

**TRAFFIC IMPACT STUDY
FOR
PROPOSED GENERAL TIME DEVELOPMENT
ON NEWTON BRIDGE ROAD
CLARKE COUNTY, GEORGIA**



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1.0 INTRODUCTION

The purpose of this study is to determine the traffic impact from the proposed mixed-use development that will be located on Newton Bridge Road in Clarke County, Georgia. The traffic analysis includes evaluation of the current operations and future conditions with the traffic generated by the development. The proposed development will consist of:

- Townhomes: 56 units
- Flex Office Space: 182,031 sf
- Restaurant: 9,000 sf



The development proposes access at the following locations:

- Site Driveway 1: Full-access driveway on Newton Bridge Road, aligned with Paradise Boulevard (Southern).
- Site Driveway 2: Full-access driveway on Dairy Pak Road.
- Site Driveway 3: Full-access driveway on Dairy Pak Road.

The AM and PM peak hours have been analysed in this study. This study includes the evaluation of traffic operations at the intersections of:

1. SR 10/US 129 (Athens Perimeter) Eastbound Ramp at North Chase Street
2. SR 10/US 129 (Athens Perimeter) Westbound Ramp @ North Chase Street
3. North Chase Street/Dairy Pak Road @ Newton Bridge Road/Barber Street

4. Newton Bridge Road @ Paradise Boulevard (South)
5. Newton Bridge Road @ Paradise Boulevard (North)
6. Newton Bridge Road @ Fritz Mar Lane
7. Newton Bridge Road @ Kathwood Drive
8. Newton Bridge Road @ SR 15 /US 441 (Commerce Road)

Recommendations to improve traffic operations have been identified as appropriate and are discussed in detail in the following sections of the report. The location of the development and the surrounding roadway network are shown in Figure 1.



LOCATION MAP

FIGURE 1

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2.0 EXISTING FACILITIES / CONDITIONS

2.1 Roadway Facilities

The following is a brief description of each of the roadway facilities located in proximity to the site:

2.1.1 *Newton Bridge Road*

Newton Bridge Road is a north-south, four-lane undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. Georgia Department of Transportation (GDOT) traffic counts (Station ID: 059-0185) indicate that the daily traffic volume on Newton Bridge Road in 2023 was 11,000 vehicles per day south of Fritz Mar Lane. GDOT classifies Newton Bridge Road as an urban minor arterial roadway.

2.1.2 *SR 15/ US 441 (Commerce Road)*

SR 15/ US 441 (Commerce Road) is a north-south, four-lane median divided roadway with two way left turns and a posted speed limit of 65 mph to the north of Newtons Bridge Road and 55 mph to the south of Newtons Bridge Road in the vicinity of the site. Since synchro software allows speed limit of 25mph to 55mph for the analysis, therefore the speed limit on SR 15/ US 441 (Commerce Road) is taken as 55mph. Georgia Department of Transportation (GDOT) traffic counts (Station ID: 059-0094) indicate that the daily traffic volume on SR 15/ US 441 (Commerce Road) in 2023 was 17,400 vehicles per day north of Newton Bridge Road. GDOT classifies SR 15/ US 441 (Commerce Road) as a rural principal arterial roadway.

2.1.3 *SR 10/ US 129 (Athens Perimeter)*

SR 10/ US 129 (Athens Perimeter) is an east-west, four-lane median-divided roadway with a posted speed limit of 65 mph in the vicinity of the site. Georgia Department of Transportation (GDOT) traffic counts (Station ID: 059-0018) indicate that the daily traffic volume on SR 10/ US 129 (Athens Perimeter) in 2023 was 63,100 vehicles per day west of SR 15/ US 441 (Commerce Road). GDOT classifies SR 10/ US 129 (Athens Perimeter) as an urban principal arterial roadway.

2.1.4 *N Chase Street*

N Chase Street is a north-south, four-lane undivided roadway with a posted speed limit of 40 mph in the vicinity of the site. Georgia Department of Transportation (GDOT) traffic counts (Station ID: 059-0443) indicate that the daily traffic volume on N Chase Street in 2023 was 9,030 vehicles per day north of Winston Drive. GDOT classifies N Chase Street as an urban minor arterial roadway.

2.1.5 *Dairy Pak Road*

Dairy Pak Road is an east-west, two-lane, undivided roadway with an assumed speed limit of 25 mph in the vicinity of the site.

2.1.6 *Paradise Boulevard (North)*

Paradise Boulevard (North) is an east-west, two-lane, undivided roadway with an assumed speed limit of 25 mph in the vicinity of the site.

2.1.7 Paradise Boulevard (South)

Paradise Boulevard (South) is an east-west, two-lane, undivided roadway with an assumed speed limit of 25 mph in the vicinity of the site.

2.1.8 Fritz Mar Lane

Paradise Boulevard (South) is an east-west, two-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the site.

2.1.9 Kathwood Drive

Kathwood Drive is an east-west, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. Georgia Department of Transportation (GDOT) traffic counts (Station ID: 059-0565) indicate that the daily traffic volume on Kathwood Drive in 2023 was 3,990 vehicles per day southwest of Cumberland Cort. GDOT classifies Kathwood Drive as an urban major collector roadway.

2.1.10 Barber Street

Barber Street is a north-south, four-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. Georgia Department of Transportation (GDOT) traffic counts (Station ID: 059-0189) indicate that the daily traffic volume on Barber Street in 2023 was 4,870 vehicles per day northwest of Barrow Street. GDOT classifies Barber Street as an urban major collector roadway.

3.0 STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 6th edition (HCM 6). Synchro software, which utilizes the HCM methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

3.1 Unsignalized Intersections

For unsignalized intersections controlled by a stop sign on minor streets, the level of service (LOS) for motor vehicles with controlled movements is determined by the computed control delay according to the thresholds stated in Table 1 below. LOS is determined for each minor street movement (or shared movement), as well as major street left turns. LOS is not defined for the intersection as a whole or for major street approaches. The LOS of any controlled movement which experiences a volume-to-capacity ratio greater than 1 is designated as "F" regardless of the control delay.

Control delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the control delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue.

Level of service is assigned a letter designation from "A" through "F". Level of service "A" indicates excellent operations with little delay to motorists, while level of service "F" exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross the main road without experiencing long delays.

TABLE 1 — LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS		
Control Delay (sec/vehicle)	LOS by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	v/c > 1.0
≤ 10	A	F
> 10 and ≤ 15	B	F
> 15 and ≤ 25	C	F
> 25 and ≤ 35	D	F
> 35 and ≤ 50	E	F
> 50	F	F

*The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for Major-street approaches or for the intersection.

Source: Highway Capacity Manual, 6th edition, Exhibit 20-2 *LOS Criteria: Motorized Vehicle Mode*

3.2 Signalized Intersections

According to HCM procedures, LOS can be calculated for the entire intersection, each intersection approach, and each lane group. HCM uses control delay alone to characterize LOS for the entire intersection or an approach. Control delay per vehicle is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Both control delay and volume-to-capacity ratio are used to characterize LOS for a lane group. A volume-to-capacity ratio greater than 1.0 for a lane group indicates failure from capacity perspective. Therefore, such a lane group is assigned LOS F regardless of the amount of control delay.

Table 2 below summarizes the LOS criteria from HCM for motorized vehicles at signalized intersection.

TABLE 2 — LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS		
Control Delay (sec/vehicle) *	LOS for Lane Group by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	v/c > 1.0
≤ 10	A	F
> 10 and ≤ 20	B	F
> 20 and ≤ 35	C	F
> 35 and ≤ 55	D	F
> 55 and ≤ 80	E	F
> 80	F	F

*For approach-based and intersection wide assessments, LOS is defined solely by control delay

Source: Highway Capacity Manual, 6th edition, Exhibit 19-8 *LOS Criteria: Motorized Vehicle Mode*

LOS A is typically assigned when the volume-to-capacity (v/c) ratio is low and either progression is exceptionally favorable, or the cycle length is very short. LOS B is typically assigned when the v/c ratio is low and either progression is highly favorable, or the cycle length is short. However, more vehicles are stopped than with LOS A. LOS C is typically assigned when progression is favorable, or the cycle length is moderate. Individual *cycle failures* (one or more queued vehicles are not able to depart because of insufficient capacity during the cycle) may begin to appear at this level. Many vehicles still pass through the intersection without stopping, but the number of vehicles stopping is significant. LOS D is typically assigned when the v/c ratio is high and either progression is ineffective, or the cycle length is long. There are many vehicle-stops and individual cycle failures are noticeable. LOS E is typically assigned when the v/c ratio is high, progression is very poor, the cycle length is long, and individual cycle failures are frequent. LOS F is typically assigned when the v/c ratio is very high, progression is very poor, the cycle length is long, and most cycles fail to clear the queue.

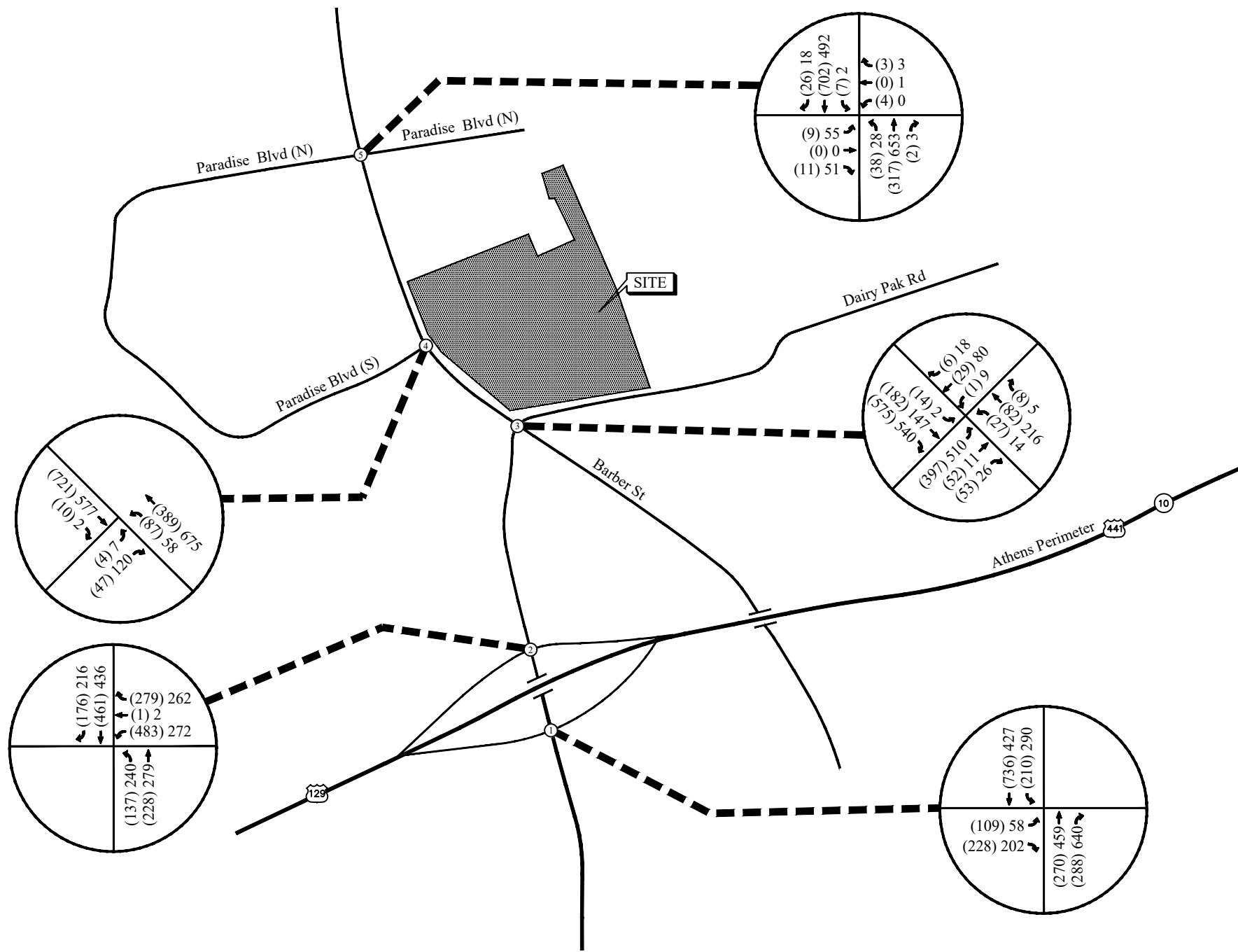
4.0 EXISTING 2025 TRAFFIC ANALYSIS

4.1 Existing Traffic Volumes

Existing traffic counts were obtained at the following study intersections:

1. SR 10/US 129 (Athens Perimeter) Eastbound Ramp at North Chase Street
2. SR 10/US 129 (Athens Perimeter) Westbound Ramp @ North Chase Street
3. North Chase Street/Dairy Pak Road @ Newton Bridge Road/Barber Street
4. Newton Bridge Road @ Paradise Boulevard (South)
5. Newton Bridge Road @ Paradise Boulevard (North)
6. Newton Bridge Road @ Fritz Mar Lane
7. Newton Bridge Road @ Kathwood Drive
8. Newton Bridge Road @ SR 15 /US 441 (Commerce Road)

Turning movement counts were collected on Tuesday, May 06, 2025. All turning movement counts were recorded during the AM and PM peak hours between 7:00 am to 9:00 am and 4:00 pm to 6:00 pm, respectively. The four consecutive 15-minute interval volumes that produced the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2. The existing traffic control and lane geometry for the intersections are shown in Figure 3.



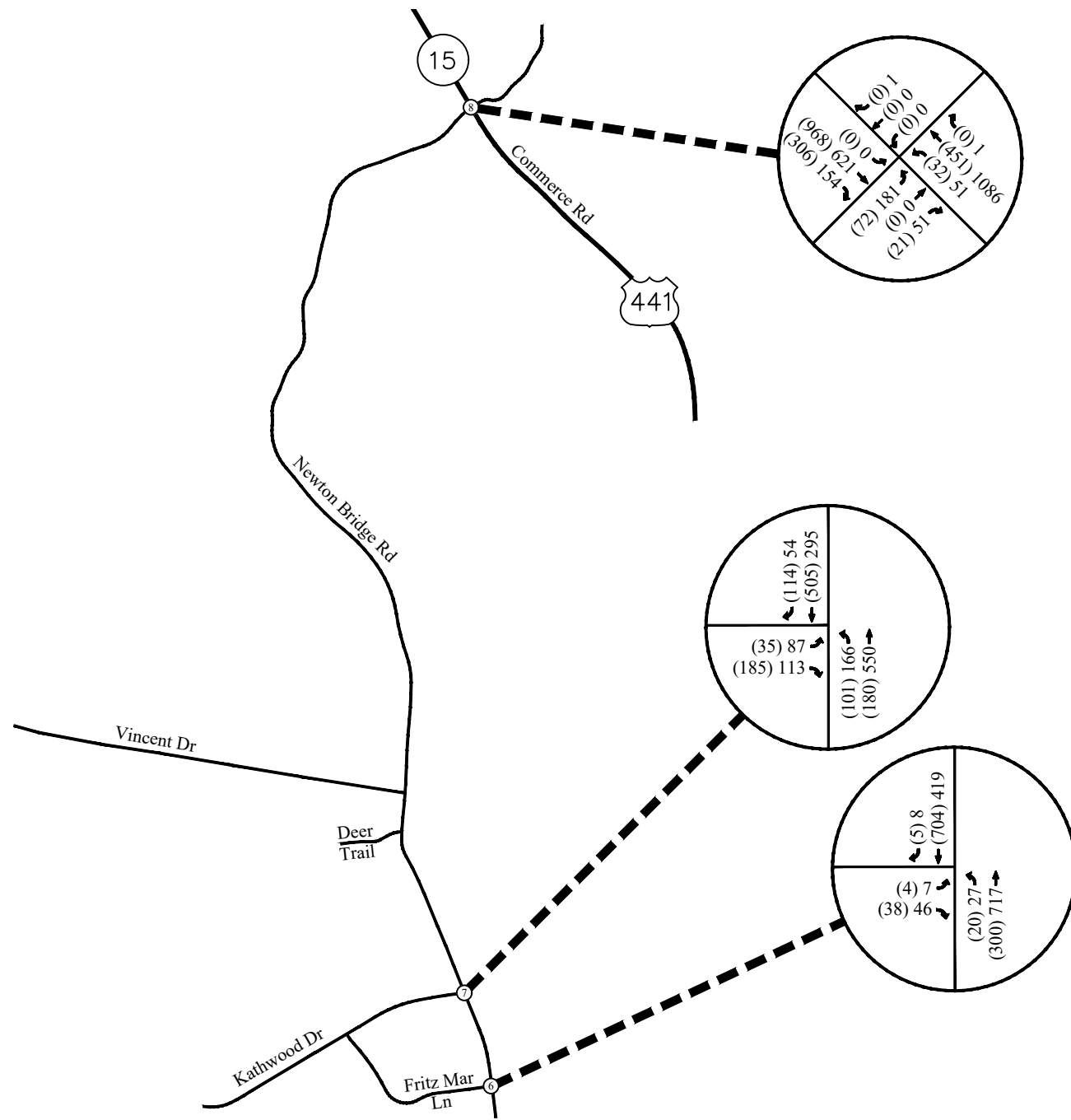
(AM) PM



EXISTING WEEKDAY PEAK-HOUR VOLUMES

FIGURE 2A

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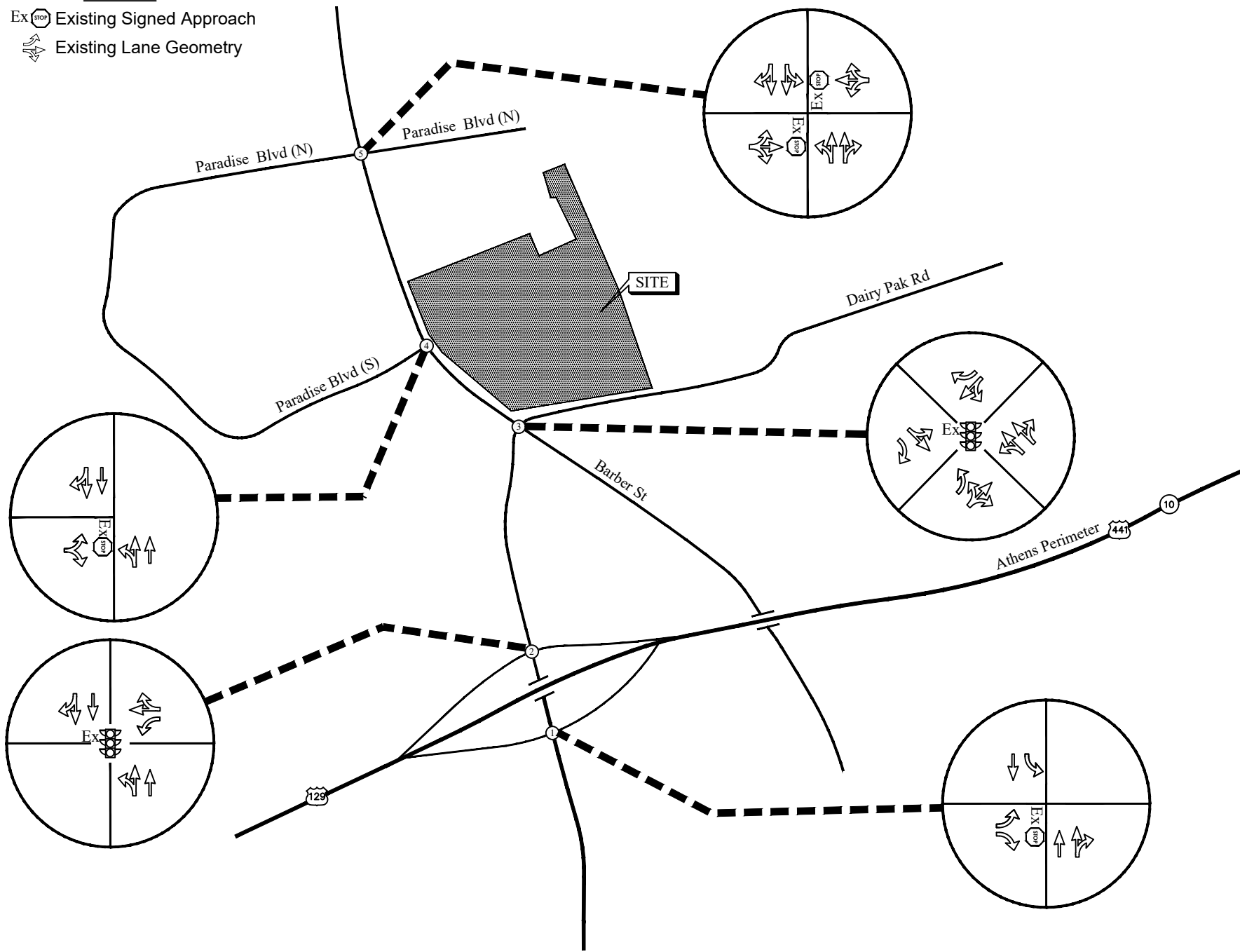
(AM) PM



EXISTING WEEKDAY PEAK-HOUR VOLUMES

FIGURE 2B
A&R Engineering Inc.

