42	28
RT Vol	1	8	9	8
Lane Flow Rate	79	90	68	52
Geometry Grp	1	1	1	1
Degree of Util (X)	0.099	0.115	0.083	0.063
Departure Headway (Hd)	4.491	4.594	4.4	4.374
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	801	785	817	822
Service Time	2.502	2.594	2.411	2.386
HCM Lane V/C Ratio	0.099	0.115	0.083	0.063
HCM Control Delay	8	8.2	7.8	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.3	0.2

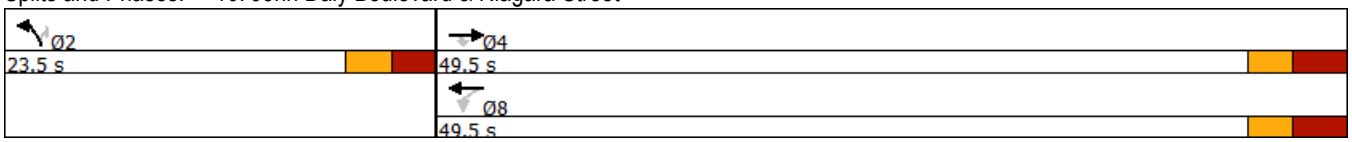
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	49	114	28	67	191	152
Future Volume (vph)	49	114	28	67	191	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1845	1568	0	3390	1770	1583
Flt Permitted				0.863	0.950	
Satd. Flow (perm)	1845	1548	0	2967	1768	1549
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		158				192
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		1	1		1	1
Peak Hour Factor	0.72	0.72	0.80	0.80	0.79	0.79
Heavy Vehicles (%)	3%	3%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	158	0	119	242	192
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	9.5	9.5		9.5	9.6	9.6
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.32
v/c Ratio	0.11	0.26		0.12	0.42	0.30
Control Delay	8.6	3.5		8.3	10.2	3.0
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	8.6	3.5		8.3	10.2	3.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A		A	B	A
Approach Delay	5.0			8.3	7.0	
Approach LOS	A			A	A	
Queue Length 50th (ft)	7	0		6	27	0
Queue Length 95th (ft)	19	12		15	48	14
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1845	1548		2967	1107	1041
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.04	0.10		0.04	0.22	0.18

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 29.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.42
Intersection Signal Delay: 6.6 Intersection LOS: A
Intersection Capacity Utilization 27.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	165	0	0	93	7	2	3	0	0	0	0
Future Volume (vph)	36	165	0	0	93	7	2	3	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1864	0	0	1793	0	0	1844	0	0	0	0
Flt Permitted		0.991						0.980				
Satd. Flow (perm)	0	1864	0	0	1793	0	0	1844	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	14		7	7		14	1		1	1		1
Peak Hour Factor	0.83	0.83	0.83	0.67	0.67	0.67	0.50	0.50	0.50	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	5%	5%	5%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	242	0	0	149	0	0	10	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.7% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	1.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	165	0	0	93	7	2	3	0	0	0	0
Future Vol, veh/h	36	165	0	0	93	7	2	3	0	0	0	0
Conflicting Peds, #/hr	14	0	7	7	0	14	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	67	67	67	50	50	50	90	90	90
Heavy Vehicles, %	1	1	1	5	5	5	1	1	1	2	2	2
Mvmt Flow	43	199	0	0	139	10	4	6	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	163	0	-	-	-	0	430	448	200
Stage 1	-	-	-	-	-	-	285	285	-
Stage 2	-	-	-	-	-	-	145	163	-
Critical Hdwy	4.11	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1422	-	0	0	-	-	584	507	843
Stage 1	-	-	0	0	-	-	766	678	-
Stage 2	-	-	0	0	-	-	885	765	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1422	-	-	-	-	-	564	0	842
Mov Cap-2 Maneuver	-	-	-	-	-	-	564	0	-
Stage 1	-	-	-	-	-	-	740	0	-
Stage 2	-	-	-	-	-	-	884	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.4	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	564	1422	-	-	-
HCM Lane V/C Ratio	0.018	0.031	-	-	-
HCM Control Delay (s)	11.5	7.6	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-

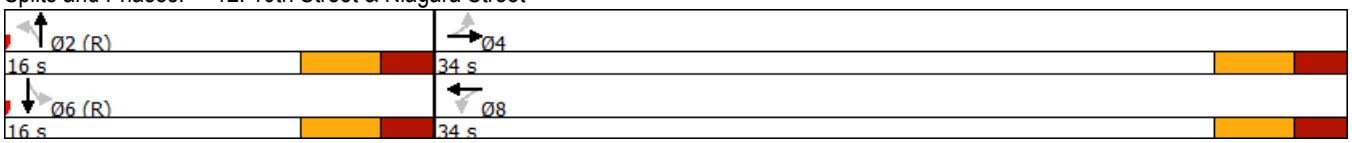
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	67	9	1	66	2	2	40	3	4	29	32
Future Volume (vph)	89	67	9	1	66	2	2	40	3	4	29	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1799	0	0	1801	0	0	1756	0	0	1735	0
Flt Permitted		0.812			0.998			0.986			0.982	
Satd. Flow (perm)	0	1498	0	0	1797	0	0	1735	0	0	1708	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			3			4			47	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	3		6	6		3						
Peak Hour Factor	0.83	0.83	0.83	0.67	0.67	0.67	0.73	0.73	0.73	0.68	0.68	0.68
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	7%	7%	7%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	199	0	0	103	0	0	62	0	0	96	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.23			0.10			0.16			0.23	
Control Delay		5.6			4.9			16.3			11.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.6			4.9			16.3			11.4	
LOS		A			A			B			B	
Approach Delay		5.6			4.9			16.3			11.4	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		23			11			14			12	
Queue Length 95th (ft)		42			18			30			27	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		873			1043			384			412	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.23			0.10			0.16			0.23	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.23
Intersection Signal Delay: 8.1 Intersection LOS: A
Intersection Capacity Utilization 41.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	71	10	0	0	0	0	106	25	16	55	0
Future Volume (vph)	15	71	10	0	0	0	0	106	25	16	55	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3392	0	0	0	0	0	1814	0	0	1773	0
Flt Permitted		0.992									0.989	
Satd. Flow (perm)	0	3392	0	0	0	0	0	1814	0	0	1773	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)	1		6	6		1	12		4	4		12
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.73	0.73	0.73	0.75	0.75	0.75
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	6%	6%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	107	0	0	0	0	0	179	0	0	94	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.0% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	71	10	0	0	0	0	106	25	16	55	0
Future Vol, veh/h	15	71	10	0	0	0	0	106	25	16	55	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.73	0.73	0.73	0.75	0.75	0.75
Heavy Vehicles, %	4	4	4	2	2	2	2	2	2	6	6	6
Mvmt Flow	17	79	11	0	0	0	0	145	34	21	73	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	8.3	8.3	8.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	30%	0%	23%
Vol Thru, %	81%	70%	78%	77%
Vol Right, %	19%	0%	22%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	51	46	71
LT Vol	0	15	0	16
Through Vol	106	36	36	55
RT Vol	25	0	10	0
Lane Flow Rate	179	56	51	95
Geometry Grp	2	7	7	2
Degree of Util (X)	0.21	0.083	0.071	0.119
Departure Headway (Hd)	4.204	5.326	5.022	4.511
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	856	674	715	797
Service Time	2.215	3.046	2.742	2.525
HCM Lane V/C Ratio	0.209	0.083	0.071	0.119
HCM Control Delay	8.3	8.5	8.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.3	0.2	0.4