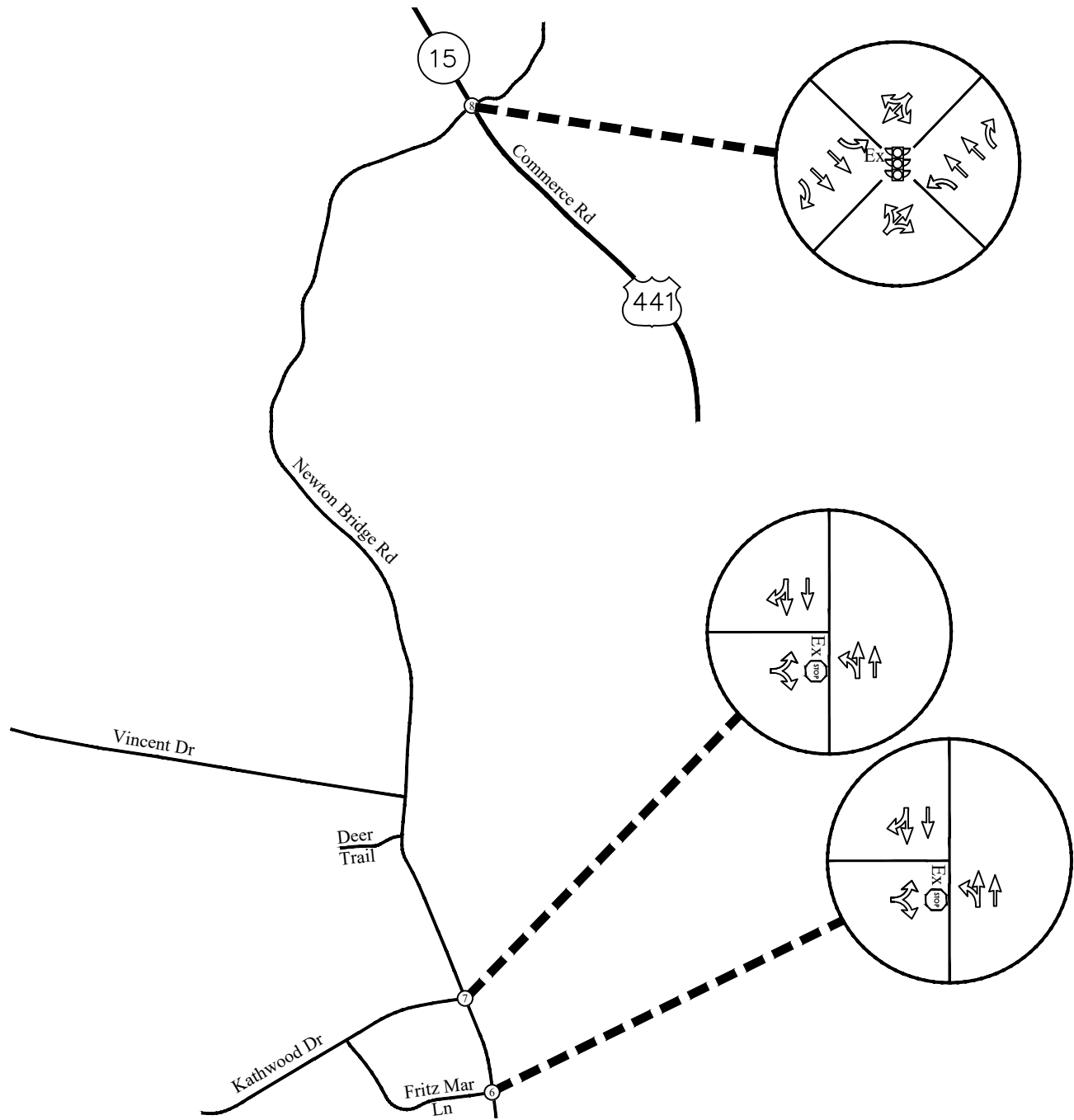
- LEGEND**
- Ex  Existing Signed Approach
 -  Existing Lane Geometry



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 3A
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- LEGEND**
- Ex  Existing Signed Approach
 -  Existing Lane Geometry



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 3B
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4.2 Existing Traffic Operations

Existing 2025 traffic operations were analyzed at the study intersections in accordance with the HCM methodology. The results of the analyses are shown in Table 3.

TABLE 3 — EXISTING INTERSECTION OPERATIONS				
Intersection		Traffic Control	LOS (Delay)	
			AM Peak Hour	PM Peak Hour
1	<u>N Chase Street at SR 10/ US 129 (Athens Perimeter)</u> <u>Eastbound Ramps</u> -Eastbound Approach -Southbound Left	Stop Controlled on EB Approach	F (70.8) A (9.7)	F (61.1) C (19.3)
2	<u>N Chase Street at SR 10/ US 129 (Athens Perimeter)</u> <u>Westbound Ramps</u> -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>C (25.3)</u> D (41.2) B (15.2) B (12.1)	<u>B (18.2)</u> C (32.1) B (14.9) A (9.4)
3	<u>N Chase Street/ Newton Bridge Road @ Barber Street / Dairy Pak Road</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>D (35.8)</u> D (47.8) E (61.1) B (10.4) B (11.7)	<u>D (36.3)</u> D (48.9) E (61.0) B (11.6) C (11.8)
4	<u>Newton Bridge Road @ Paradise Boulevard (South)</u> -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	B (13.5) B (10.0)	B (13.6) A (9.2)
5	<u>Newton Bridge Road @ Paradise Boulevard (North)</u> -Eastbound Approach -Westbound Approach -Northbound Left -Southbound Left	Stop Controlled on EB and WB Approaches	C (19.1) C (15.6) A (9.6) A (8.0)	D (26.7) C (16.2) A (8.8) A (9.2)
6	<u>Newton Bridge Road @ Fritz Mar Lane</u> -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	B (12.7) A (9.6)	B (11.6) A (8.4)
7	<u>Newton Bridge Road @ Kathwood Drive</u> -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	C (20.4) A (9.7)	E (43.4) A (8.7)
8	<u>SR 15/ US 441 (Commerce Road) @ Newton Bridge Road / Taqueria Mi Tierra Driveway</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>A (8.2)</u> E (56.1) D (49.1) A (2.8) A (6.7)	<u>B (14.8)</u> D (50.6) D (37.2) A (9.6) B (11.6)

The analysis of existing traffic operations shows that the signalized study intersections operate at an overall Level of Service “D” or better during both the AM and PM peak hours. The results of the existing traffic operations show that the stop-controlled study intersections are operating at a level of service “E” or better during the AM and PM peak hours, except for the westbound approach at the intersection of N Chase Street at SR 10 / US 129 (Athens Perimeter).

5.0 PROPOSED DEVELOPMENT

The mixed-use development will consist of:

- Town homes: 56 units
- Flex Office Space: 182,031 sf
- Restaurant: 9,000 sf



The development proposes access at the following locations:

- Site Driveway 1: Full-access driveway on Newton Bridge Road, aligned with Paradise Boulevard (Southern).
- Site Driveway 2: Full-access driveway on Dairy Pak Road.
- Site Driveway 3: Full-access driveway on Dairy Pak Road.

A site plan is shown in Figure 4.

Figure 4 – Site Plan

5.1 Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 11th edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the ITE Land Uses: 215 – *Single-Family Attached Housing*, 710 – *General Office Building* and 932 – *Hight- Turnover (Sit-Down) Restaurant*. The calculated total trip generation for the proposed development is shown in Table 4A.

TABLE 4 A— TRIP GENERATION								
Land Use	Size	AM Peak Hour			PM Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	Two-way
ITE 215 – Single-Family Attached Housing	56 units	6	17	23	18	12	30	376
Mixed-Use Reduction		-2	-4	-6	-4	-5	-9	-102
ITE 710 – General Office Building	182,031 sf	247	33	280	46	227	273	1,954
Mixed-Use Reduction		-1	-1	-2	-1	-1	-2	-39
ITE 932 – Hight- Turnover (Sit-Down) Restaurant	9,000 sf	47	39	86	50	31	81	965
Pass by Trips (0%) 43%		0	0	0	-22	-13	-35	-350
Mixed-Use Reduction		-5	-3	-8	-6	-5	-11	-129
Total Trips (without Reductions)		300	89	389	114	270	384	3,295
New External Trips (with Reductions)		292	81	373	81	246	327	2,675

5.2 Trip Distribution

The trip distribution describes how traffic arrives and departs from the site. An overall trip distribution was developed for the site based on a review of the existing travel patterns in the area and the locations of major roadways and highways that will serve the development. The site-generated peak hour traffic volumes, shown in Table 4A, were assigned to the study area intersections based on this distribution. The outer-leg distribution and AM and PM peak hour new traffic generated by the site for Residential, office and Restaurant shown in Figure 5A, 5B AND 5C respectively and the estimated pass-by trips are shown in Figure 6.

5.2.1 Nearby Planned Residential Development on Newton Bridge Road to the north of the proposed development

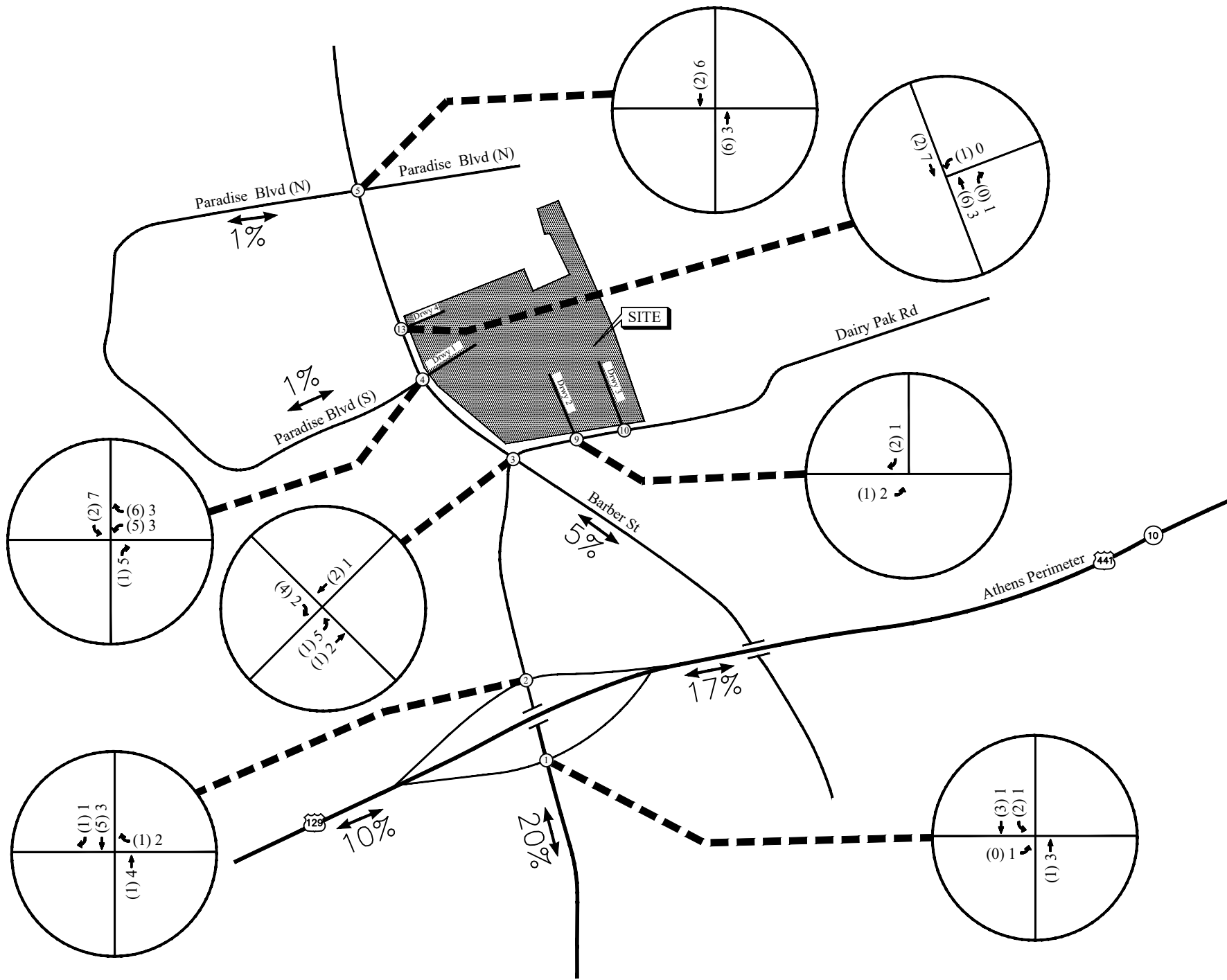
There is a planned Residential Development that is located along east side of the Newton Bridge Road to the north of the proposed development. The development will consist of 184 townhomes units and 166 detached homes and proposes one full access driveway on Newtons Bridge Road aligned with Vincent Drive and one full access driveway on Newtons Bridge Road aligned with Deer Trail. Because this project is estimated to be completed by 2029, its impact on the study area was considered in both the “No-Build” and “Build” future conditions analyses.

The calculated site-generated traffic volumes for this development are shown in Table 4B, and the AM and PM peak hour volumes passing through the study area for residential are shown in Figure 7.

TABLE 4B – TRIP GENERATION (ADJACENT SITE)								
Land Use	Size	AM Peak Hour			PM Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	Two-Way
ITE 210 – Single-Family Detached Housing	166 Units	30	88	118	101	59	160	1,608
ITE 215 – Single-Family Attached Housing	184 Units	22	68	90	63	43	106	1,352
Total Trips		52	156	208	164	102	266	2,960

5.2.2 Nearby Planned Roundabouts at the two US 129 Interchange ramps intersections along N. Chase Street– GDOT PI 0015390

This project proposes to install the roundabouts at the two US 129 Interchange ramps intersections along N. Chase Street. This planned project was considered in both “No-Build” and “Build” Conditions.



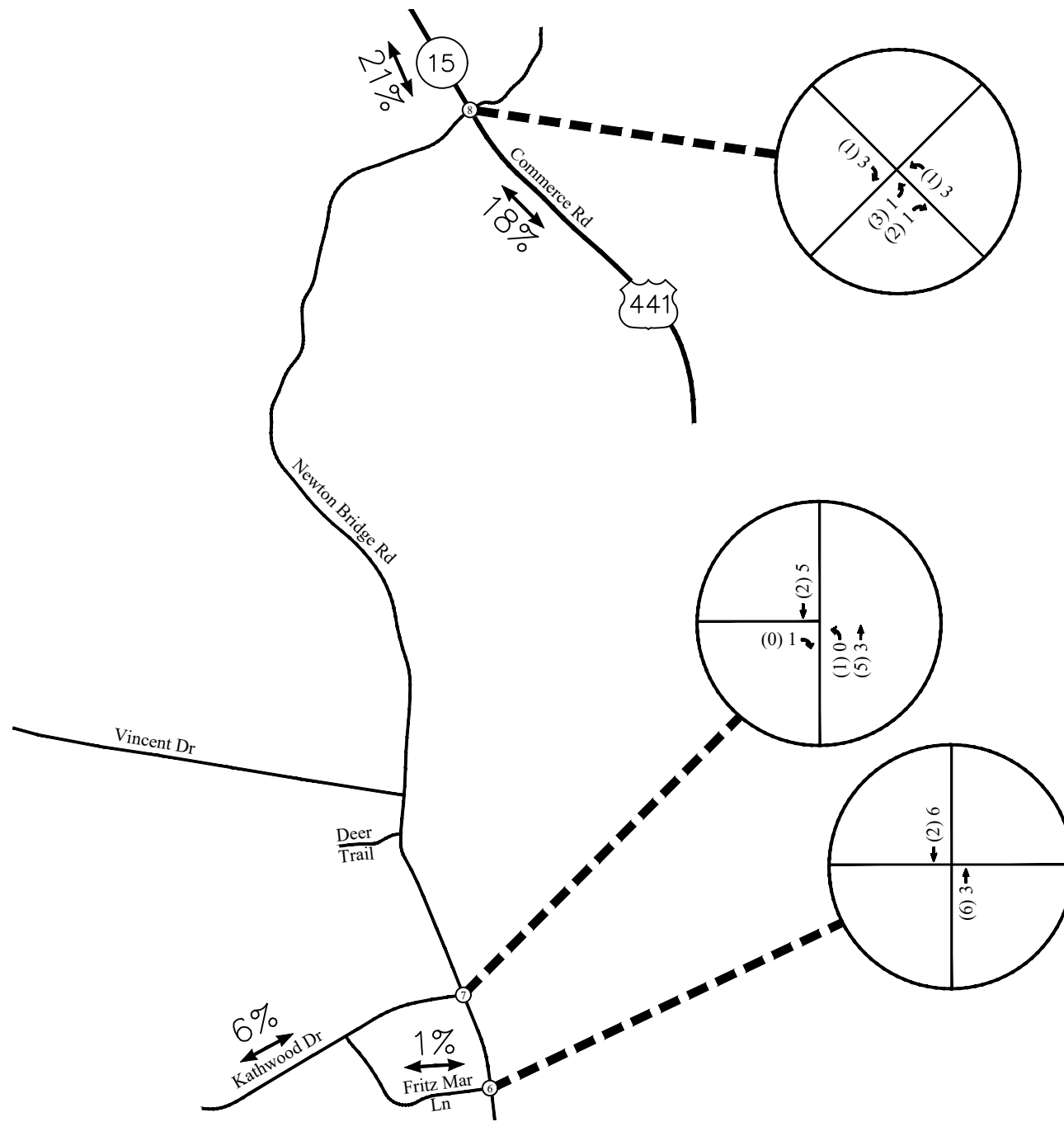
(AM) PM



TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES
(RESIDENTIAL)

FIGURE 5A

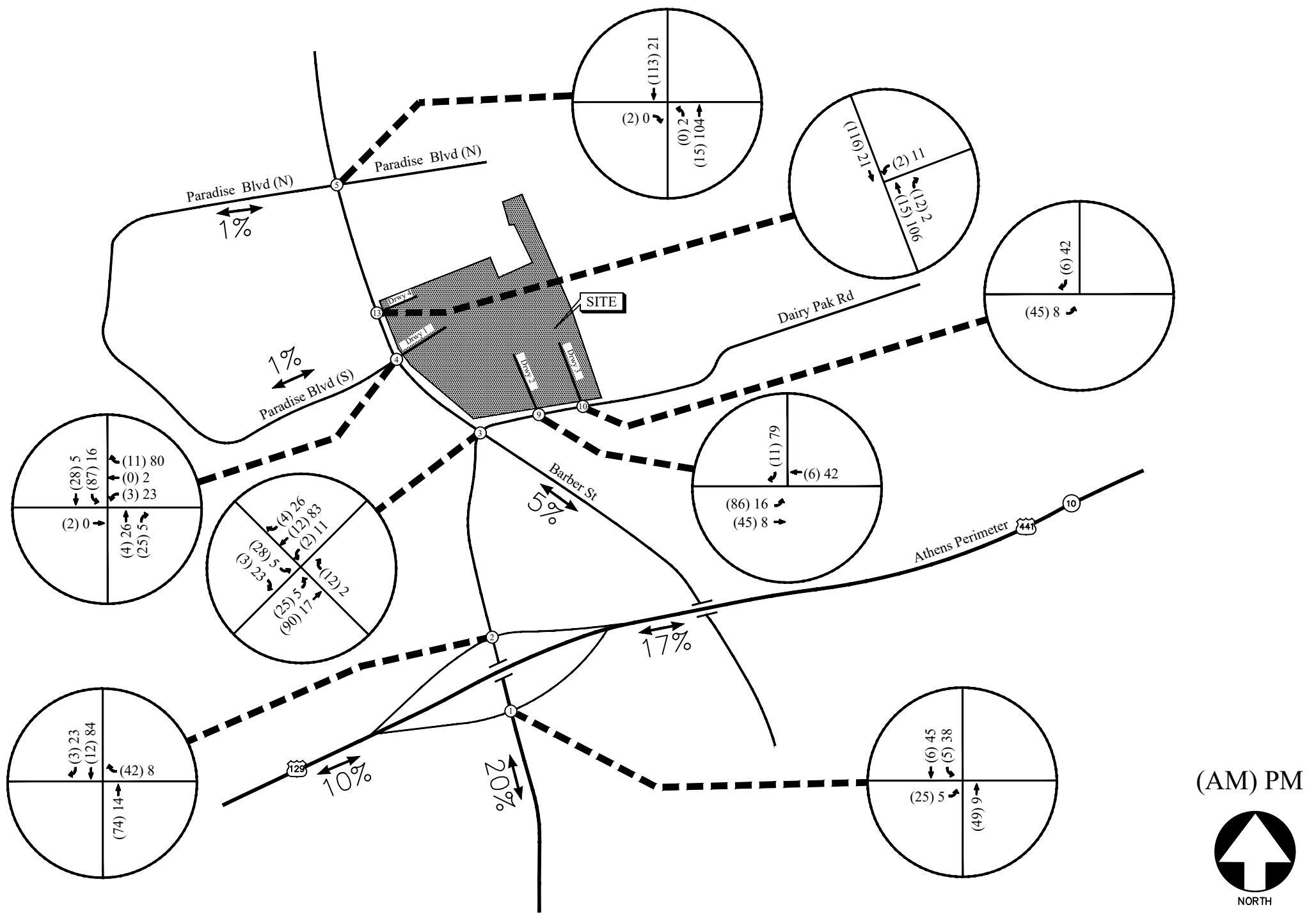
A&R Engineering Inc.



(AM) PM

TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES
(RESIDENTIAL)

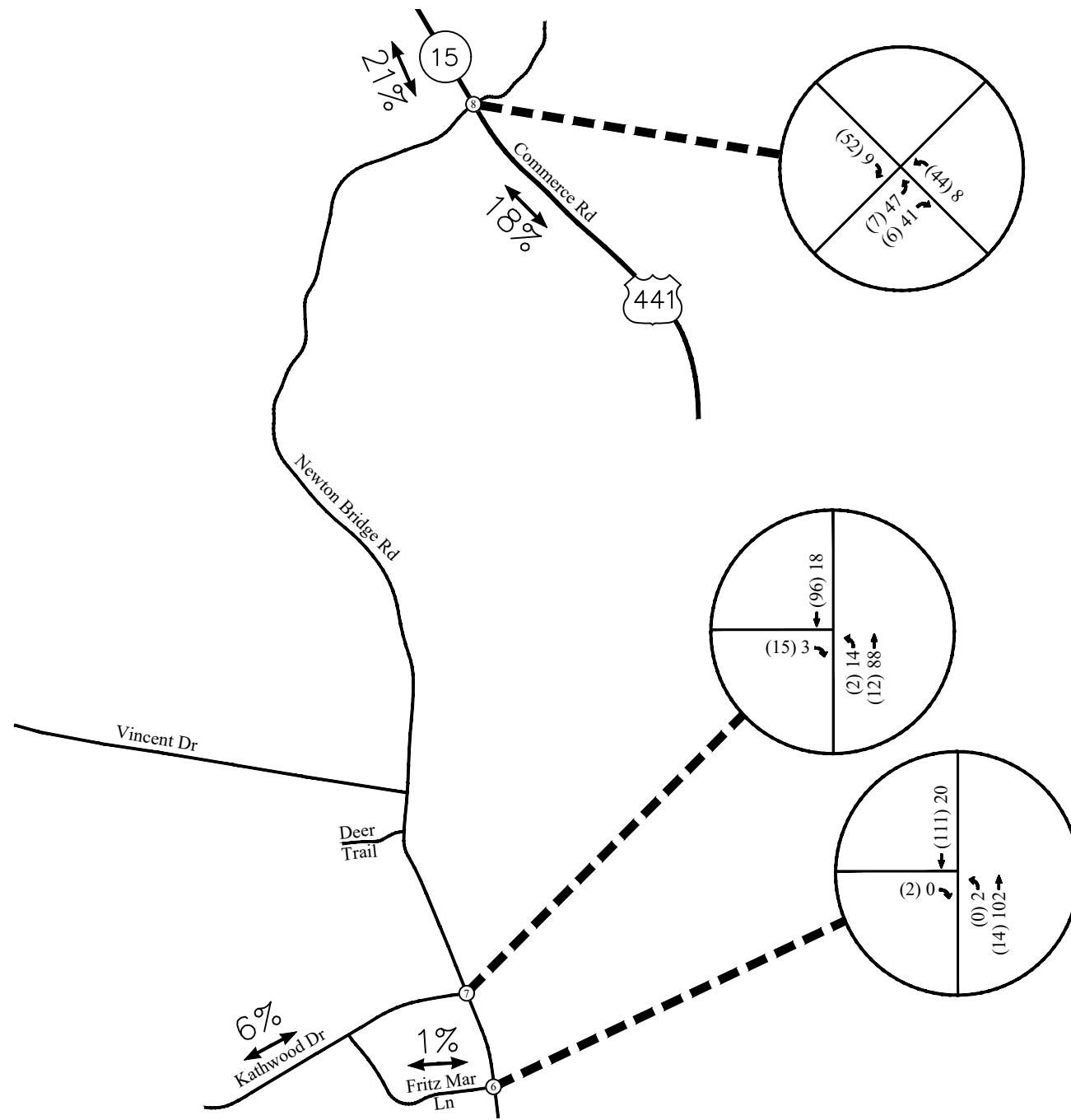
FIGURE 5A
A&R Engineering Inc.



TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES
(OFFICE)

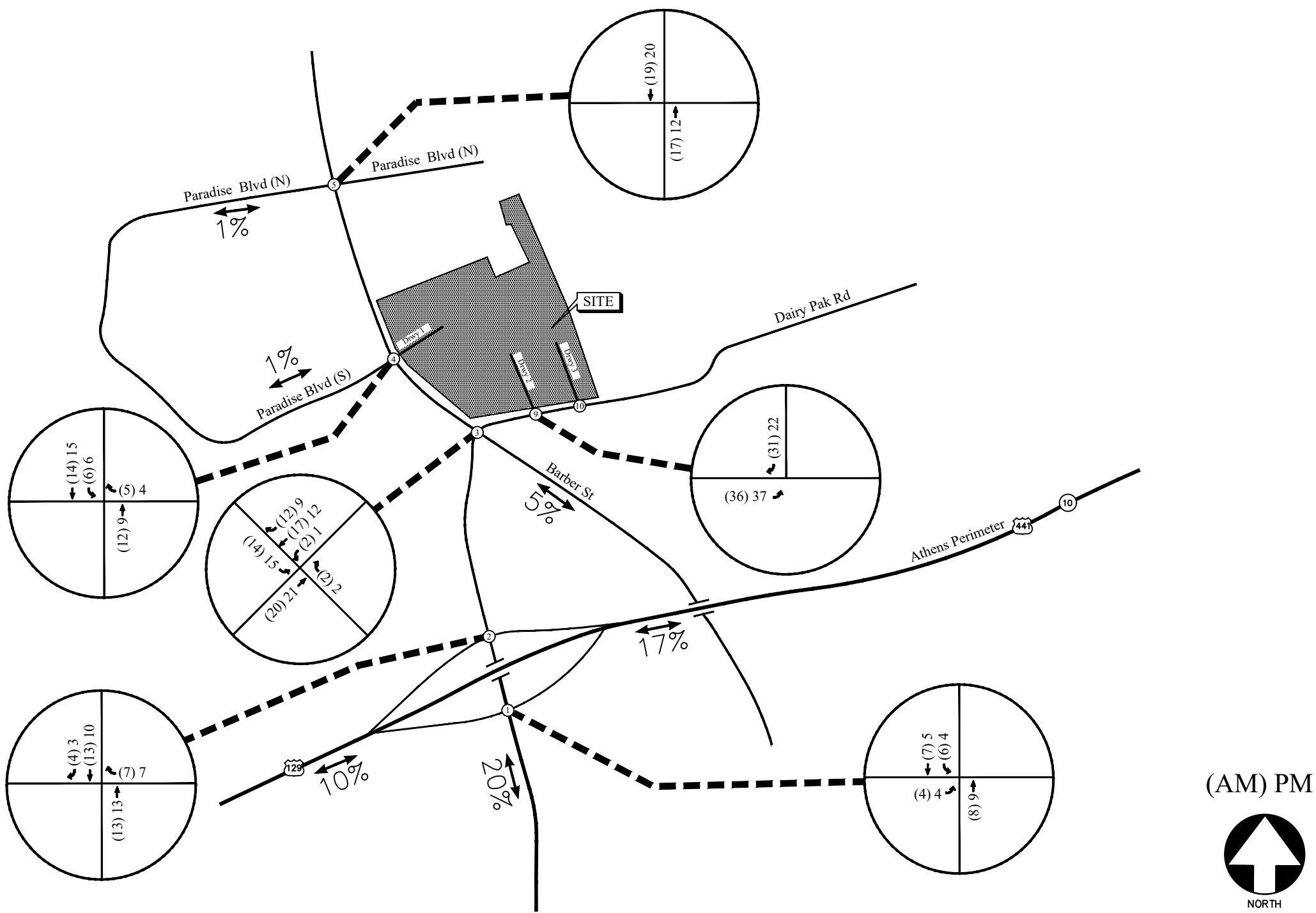
FIGURE 5B

A&R Engineering Inc.



(AM) PM

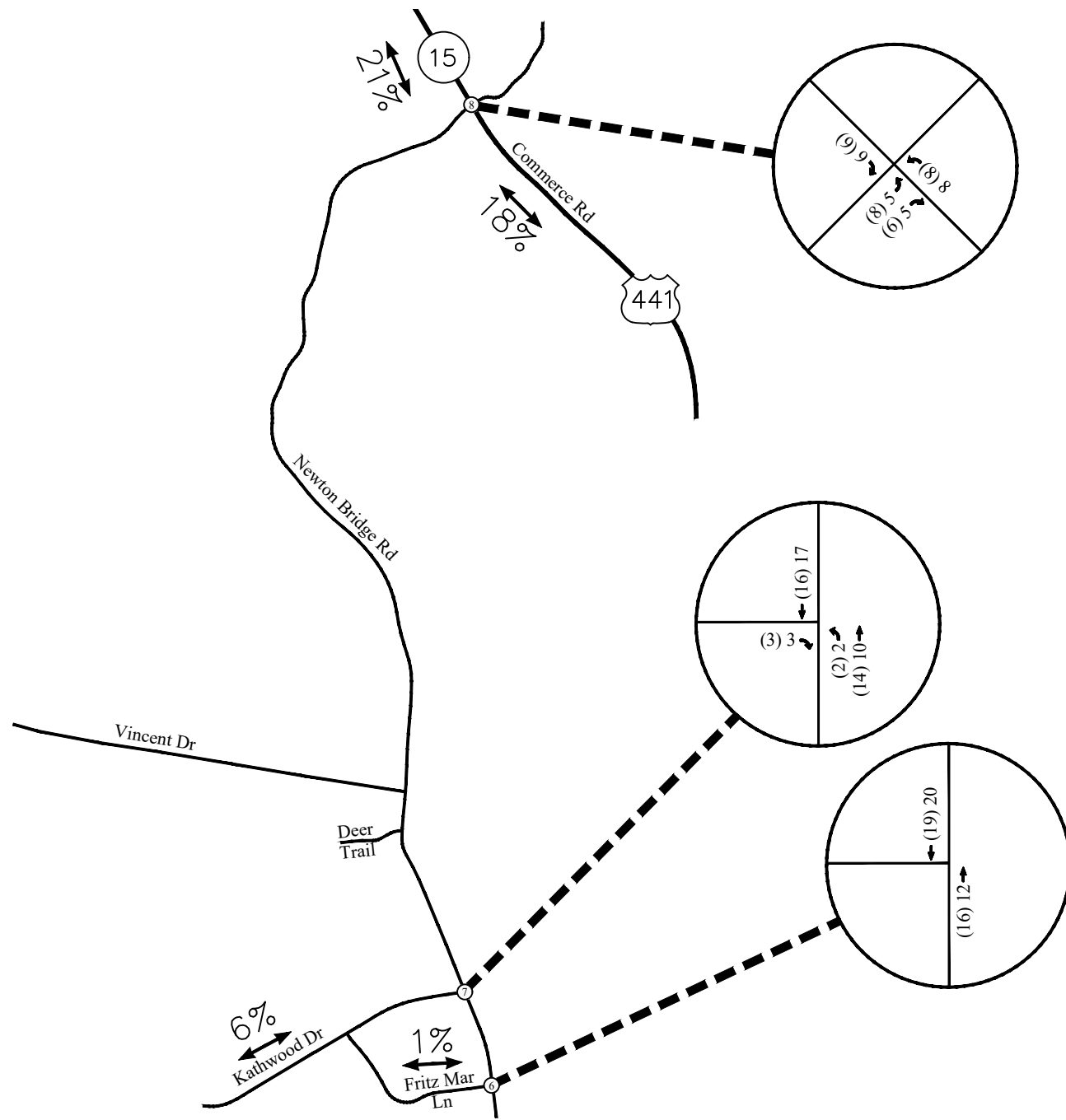




TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES
(RESTAURANT)

FIGURE 5C

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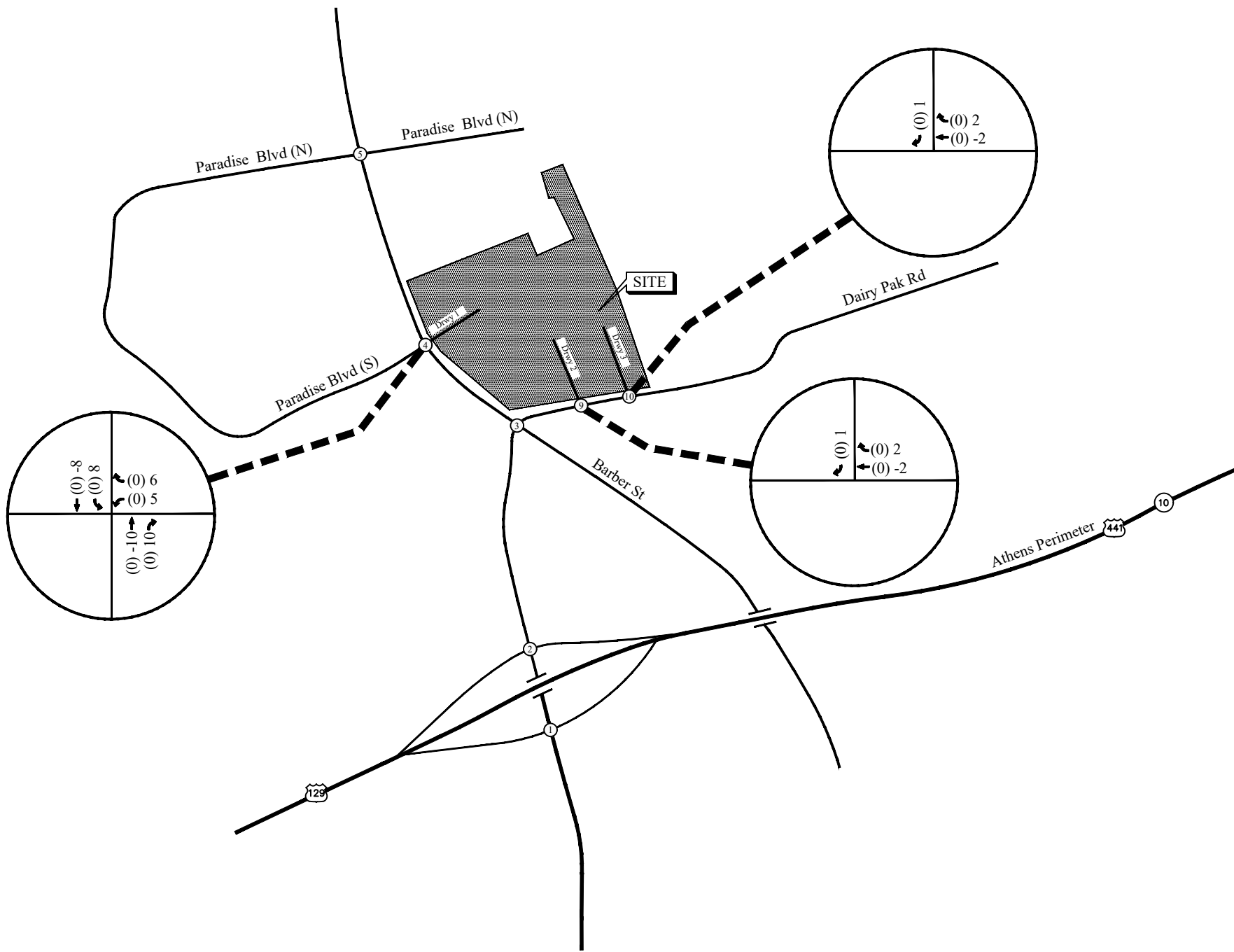


(AM) PM



TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES
(RESTAURANT)

FIGURE 5C
A&R Engineering Inc.



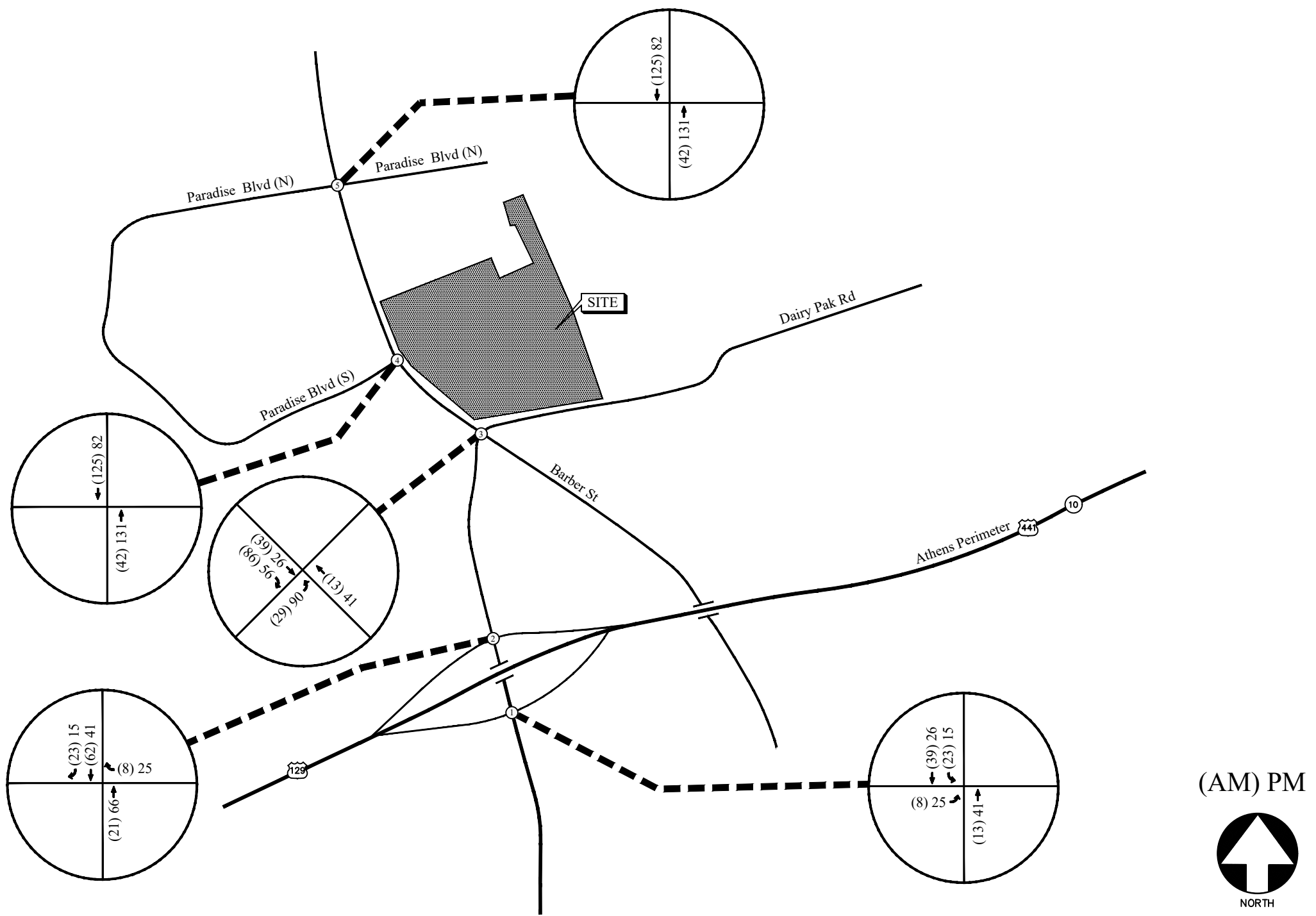
(AM) PM



SITE PEAK HOUR PASS-BY VOLUMES

FIGURE 6

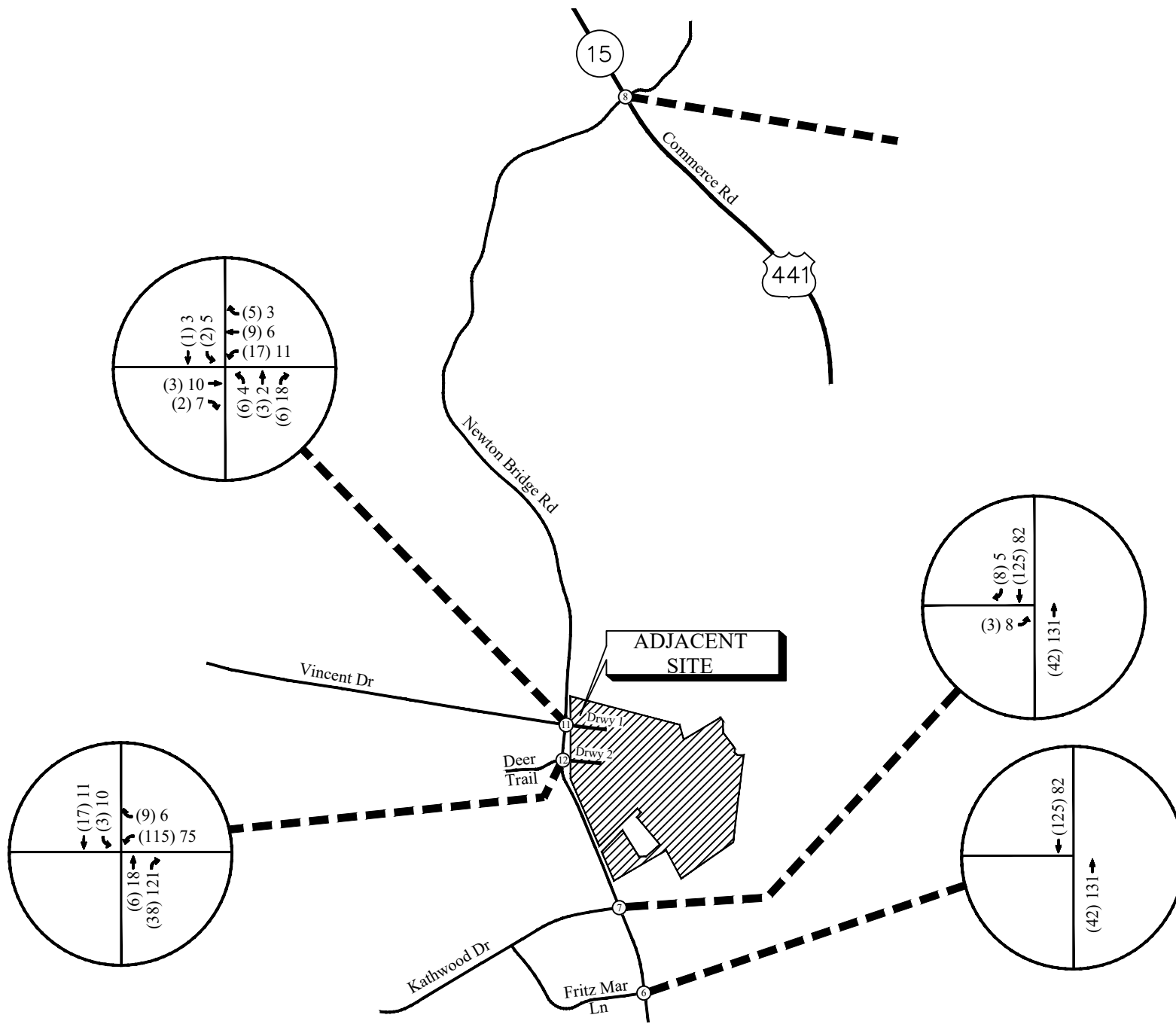
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TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES
(ADJACENT SITE)

FIGURE 7

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TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES
(ADJACENT SITE)

FIGURE 7

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6.0 FUTURE 2027 TRAFFIC ANALYSIS

The future 2027 traffic operations are analysed for the “Build” and “No-Build” conditions.

6.1 Future “No-Build” Conditions

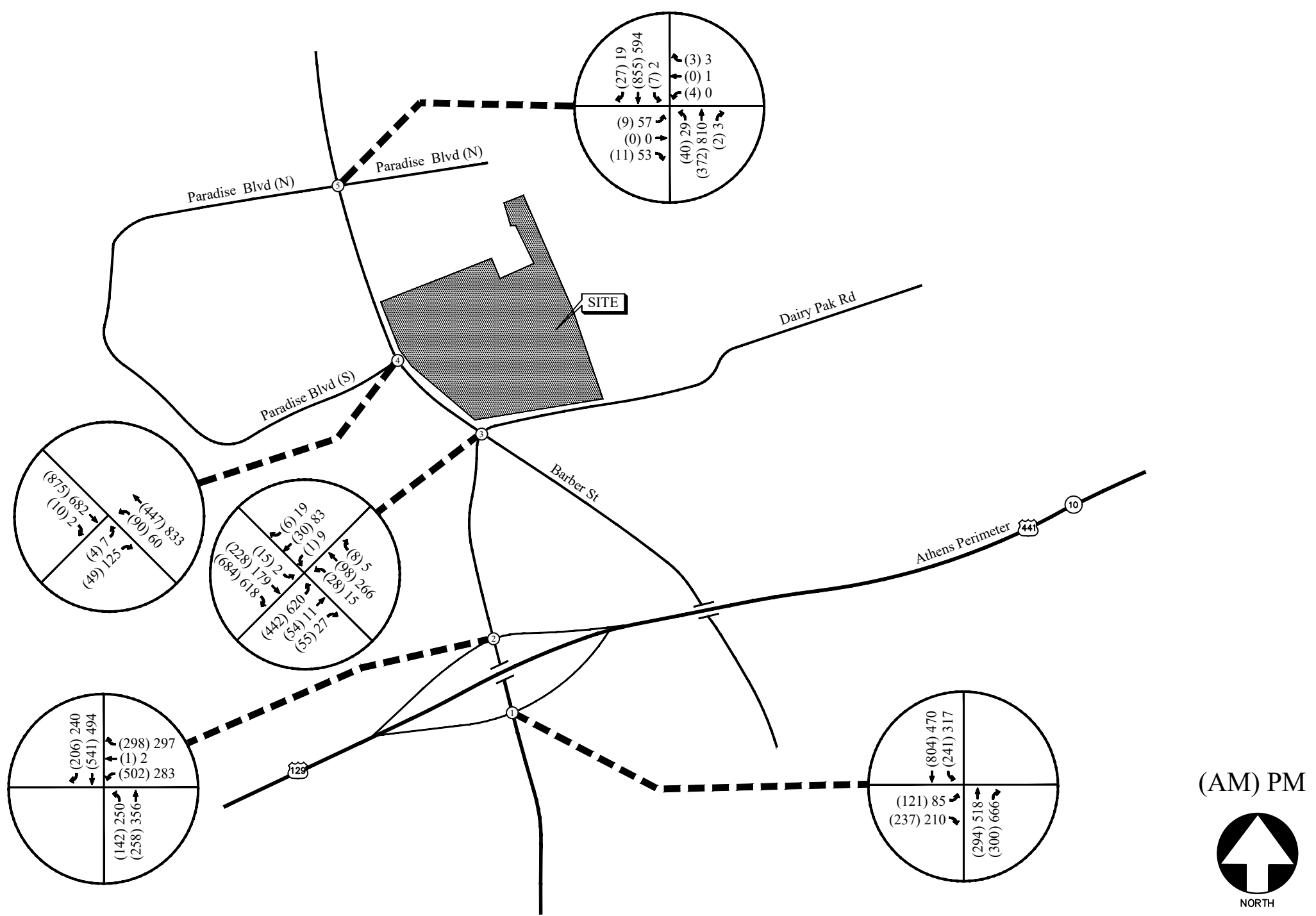
The “No-Build” (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The future “No-Build” volumes consist of the existing traffic volumes (Figure 2) plus increases for annual growth of through traffic and adjacent site volumes (figure 7).