Lanes, Volumes, Timings
2: John Daly Boulevard & Buffalo Avenue

09/06/2022

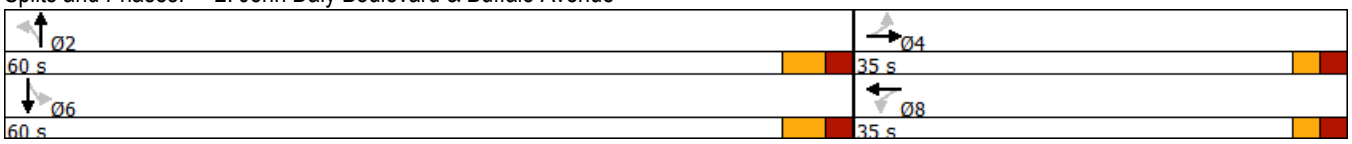
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	36	155	55	14	5	57	417	8	3	690	25
Future Volume (vph)	4	36	155	55	14	5	57	417	8	3	690	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1646	0	0	1795	0	0	3511	0	1787	3556	0
Flt Permitted		0.994			0.722			0.799		0.442		
Satd. Flow (perm)	0	1637	0	0	1344	0	0	2822	0	831	3556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		181			4			3			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Confl. Peds. (#/hr)	7					7						
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.86	0.86	0.86	0.87	0.87	0.87
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	240	0	0	148	0	0	560	0	3	822	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		12.0			12.0			16.4		16.4	16.4	
Actuated g/C Ratio		0.32			0.32			0.44		0.44	0.44	
v/c Ratio		0.37			0.34			0.46		0.01	0.53	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		5.9			13.7			8.8		6.3	9.2	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		5.9			13.7			8.8		6.3	9.2	
LOS		A			B			A		A	A	
Approach Delay		5.9			13.7			8.8			9.2	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		8			21			34		0	52	
Queue Length 95th (ft)		41			34			75		3	108	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		1411			1136			2822		831	3556	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.17			0.13			0.20		0.00	0.23	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 37.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 9.0 Intersection LOS: A
Intersection Capacity Utilization 68.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



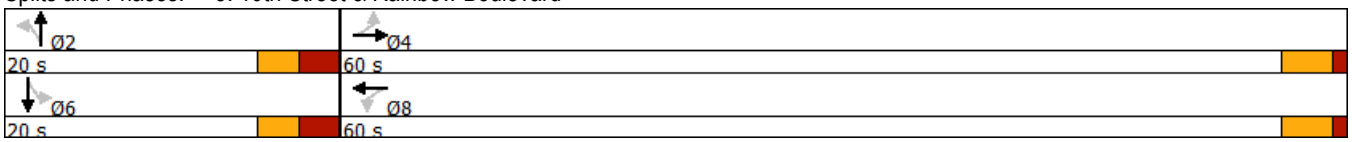
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	100	15	29	89	12	2	4	1	10	30	8
Future Volume (vph)	1	100	15	29	89	12	2	4	1	10	30	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3472	0	1770	3476	0	0	1802	0	0	1802	0
Flt Permitted	0.682			0.673								
Satd. Flow (perm)	1270	3472	0	1254	3476	0	0	1827	0	0	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			13			1			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	125	0	32	110	0	0	7	0	0	53	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	25.3	25.3		25.3	25.3			9.0			9.0	
Actuated g/C Ratio	0.88	0.88		0.88	0.88			0.31			0.31	
v/c Ratio	0.00	0.04		0.03	0.04			0.01			0.09	
Control Delay	4.0	2.4		3.2	2.4			6.7			6.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	4.0	2.4		3.2	2.4			6.7			6.6	
LOS	A	A		A	A			A			A	
Approach Delay		2.4			2.6			6.7			6.6	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	0	0		0	0			1			4	
Queue Length 95th (ft)	1	12		10	11			4			15	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)	175			125								
Base Capacity (vph)	1270	3472		1254	3476			948			948	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.00	0.04		0.03	0.03			0.01			0.06	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 28.9
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.09
Intersection Signal Delay: 3.2 Intersection LOS: A
Intersection Capacity Utilization 23.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	137	2	2	117	41	2	2	28	63	1	11
Future Volume (vph)	12	137	2	2	117	41	2	2	28	63	1	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1852	0	0	1814	0	0	1654	0	0	1704	0
Flt Permitted		0.996			0.999			0.997			0.960	
Satd. Flow (perm)	0	1852	0	0	1814	0	0	1654	0	0	1704	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.50	0.50	0.50	0.54	0.54	0.54
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	167	0	0	174	0	0	64	0	0	139	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.3% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	4.7											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	137	2	2	117	41	2	2	28	63	1	11
Future Vol, veh/h	12	137	2	2	117	41	2	2	28	63	1	11
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	92	92	92	50	50	50	54	54	54
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	5	5	5
Mvmt Flow	13	152	2	2	127	45	4	4	56	117	2	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	173	0	0	155	0	0	345	357	154	364	336	151
Stage 1	-	-	-	-	-	-	180	180	-	155	155	-
Stage 2	-	-	-	-	-	-	165	177	-	209	181	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	3.545	4.045	3.345
Pot Cap-1 Maneuver	1404	-	-	1431	-	-	611	571	895	586	580	887
Stage 1	-	-	-	-	-	-	824	752	-	840	764	-
Stage 2	-	-	-	-	-	-	839	755	-	786	744	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1403	-	-	1430	-	-	590	563	894	541	572	886
Mov Cap-2 Maneuver	-	-	-	-	-	-	590	563	-	541	572	-
Stage 1	-	-	-	-	-	-	815	744	-	831	762	-
Stage 2	-	-	-	-	-	-	816	753	-	725	736	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	9.7	13.3
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	836	1403	-	-	1430	-	-	574
HCM Lane V/C Ratio	0.077	0.01	-	-	0.002	-	-	0.242
HCM Control Delay (s)	9.7	7.6	0	-	7.5	0	-	13.3
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.9