6.1.1 Annual Traffic Growth

To evaluate future traffic operations in this area, a projection of normal traffic growth was applied to the existing volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last five years (2018-2019 & 2021-2023) revealed growth of approximately 2% in the area. This growth factor was applied to the existing traffic volumes between collector and arterial roadways to estimate the future year traffic volumes prior to the addition of site-generated traffic. The resulting future “No-Build” volumes on the roadway are shown in Figure 8.

6.2 Future “Build” Conditions

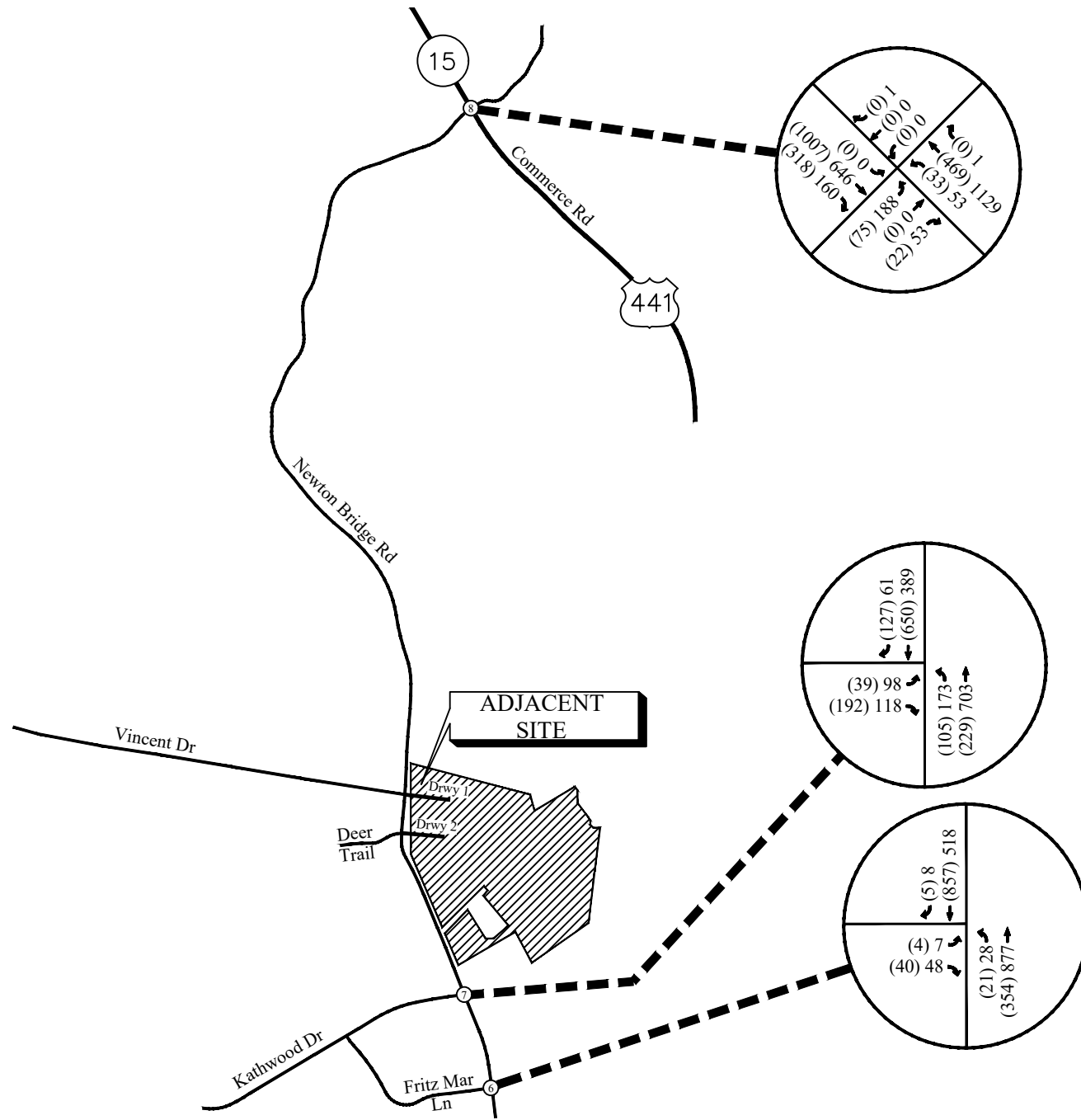
The “Build” or development conditions include the estimated background traffic from the “No-Build” conditions plus the added traffic from the proposed development. To evaluate future traffic operations in this area, the additional traffic volumes from the site (Figure 5A, 5B and 5C), pass-by volumes (Figure 6) were added to base traffic volumes (Figure 8) to calculate the future traffic volumes after the construction of the development. These total future “Build” traffic volumes are shown in Figure 9.



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 8

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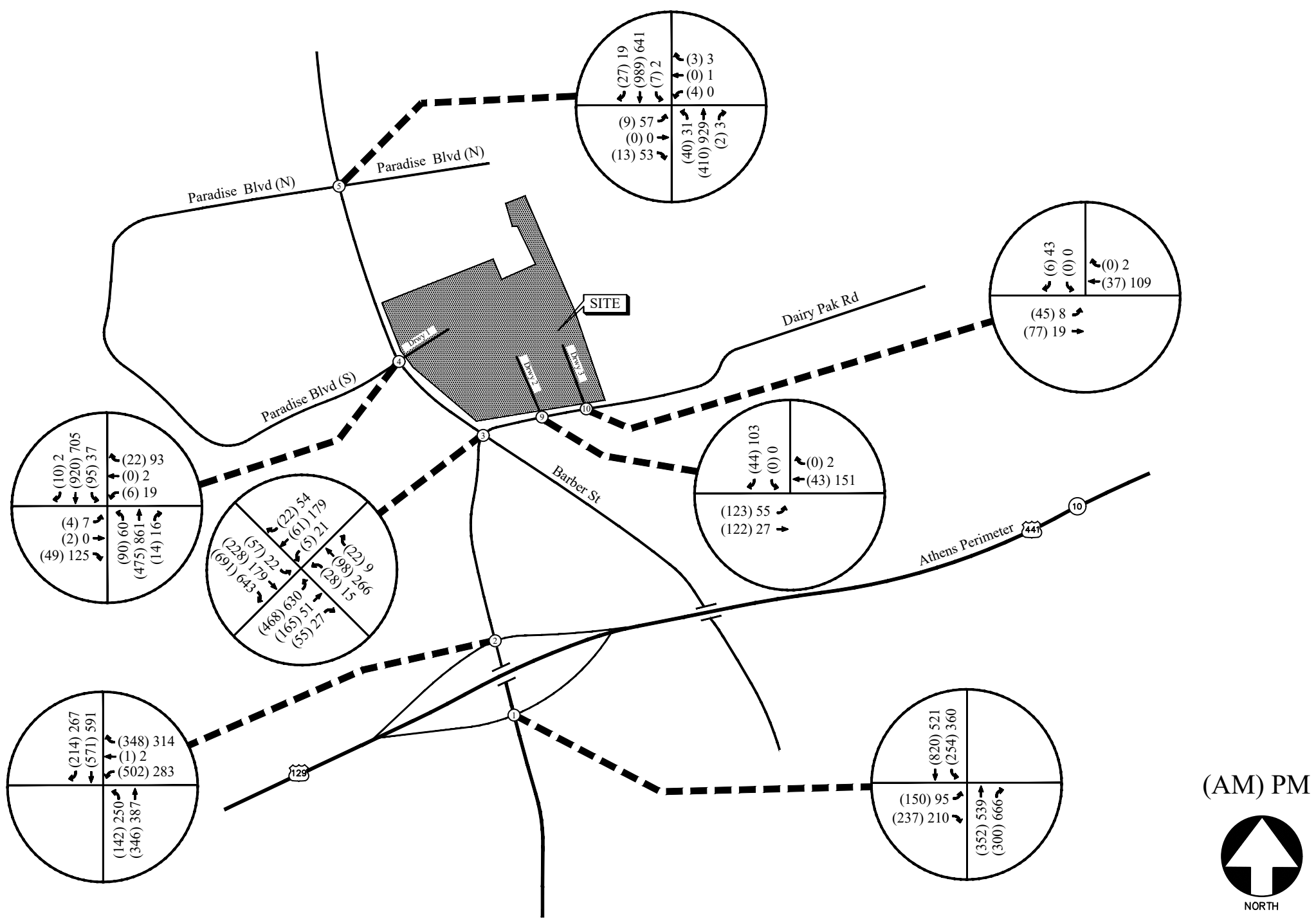
(AM) PM



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 8

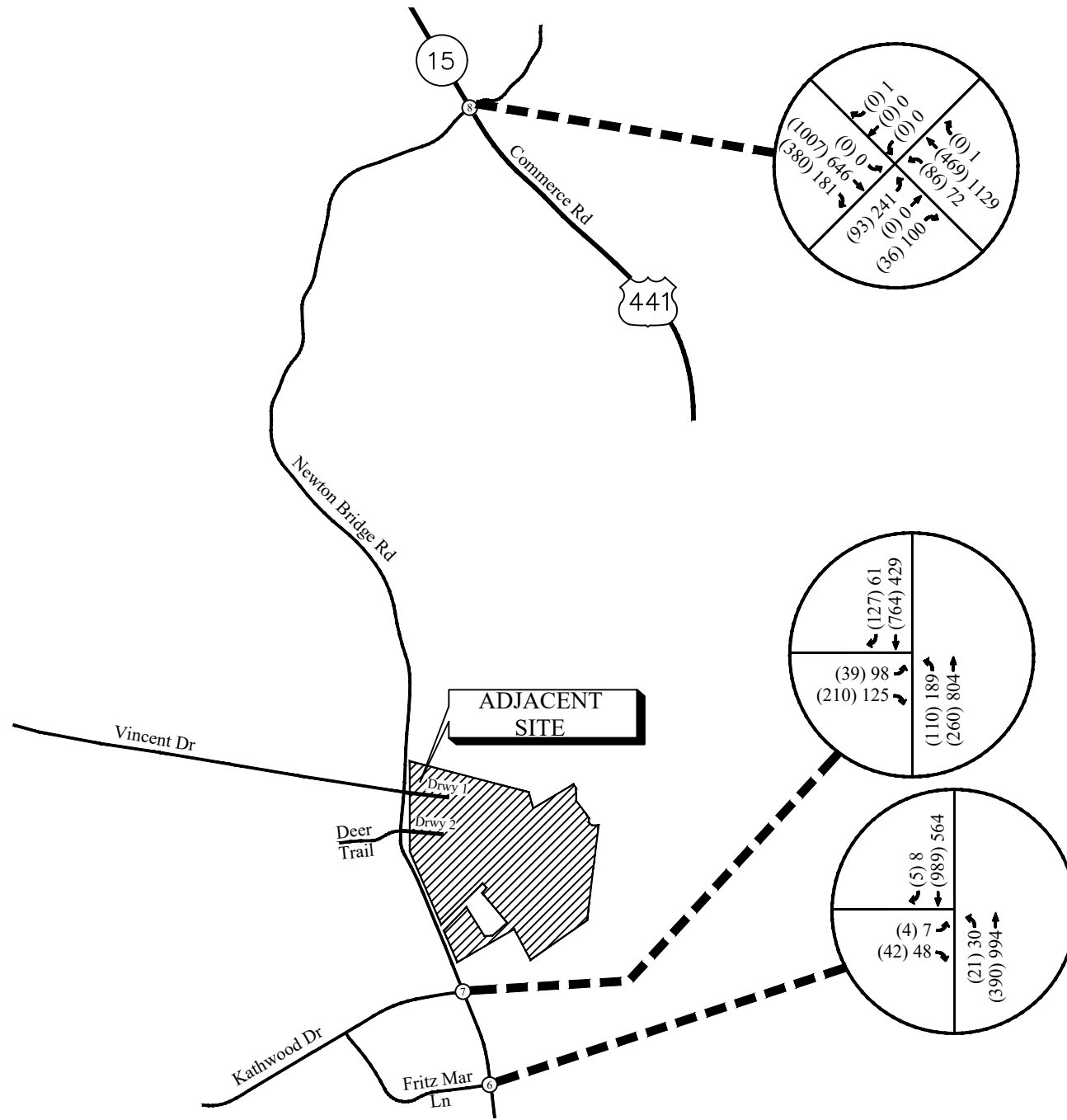
A&R Engineering Inc.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 9

A&R Engineering Inc.



(AM) PM



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 9

A&R Engineering Inc.

6.3 Auxiliary Lane Analysis

Included below are analyses for turn lanes at the site driveways per GDOT standards. The analyses below are based off the trip distribution included in Section 5.2. According to the trip generation, the 24-hour two-way volume for traffic entering and exiting the site is 2,178 vehicles.

6.3.1 Left Turn Lane Analysis

For a two-lane roadway with an AADT of under 6,000 vehicles and an assumed speed limit of 25 mph, the daily site-generated traffic left turns movements threshold to warrant a turn lane is 300 left-turning vehicles a day. For a four-lane roadway with an AADT greater than 10,000 vehicles and a posted speed limit of 45 mph, the daily site-generated traffic left turn movements threshold to warrant a turn lane is 250 left-turning vehicles a day. The projected left turn volumes per day at the driveway is shown in Table 5.

Intersection	Left Turn Traffic (% total entering)	Left Turn Volume (vehicles/day)	Roadway Speed / # Lanes / ADT	GDOT Threshold (vehicles/ day)	Warrants Met?
Newton Bridge Road @ Site Driveway 1/ Paradise Boulevard	47% Residential Trips + 35% Office Trips + 14% Retail Trips	458	45 mph / 4-Lane / > 10,000	250	Yes
Dairy Pak Road @ Site Driveway 2	15% Residential Trips + 35% Office Trips + 85% Retail Trips	711	25 mph / 2-Lane / < 6,000	300	Yes
Dark Pak Road @ Site Driveway 3	19% Office Trips	182	25 mph / 2-Lane / < 6,000	300	No

A left turn lane is warranted at the site driveway 1 on Newton Bridge Road and site driveway 1 on Dairy Pak Road as per GDOT standards.

6.3.2 Deceleration Turn Lane Analysis

For a four-lane roadway with an AADT greater than 10,000 vehicles and a posted speed limit of 45 mph, the daily site-generated traffic right turns movements threshold to warrant a deceleration lane is 75 right-turning vehicles a day. The projected right turn volumes per day at the driveway is included in Table 6.

Intersection	Right Turn Traffic (% total entering)	Right Turn Volume (vehicles/day)	Roadway Speed / # Lanes / ADT	GDOT Threshold (vehicles/ day)	Warrants Met?
Newton Bridge Road @ Site Driveway 1/ Paradise Boulevard	37% Residential Trips + 10% Office Trips +	147	45 mph / 4-Lane / > 10,000	75	Yes

A right turn lane is warranted at the site driveway 1 on Newton Bridge Road as per GDOT standards.

6.4 Future Traffic Operations

The future “No-Build” and “Build” traffic operations were analysed using the volumes in Figures 8 and 9, respectively. The results of the future traffic operations analysis are shown below in Table 7. Recommendations on traffic control and lane geometry are shown in Figure 10.

TABLE 7 — FUTURE INTERSECTION OPERATIONS					
Intersection		LOS (Delay)			
		NO-BUILD		BUILD-OUT	
		AM Peak	PM Peak	AM Peak	PM Peak
1	<u>N Chase Street at SR 10/ US 129 (Athens Perimeter) Eastbound Ramps</u>	<u>B (14.0)</u>	<u>B (14.7)</u>	<u>C (15.1)</u>	<u>C (17.6)</u>
	-Eastbound Approach	C (15.0)	B (10.2)	C (15.9)	B (11.7)
	-Northbound Approach	A (7.2)	C (18.5)	A (8.2)	C (22.6)
	-Southbound Approach	C (17.5)	B (10.6)	C (19.1)	B (12.9)
2	<u>N Chase Street at SR 10/ US 129 (Athens Perimeter) Westbound Ramps</u>	<u>C (21.6)</u>	<u>B (11.6)</u>	<u>D (26.5)</u>	<u>C (17.0)</u>
	-Westbound Approach	B (12.7)	B (10.4)	C (16.4)	B (11.2)
	-Northbound Approach	A (5.7)	A (7.9)	A (6.5)	A (8.3)
	-Southbound Approach	E (39.6)	C (15.6)	E (49.7)	C (27.4)
3	<u>N Chase Street/ Newton Bridge Road @ Barber Street / Dairy Pak Road</u>	<u>D (36.7)</u>	<u>D (41.7)</u>	<u>D (38.4)</u>	<u>D (47.4)</u>
	-Eastbound Approach	D (48.7)	D (47.9)	D (97.0)	D (48.2)
	-Westbound Approach	E (61.2)	E (61.4)	E (62.0)	E (67.1)
	-Northbound Approach	B (15.2)	C (28.0)	B (30.8)	D (35.2)
4	<u>Newton Bridge Road @ Paradise Boulevard (South)/Site Driveway 1</u>				
	-Eastbound Approach	C (15.6)	C (15.7)	D (25.7)	C (20.8)
	-Westbound Approach	-	-	C (23.2)	E (20.8)
	-Northbound Left	B (11.0)	A (9.7)	B (11.3)	A (9.9)
5	<u>Newton Bridge Road @ Paradise Boulevard (North)</u>				
	-Eastbound Approach	C (24.9)	E (45.8)	D (30.3)	F (73.3)
	-Westbound Approach	C (18.5)	C (20.7)	C (21.4)	C (25.3)
	-Northbound Left	B (10.4)	A (9.2)	B (11.2)	A (9.4)
6	<u>Newton Bridge Road @ Fritz Mar Lane</u>				
	-Eastbound Approach	B (14.3)	B (12.9)	C (16.0)	B (13.8)
	-Northbound Left	B (10.3)	A (8.8)	B (11.1)	A (9.0)
7	<u>Newton Bridge Road @ Kathwood Drive</u>				
	-Eastbound Approach	D (34.3)	F (166.8)	F (61.9)	F (*)
	-Northbound Left	B (10.7)	A (9.2)	B (11.6)	A (9.5)
8	<u>SR 15/ US 441 (Commerce Road) @ Newton Bridge Road / Private Driveway</u>	<u>A (8.4)</u>	<u>B (15.4)</u>	<u>A (10.7)</u>	<u>C (21.7)</u>
	-Eastbound Approach	E (55.9)	D (50.7)	D (54.3)	D (51.9)
	-Westbound Approach	D (48.8)	D (36.4)	D (45.8)	C (29.6)
	-Northbound Approach	A (2.9)	B (10.4)	A (4.2)	B (16.0)
8	-Southbound Approach	A (7.0)	B (12.2)	A (9.2)	B (17.7)

9	<u>Dairy Pak Road @ Site Driveway 1</u>	-	-	A (7.5)	A (7.7)
	-Eastbound Left -Southbound Approach			A (8.7)	A (9.7)
10	<u>Dairy Pak Road @ Site Driveway 2</u>	-	-	A (7.4)	A (7.5)
	-Eastbound Left -Southbound Approach			A (8.5)	A (9.1)

*Delay exceeds 300 seconds

The traffic operations analysis for the future “No-Build” and “Build” scenarios indicates that all signalized intersections within the study area are projected to operate at an overall Level of Service (LOS) “D” or better during both the AM and PM peak hours. Stop-controlled approaches within the network are expected to operate at LOS “E” or better during these same periods. However, the eastbound approach at the intersection of Newton Bridge Road and Kathwood Drive is anticipated to operate at LOS “F” during the No-Build PM peak hour, as well as during both the AM and PM peak hours under the Build scenario. Similarly, the eastbound approach at Intersection 5 is projected to operate at LOS “F” during the Build PM peak hour.

It is not uncommon for stop-controlled side streets along arterial roadways to experience higher delays during peak periods due to extended wait times for left-turn movements onto the mainline. The anticipated delays at the intersection of Newton Bridge Road and Kathwood Drive are further discussed in Section 6.4.1 on the following section.

6.4.1 Recommendations for System and Site Improvements

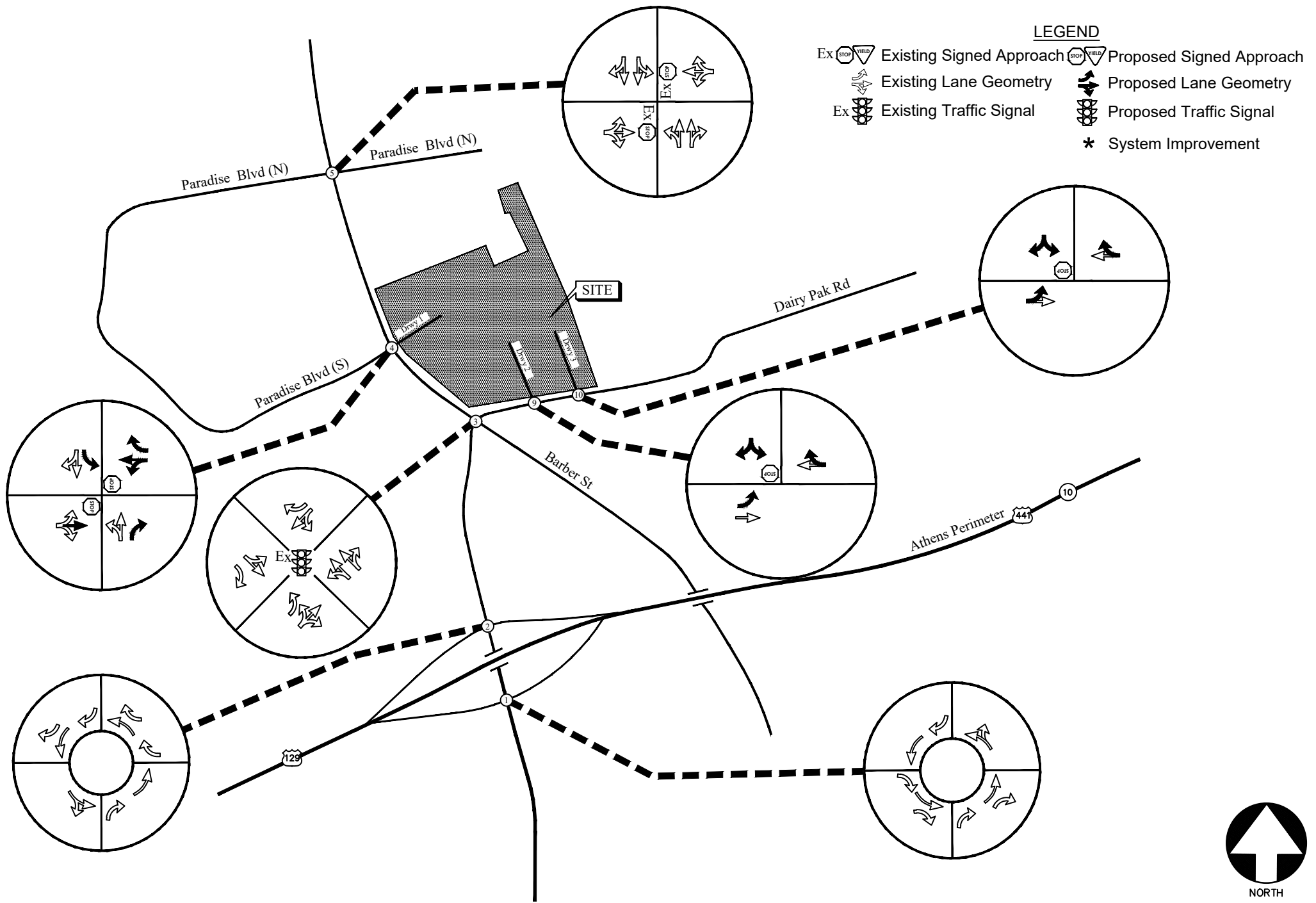
Since the Kathwood Drive approach at intersection 7 is projected to experience heavy delays in the future with or without the addition of traffic from the proposed development, it is recommended that a right turn lane be considered in the future as a system improvement for the side street approach. The results of the system improvement are shown below in Table 8.

TABLE 8 — FUTURE INTERSECTION OPERATIONS WITH & WITHOUT IMPROVEMENT					
Intersection		Build Condition: LOS (Delay)			
		WITHOUT IMPROVEMENT		WITH IMPROVEMENT	
		AM Peak	PM Peak	AM Peak	PM Peak
7	<u>Newton Bridge Road @ Kathwood Drive</u>				
	-Eastbound Approach -Northbound Left	F (61.9) B (11.6)	F (*) A (9.5)	C (24.8) B (11.6)	F (158.8) A (9.5)

* Delay exceeds 300 seconds

The results of the improved conditions traffic analyses indicate that adding a right turn lane at intersection 7 will slightly reduce the projected delay times on Kathwood Drive.

Recommendations on traffic control and lane geometry are shown in Figure 10A,



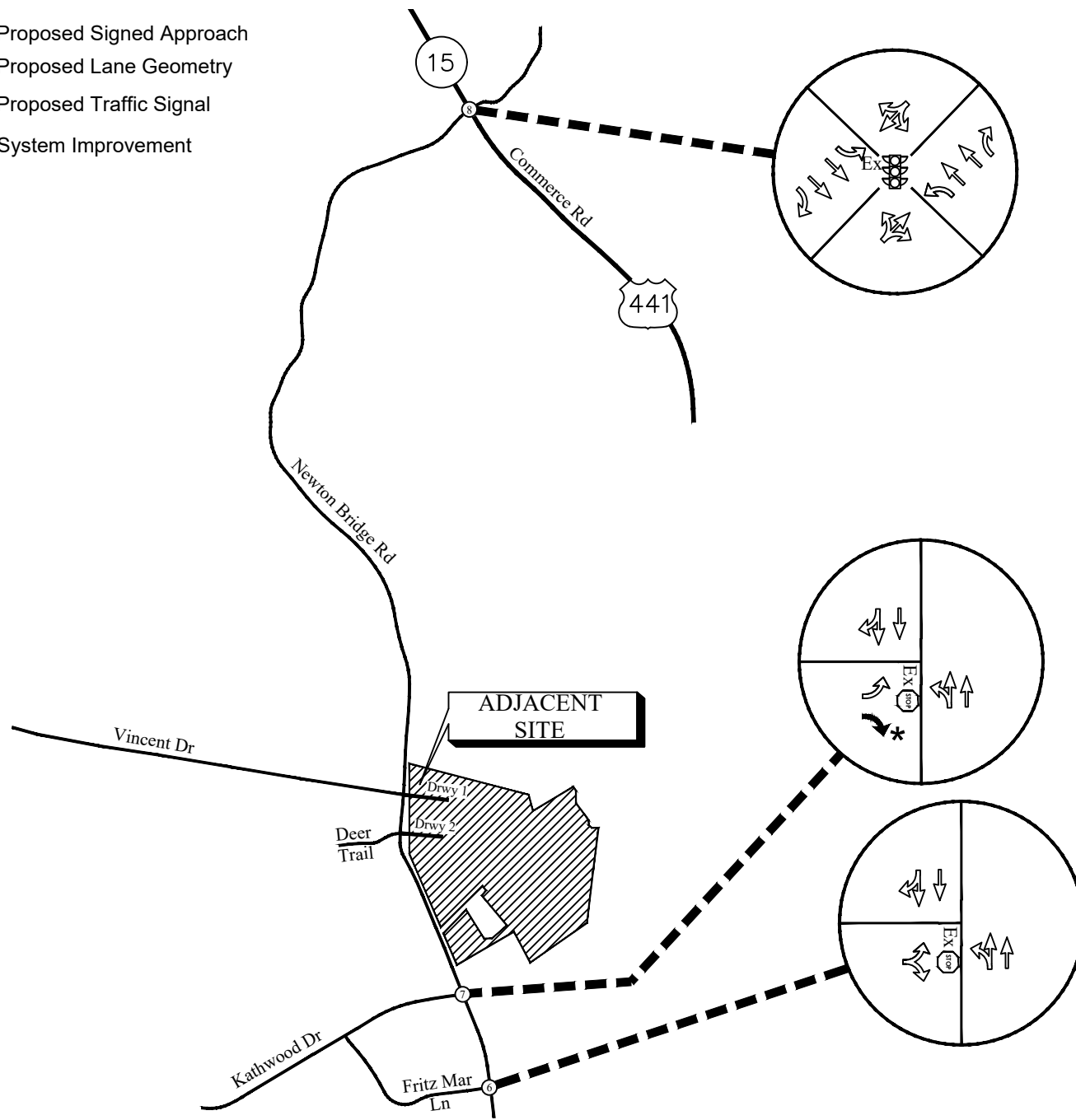
FUTURE TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 10

A&R Engineering Inc.

LEGEND

- | | | | |
|----|--------------------------|---|--------------------------|
| Ex | Existing Signed Approach | | Proposed Signed Approach |
| | Existing Lane Geometry | | Proposed Lane Geometry |
| Ex | Existing Traffic Signal | | Proposed Traffic Signal |
| | | * | System Improvement |



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 10

A&R Engineering Inc.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated from the proposed mixed-use development that will be located on Newton Bridge Road in Clarke County, Georgia.

The proposed development will consist of:

- Town homes: 56 units
- Flex Office Space: 182,031 sf
- Restaurant: 9,000 sf

The development proposes access at the following locations:

- Site Driveway 1: Full-access driveway on Newton Bridge Road, aligned with Paradise Boulevard (Southern).
- Site Driveway 2: Full-access driveway on Dairy Pak Road.
- Site Driveway 3: Full-access driveway on Dairy Pak Road.

Existing and future operations after completion of the project were analysed at the intersections of:

1. SR 10/US 129 (Athens Perimeter) Eastbound Ramp at North Chase Street
2. SR 10/US 129 (Athens Perimeter) Westbound Ramp @ North Chase Street
3. North Chase Street/Dairy Pak Road @ Newton Bridge Road/Barber Street
4. Newton Bridge Road @ Paradise Boulevard (South)/ Site Driveway 1
5. Newton Bridge Road @ Paradise Boulevard (North)
6. Newton Bridge Road @ Fritz Mar Lane
7. Newton Bridge Road @ Kathwood Drive
8. Newton Bridge Road @ SR 15 /US 441 (Commerce Road)
9. Dairy Pak Road @ Site Driveway 2
10. Dairy Pak Road @ Site Driveway 3

The traffic operations analysis for the future “No-Build” and “Build” scenarios indicates that all signalized intersections within the study area are projected to operate at an overall Level of Service (LOS) “D” or better during both the AM and PM peak hours. Stop-controlled approaches within the network are expected to operate at LOS “E” or better during these same periods. However, the eastbound approach at the intersection of Newton Bridge Road and Kathwood Drive is anticipated to operate at LOS “F” during the No-Build PM peak hour, as well as during both the AM and PM peak hours under the Build scenario. Similarly, the eastbound approach at Intersection 5 is projected to operate at LOS “F” during the Build PM peak hour. It is not uncommon for stop-controlled side streets along arterial roadways to experience higher delays during peak periods due to extended wait times for left-turn movements onto the mainline. The anticipated delays at the intersection of Newton Bridge Road and Kathwood Drive are further discussed in Section 6.4.1 on the following section. Since the Kathwood Drive approach at intersection 7 is projected to experience heavy delays in the future with or without the addition of traffic from the proposed development, it is recommended that a right turn lane be considered in the future as a system improvement for the side street approach.

7.1 Recommendations for Site Access Configuration

The following access configuration is recommended at the site driveway intersection.

- Site Driveway 1: Full access driveway on Newton Bridge Road
 - One entering lane and two exiting lanes.
 - Stop-sign controlled on the driveway approach and Paradise Boulevard (Southern) with Newton Bride Road remaining free flow.
 - A left turn and right turn lane for entering traffic on Newton Bridge Road.
 - Provide adequate sight distance per AASHTO standards.
- Site Driveway 2: Full access driveway on Dairy Pak Road
 - One entering lane and one exiting lane.
 - Stop-sign controlled on the driveway approach with Dairy Pak Road remaining free flow.
 - A left turn lane for entering traffic on Newton Bridge Road.
 - Provide adequate sight distance per AASHTO standards.
- Site Driveway 3: Full access driveway on Dairy Pak Road
 - One entering lane and one exiting lane.
 - Stop-sign controlled on the driveway approach with Dairy Pak Road remaining free flow.
 - Provide adequate sight distance per AASHTO standards.

7.1.1 Recommendations for System Improvements

Intersection - 7: Newton Bridge Road @ Kathwood Drive

In future conditions the eastbound approach of Kathwood Drive will experience heavy delays. We are recommending the following system improvements to the intersection to improve future operations.

- Addition of separate eastbound channelized deceleration turn lane.

Appendix

Existing Intersection Traffic Counts
Linear Regression of Daily Traffic.....
Existing Intersection Analysis.....
Future “No-Build” Intersection Analysis
Future “Build” Intersection Analysis.....
Traffic Volume Worksheets

EXISTING INTERSECTION TRAFFIC COUNTS

National Data & Surveying Services

Intersection Turning Movement Count

Location: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd
City: Athens
Control: Signalized

Project ID: 25-180129-003
Date: 5/6/2025

Data - Total

NS/EW Streets:	Barber St/Newton Bridge Rd				Barber St/Newton Bridge Rd				N Chase St/Dairy Pak Rd				N Chase St/Dairy Pak Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	1 ST	1 SR	0 SU	1.5 EL	0.5 ET	0 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	
7:00 AM	1	8	0	0	5	27	152	0	65	12	7	0	3	24	8	0	312
7:15 AM	0	12	3	0	5	35	141	0	62	7	18	0	1	11	6	0	301
7:30 AM	3	15	0	0	5	46	150	0	79	6	18	0	0	3	1	0	326
7:45 AM	11	24	4	0	1	57	170	0	103	17	17	0	1	7	1	0	413
8:00 AM	10	24	0	0	2	36	120	0	113	16	6	0	0	11	2	0	340
8:15 AM	3	19	4	0	6	43	135	0	102	13	12	0	0	8	2	0	347
8:30 AM	3	19	2	0	3	30	112	0	110	18	10	0	0	4	2	0	313
8:45 AM	8	22	1	0	4	38	115	0	104	10	5	0	1	7	2	0	317
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	39	143	14	0	31	312	1095	0	738	99	93	0	6	75	24	0	2669
PEAK HR :	19.90%	72.96%	7.14%	0.00%	2.16%	21.70%	76.15%	0.00%	79.35%	10.65%	10.00%	0.00%	5.71%	71.43%	22.86%	0.00%	
PEAK HR VOL :	27	82	8	0	14	182	575	0	397	52	53	0	1	29	6	0	1426
PEAK HR FACTOR :	0.614	0.854	0.500	0.000	0.583	0.798	0.846	0.000	0.878	0.765	0.736	0.000	0.250	0.659	0.750	0.000	0.863
	0.750				0.845				0.916				0.692				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	1 ST	1 SR	0 SU	1.5 EL	0.5 ET	0 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	
4:00 PM	11	33	1	0	1	28	141	0	90	3	8	0	1	15	8	0	340
4:15 PM	1	27	0	0	2	35	106	0	88	2	8	0	0	11	2	0	282
4:30 PM	8	43	1	0	3	44	124	0	99	4	4	0	0	3	2	0	335
4:45 PM	1	44	3	0	1	35	129	0	138	4	9	0	1	12	7	0	384
5:00 PM	2	48	1	0	1	55	164	0	137	1	7	0	5	31	5	0	457
5:15 PM	2	69	0	0	0	29	127	0	131	2	7	0	1	8	2	0	378
5:30 PM	9	55	1	0	0	28	120	0	104	4	3	0	2	29	4	0	359
5:45 PM	4	37	0	0	0	26	100	0	94	3	5	0	1	12	2	0	284
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	38	356	7	0	8	280	1011	0	881	23	51	0	11	121	32	0	2819
PEAK HR :	9.48%	88.78%	1.75%	0.00%	0.62%	21.56%	77.83%	0.00%	92.25%	2.41%	5.34%	0.00%	6.71%	73.78%	19.51%	0.00%	
PEAK HR VOL :	14	216	5	0	2	147	540	0	510	11	26	0	9	80	18	0	1578
PEAK HR FACTOR :	0.389	0.783	0.417	0.000	0.500	0.668	0.823	0.000	0.924	0.688	0.722	0.000	0.450	0.645	0.643	0.000	0.863
	0.827				0.783				0.906				0.652				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd
City: Athens
Control: Signalized

Project ID: 25-180129-003
Date: 5/6/2025

Data - Cars

NS/EW Streets:	Barber St/Newton Bridge Rd				Barber St/Newton Bridge Rd				N Chase St/Dairy Pak Rd				N Chase St/Dairy Pak Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	1 ST	1 SR	0 SU	1.5 EL	0.5 ET	0 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	
7:00 AM	1	6	0	0	5	24	143	0	57	10	6	0	3	20	8	0	283
7:15 AM	0	11	3	0	2	34	134	0	57	6	18	0	1	10	2	0	278
7:30 AM	2	13	0	0	4	45	143	0	74	6	18	0	0	3	1	0	309
7:45 AM	10	22	3	0	1	56	161	0	98	14	17	0	1	6	1	0	390
8:00 AM	8	22	0	0	2	34	111	0	104	16	6	0	0	8	1	0	312
8:15 AM	3	16	4	0	6	40	124	0	75	12	12	0	0	3	1	0	296
8:30 AM	3	17	2	0	2	30	102	0	77	17	9	0	0	3	2	0	264
8:45 AM	7	21	1	0	4	37	102	0	76	8	4	0	1	2	2	0	265
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	19.43%	73.14%	7.43%	0.00%	1.93%	22.29%	75.78%	0.00%	77.54%	11.17%	11.29%	0.00%	7.59%	69.62%	22.78%	0.00%	2397
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	23	73	7	0	13	175	539	0	351	48	53	0	1	20	4	0	1307
PEAK HR FACTOR :	0.575	0.830	0.438	0.000	0.542	0.781	0.837	0.000	0.844	0.750	0.736	0.000	0.250	0.625	1.000	0.000	0.838
	0.736				0.834				0.876				0.694				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	1 ST	1 SR	0 SU	1.5 EL	0.5 ET	0 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	
4:00 PM	11	32	1	0	1	27	133	0	84	2	8	0	1	15	7	0	322
4:15 PM	0	24	0	0	2	30	98	0	66	2	6	0	0	11	1	0	240
4:30 PM	8	39	0	0	3	41	116	0	77	4	4	0	0	3	1	0	296
4:45 PM	1	37	1	0	0	35	121	0	113	2	9	0	1	11	7	0	338
5:00 PM	2	42	1	0	0	55	161	0	130	0	6	0	5	30	4	0	436
5:15 PM	2	66	0	0	0	29	125	0	123	1	6	0	1	8	2	0	363
5:30 PM	9	51	1	0	0	27	118	0	99	1	2	0	2	26	3	0	339
5:45 PM	4	36	0	0	0	24	95	0	81	3	5	0	1	10	2	0	261
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	10.05%	88.86%	1.09%	0.00%	0.48%	21.60%	77.92%	0.00%	92.69%	1.80%	5.52%	0.00%	7.24%	75.00%	17.76%	0.00%	2595
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	14	196	3	0	0	146	525	0	465	4	23	0	9	75	16	0	1476
PEAK HR FACTOR :	0.389	0.742	0.750	0.000	0.000	0.664	0.815	0.000	0.894	0.500	0.639	0.000	0.450	0.625	0.571	0.000	0.846
	0.783				0.777				0.904				0.641				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd
City: Athens
Control: Signalized

Project ID: 25-180129-003
Date: 5/6/2025

Data - HT

NS/EW Streets:	Barber St/Newton Bridge Rd				Barber St/Newton Bridge Rd				N Chase St/Dairy Pak Rd				N Chase St/Dairy Pak Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	1 ST	1 SR	0 SU	1.5 EL	0.5 ET	0 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	
7:00 AM	0	2	0	0	0	3	9	0	8	2	1	0	0	4	0	0	29
7:15 AM	0	1	0	0	3	1	7	0	5	1	0	0	0	1	4	0	23
7:30 AM	1	2	0	0	1	1	7	0	5	0	0	0	0	0	0	0	17
7:45 AM	1	2	1	0	0	1	9	0	5	3	0	0	0	1	0	0	23
8:00 AM	2	2	0	0	0	2	9	0	9	0	0	0	0	3	1	0	28
8:15 AM	0	3	0	0	0	3	11	0	27	1	0	0	0	5	1	0	51
8:30 AM	0	2	0	0	1	0	10	0	33	1	1	0	0	1	0	0	49
8:45 AM	1	1	0	0	0	1	13	0	28	2	1	0	0	5	0	0	52
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	5	15	1	0	5	12	75	0	120	10	3	0	0	20	6	0	272
23.81%	71.43%	4.76%	0.00%	5.43%	13.04%	81.52%	0.00%	90.23%	7.52%	2.26%	0.00%	0.00%	76.92%	23.08%	0.00%		
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	4	9	1	0	1	7	36	0	46	4	0	0	0	9	2	0	119
PEAK HR FACTOR :	0.500	0.750	0.250	0.000	0.250	0.583	0.818	0.000	0.426	0.333	0.000	0.000	0.000	0.450	0.500	0.000	0.583
	0.875				0.786				0.446				0.458				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	1 ST	1 SR	0 SU	1.5 EL	0.5 ET	0 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	
4:00 PM	0	1	0	0	0	1	8	0	6	1	0	0	0	0	1	0	18
4:15 PM	1	3	0	0	0	5	8	0	22	0	2	0	0	0	1	0	42
4:30 PM	0	4	1	0	0	3	8	0	22	0	0	0	0	0	1	0	39
4:45 PM	0	7	2	0	1	0	8	0	25	2	0	0	0	1	0	0	46
5:00 PM	0	6	0	0	1	0	3	0	7	1	1	0	0	1	1	0	21
5:15 PM	0	3	0	0	0	0	2	0	8	1	1	0	0	0	0	0	15
5:30 PM	0	4	0	0	0	1	2	0	5	3	1	0	0	3	1	0	20
5:45 PM	0	1	0	0	0	2	5	0	13	0	0	0	0	2	0	0	23
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	1	29	3	0	2	12	44	0	108	8	5	0	0	7	5	0	224
3.03%	87.88%	9.09%	0.00%	3.45%	20.69%	75.86%	0.00%	89.26%	6.61%	4.13%	0.00%	0.00%	58.33%	41.67%	0.00%		
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	20	2	0	2	1	15	0	45	7	3	0	0	5	2	0	102
PEAK HR FACTOR :	0.000	0.714	0.250	0.000	0.500	0.250	0.469	0.000	0.450	0.583	0.750	0.000	0.000	0.417	0.500	0.000	0.554
	0.611				0.500				0.509				0.438				

Location: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd
City: Athens
Control: Signalized

[illegible]

National Data & Surveying Services
Intersection Turning Movement Count

Location: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd
City: Athens

Project ID: 25-180129-003
Date: 5/6/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Barber St/Newton Bridge Rd		Barber St/Newton Bridge Rd		N Chase St/Dairy Pak Rd		N Chase St/Dairy Pak Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
	7:00 AM	0	0	0	0	0	0	0	
	7:15 AM	0	0	0	0	0	0	0	
	7:30 AM	0	0	0	0	0	0	0	
	7:45 AM	0	0	0	0	0	0	0	
	8:00 AM	0	0	0	0	0	0	0	
	8:15 AM	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	1	2
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	1	1	0	0	0	0	1	3
	0.00%	100.00%	100.00%	0.00%			0.00%	100.00%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	1	0	0	0	0	0	1
PEAK HR FACTOR :			0.250						0.250

Project ID: 25-180129-003
Location: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd
City: Athens