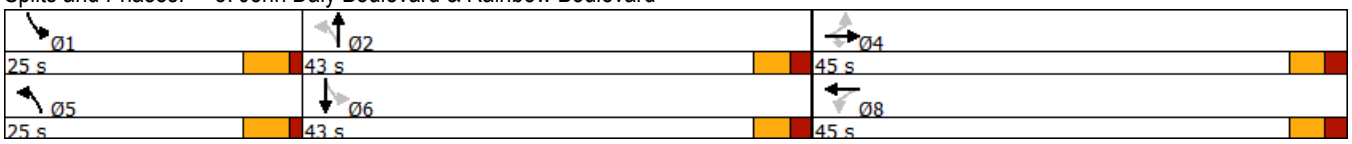
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	84	318	8	66	25	159	262	5	27	392	58
Future Volume (vph)	38	84	318	8	66	25	159	262	5	27	392	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	1787	4908	0	1770	3529	0	1787	3499	0
Flt Permitted	0.687			0.694			0.283			0.574		
Satd. Flow (perm)	1279	3539	1559	1302	4908	0	527	3529	0	1080	3499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			353		27			2			15	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		4	4		1	4					4
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	93	353	9	99	0	173	290	0	36	592	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	11.1	11.1	11.1	11.1	11.1		30.4	26.3		20.8	14.5	
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21		0.59	0.51		0.40	0.28	
v/c Ratio	0.15	0.12	0.58	0.03	0.09		0.30	0.16		0.07	0.60	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	20.3	18.7	7.2	19.0	14.4		6.3	8.6		6.0	18.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.3	18.7	7.2	19.0	14.4		6.3	8.6		6.0	18.7	
LOS	C	B	A	B	B		A	A		A	B	
Approach Delay		10.5			14.8			7.7			18.0	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)	10	12	0	2	6		19	16		4	75	
Queue Length 95th (ft)	37	33	60	13	20		49	57		12	116	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	1012	2800	1307	1030	3889		801	2653		915	2634	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.04	0.03	0.27	0.01	0.03		0.22	0.11		0.04	0.22	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 51.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 12.8 Intersection LOS: B
Intersection Capacity Utilization 53.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	29	33	26	7	6	67	247	11	11	418	31
Future Volume (vph)	36	29	33	26	7	6	67	247	11	11	418	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1730	0	0	1781	0	0	3521	0	0	3535	0
Flt Permitted		0.982			0.967			0.990			0.999	
Satd. Flow (perm)	0	1730	0	0	1781	0	0	3521	0	0	3535	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.82	0.82	0.82	0.61	0.61	0.61	0.89	0.89	0.89	0.77	0.77	0.77
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	0	0	64	0	0	365	0	0	597	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 37.9% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	5.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	29	33	26	7	6	67	247	11	11	418	31
Future Vol, veh/h	36	29	33	26	7	6	67	247	11	11	418	31
Conflicting Peds, #/hr	0	0	1	1	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	61	61	61	89	89	89	77	77	77
Heavy Vehicles, %	3	3	3	1	1	1	1	1	1	1	1	1
Mvmt Flow	44	35	40	43	11	10	75	278	12	14	543	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	887	1032	294	752	1046	145	584	0	0	290	0	0
Stage 1	592	592	-	434	434	-	-	-	-	-	-	-
Stage 2	295	440	-	318	612	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.52	6.52	6.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.51	4.01	3.31	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	237	230	699	301	229	879	994	-	-	1276	-	-
Stage 1	457	490	-	573	582	-	-	-	-	-	-	-
Stage 2	686	573	-	671	484	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	206	206	698	227	205	879	993	-	-	1276	-	-
Mov Cap-2 Maneuver	206	206	-	227	205	-	-	-	-	-	-	-
Stage 1	415	482	-	521	530	-	-	-	-	-	-	-
Stage 2	604	521	-	576	476	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.5	24.2	2.1	0.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	993	-	-	270	251	1276	-	-
HCM Lane V/C Ratio	0.076	-	-	0.443	0.255	0.011	-	-
HCM Control Delay (s)	8.9	0.3	-	28.5	24.2	7.9	0.1	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2.1	1	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	49	39	7	0	0
Future Volume (vph)	2	49	39	7	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1877	1844	0	0	0
Flt Permitted		0.998				
Satd. Flow (perm)	0	1877	1844	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.78	0.78	0.68	0.68	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	66	67	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 7.5% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	47	0	26	37	10	5	8	4	14	22	4
Future Volume (vph)	2	47	0	26	37	10	5	8	4	14	22	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1877	0	0	1814	0	0	1799	0	0	1823	0
Flt Permitted		0.998			0.982			0.986			0.983	
Satd. Flow (perm)	0	1877	0	0	1814	0	0	1799	0	0	1823	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	3		1	1		3	2		2	2		2
Peak Hour Factor	0.79	0.79	0.79	0.52	0.52	0.52	0.94	0.94	0.94	0.60	0.60	0.60
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	140	0	0	18	0	0	67	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.6% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	47	0	26	37	10	5	8	4	14	22	4
Future Vol, veh/h	2	47	0	26	37	10	5	8	4	14	22	4
Peak Hour Factor	0.79	0.79	0.79	0.52	0.52	0.52	0.94	0.94	0.94	0.60	0.60	0.60
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	59	0	50	71	19	5	9	4	23	37	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	8	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	4%	36%	35%
Vol Thru, %	47%	96%	51%	55%
Vol Right, %	24%	0%	14%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	49	73	40
LT Vol	5	2	26	14
Through Vol	8	47	37	22
RT Vol	4	0	10	4
Lane Flow Rate	18	62	140	67
Geometry Grp	1	1	1	1
Degree of Util (X)	0.022	0.072	0.16	0.081
Departure Headway (Hd)	4.356	4.18	4.1	4.394
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	826	845	865	820
Service Time	2.358	2.267	2.17	2.395
HCM Lane V/C Ratio	0.022	0.073	0.162	0.082
HCM Control Delay	7.5	7.6	8	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.6	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	40	10	6	43	16	10	40	5	24	59	20
Future Volume (vph)	15	40	10	6	43	16	10	40	5	24	59	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1821	0	0	1709	0	0	1824	0	0	1808	0
Flt Permitted		0.989			0.995			0.991			0.988	
Satd. Flow (perm)	0	1821	0	0	1709	0	0	1824	0	0	1808	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Confl. Peds. (#/hr)	1		2	2		1			7	7		
Peak Hour Factor	0.60	0.60	0.60	0.80	0.80	0.80	0.73	0.73	0.73	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	7%	7%	7%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	0	0	82	0	0	76	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 22.2% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	40	10	6	43	16	10	40	5	24	59	20
Future Vol, veh/h	15	40	10	6	43	16	10	40	5	24	59	20
Peak Hour Factor	0.60	0.60	0.60	0.80	0.80	0.80	0.73	0.73	0.73	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	7	7	7	2	2	2	1	1	1
Mvmt Flow	25	67	17	8	54	20	14	55	7	26	63	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	7.9	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	23%	9%	23%
Vol Thru, %	73%	62%	66%	57%
Vol Right, %	9%	15%	25%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	65	65	103
LT Vol	10	15	6	24
Through Vol	40	40	43	59
RT Vol	5	10	16	20
Lane Flow Rate	75	108	81	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.094	0.132	0.1	0.134
Departure Headway (Hd)	4.471	4.387	4.435	4.365
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	803	819	810	823
Service Time	2.488	2.403	2.453	2.381
HCM Lane V/C Ratio	0.093	0.132	0.1	0.135
HCM Control Delay	8	8.1	7.9	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3	0.5