Day: Tuesday
Date: 5/6/2025

Groups Printed - Cars, PU, Vans - Heavy Trucks																											
Barber St/Newton Bridge Rd Northbound							Barber St/Newton Bridge Rd Southbound						N Chase St/Dairy Pak Rd Eastbound						N Chase St/Dairy Pak Rd Westbound						Int. Total		
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total			
7:00 AM	1	8	0	0	0	9	5	27	152	0	0	184	65	12	7	0	0	84	3	24	8	0	0	35	312		
7:15 AM	0	12	3	0	0	15	5	35	141	0	0	181	62	7	18	0	0	87	1	11	6	0	0	18	301		
7:30 AM	3	15	0	0	0	18	5	46	150	0	0	201	79	6	18	0	0	103	0	3	1	0	0	4	326		
7:45 AM	11	24	4	0	0	39	1	57	170	0	0	228	103	17	17	0	0	137	1	7	1	0	0	9	413		
Total	15	59	7	0	0	81	16	165	613	0	0	794	309	42	60	0	0	411	5	45	16	0	0	66	1352		
8:00 AM	10	24	0	0	0	34	2	36	120	0	0	158	113	16	6	0	0	135	0	11	2	0	0	13	340		
8:15 AM	3	19	4	0	0	26	6	43	135	0	0	184	102	13	12	0	0	127	0	8	2	0	0	10	347		
8:30 AM	3	19	2	0	0	24	3	30	112	0	0	145	110	18	10	0	0	138	0	4	2	0	0	6	313		
8:45 AM	8	22	1	0	0	31	4	38	115	0	0	157	104	10	5	0	0	119	1	7	2	0	0	10	317		
Total	24	84	7	0	0	115	15	147	482	0	0	644	429	57	33	0	0	519	1	30	8	0	0	39	1317		
BREAK																											
4:00 PM	11	33	1	0	0	45	1	28	141	0	0	170	90	3	8	0	0	101	1	15	8	0	0	24	340		
4:15 PM	1	27	0	0	0	28	2	35	106	0	0	143	88	2	8	0	0	98	0	11	2	0	0	13	282		
4:30 PM	8	43	1	0	0	52	3	44	124	0	0	171	99	4	4	0	0	107	0	3	2	0	0	5	335		
4:45 PM	1	44	3	0	0	48	1	35	129	0	0	165	138	4	9	0	0	151	1	12	7	0	0	20	384		
Total	21	147	5	0	0	173	7	142	500	0	0	649	415	13	29	0	0	457	2	41	19	0	0	62	1341		
5:00 PM	2	48	1	0	0	51	1	55	164	0	0	220	137	1	7	0	0	145	5	31	5	0	0	41	457		
5:15 PM	2	69	0	0	1	71	0	29	127	0	0	156	131	2	7	0	0	140	1	8	2	0	0	11	378		
5:30 PM	9	55	1	0	0	65	0	28	120	0	0	148	104	4	3	0	0	111	2	29	4	0	0	35	359		
5:45 PM	4	37	0	0	0	41	0	26	100	0	1	126	94	3	5	0	1	102	1	12	2	0	0	15	284		
Total	17	209	2	0	1	228	1	138	511	0	1	650	466	10	22	0	1	498	9	80	13	0	0	102	1478		
Grand Total	77	499	21	0	1	597	39	592	2106	0	1	2737	1619	122	144	0	1	1885	17	196	56	0	0	269	5488		
Apprch %	12.9	83.6	3.5	0.0	0.2		1.4	21.6	76.9	0.0	0.0		85.9	6.5	7.6	0.0	0.1		6.3	72.9	20.8	0.0	0.0				
Total %	1.4	9.1	0.4	0.0	0.0	10.9	0.7	10.8	38.4	0.0	0.0	49.9	29.5	2.2	2.6	0.0	0.0	34.3	0.3	3.6	1.0	0.0	0.0	4.9			
Cars, PU, Vans	71	455	17	0		543	32	568	1987	0		2587	1391	104	136	0		1631	17	169	45	0		231	4992		
% Cars, PU, Vans	92.2	91.2	81.0	0.0		91.0	82.1	95.9	94.3	0.0		94.5	85.9	85.2	94.4	0.0		86.5	100.0	86.2	80.4	0.0		85.9	91.0		
Heavy trucks	6	44	4	0		54	7	24	119	0		150	228	18	8	0		254	0	27	11	0		38	496		
%Heavy trucks	7.8	8.8	19.0	0.0		9.0	17.9	4.1	5.7	0.0		5.5	14.1	14.8	5.6	0.0		13.5	0.0	13.8	19.6	0.0		14.1	9.0		

Project ID: 25-180129-003
Location: Barber St/Newton Bridge Rd & N Chase St/Dairy Pa
City: Athens

PEAK HOURS

Day: Tuesday
Date: 5/6/2025

AM																											
	Barber St/Newton Bridge Rd Northbound						Barber St/Newton Bridge Rd Southbound						N Chase St/Dairy Pak Rd Eastbound						N Chase St/Dairy Pak Rd Westbound								
Start Time	Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Int. Total		
Peak Hour Analysis from 07:00 AM - 09:00 AM																											
Peak Hour for Entire Intersection Begins at 07:30 AM																											
7:30 AM	3	15	0	0	18		5	46	150	0	201		79	6	18	0	103		0	3	1	0	4		326		
7:45 AM	11	24	4	0	39		1	57	170	0	228		103	17	17	0	137		1	7	1	0	9		413		
8:00 AM	10	24	0	0	34		2	36	120	0	158		113	16	6	0	135		0	11	2	0	13		340		
8:15 AM	3	19	4	0	26		6	43	135	0	184		102	13	12	0	127		0	8	2	0	10		347		
Total Volume	27	82	8	0	117		14	182	575	0	771		397	52	53	0	502		1	29	6	0	36		1426		
% App. Total	23.1	70.1	6.8	0.0	100		1.8	23.6	74.6	0.0	100		79.1	10.4	10.6	0.0	100		2.8	80.6	16.7	0.0	100				
PHF	0.750						0.845						0.916						0.692						0.863		
Cars, PU, Vans	23	73	7	0	103		13	175	539	0	727		351	48	53	0	452		1	20	4	0	25		1307		
% Cars, PU, Vans	85.2	89.0	87.5	0.0	88.0		92.9	96.2	93.7	0.0	94.3		88.4	92.3	100.0	0.0	90.0		100.0	69.0	66.7	0.0	69.4		91.7		
Heavy trucks	4	9	1	0	14		1	7	36	0	44		46	4	0	0	50		0	9	2	0	11		119		
% Heavy trucks	14.8	11.0	12.5	0.0	12.0		7.1	3.8	6.3	0.0	5.7		11.6	7.7	0.0	0.0	10.0		0.0	31.0	33.3	0.0	30.6		8.3		

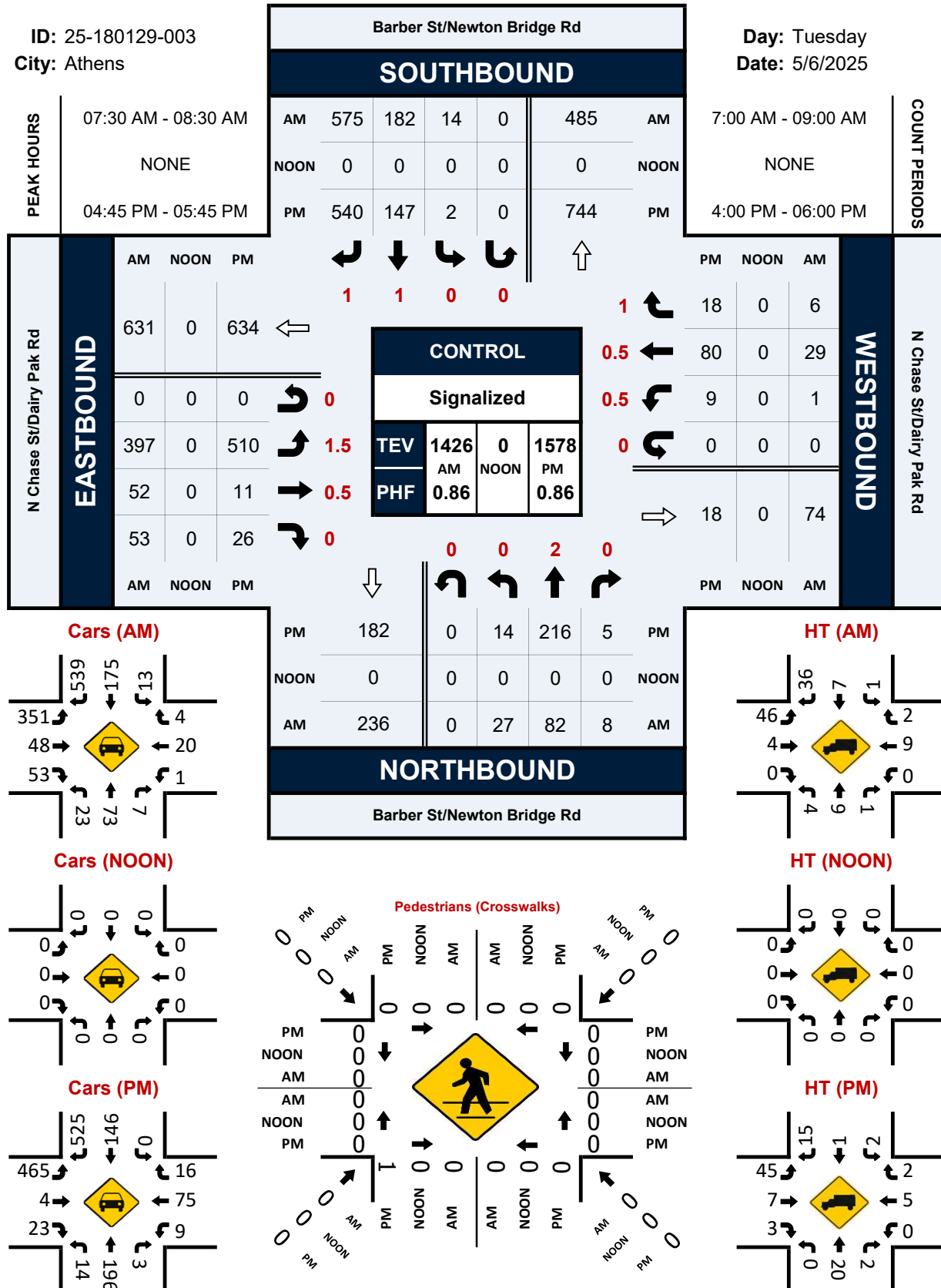
PM																											
	Barber St/Newton Bridge Rd Northbound						Barber St/Newton Bridge Rd Southbound						N Chase St/Dairy Pak Rd Eastbound						N Chase St/Dairy Pak Rd Westbound								
Start Time	Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Int. Total		
Peak Hour Analysis from 04:00 PM - 06:00 PM																											
Peak Hour for Entire Intersection Begins at 04:45 PM																											
4:45 PM	1	44	3	0	48		1	35	129	0	165		138	4	9	0	151		1	12	7	0	20		384		
5:00 PM	2	48	1	0	51		1	55	164	0	220		137	1	7	0	145		5	31	5	0	41		457		
5:15 PM	2	69	0	0	71		0	29	127	0	156		131	2	7	0	140		1	8	2	0	11		378		
5:30 PM	9	55	1	0	65		0	28	120	0	148		104	4	3	0	111		2	29	4	0	35		359		
Total Volume	14	216	5	0	235		2	147	540	0	689		510	11	26	0	547		9	80	18	0	107		1578		
% App. Total	6.0	91.9	2.1	0.0	100		0.3	21.3	78.4	0.0	100		93.2	2.0	4.8	0.0	100		8.4	74.8	16.8	0.0	100				
PHF	0.827						0.783						0.906						0.852						0.863		
Cars, PU, Vans	14	196	3	0	213		0	146	525	0	671		465	4	23	0	492		9	75	16	0	100		1476		
% Cars, PU, Vans	100.0	90.7	60.0	0.0	90.6		0.0	99.3	97.2	0.0	97.4		91.2	36.4	88.5	0.0	89.9		100.0	93.8	88.9	0.0	93.5		93.5		
Heavy trucks	0	20	2	0	22		2	1	15	0	18		45	7	3	0	55		0	5	2	0	7		102		
% Heavy trucks	0.0	9.3	40.0	0.0	9.4		100.0	0.7	2.8	0.0	2.6		8.8	63.6	11.5	0.0	10.1		0.0	6.3	11.1	0.0	6.5		12.5		

Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd

Peak Hour Turning Movement Count

ID: 25-180129-003
City: Athens

Day: Tuesday
Date: 5/6/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: N Chase St & Athens Perimeter/US 129/CR 13/SR 10 EB Ramps
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-001
Date: 5/6/2025

Data - Total

NS/EW Streets:	N Chase St				N Chase St				Athens Perimeter/US 129/CR 13/SR 10 EB Ramps				Athens Perimeter/US 129/CR 13/SR 10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	0 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	0	39	45	0	66	143	0	0	27	0	31	0	0	0	0	0	351
7:15 AM	0	45	54	0	56	169	0	0	12	0	54	0	0	0	0	0	390
7:30 AM	0	59	67	0	56	175	0	0	22	0	54	0	0	0	0	0	433
7:45 AM	0	55	52	0	62	219	0	0	31	0	61	0	0	0	0	0	480
8:00 AM	0	78	101	0	47	174	0	0	26	0	61	0	0	0	0	0	487
8:15 AM	0	78	68	0	45	168	0	0	30	0	52	0	0	0	0	0	441
8:30 AM	0	81	55	0	44	149	0	0	31	0	59	0	0	0	0	0	419
8:45 AM	0	85	60	0	47	153	0	0	25	1	54	0	0	0	0	0	425
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	520	502	0	423	1350	0	0	204	1	426	0	0	0	0	0	3426
	0.00%	50.88%	49.12%	0.00%	23.86%	76.14%	0.00%	0.00%	32.33%	0.16%	67.51%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	270	288	0	210	736	0	0	109	0	228	0	0	0	0	0	1841
PEAK HR FACTOR :	0.000	0.865	0.713	0.000	0.847	0.840	0.000	0.000	0.879	0.000	0.934	0.000	0.000	0.000	0.000	0.000	0.945
				0.779				0.842				0.916					

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	0 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	0	102	131	0	64	104	0	0	18	1	43	0	0	0	0	0	463
4:15 PM	0	88	100	0	61	83	0	0	19	0	31	0	0	0	0	0	382
4:30 PM	0	113	143	0	80	88	0	0	8	0	43	0	0	0	0	0	475
4:45 PM	0	114	138	0	68	105	0	0	18	0	44	0	0	0	0	0	487
5:00 PM	0	122	188	0	79	109	0	0	14	0	62	0	0	0	0	0	574
5:15 PM	0	110	171	0	63	125	0	0	18	0	53	0	0	0	0	0	540
5:30 PM	0	104	130	0	65	98	0	0	22	0	36	0	0	0	0	0	455
5:45 PM	0	90	116	0	52	68	0	0	20	0	39	0	0	0	0	0	385
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	843	1117	0	532	780	0	0	137	1	351	0	0	0	0	0	3761
	0.00%	43.01%	56.99%	0.00%	40.55%	59.45%	0.00%	0.00%	28.02%	0.20%	71.78%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	459	640	0	290	427	0	0	58	0	202	0	0	0	0	0	2076
PEAK HR FACTOR :	0.000	0.941	0.851	0.000	0.906	0.854	0.000	0.000	0.806	0.000	0.815	0.000	0.000	0.000	0.000	0.000	0.904
				0.886				0.953				0.855					

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Chase St & Athens Perimeter/US 129/CR 13/SR 10 EB Ramps
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-001
Date: 5/6/2025

Data - Cars

NS/EW Streets:	N Chase St				N Chase St				Athens Perimeter/US 129/CR 13/SR 10 EB Ramps				Athens Perimeter/US 129/CR 13/SR 10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	0 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	0	35	43	0	62	134	0	0	23	0	29	0	0	0	0	0	326
7:15 AM	0	41	49	0	53	166	0	0	10	0	51	0	0	0	0	0	370
7:30 AM	0	55	63	0	53	172	0	0	19	0	53	0	0	0	0	0	415
7:45 AM	0	54	50	0	60	212	0	0	27	0	58	0	0	0	0	0	461
8:00 AM	0	70	99	0	41	168	0	0	24	0	59	0	0	0	0	0	461
8:15 AM	0	61	64	0	38	158	0	0	27	0	48	0	0	0	0	0	396
8:30 AM	0	64	53	0	39	143	0	0	27	0	51	0	0	0	0	0	377
8:45 AM	0	77	53	0	41	148	0	0	21	1	48	0	0	0	0	0	389
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	457	474	0	387	1301	0	0	178	1	397	0	0	0	0	0	3195
	0.00%	49.09%	50.91%	0.00%	22.93%	77.07%	0.00%	0.00%	30.90%	0.17%	68.92%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	240	276	0	192	710	0	0	97	0	218	0	0	0	0	0	1733
PEAK HR FACTOR :	0.000	0.857	0.697	0.000	0.800	0.837	0.000	0.000	0.898	0.000	0.924	0.000	0.000	0.000	0.000	0.000	0.940
	0.763				0.829				0.926								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	0 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	0	99	128	0	59	101	0	0	14	1	40	0	0	0	0	0	442
4:15 PM	0	83	98	0	57	81	0	0	16	0	26	0	0	0	0	0	361
4:30 PM	0	103	134	0	75	81	0	0	6	0	39	0	0	0	0	0	438
4:45 PM	0	107	132	0	64	101	0	0	14	0	35	0	0	0	0	0	453
5:00 PM	0	120	185	0	79	106	0	0	14	0	58	0	0	0	0	0	562
5:15 PM	0	109	169	0	63	121	0	0	15	0	49	0	0	0	0	0	526
5:30 PM	0	103	129	0	62	96	0	0	19	0	34	0	0	0	0	0	443
5:45 PM	0	87	115	0	49	68	0	0	17	0	37	0	0	0	0	0	373
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	811	1090	0	508	755	0	0	115	1	318	0	0	0	0	0	3598
	0.00%	42.66%	57.34%	0.00%	40.22%	59.78%	0.00%	0.00%	26.50%	0.23%	73.27%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	439	620	0	281	409	0	0	49	0	181	0	0	0	0	0	1979
PEAK HR FACTOR :	0.000	0.915	0.838	0.000	0.889	0.845	0.000	0.000	0.817	0.000	0.780	0.000	0.000	0.000	0.000	0.000	0.880
	0.868				0.932				0.799								

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Chase St & Athens Perimeter/US 129/CR 13/SR 10 EB Ramps
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-001
Date: 5/6/2025

Data - HT

NS/EW Streets:	N Chase St				N Chase St				Athens Perimeter/US 129/CR 13/SR 10 EB Ramps				Athens Perimeter/US 129/CR 13/SR 10 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	0 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	0	4	2	0	4	9	0	0	4	0	2	0	0	0	0	0	25
7:15 AM	0	4	5	0	3	3	0	0	2	0	3	0	0	0	0	0	20
7:30 AM	0	4	4	0	3	3	0	0	3	0	1	0	0	0	0	0	18
7:45 AM	0	1	2	0	2	7	0	0	4	0	3	0	0	0	0	0	19
8:00 AM	0	8	2	0	6	6	0	0	2	0	2	0	0	0	0	0	26
8:15 AM	0	17	4	0	7	10	0	0	3	0	4	0	0	0	0	0	45
8:30 AM	0	17	2	0	5	6	0	0	4	0	8	0	0	0	0	0	42
8:45 AM	0	8	7	0	6	5	0	0	4	0	6	0	0	0	0	0	36
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	63	28	0	36	49	0	0	26	0	29	0	0	0	0	0	231
PEAK HR :	07:30 AM - 08:30 AM				18	26	0	0	12	0	10	0	0	0	0	0	TOTAL
PEAK HR VOL :	0	30	12	0	0.643	0.650	0.000	0.000	0.750	0.000	0.625	0.000	0.000	0.000	0.000	0.000	108
PEAK HR FACTOR :	0.000	0.441	0.750	0.000	0.647				0.786				0.600				0.600
	0.500																
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	0 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	0	3	3	0	5	3	0	0	4	0	3	0	0	0	0	0	21
4:15 PM	0	5	2	0	4	2	0	0	3	0	5	0	0	0	0	0	21
4:30 PM	0	10	9	0	5	7	0	0	2	0	4	0	0	0	0	0	37
4:45 PM	0	7	6	0	4	4	0	0	4	0	9	0	0	0	0	0	34
5:00 PM	0	2	3	0	0	3	0	0	0	0	4	0	0	0	0	0	12
5:15 PM	0	1	2	0	0	4	0	0	3	0	4	0	0	0	0	0	14
5:30 PM	0	1	1	0	3	2	0	0	3	0	2	0	0	0	0	0	12
5:45 PM	0	3	1	0	3	0	0	0	3	0	2	0	0	0	0	0	12
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	32	27	0	24	25	0	0	22	0	33	0	0	0	0	0	163
PEAK HR :	04:30 PM - 05:30 PM				9	18	0	0	9	0	21	0	0	0	0	0	TOTAL
PEAK HR VOL :	0	20	20	0	0.450	0.643	0.000	0.000	0.563	0.000	0.583	0.000	0.000	0.000	0.000	0.000	97
PEAK HR FACTOR :	0.000	0.500	0.556	0.000	0.563				0.577				0.655				0.655
	0.526																

Location: N Chase St & Athens Perimeter/US 129/CR 13/SR 10 EB Ramps
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-001
Date: 5/6/2025

Data - Bikes

[illegible]

National Data & Surveying Services
Intersection Turning Movement Count

Location: N Chase St & Athens Perimeter/US 129/CR 13/SR 10 EB Ramps
City: Athens

Project ID: 25-180129-001
Date: 5/6/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	N Chase St		N Chase St		Athens Perimeter/US 129/CR 13/SR 10 EB		Athens Perimeter/US 129/CR 13/SR 10 EB		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

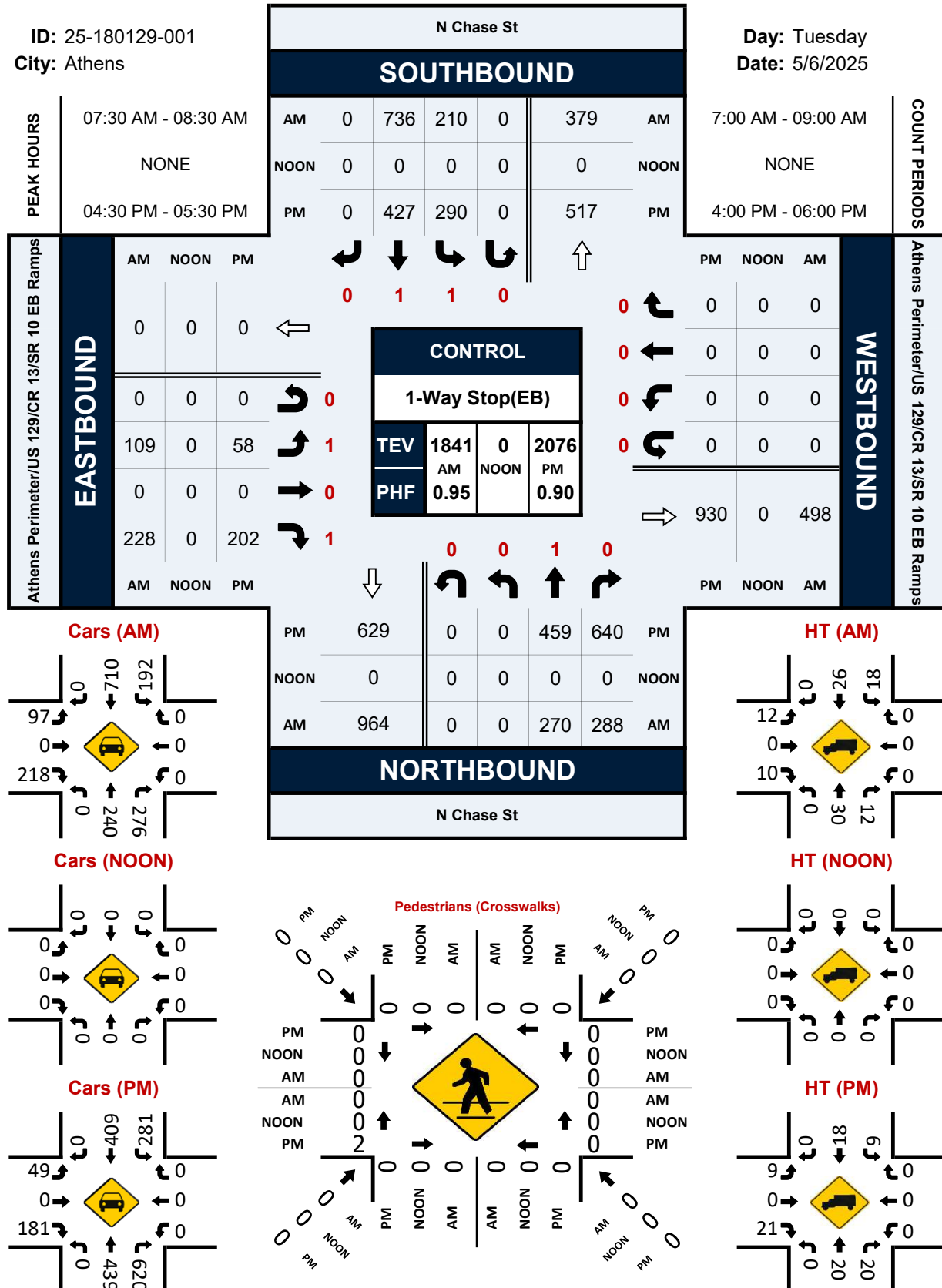
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0	2
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	2 66.67%	1 33.33%	3
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	2 0.250	0	2
PEAK HR FACTOR :							0.250		0.250