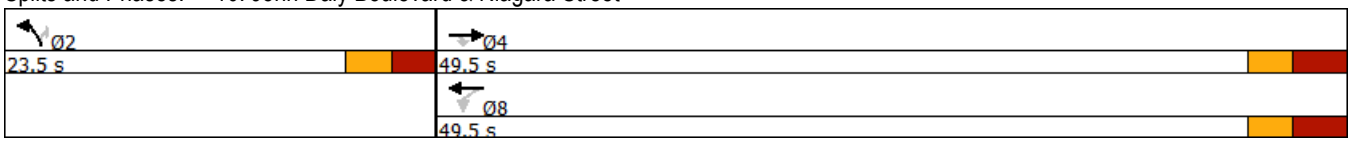
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	128	345	115	118	209	80
Future Volume (vph)	128	345	115	118	209	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1863	1583	0	3488	1770	1583
Flt Permitted				0.763	0.950	
Satd. Flow (perm)	1863	1560	0	2724	1770	1549
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		421				88
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		6	6			1
Peak Hour Factor	0.82	0.82	0.81	0.81	0.91	0.91
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	421	0	288	230	88
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	12.2	12.2		12.2	9.5	9.5
Actuated g/C Ratio	0.38	0.38		0.38	0.29	0.29
v/c Ratio	0.22	0.50		0.28	0.44	0.17
Control Delay	8.6	3.5		8.5	11.8	3.5
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	8.6	3.5		8.5	11.8	3.5

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A		A	B	A
Approach Delay	4.9			8.5	9.5	
Approach LOS	A			A	A	
Queue Length 50th (ft)	16	0		15	26	0
Queue Length 95th (ft)	41	25		33	70	17
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1863	1560		2724	1024	933
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.08	0.27		0.11	0.22	0.09

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 32.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 7.0 Intersection LOS: A
Intersection Capacity Utilization 40.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	164	0	0	228	25	5	4	0	0	0	0
Future Volume (vph)	44	164	0	0	228	25	5	4	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1860	0	0	1857	0	0	1830	0	0	0	0
Flt Permitted		0.989						0.973				
Satd. Flow (perm)	0	1860	0	0	1857	0	0	1830	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	9		8	8		9						
Peak Hour Factor	0.68	0.68	0.68	0.78	0.78	0.78	0.56	0.56	0.56	0.50	0.50	0.50
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	306	0	0	324	0	0	16	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 38.5% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	1.2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	164	0	0	228	25	5	4	0	0	0	0
Future Vol, veh/h	44	164	0	0	228	25	5	4	0	0	0	0
Conflicting Peds, #/hr	9	0	8	8	0	9	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	78	78	78	56	56	56	50	50	50
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	65	241	0	0	292	32	9	7	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	333	0	-	-	-	0	679	704	241
Stage 1	-	-	-	-	-	-	371	371	-
Stage 2	-	-	-	-	-	-	308	333	-
Critical Hdwy	4.11	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1232	-	0	0	-	-	419	363	800
Stage 1	-	-	0	0	-	-	700	621	-
Stage 2	-	-	0	0	-	-	748	646	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1232	-	-	-	-	-	393	0	800
Mov Cap-2 Maneuver	-	-	-	-	-	-	393	0	-
Stage 1	-	-	-	-	-	-	657	0	-
Stage 2	-	-	-	-	-	-	748	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.7	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	393	1232	-	-	-
HCM Lane V/C Ratio	0.041	0.053	-	-	-
HCM Control Delay (s)	14.6	8.1	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	-

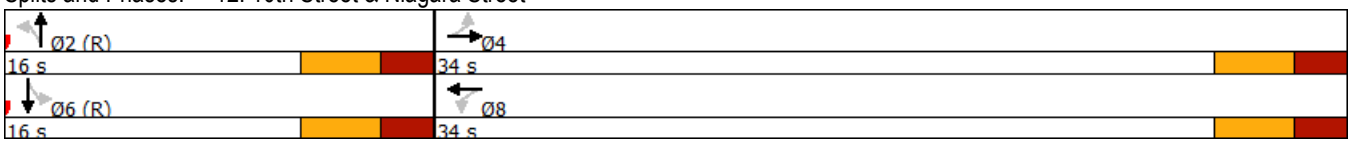
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	125	5	1	122	10	5	13	2	5	34	126
Future Volume (vph)	34	125	5	1	122	10	5	13	2	5	34	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1835	0	0	1841	0	0	1830	0	0	1657	0
Flt Permitted		0.924			0.999			0.901			0.993	
Satd. Flow (perm)	0	1712	0	0	1839	0	0	1668	0	0	1647	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			11			3			162	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	6		5	5		6	1		2	2		1
Peak Hour Factor	0.64	0.64	0.64	0.90	0.90	0.90	0.63	0.63	0.63	0.78	0.78	0.78
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	256	0	0	148	0	0	32	0	0	212	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.26			0.14			0.09			0.43	
Control Delay		5.9			4.8			15.3			8.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.9			4.8			15.3			8.8	
LOS		A			A			B			A	
Approach Delay		5.9			4.8			15.3			8.8	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		31			15			7			12	
Queue Length 95th (ft)		38			34			16			41	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		995			1071			369			488	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.26			0.14			0.09			0.43	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 7.1 Intersection LOS: A
Intersection Capacity Utilization 50.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	221	13	0	0	0	0	41	16	57	152	0
Future Volume (vph)	13	221	13	0	0	0	0	41	16	57	152	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3535	0	0	0	0	0	1792	0	0	1857	0
Flt Permitted		0.997									0.987	
Satd. Flow (perm)	0	3535	0	0	0	0	0	1792	0	0	1857	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)			3	3			4		2	2		4
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.67	0.67	0.67	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	261	0	0	0	0	0	85	0	0	298	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.0% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	221	13	0	0	0	0	41	16	57	152	0
Future Vol, veh/h	13	221	13	0	0	0	0	41	16	57	152	0
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.67	0.67	0.67	0.70	0.70	0.70
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	1	1	1
Mvmt Flow	14	233	14	0	0	0	0	61	24	81	217	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.5	8.5	10.8
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	11%	0%	27%
Vol Thru, %	72%	89%	89%	73%
Vol Right, %	28%	0%	11%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	124	124	209
LT Vol	0	13	0	57
Through Vol	41	111	111	152
RT Vol	16	0	13	0
Lane Flow Rate	85	130	130	299
Geometry Grp	2	7	7	2
Degree of Util (X)	0.113	0.198	0.193	0.393
Departure Headway (Hd)	4.789	5.478	5.35	4.734
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	745	653	668	758
Service Time	2.841	3.233	3.106	2.771
HCM Lane V/C Ratio	0.114	0.199	0.195	0.394
HCM Control Delay	8.5	9.6	9.4	10.8
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.4	0.7	0.7	1.9

Lanes, Volumes, Timings
2: John Daly Boulevard & Buffalo Avenue

09/06/2022

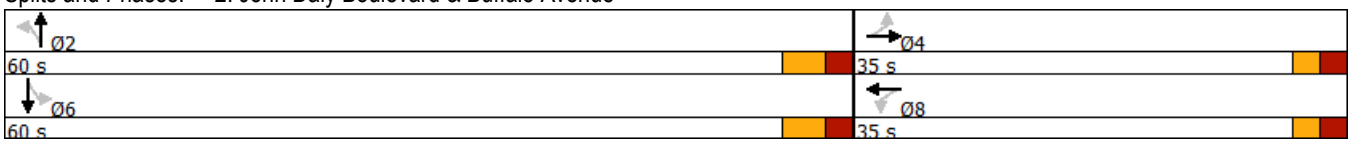
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	21	115	24	23	2	96	459	12	4	631	10
Future Volume (vph)	3	21	115	24	23	2	96	459	12	4	631	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1653	0	0	1708	0	0	3535	0	1787	3566	0
Flt Permitted		0.995			0.827			0.749		0.429		
Satd. Flow (perm)	0	1646	0	0	1447	0	0	2669	0	807	3566	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		142			2			4			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			511			608			468	
Travel Time (s)		24.8			11.6			13.8			10.6	
Confl. Peds. (#/hr)			1	1			4					4
Peak Hour Factor	0.81	0.81	0.81	0.82	0.82	0.82	0.96	0.96	0.96	0.86	0.86	0.86
Heavy Vehicles (%)	1%	1%	1%	8%	8%	8%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	172	0	0	59	0	0	591	0	5	746	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	35.0	35.0		35.0	35.0		60.0	60.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		36.8%	36.8%		63.2%	63.2%		63.2%	63.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.0			4.0			5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		10.2			10.2			16.2		16.2	16.2	
Actuated g/C Ratio		0.29			0.29			0.46		0.46	0.46	
v/c Ratio		0.30			0.14			0.49		0.01	0.46	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		5.1			10.1			8.3		5.2	7.7	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		5.1			10.1			8.3		5.2	7.7	
LOS		A			B			A		A	A	
Approach Delay		5.1			10.1			8.3			7.7	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		4			7			35		1	44	
Queue Length 95th (ft)		27			24			61		3	66	
Internal Link Dist (ft)		1010			431			528			388	
Turn Bay Length (ft)										45		
Base Capacity (vph)		1472			1280			2669		807	3566	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.12			0.05			0.22		0.01	0.21	

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 35.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 7.7 Intersection LOS: A
Intersection Capacity Utilization 61.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: John Daly Boulevard & Buffalo Avenue