N Chase St & Athens Perimeter/US 129/CR 13/SR 10 EB Ramps

Peak Hour Turning Movement Count

ID: 25-180129-001
City: Athens

Day: Tuesday
Date: 5/6/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: N Chase St & Athens Perimeter/US 129/CR 13/SR 10 WB Ramps
City: Athens
Control: Signalized

Project ID: 25-180129-002
Date: 5/6/2025

Data - Total

NS/EW Streets:	N Chase St				N Chase St				Athens Perimeter/US 129/CR 13/SR 10 WB Ramps				Athens Perimeter/US 129/CR 13/SR 10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	1.5 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	1 WL	0 WT	1 WR	0 WU	
7:00 AM	26	40	0	0	0	116	48	0	0	0	0	0	90	0	50	0	370
7:15 AM	21	34	0	0	0	112	45	0	0	0	0	0	114	0	58	0	384
7:30 AM	32	48	0	0	0	114	44	0	0	0	0	0	127	1	56	0	422
7:45 AM	26	57	0	0	0	131	60	0	0	0	0	0	139	0	88	0	501
8:00 AM	37	56	0	0	0	107	39	0	0	0	0	0	113	0	77	0	429
8:15 AM	42	67	0	0	0	109	33	0	0	0	0	0	104	0	58	0	413
8:30 AM	39	67	0	0	0	86	31	0	0	0	0	0	107	0	79	0	409
8:45 AM	45	67	0	0	0	91	49	0	0	0	0	0	115	0	66	0	433
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	268	436	0	0	0	866	349	0	0	0	0	0	909	1	532	0	3361
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	137	228	0	0	0	461	176	0	0	0	0	0	483	1	279	0	1765
PEAK HR FACTOR :	0.815	0.851	0.000	0.000	0.000	0.880	0.733	0.000	0.000	0.000	0.000	0.000	0.869	0.250	0.793	0.000	0.881
	0.837				0.834								0.840				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	1.5 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	1 WL	0 WT	1 WR	0 WU	
4:00 PM	60	57	0	0	0	112	58	0	0	0	0	0	59	0	53	0	399
4:15 PM	61	54	0	0	0	81	43	0	0	0	0	0	58	0	46	0	343
4:30 PM	54	64	0	0	0	101	40	0	0	0	0	0	64	0	55	0	378
4:45 PM	55	78	0	0	0	101	42	0	0	0	0	0	69	2	89	0	436
5:00 PM	69	65	0	0	0	131	86	0	0	0	0	0	69	0	59	0	479
5:15 PM	47	74	0	0	0	104	35	0	0	0	0	0	73	0	64	0	397
5:30 PM	69	62	0	0	0	100	53	0	0	0	0	0	61	0	50	0	395
5:45 PM	55	53	0	0	0	79	45	0	0	0	0	0	44	0	57	0	333
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	470	507	0	0	0	809	402	0	0	0	0	0	497	2	473	0	3160
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	240	279	0	0	0	436	216	0	0	0	0	0	272	2	262	0	1707
PEAK HR FACTOR :	0.870	0.894	0.000	0.000	0.000	0.832	0.628	0.000	0.000	0.000	0.000	0.000	0.932	0.250	0.736	0.000	0.891
	0.968				0.751								0.838				

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Chase St & Athens Perimeter/US 129/CR 13/SR 10 WB Ramps
City: Athens
Control: Signalized

Project ID: 25-180129-002
Date: 5/6/2025

Data - Cars

NS/EW Streets:	N Chase St				N Chase St				Athens Perimeter/US 129/CR 13/SR 10 WB Ramps				Athens Perimeter/US 129/CR 13/SR 10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	1.5 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	1 WL	0 WT	1 WR	0 WU	
7:00 AM	22	36	0	0	0	108	43	0	0	0	0	0	84	0	43	0	336
7:15 AM	19	30	0	0	0	108	40	0	0	0	0	0	113	0	57	0	367
7:30 AM	29	44	0	0	0	109	39	0	0	0	0	0	124	1	55	0	401
7:45 AM	25	53	0	0	0	126	55	0	0	0	0	0	137	0	84	0	480
8:00 AM	36	49	0	0	0	99	32	0	0	0	0	0	109	0	74	0	399
8:15 AM	39	49	0	0	0	96	29	0	0	0	0	0	100	0	46	0	359
8:30 AM	34	50	0	0	0	79	25	0	0	0	0	0	103	0	58	0	349
8:45 AM	42	59	0	0	0	85	38	0	0	0	0	0	110	0	47	0	381
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	246	370	0	0	0	810	301	0	0	0	0	0	880	1	464	0	3072
	39.94%	60.06%	0.00%	0.00%	0.00%	72.91%	27.09%	0.00%	65.43%	0.07%	34.50%	0.00%	65.43%	0.07%	34.50%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	129	195	0	0	0	430	155	0	0	0	0	0	470	1	259	0	1639
PEAK HR FACTOR :	0.827	0.920	0.000	0.000	0.000	0.853	0.705	0.000	0.000	0.000	0.000	0.000	0.858	0.250	0.771	0.000	0.854
	0.920				0.808								0.826				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	1.5 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	1 WL	0 WT	1 WR	0 WU	
4:00 PM	58	52	0	0	0	105	55	0	0	0	0	0	57	0	50	0	377
4:15 PM	61	46	0	0	0	76	42	0	0	0	0	0	58	0	30	0	313
4:30 PM	53	55	0	0	0	92	38	0	0	0	0	0	61	0	36	0	335
4:45 PM	52	68	0	0	0	94	39	0	0	0	0	0	68	2	75	0	398
5:00 PM	68	64	0	0	0	129	84	0	0	0	0	0	68	0	51	0	464
5:15 PM	46	71	0	0	0	103	35	0	0	0	0	0	70	0	57	0	382
5:30 PM	69	58	0	0	0	96	51	0	0	0	0	0	60	0	46	0	380
5:45 PM	53	49	0	0	0	76	42	0	0	0	0	0	44	0	47	0	311
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	460	463	0	0	0	771	386	0	0	0	0	0	486	2	392	0	2960
	49.84%	50.16%	0.00%	0.00%	0.00%	66.64%	33.36%	0.00%	55.23%	0.23%	44.55%	0.00%	55.23%	0.23%	44.55%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	235	261	0	0	0	422	209	0	0	0	0	0	266	2	229	0	1624
PEAK HR FACTOR :	0.851	0.919	0.000	0.000	0.000	0.818	0.622	0.000	0.000	0.000	0.000	0.000	0.950	0.250	0.763	0.000	0.875
	0.939				0.741								0.857				

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Chase St & Athens Perimeter/US 129/CR 13/SR 10 WB Ramps
City: Athens
Control: Signalized

Project ID: 25-180129-002
Date: 5/6/2025

Data - HT

NS/EW Streets:	N Chase St				N Chase St				Athens Perimeter/US 129/CR 13/SR 10 WB Ramps				Athens Perimeter/US 129/CR 13/SR 10 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	1.5 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	1 WL	0 WT	1 WR	0 WU	
7:00 AM	4	4	0	0	0	8	5	0	0	0	0	0	6	0	7	0	34
7:15 AM	2	4	0	0	0	4	5	0	0	0	0	0	1	0	1	0	17
7:30 AM	3	4	0	0	0	5	5	0	0	0	0	0	3	0	1	0	21
7:45 AM	1	4	0	0	0	5	5	0	0	0	0	0	2	0	4	0	21
8:00 AM	1	7	0	0	0	8	7	0	0	0	0	0	4	0	3	0	30
8:15 AM	3	18	0	0	0	13	4	0	0	0	0	0	4	0	12	0	54
8:30 AM	5	17	0	0	0	7	6	0	0	0	0	0	4	0	21	0	60
8:45 AM	3	8	0	0	0	6	11	0	0	0	0	0	5	0	19	0	52
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	25.00%	75.00%	0.00%	0.00%	0.00%	53.85%	46.15%	0.00%	0	0	0	0	29.90%	0.00%	70.10%	0.00%	289
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	8	33	0	0	0	31	21	0	0	0	0	0	13	0	20	0	126
PEAK HR FACTOR :	0.667	0.458	0.000	0.000	0.000	0.596	0.750	0.000	0.000	0.000	0.000	0.000	0.813	0.000	0.417	0.000	0.583
	0.488				0.765								0.516				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	1.5 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	1 WL	0 WT	1 WR	0 WU	
4:00 PM	2	5	0	0	0	7	3	0	0	0	0	0	2	0	3	0	22
4:15 PM	0	8	0	0	0	5	1	0	0	0	0	0	0	0	16	0	30
4:30 PM	1	9	0	0	0	9	2	0	0	0	0	0	3	0	19	0	43
4:45 PM	3	10	0	0	0	7	3	0	0	0	0	0	1	0	14	0	38
5:00 PM	1	1	0	0	0	2	2	0	0	0	0	0	1	0	8	0	15
5:15 PM	1	3	0	0	0	1	0	0	0	0	0	0	3	0	7	0	15
5:30 PM	0	4	0	0	0	4	2	0	0	0	0	0	1	0	4	0	15
5:45 PM	2	4	0	0	0	3	3	0	0	0	0	0	0	0	10	0	22
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	18.52%	81.48%	0.00%	0.00%	0.00%	70.37%	29.63%	0.00%	0	0	0	0	11.96%	0.00%	88.04%	0.00%	200
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	5	18	0	0	0	14	7	0	0	0	0	0	6	0	33	0	83
PEAK HR FACTOR :	0.417	0.450	0.000	0.000	0.000	0.500	0.583	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.589	0.000	0.546
	0.442				0.525								0.650				

Location: N Chase St & Athens Perimeter/US 129/CR 13/SR 10 WB Ramps
City: Athens
Control: Signalized

Data - Bikes

[illegible]

National Data & Surveying Services
Intersection Turning Movement Count

Location: N Chase St & Athens Perimeter/US 129/CR 13/SR 10 WB Ramps
City: Athens

Project ID: 25-180129-002
Date: 5/6/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	N Chase St		N Chase St		Athens Perimeter/US 129/CR 13/SR 10 WB		Athens Perimeter/US 129/CR 13/SR 10 WB		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

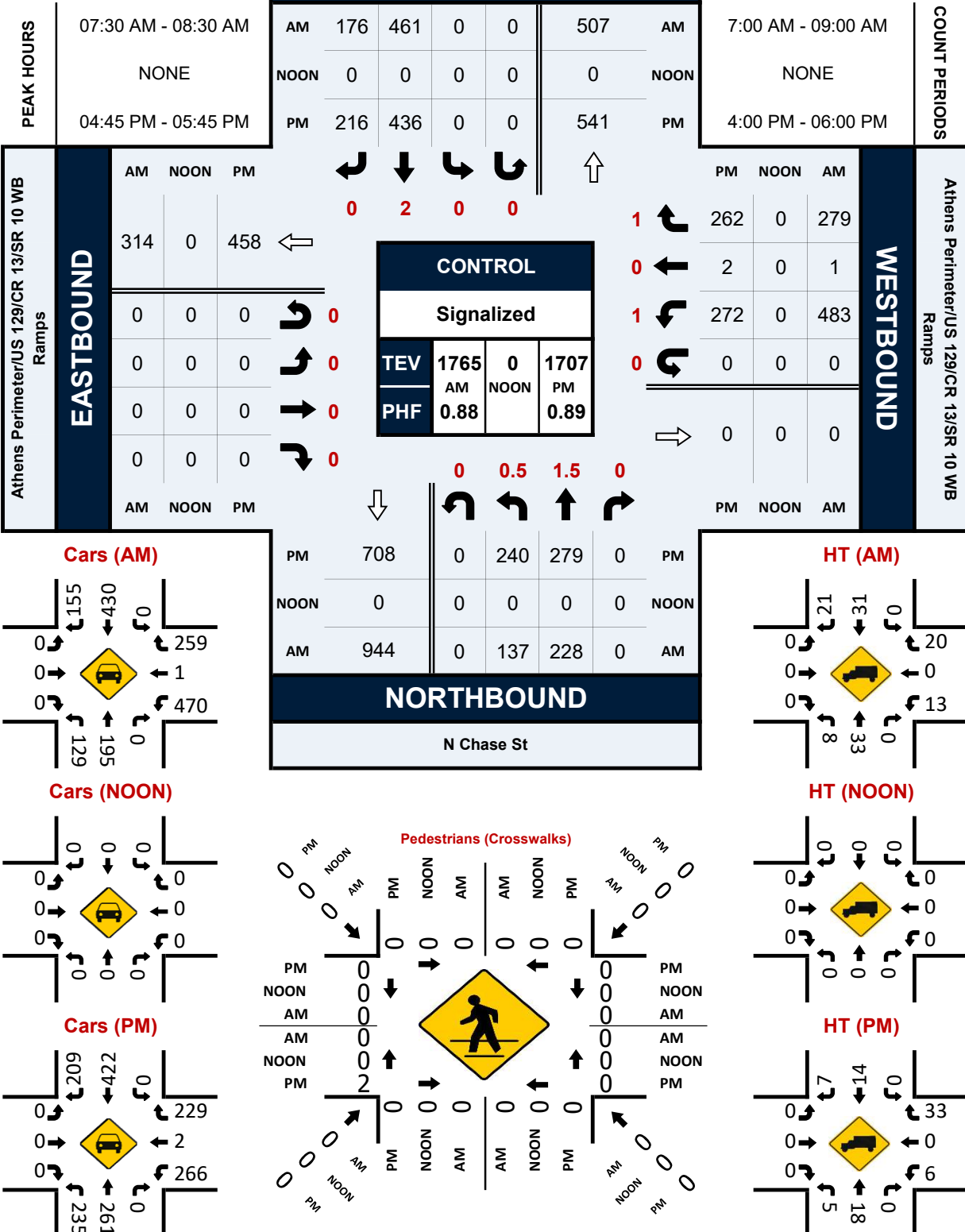
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0	2
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	2 66.67%	1 33.33%	3
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	2 0.250	0	2
PEAK HR FACTOR :							0.250		0.250

N Chase St & Athens Perimeter/US 129/CR 13/SR 10 WB Ramps

Peak Hour Turning Movement Count

ID: 25-180129-002
City: Athens

Day: Tuesday
Date: 5/6/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & Fritz Mar Ln
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-006
Date: 5/6/2025

Data - Total

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				Fritz Mar Ln				Fritz Mar Ln				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	4	62	0	0	0	148	0	0	0	0	3	0	0	0	0	0	217
7:15 AM	1	71	0	0	0	159	0	0	1	0	10	0	0	0	0	0	242
7:30 AM	7	61	0	0	0	183	2	0	2	0	10	0	0	0	0	0	265
7:45 AM	7	66	0	0	0	221	2	0	1	0	6	0	0	0	0	0	303
8:00 AM	5	102	0	0	0	141	1	0	0	0	12	0	0	0	0	0	261
8:15 AM	2	59	0	0	0	164	1	0	0	0	7	0	0	0	0	0	233
8:30 AM	6	61	0	0	0	122	1	0	2	0	5	0	0	0	0	0	197
8:45 AM	10	76	0	0	0	110	1	0	0	0	8	0	0	0	0	0	205
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	42	558	0	0	0	1248	8	0	6	0	61	0	0	0	0	0	1923
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	20	300	0	0	0	704	5	0	4	0	38	0	0	0	0	0	1071
PEAK HR FACTOR :	0.714	0.735	0.000	0.000	0.000	0.796	0.625	0.000	0.500	0.000	0.792	0.000	0.000	0.000	0.000	0.000	0.884
	0.748				0.795				0.875								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	6	132	0	0	0	126	1	0	1	0	6	0	0	0	0	0	272
4:15 PM	7	93	0	0	0	108	0	0	0	0	6	0	0	0	0	0	214
4:30 PM	1	132	0	0	0	112	1	0	1	0	5	0	0	0	0	0	252
4:45 PM	5	164	0	0	0	94	1	0	0	0	8	0	0	0	0	0	272
5:00 PM	4	203	0	0	0	115	0	0	2	0	18	0	0	0	0	0	342
5:15 PM	11	196	0	0	0	114	4	0	3	0	12	0	0	0	0	0	340
5:30 PM	7	154	0	0	0	96	3	0	2	0	8	0	0	0	0	0	270
5:45 PM	7	122	0	0	0	101	0	0	1	0	7	0	0	0	0	0	238
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	48	1196	0	0	0	866	10	0	10	0	70	0	0	0	0	0	2200
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	27	717	0	0	0	419	8	0	7	0	46	0	0	0	0	0	1224
PEAK HR FACTOR :	0.614	0.883	0.000	0.000	0.000	0.911	0.500	0.000	0.583	0.000	0.639	0.000	0.000	0.000	0.000	0.000	0.895
	0.899				0.905				0.663								

National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & Fritz Mar Ln
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-006
Date: 5/6/2025

Data - Cars

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				Fritz Mar Ln				Fritz Mar Ln				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	4	51	0	0	0	138	0	0	0	0	3	0	0	0	0	0	196
7:15 AM	1	62	0	0	0	149	0	0	1	0	10	0	0	0	0	0	223
7:30 AM	7	58	0	0	0	178	2	0	2	0	10	0	0	0	0	0	257
7:45 AM	7	59	0	0	0	212	1	0	0	0	6	0	0	0	0	0	285
8:00 AM	5	94	0	0	0	131	1	0	0	0	12	0	0	0	0	0	243
8:15 AM	2	53	0	0	0	153	1	0	0	0	6	0	0	0	0	0	215
8:30 AM	6	58	0	0	0	107	1	0	2	0	4	0	0	0	0	0	178
8:45 AM	10	70	0	0	0	100	1	0	0	0	8	0	0	0	0	0	189
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	42	505	0	0	0	1168	7	0	5	0	59	0	0	0	0	0	1786
PEAK HR :	7.68%	92.32%	0.00%	0.00%	0.00%	99.40%	0.60%	0.00%	7.81%	0.00%	92.19%	0.00%	0	0	0	0	1008
PEAK HR VOL :	20	273	0	0	0	670	4	0	3	0	38	0	0	0	0	0	1008
PEAK HR FACTOR :	0.714	0.726	0.000	0.000	0.000	0.790	0.500	0.000	0.375	0.000	0.792	0.000	0.000	0.000	0.000	0.000	0.884
		0.740				0.791				0.854							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	5	129	0	0	0	118	1	0	1	0	6	0	0	0	0	0	260
4:15 PM	7	86	0	0	0	96	0	0	0	0	5	0	0	0	0	0	194
4:30 PM	1	123	0	0	0	98	1	0	1	0	5	0	0	0	0	0	229
4:45 PM	5	157	0	0	0	87	1	0	0	0	8	0	0	0	0	0	258
5:00 PM	3	195	0	0	0	111	0	0	2	0	17	0	0	0	0	0	328
5:15 PM	11	189	0	0	0	112	4	0	3	0	12	0	0	0	0	0	331
5:30 PM	7	149	0	0	0	94	3	0	2	0	8	0	0	0	0	0	263
5:45 PM	7	114	0	0	0	94	0	0	1	0	6	0	0	0	0	0	222
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	46	1142	0	0	0	810	10	0	10	0	67	0	0	0	0	0	2085
PEAK HR :	3.87%	96.13%	0.00%	0.00%	0.00%	98.78%	1.22%	0.00%	12.99%	0.00%	87.01%	0.00%	0	0	0	0	1180
PEAK HR VOL :	26	690	0	0	0	404	8	0	7	0	45	0	0	0	0	0	1180
PEAK HR FACTOR :	0.591	0.885	0.000	0.000	0.000	0.902	0.500	0.000	0.583	0.000	0.662	0.000	0.000	0.000	0.000	0.000	0.891
		0.895				0.888				0.684							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & Fritz Mar Ln
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-006
Date: 5/6/2025

Data - HT

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				Fritz Mar Ln				Fritz Mar Ln				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	0	11	0	0	0	10	0	0	0	0	0	0	0	0	0	0	21
7:15 AM	0	9	0	0	0	10	0	0	0	0	0	0	0	0	0	0	19
7:30 AM	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	8
7:45 AM	0	7	0	0	0	9	1	0	1	0	0	0	0	0	0	0	18
8:00 AM	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	0	18
8:15 AM	0	6	0	0	0	11	0	0	0	0	1	0	0	0	0	0	18
8:30 AM	0	3	0	0	0	15	0	0	0	0	1	0	0	0	0	0	19
8:45 AM	0	6	0	0	0	10	0	0	0	0	0	0	0	0	0	0	16
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	53	0	0	0	80	1	0	1	0	2	0	0	0	0	0	137
	0.00%	100.00%	0.00%	0.00%	0.00%	98.77%	1.23%	0.00%	33.33%	0.00%	66.67%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	27	0	0	0	34	1	0	1	0	0	0	0	0	0	0	63
PEAK HR FACTOR :	0.000	0.750	0.000	0.000	0.000	0.850	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.829
	0.750				0.875				0.250								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	1	3	0	0	0	8	0	0	0	0	0	0	0	0	0	0	12
4:15 PM	0	7	0	0	0	12	0	0	0	0	1	0	0	0	0	0	20
4:30 PM	0	9	0	0	0	14	0	0	0	0	0	0	0	0	0	0	23
4:45 PM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	14
5:00 PM	1	8	0	0	0	4	0	0	0	0	1	0	0	0	0	0	14
5:15 PM	0	7	0	0	0	2	0	0	0	0	0	0	0	0	0	0	9
5:30 PM	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7
5:45 PM	0	8	0	0	0	7	0	0	0	0	1	0	0	0	0	0	16
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	2	54	0	0	0	56	0	0	0	0	3	0	0	0	0	0	115
	3.57%	96.43%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	1	27	0	0	0	15	0	0	0	0	1	0	0	0	0	0	44
PEAK HR FACTOR :	0.250	0.844	0.000	0.000	0.000	0.536	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.786
	0.778				0.536				0.250								