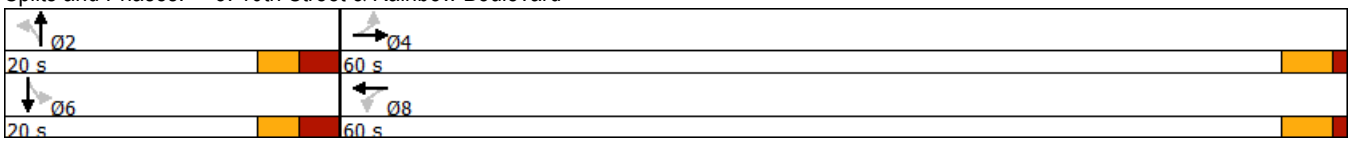
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	8	35	137	4	2	3	0	1	6	3
Future Volume (vph)	0	85	8	35	137	4	2	3	0	1	6	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1863	3493	0	1770	3525	0	0	1825	0	0	1785	0
Flt Permitted				0.688								
Satd. Flow (perm)	1863	3493	0	1282	3525	0	0	1863	0	0	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			4						3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		746			288			105			1374	
Travel Time (s)		17.0			6.5			2.4			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	101	0	38	153	0	0	5	0	0	11	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		2.5	2.5		2.5	2.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		29.1		29.1	29.1			9.2			9.2	
Actuated g/C Ratio		0.92		0.92	0.92			0.29			0.29	
v/c Ratio		0.03		0.03	0.05			0.01			0.02	
Control Delay		1.6		2.1	1.6			11.0			9.9	
Queue Delay		0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		1.6		2.1	1.6			11.0			9.9	
LOS		A		A	A			B			A	
Approach Delay		1.6			1.7			11.0			9.9	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0		0	0			1			1	
Queue Length 95th (ft)		10		11	14			7			10	
Internal Link Dist (ft)		666			208			25			1294	
Turn Bay Length (ft)				125								
Base Capacity (vph)		3493		1282	3525			900			869	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.03		0.03	0.04			0.01			0.01	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 31.8
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.05
Intersection Signal Delay: 2.1 Intersection LOS: A
Intersection Capacity Utilization 23.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: 10th Street & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	112	0	3	167	28	0	3	6	27	0	9
Future Volume (vph)	7	112	0	3	167	28	0	3	6	27	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1770	0	0	1808	0	0	1530	0	0	1752	0
Flt Permitted		0.997			0.999						0.964	
Satd. Flow (perm)	0	1770	0	0	1808	0	0	1530	0	0	1752	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1407			983			511			1634	
Travel Time (s)		32.0			22.3			11.6			37.1	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.79	0.79	0.79	0.89	0.89	0.89	0.50	0.50	0.50	0.69	0.69	0.69
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	13%	13%	13%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	222	0	0	18	0	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 26.8% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	112	0	3	167	28	0	3	6	27	0	9
Future Vol, veh/h	7	112	0	3	167	28	0	3	6	27	0	9
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	89	89	89	50	50	50	69	69	69
Heavy Vehicles, %	7	7	7	3	3	3	13	13	13	1	1	1
Mvmt Flow	9	142	0	3	188	31	0	6	12	39	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	220	0	0	143	0	0	377	387	143	380	372	205
Stage 1	-	-	-	-	-	-	161	161	-	211	211	-
Stage 2	-	-	-	-	-	-	216	226	-	169	161	-
Critical Hdwy	4.17	-	-	4.13	-	-	7.23	6.63	6.33	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.23	5.63	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.23	5.63	-	6.11	5.51	-
Follow-up Hdwy	2.263	-	-	2.227	-	-	3.617	4.117	3.417	3.509	4.009	3.309
Pot Cap-1 Maneuver	1320	-	-	1434	-	-	561	531	876	580	560	838
Stage 1	-	-	-	-	-	-	816	744	-	793	730	-
Stage 2	-	-	-	-	-	-	762	697	-	835	767	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1319	-	-	1433	-	-	548	525	875	563	554	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	548	525	-	563	554	-
Stage 1	-	-	-	-	-	-	809	738	-	787	728	-
Stage 2	-	-	-	-	-	-	749	695	-	811	761	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	10.2	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	716	1319	-	-	1433	-	-	613
HCM Lane V/C Ratio	0.025	0.007	-	-	0.002	-	-	0.085
HCM Control Delay (s)	10.2	7.7	0	-	7.5	0	-	11.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

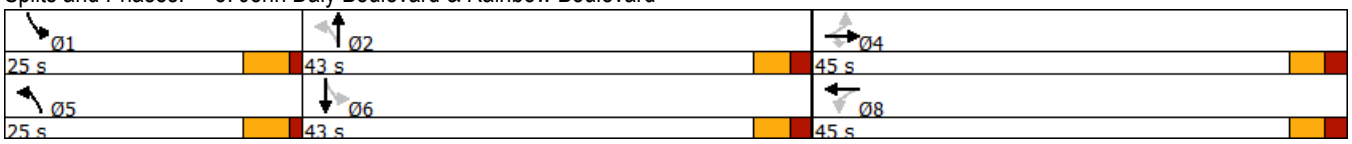
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	77	292	9	99	37	153	309	2	14	344	39
Future Volume (vph)	35	77	292	9	99	37	153	309	2	14	344	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		140	240		200	235		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	1736	4766	0	1787	3571	0	1787	3515	0
Flt Permitted	0.648			0.694			0.387			0.545		
Satd. Flow (perm)	1206	3539	1563	1267	4766	0	727	3571	0	1025	3515	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			348		43			1			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		883			746			468			1035	
Travel Time (s)		20.1			17.0			10.6			23.5	
Confl. Peds. (#/hr)	1		1	1		1	3					3
Peak Hour Factor	0.84	0.84	0.84	0.87	0.87	0.87	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	92	348	10	157	0	170	345	0	15	403	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		3.0	6.0		3.0	6.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		8.0	11.0		8.0	11.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	43.0		25.0	43.0	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%		22.1%	38.1%		22.1%	38.1%	
Maximum Green (s)	40.0	40.0	40.0	40.0	40.0		20.0	38.0		20.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	3.0		4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	10.7	10.7	10.7	10.7	10.7		26.1	24.2		16.9	10.9	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.56	0.52		0.36	0.23	
v/c Ratio	0.15	0.11	0.56	0.03	0.14		0.27	0.19		0.03	0.49	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	17.8	16.2	6.6	16.4	12.4		6.2	7.4		5.9	17.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.8	16.2	6.6	16.4	12.4		6.2	7.4		5.9	17.7	
LOS	B	B	A	B	B		A	A		A	B	
Approach Delay		9.4			12.7			7.0			17.2	
Approach LOS		A			B			A			B	
Queue Length 50th (ft)	9	10	0	2	8		18	19		2	46	
Queue Length 95th (ft)	30	26	43	12	23		44	64		7	91	
Internal Link Dist (ft)		803			666			388			955	
Turn Bay Length (ft)	255		140	240			235			200		
Base Capacity (vph)	1041	3056	1397	1094	4122		862	2930		899	2886	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.04	0.03	0.25	0.01	0.04		0.20	0.12		0.02	0.14	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 46.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 11.0 Intersection LOS: B
Intersection Capacity Utilization 52.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: John Daly Boulevard & Rainbow Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	10	78	12	14	6	105	269	4	7	307	12
Future Volume (vph)	13	10	78	12	14	6	105	269	4	7	307	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1674	0	0	1799	0	0	3517	0	0	3553	0
Flt Permitted		0.994			0.982			0.986			0.999	
Satd. Flow (perm)	0	1674	0	0	1799	0	0	3517	0	0	3553	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			365			1035			777	
Travel Time (s)		13.8			8.3			23.5			17.7	
Confl. Peds. (#/hr)			1	1			3					3
Peak Hour Factor	0.84	0.84	0.84	0.80	0.80	0.80	0.87	0.87	0.87	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	120	0	0	41	0	0	435	0	0	335	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 36.8% ICU Level of Service A
Analysis Period (min) 15

Intersection												
Int Delay, s/veh	3.8											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	10	78	12	14	6	105	269	4	7	307	12
Future Vol, veh/h	13	10	78	12	14	6	105	269	4	7	307	12
Conflicting Peds, #/hr	0	0	1	1	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	80	80	80	87	87	87	97	97	97
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	15	12	93	15	18	8	121	309	5	7	316	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	745	895	168	733	899	157	331	0	0	314	0	0
Stage 1	339	339	-	554	554	-	-	-	-	-	-	-
Stage 2	406	556	-	179	345	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.31	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	304	280	850	310	279	864	1232	-	-	1250	-	-
Stage 1	652	641	-	487	514	-	-	-	-	-	-	-
Stage 2	595	513	-	808	637	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	257	244	847	240	243	864	1228	-	-	1250	-	-
Mov Cap-2 Maneuver	257	244	-	240	243	-	-	-	-	-	-	-
Stage 1	572	635	-	429	453	-	-	-	-	-	-	-
Stage 2	500	452	-	700	631	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	20.1	2.5	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1228	-	-	550	279	1250	-	-
HCM Lane V/C Ratio	0.098	-	-	0.219	0.143	0.006	-	-
HCM Control Delay (s)	8.3	0.3	-	13.4	20.1	7.9	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.8	0.5	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	21	32	4	0	0
Future Volume (vph)	0	21	32	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1881	1853	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1881	1853	0	0	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		365	347		784	
Travel Time (s)		8.3	7.9		17.8	
Peak Hour Factor	0.60	0.60	0.83	0.83	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	35	44	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 6.7% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	19	0	2	30	5	0	4	3	8	8	6
Future Volume (vph)	2	19	0	2	30	5	0	4	3	8	8	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1872	0	0	1844	0	0	1776	0	0	1775	0
Flt Permitted		0.995			0.998						0.982	
Satd. Flow (perm)	0	1872	0	0	1844	0	0	1776	0	0	1775	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		347			1995			1374			792	
Travel Time (s)		7.9			45.3			31.2			18.0	
Confl. Peds. (#/hr)	3		1	1		3	1					1
Peak Hour Factor	0.63	0.63	0.63	0.84	0.84	0.84	0.58	0.58	0.58	0.79	0.79	0.79
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	44	0	0	12	0	0	28	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 19.1% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	19	0	2	30	5	0	4	3	8	8	6
Future Vol, veh/h	2	19	0	2	30	5	0	4	3	8	8	6
Peak Hour Factor	0.63	0.63	0.63	0.84	0.84	0.84	0.58	0.58	0.58	0.79	0.79	0.79
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	30	0	2	36	6	0	7	5	10	10	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7.2	6.9	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	10%	5%	36%
Vol Thru, %	57%	90%	81%	36%
Vol Right, %	43%	0%	14%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	21	37	22
LT Vol	0	2	2	8
Through Vol	4	19	30	8
RT Vol	3	0	5	6
Lane Flow Rate	12	33	44	28
Geometry Grp	1	1	1	1
Degree of Util (X)	0.013	0.037	0.048	0.031
Departure Headway (Hd)	3.816	4.04	3.942	3.97
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	935	887	909	900
Service Time	1.852	2.063	1.964	2.003
HCM Lane V/C Ratio	0.013	0.037	0.048	0.031
HCM Control Delay	6.9	7.2	7.2	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.2	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	23	3	4	28	10	3	29	6	18	29	6
Future Volume (vph)	4	23	3	4	28	10	3	29	6	18	29	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1842	0	0	1794	0	0	1836	0	0	1821	0
Flt Permitted		0.993			0.995			0.997			0.983	
Satd. Flow (perm)	0	1842	0	0	1794	0	0	1836	0	0	1821	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1995			919			1634			848	
Travel Time (s)		45.3			20.9			37.1			19.3	
Confl. Peds. (#/hr)	12		1	1		12						
Peak Hour Factor	0.61	0.61	0.61	0.67	0.67	0.67	0.86	0.86	0.86	0.74	0.74	0.74
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	63	0	0	44	0	0	71	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.0% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	23	3	4	28	10	3	29	6	18	29	6
Future Vol, veh/h	4	23	3	4	28	10	3	29	6	18	29	6
Peak Hour Factor	0.61	0.61	0.61	0.67	0.67	0.67	0.86	0.86	0.86	0.74	0.74	0.74
Heavy Vehicles, %	1	1	1	2	2	2	1	1	1	1	1	1
Mvmt Flow	7	38	5	6	42	15	3	34	7	24	39	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.4	7.4	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	13%	10%	34%
Vol Thru, %	76%	77%	67%	55%
Vol Right, %	16%	10%	24%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	30	42	53
LT Vol	3	4	4	18
Through Vol	29	23	28	29
RT Vol	6	3	10	6
Lane Flow Rate	44	49	63	72
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.056	0.071	0.082
Departure Headway (Hd)	4.088	4.133	4.049	4.146
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	866	857	876	857
Service Time	2.157	2.203	2.116	2.208
HCM Lane V/C Ratio	0.051	0.057	0.072	0.084
HCM Control Delay	7.4	7.5	7.4	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.3

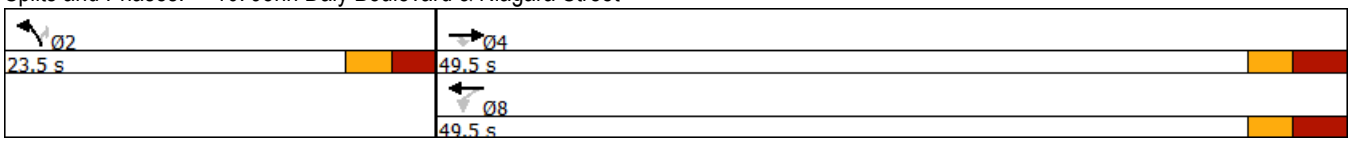
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	114	285	41	90	224	64
Future Volume (vph)	114	285	41	90	224	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1881	1599	0	3486	1787	1599
Flt Permitted				0.839	0.950	
Satd. Flow (perm)	1881	1571	0	2965	1787	1564
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		320				78
Link Speed (mph)	30			30	30	
Link Distance (ft)	897			311	777	
Travel Time (s)	20.4			7.1	17.7	
Confl. Peds. (#/hr)		11	11			1
Peak Hour Factor	0.89	0.89	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	320	0	160	273	78
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	9.5	9.5	9.5	9.5	6.0	6.0
Minimum Split (s)	15.0	15.0	15.0	15.0	11.0	11.0
Total Split (s)	49.5	49.5	49.5	49.5	23.5	23.5
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%
Maximum Green (s)	44.0	44.0	44.0	44.0	18.5	18.5
Yellow Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
All-Red Time (s)	3.0	3.0	3.0	3.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	10.8	10.8		10.8	10.2	10.2
Actuated g/C Ratio	0.34	0.34		0.34	0.32	0.32
v/c Ratio	0.20	0.43		0.16	0.47	0.14
Control Delay	9.2	3.6		8.5	11.2	3.0
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	9.2	3.6		8.5	11.2	3.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A		A	B	A
Approach Delay	5.2			8.5	9.4	
Approach LOS	A			A	A	
Queue Length 50th (ft)	14	0		8	31	0
Queue Length 95th (ft)	41	32		22	63	12
Internal Link Dist (ft)	817			231	697	
Turn Bay Length (ft)						
Base Capacity (vph)	1881	1571		2965	1057	957
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.07	0.20		0.05	0.26	0.08

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 31.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 7.3 Intersection LOS: A
Intersection Capacity Utilization 35.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: John Daly Boulevard & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	150	0	0	131	23	0	4	0	0	0	0
Future Volume (vph)	28	150	0	0	131	23	0	4	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1848	0	0	1844	0	0	1881	0	0	0	0
Flt Permitted		0.992										
Satd. Flow (perm)	0	1848	0	0	1844	0	0	1881	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		311			353			784			509	
Travel Time (s)		7.1			8.0			17.8			11.6	
Confl. Peds. (#/hr)	3		8	8		3						
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.75	0.75	0.75	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	202	0	0	181	0	0	5	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.5% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	150	0	0	131	23	0	4	0	0	0	0
Future Vol, veh/h	28	150	0	0	131	23	0	4	0	0	0	0
Conflicting Peds, #/hr	3	0	8	8	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	85	85	85	75	75	75	90	90	90
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	1	1	1
Mvmt Flow	32	170	0	0	154	27	0	5	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	184	0	-	-	-	0	402	418	170
Stage 1	-	-	-	-	-	-	234	234	-
Stage 2	-	-	-	-	-	-	168	184	-
Critical Hdwy	4.12	-	-	-	-	-	6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.41	5.51	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1391	-	0	0	-	-	606	527	876
Stage 1	-	-	0	0	-	-	807	713	-
Stage 2	-	-	0	0	-	-	864	749	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1391	-	-	-	-	-	591	0	876
Mov Cap-2 Maneuver	-	-	-	-	-	-	591	0	-
Stage 1	-	-	-	-	-	-	787	0	-
Stage 2	-	-	-	-	-	-	864	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.2	0	
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	-	1391	-	-	-
HCM Lane V/C Ratio	-	0.023	-	-	-
HCM Control Delay (s)	-	7.6	0	-	-
HCM Lane LOS	-	A	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-	-

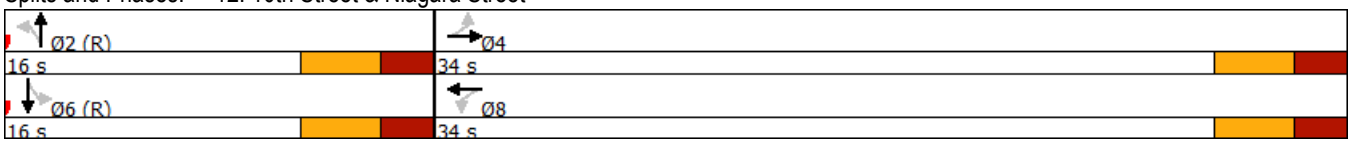
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	117	2	0	92	5	1	10	0	3	20	61
Future Volume (vph)	31	117	2	0	92	5	1	10	0	3	20	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1842	0	0	1829	0	0	1727	0	0	1693	0
Flt Permitted		0.935						0.950			0.993	
Satd. Flow (perm)	0	1737	0	0	1829	0	0	1656	0	0	1684	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			7						67	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		353			687			792			830	
Travel Time (s)		8.0			15.6			18.0			18.9	
Confl. Peds. (#/hr)	9		1	1		9			6	6		
Peak Hour Factor	0.82	0.82	0.82	0.75	0.75	0.75	0.25	0.55	0.55	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	9%	9%	9%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	183	0	0	130	0	0	22	0	0	92	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	16.0		16.0	16.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		11.0	11.0		11.0	11.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
v/c Ratio		0.18			0.12			0.06			0.22	
Control Delay		5.4			4.9			16.0			8.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.4			4.9			16.0			8.8	
LOS		A			A			B			A	
Approach Delay		5.4			4.9			16.0			8.8	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		21			14			5			6	
Queue Length 95th (ft)		38			25			11			34	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		273			607			712			750	
Turn Bay Length (ft)												
Base Capacity (vph)		1008			1063			364			422	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.18			0.12			0.06			0.22	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 50
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.22
Intersection Signal Delay: 6.5 Intersection LOS: A
Intersection Capacity Utilization 41.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: 10th Street & Niagara Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	198	11	0	0	0	0	33	13	22	73	0
Future Volume (vph)	2	198	11	0	0	0	0	33	13	22	73	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3514	0	0	0	0	0	1810	0	0	1860	0
Flt Permitted											0.989	
Satd. Flow (perm)	0	3514	0	0	0	0	0	1810	0	0	1860	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		799			805			830			511	
Travel Time (s)		18.2			18.3			18.9			11.6	
Confl. Peds. (#/hr)	6		5	5		6	3		5	5		3
Peak Hour Factor	0.96	0.90	0.96	0.90	0.90	0.90	0.72	0.72	0.72	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	233	0	0	0	0	0	64	0	0	105	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 26.7% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	198	11	0	0	0	0	33	13	22	73	0
Future Vol, veh/h	2	198	11	0	0	0	0	33	13	22	73	0
Peak Hour Factor	0.96	0.90	0.96	0.90	0.90	0.90	0.72	0.72	0.72	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	1	1	1
Mvmt Flow	2	220	11	0	0	0	0	46	18	24	81	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	8.5	7.8	8.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	2%	0%	23%
Vol Thru, %	72%	98%	90%	77%
Vol Right, %	28%	0%	10%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	101	110	95
LT Vol	0	2	0	22
Through Vol	33	99	99	73
RT Vol	13	0	11	0
Lane Flow Rate	64	112	121	106
Geometry Grp	2	7	7	2
Degree of Util (X)	0.079	0.154	0.164	0.135
Departure Headway (Hd)	4.429	4.938	4.858	4.594
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	811	727	740	782
Service Time	2.447	2.657	2.577	2.61
HCM Lane V/C Ratio	0.079	0.154	0.164	0.136
HCM Control Delay	7.8	8.6	8.5	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.6	0.5