National Data & Surveying Services
Intersection Turning Movement Count

Location: Newton Bridge Rd & Fritz Mar Ln
City: Athens

Project ID: 25-180129-006
Date: 5/6/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Newton Bridge Rd		Newton Bridge Rd		Fritz Mar Ln		Fritz Mar Ln		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	1 50.00%	1 50.00%	2
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1 0.250	1 0.250	2
PEAK HR FACTOR :							0.500		0.500

Project ID: 25-180129-006
Location: Newton Bridge Rd & Fritz Mar Ln
City: Athens

Day: Tuesday
Date: 5/6/2025

Groups Printed - Cars, PU, Vans - Heavy Trucks																										
Newton Bridge Rd Northbound							Newton Bridge Rd Southbound						Fritz Mar Ln Eastbound						Fritz Mar Ln Westbound							
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total	
7:00 AM	4	62	0	0	0	66	0	148	0	0	0	148	0	0	3	0	0	3	0	0	0	0	0	0	217	
7:15 AM	1	71	0	0	0	72	0	159	0	0	0	159	1	0	10	0	0	11	0	0	0	0	0	0	242	
7:30 AM	7	61	0	0	0	68	0	183	2	0	0	185	2	0	10	0	0	12	0	0	0	0	0	0	265	
7:45 AM	7	66	0	0	0	73	0	221	2	0	0	223	1	0	6	0	0	7	0	0	0	0	0	0	303	
Total	19	260	0	0	0	279	0	711	4	0	0	715	4	0	29	0	0	33	0	0	0	0	0	0	1027	
8:00 AM	5	102	0	0	0	107	0	141	1	0	0	142	0	0	12	0	0	12	0	0	0	0	0	0	261	
8:15 AM	2	59	0	0	0	61	0	164	1	0	0	165	0	0	7	0	0	7	0	0	0	0	0	0	233	
8:30 AM	6	61	0	0	0	67	0	122	1	0	0	123	2	0	5	0	0	7	0	0	0	0	0	0	197	
8:45 AM	10	76	0	0	0	86	0	110	1	0	0	111	0	0	8	0	0	8	0	0	0	0	0	0	205	
Total	23	298	0	0	0	321	0	537	4	0	0	541	2	0	32	0	0	34	0	0	0	0	0	0	896	
BREAK																										
4:00 PM	6	132	0	0	0	138	0	126	1	0	0	127	1	0	6	0	0	7	0	0	0	0	0	0	272	
4:15 PM	7	93	0	0	0	100	0	108	0	0	0	108	0	0	6	0	0	6	0	0	0	0	0	0	214	
4:30 PM	1	132	0	0	0	133	0	112	1	0	0	113	1	0	5	0	0	6	0	0	0	0	0	0	252	
4:45 PM	5	164	0	0	0	169	0	94	1	0	0	95	0	0	8	0	0	8	0	0	0	0	0	0	272	
Total	19	521	0	0	0	540	0	440	3	0	0	443	2	0	25	0	0	27	0	0	0	0	0	0	1010	
5:00 PM	4	203	0	0	0	207	0	115	0	0	0	115	2	0	18	0	1	20	0	0	0	0	0	0	342	
5:15 PM	11	196	0	0	0	207	0	114	4	0	0	118	3	0	12	0	1	15	0	0	0	0	0	0	340	
5:30 PM	7	154	0	0	0	161	0	96	3	0	0	99	2	0	8	0	0	10	0	0	0	0	0	0	270	
5:45 PM	7	122	0	0	0	129	0	101	0	0	0	101	1	0	7	0	0	8	0	0	0	0	0	0	238	
Total	29	675	0	0	0	704	0	426	7	0	0	433	8	0	45	0	2	53	0	0	0	0	0	0	1190	
Grand Total	90	1754	0	0	0	1844	0	2114	18	0	0	2132	16	0	131	0	2	147	0	0	0	0	0	0	4123	
Apprch %	4.9	95.1	0.0	0.0	0.0		0.0	99.2	0.8	0.0	0.0		10.9	0.0	89.1	0.0	1.4		0.0	0.0	0.0	0.0	0.0			
Total %	2.2	42.5	0.0	0.0	0.0	44.7	0.0	51.3	0.4	0.0	0.0	51.7	0.4	0.0	3.2	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0		
Cars, PU, Vans	88	1647	0	0	0	1735	0	1978	17	0	0	1995	15	0	126	0	0	141	0	0	0	0	0	0	3871	
% Cars, PU, Vans	97.8	93.9	0.0	0.0		94.1	0.0	93.6	94.4	0.0		93.6	93.8	0.0	96.2	0.0		95.9	0.0	0.0	0.0	0.0	0.0	0.0	93.9	
Heavy trucks	2	107	0	0	0	109	0	136	1	0	0	137	1	0	5	0	0	6	0	0	0	0	0	0	252	
% Heavy trucks	2.2	6.1	0.0	0.0		5.9	0.0	6.4	5.6	0.0		6.4	6.3	0.0	3.8	0.0		4.1	0.0	0.0	0.0	0.0	0.0	0.0	6.1	

Project ID: 25-180129-006
Location: Newton Bridge Rd & Fritz Mar Ln
City: Athens

PEAK HOURS

Day: Tuesday
Date: 5/6/2025

AM																										
	Newton Bridge Rd Northbound						Newton Bridge Rd Southbound						Fritz Mar Ln Eastbound						Fritz Mar Ln Westbound							
Start Time	Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Int. Total	
Peak Hour Analysis from 07:00 AM - 09:00 AM																										
Peak Hour for Entire Intersection Begins at 07:15 AM																										
7:15 AM	1	71	0	0	72		0	159	0	0	159		1	0	10	0	11		0	0	0	0	0		242	
7:30 AM	7	61	0	0	68		0	183	2	0	185		2	0	10	0	12		0	0	0	0	0		265	
7:45 AM	7	66	0	0	73		0	221	2	0	223		1	0	6	0	7		0	0	0	0	0		303	
8:00 AM	5	102	0	0	107		0	141	1	0	142		0	0	12	0	12		0	0	0	0	0		261	
Total Volume	20	300	0	0	320		0	704	5	0	709		4	0	38	0	42		0	0	0	0	0		1071	
% App. Total	6.3	93.8	0.0	0.0	100		0.0	99.3	0.7	0.0	100		9.5	0.0	90.5	0.0	100		0.0	0.0	0.0	0.0	0.0			
PHF	0.748						0.795						0.875						0.884							
Cars, PU, Vans	20	273	0	0	293		0	670	4	0	674		3	0	38	0	41		0	0	0	0	0		1008	
% Cars, PU, Vans	100.0	91.0	0.0	0.0	91.6		0.0	95.2	80.0	0.0	95.1		75.0	0.0	100.0	0.0	97.6		0.0	0.0	0.0	0.0	0.0		94.1	
Heavy trucks	0	27	0	0	27		0	34	1	0	35		1	0	0	0	1		0	0	0	0	0		63	
%Heavy trucks	0.0	9.0	0.0	0.0	8.4		0.0	4.8	20.0	0.0	4.9		25.0	0.0	0.0	0.0	2.4		0.0	0.0	0.0	0.0	0.0		5.9	

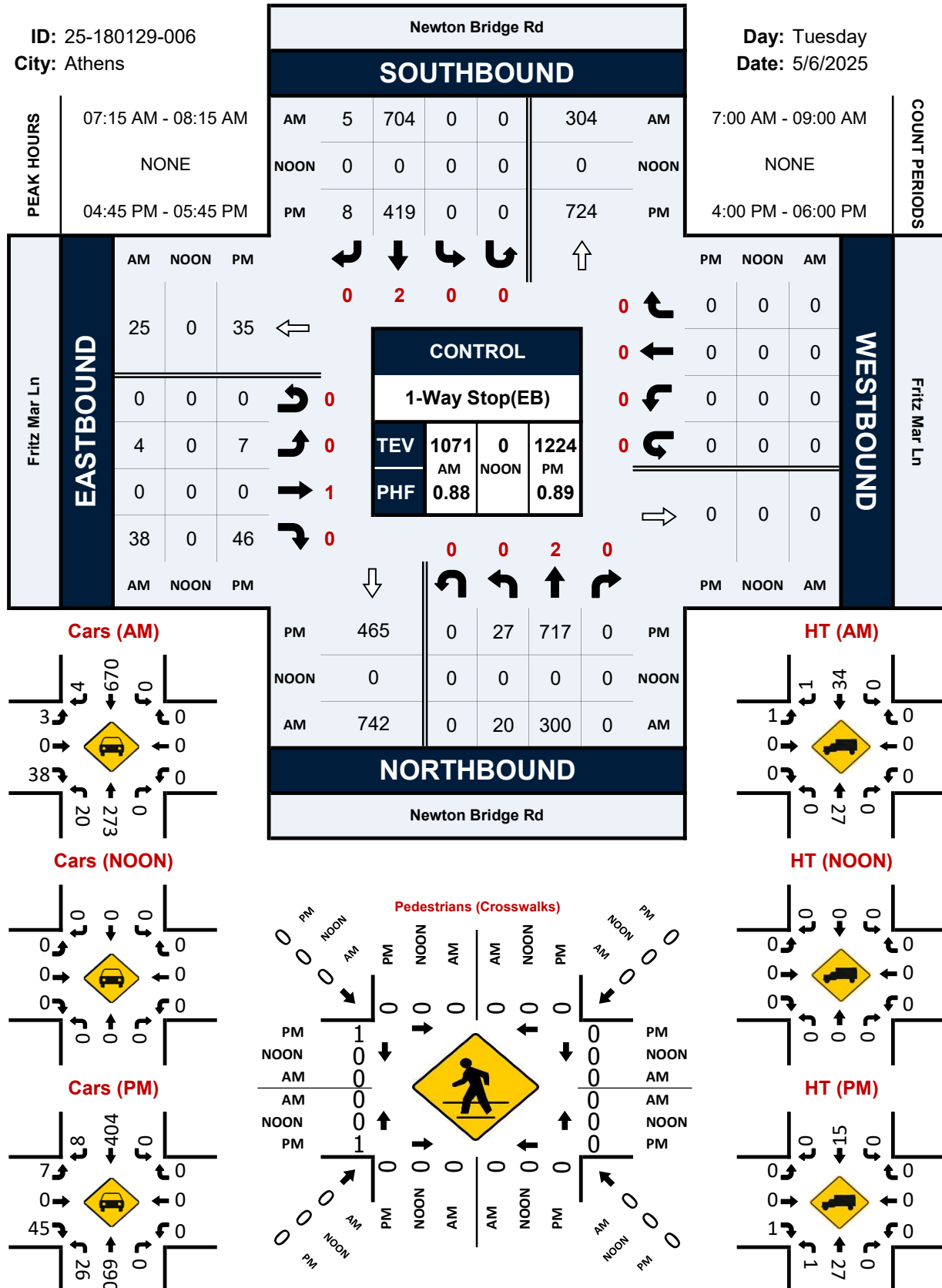
PM																										
	Newton Bridge Rd Northbound						Newton Bridge Rd Southbound						Fritz Mar Ln Eastbound						Fritz Mar Ln Westbound							
Start Time	Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Int. Total	
Peak Hour Analysis from 04:00 PM - 06:00 PM																										
Peak Hour for Entire Intersection Begins at 04:45 PM																										
4:45 PM	5	164	0	0	169		0	94	1	0	95		0	0	8	0	8		0	0	0	0	0		272	
5:00 PM	4	203	0	0	207		0	115	0	0	115		2	0	18	0	20		0	0	0	0	0		342	
5:15 PM	11	196	0	0	207		0	114	4	0	118		3	0	12	0	15		0	0	0	0	0		340	
5:30 PM	7	154	0	0	161		0	96	3	0	99		2	0	8	0	10		0	0	0	0	0		270	
Total Volume	27	717	0	0	744		0	419	8	0	427		7	0	46	0	53		0	0	0	0	0		1224	
% App. Total	3.6	96.4	0.0	0.0	100		0.0	98.1	1.9	0.0	100		13.2	0.0	86.8	0.0	100		0.0	0.0	0.0	0.0	0.0			
PHF	0.899						0.905						0.663						0.895							
Cars, PU, Vans	26	690	0	0	716		0	404	8	0	412		7	0	45	0	52		0	0	0	0	0		1180	
% Cars, PU, Vans	96.3	96.2	0.0	0.0	96.2		0.0	96.4	100.0	0.0	96.5		100.0	0.0	97.8	0.0	98.1		0.0	0.0	0.0	0.0	0.0		96.4	
Heavy trucks	1	27	0	0	28		0	15	0	0	15		0	0	1	0	1		0	0	0	0	0		44	
% Heavy trucks	3.7	3.8	0.0	0.0	3.8		0	3.6	0.0	0.0	3.5		0.0	0.0	2.2	0.0	1.9		0.0	0.0	0.0	0.0	0.0		3.6	

Newton Bridge Rd & Fritz Mar Ln

Peak Hour Turning Movement Count

ID: 25-180129-006
City: Athens

Day: Tuesday
Date: 5/6/2025



National Data & Surveying Services
Intersection Turning Movement Count

Location: Newton Bridge Rd & Kathwood Dr

City: Athens

Control: 1-Way Stop(EB)

Project ID: 25-180129-007

Date: 5/6/2025

Data - Total

NS/EW Streets:		Newton Bridge Rd				Newton Bridge Rd				Kathwood Dr				Kathwood Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	7:00 AM	16	43	0	0	0	102	16	0	9	0	34	0	0	0	0	220	
	7:15 AM	23	49	0	0	0	116	23	0	6	0	43	0	0	0	0	260	
	7:30 AM	29	28	0	0	0	141	32	0	6	0	36	0	0	0	0	272	
	7:45 AM	16	45	0	0	0	152	36	0	10	0	62	0	0	0	0	321	
	8:00 AM	33	58	0	0	0	96	23	0	13	0	44	0	0	0	0	267	
	8:15 AM	21	35	0	0	0	116	20	0	10	0	42	0	0	0	0	244	
	8:30 AM	17	44	0	0	0	79	12	0	3	0	38	0	0	0	0	193	
8:45 AM	20	50	0	0	0	79	21	0	5	0	30	0	0	0	0	205		
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %s :		175	352	0	0	0	881	183	0	62	0	329	0	0	0	0	0	1982
		33.21%	66.79%	0.00%	0.00%	0.00%	82.80%	17.20%	0.00%	15.86%	0.00%	84.14%	0.00%					
PEAK HR :		07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :		101	180	0	0	0	505	114	0	35	0	185	0	0	0	0	0	1120
PEAK HR FACTOR :		0.765	0.776	0.000	0.000	0.000	0.831	0.792	0.000	0.673	0.000	0.746	0.000	0.000	0.000	0.000	0.000	0.872
		0.772				0.823				0.764								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	4:00 PM	30	103	0	0	0	83	13	0	21	0	34	0	0	0	0	284	
	4:15 PM	23	66	0	0	0	76	15	0	31	0	28	0	0	0	0	239	
	4:30 PM	31	99	0	0	0	67	11	0	26	0	34	0	0	0	0	268	
	4:45 PM	36	126	0	0	0	58	12	0	17	0	32	0	0	0	0	281	
	5:00 PM	49	153	0	0	0	85	10	0	23	0	29	0	0	0	0	349	
	5:15 PM	48	156	0	0	0	82	15	0	25	0	28	0	0	0	0	354	
	5:30 PM	33	115	0	0	0	70	17	0	22	0	24	0	0	0	0	281	
5:45 PM	27	102	0	0	0	82	11	0	8	0	16	0	0	0	0	246		
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %s :		277	920	0	0	0	603	104	0	173	0	225	0	0	0	0	0	2302
		23.14%	76.86%	0.00%	0.00%	0.00%	85.29%	14.71%	0.00%	43.47%	0.00%	56.53%	0.00%					
PEAK HR :		04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :		166	550	0	0	0	295	54	0	87	0	113	0	0	0	0	0	1265
PEAK HR FACTOR :		0.847	0.881	0.000	0.000	0.000	0.868	0.794	0.000	0.870	0.000	0.883	0.000	0.000	0.000	0.000	0.000	0.893
		0.877				0.899				0.943								

National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & Kathwood Dr
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-007
Date: 5/6/2025

Data - Cars

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				Kathwood Dr				Kathwood Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	15	35	0	0	0	94	15	0	9	0	32	0	0	0	0	0	200
7:15 AM	19	46	0	0	0	111	20	0	6	0	39	0	0	0	0	0	241
7:30 AM	26	27	0	0	0	137	29	0	4	0	35	0	0	0	0	0	258
7:45 AM	13	42	0	0	0	145	35	0	8	0	61	0	0	0	0	0	304
8:00 AM	29	55	0	0	0	90	23	0	13	0	42	0	0	0	0	0	252
8:15 AM	20	31	0	0	0	110	18	0	9	0	38	0	0	0	0	0	226
8:30 AM	15	43	0	0	0	74	11	0	3	0	27	0	0	0	0	0	173
8:45 AM	20	45	0	0	0	71	20	0	5	0	28	0	0	0	0	0	189
TOTAL VOLUMES :	NL 157	NT 324	NR 0	NU 0	SL 0	ST 832	SR 171	SU 0	EL 57	ET 0	ER 302	EU 0	WL 0	WT 0	WR 0	WU 0	TOTAL 1843
APPROACH %'s :	32.64%	67.36%	0.00%	0.00%	0.00%	82.95%	17.05%	0.00%	15.88%	0.00%	84.12%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	87	170	0	0	0	483	107	0	31	0	177	0	0	0	0	0	1055
PEAK HR FACTOR :	0.750	0.773	0.000	0.000	0.000	0.833	0.764	0.000	0.596	0.000	0.725	0.000	0.000	0.000	0.000	0.000	0.868
	0.765				0.819				0.754								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	30	100	0	0	0	74	12	0	19	0	33	0	0	0	0	0	268
4:15 PM	21	61	0	0	0	69	11	0	29	0	24	0	0	0	0	0	215
4:30 PM	29	93	0	0	0	58	10	0	25	0	28	0	0	0	0	0	243
4:45 PM	34	122	0	0	0	56	12	0	14	0	27	0	0	0	0	0	265
5:00 PM	46	148	0	0	0	82	9	0	23	0	28	0	0	0	0	0	336
5:15 PM	48	151	0	0	0	81	15	0	24	0	27	0	0	0	0	0	346
5:30 PM	30	112	0	0	0	68	17	0	19	0	24	0	0	0	0	0	270
5:45 PM	26	95	0	0	0	76	11	0	8	0	16	0	0	0	0	0	232
TOTAL VOLUMES :	NL 264	NT 882	NR 0	NU 0	SL 0	ST 564	SR 97	SU 0	EL 161	ET 0	ER 207	EU 0	WL 0	WT 0	WR 0	WU 0	TOTAL 2175
APPROACH %'s :	23.04%	76.96%	0.00%	0.00%	0.00%	85.33%	14.67%	0.00%	43.75%	0.00%	56.25%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	158	533	0	0	0	287	53	0	80	0	106	0	0	0	0	0	1217
PEAK HR FACTOR :	0.823	0.882	0.000	0.000	0.000	0.875	0.779	0.000	0.833	0.000	0.946	0.000	0.000	0.000	0.000	0.000	0.879
	0.868				0.885				0.912								

National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & Kathwood Dr
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-007
Date: 5/6/2025

Data - HT

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				Kathwood Dr				Kathwood Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	1	8	0	0	0	8	1	0	0	0	2	0	0	0	0	0	20
7:15 AM	4	3	0	0	0	5	3	0	0	0	4	0	0	0	0	0	19
7:30 AM	3	1	0	0	0	4	3	0	2	0	1	0	0	0	0	0	14
7:45 AM	3	3	0	0	0	7	1	0	2	0	1	0	0	0	0	0	17
8:00 AM	4	3	0	0	0	6	0	0	0	0	2	0	0	0	0	0	15
8:15 AM	1	4	0	0	0	6	2	0	1	0	4	0	0	0	0	0	18
8:30 AM	2	1	0	0	0	5	1	0	0	0	11	0	0	0	0	0	20
8:45 AM	0	5	0	0	0	8	1	0	0	0	2	0	0	0	0	0	16
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	18	28	0	0	0	49	12	0	5	0	27	0	0	0	0	0	139
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	14	10	0	0	0	22	7	0	4	0	8	0	0	0	0	0	65
PEAK HR FACTOR :	0.875	0.833	0.000	0.000	0.000	0.786	0.583	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.855
	0.857				0.906				0.750								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	0	3	0	0	0	9	1	0	2	0	1	0	0	0	0	0	16
4:15 PM	2	5	0	0	0	7	4	0	2	0	4	0	0	0	0	0	24
4:30 PM	2	6	0	0	0	9	1	0	1	0	6	0	0	0	0	0	25
4:45 PM	2	4	0	0	0	2	0	0	3	0	5	0	0	0	0	0	16
5:00 PM	3	5	0	0	0	3	1	0	0	0	1	0	0	0	0	0	13
5:15 PM	0	5	0	0	0	1	0	0	1	0	1	0	0	0	0	0	8
5:30 PM	3	3	0	0	0	2	0	0	3	0	0	0	0	0	0	0	11
5:45 PM	1	7	0	0	0	6	0	0	0	0	0	0	0	0	0	0	14
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	13	38	0	0	0	39	7	0	12	0	18	0	0	0	0	0	127
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	8	17	0	0	0	8	1	0	7	0	7	0	0	0	0	0	48
PEAK HR FACTOR :	0.667	0.850	0.000	0.000	0.000	0.667	0.250	0.000	0.583	0.000	0.350	0.000	0.000	0.000	0.000	0.000	0.750
	0.781				0.563				0.438								

National Data & Surveying Services
Intersection Turning Movement Count

Location: Newton Bridge Rd & Kathwood Dr
City: Athens

Project ID: 25-180129-007
Date: 5/6/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Newton Bridge Rd		Newton Bridge Rd		Kathwood Dr		Kathwood Dr	
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	07:15 AM - 08:15 AM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	04:45 PM - 05:45 PM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

Day: Tuesday
Date: 5/6/2025

	Newton Bridge Rd Northbound						Newton Bridge Rd Southbound						Kathwood Dr Eastbound						Kathwood Dr Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	16	43	0	0	0	59	0	102	16	0	0	118	9	0	34	0	0	43	0	0	0	0	0	0	220
7:15 AM	23	49	0	0	0	72	0	116	23	0	0	139	6	0	43	0	0	49	0	0	0	0	0	0	260
7:30 AM	29	28	0	0	0	57	0	141	32	0	0	173	6	0	36	0	0	42	0	0	0	0	0	0	272
7:45 AM	16	45	0	0	0	61	0	152	36	0	0	188	10	0	62	0	0	72	0	0	0	0	0	0	321
Total	84	165	0	0	0	249	0	511	107	0	0	618	31	0	175	0	0	206	0	0	0	0	0	0	1073
8:00 AM	33	58	0	0	0	91	0	96	23	0	0	119	13	0	44	0	0	57	0	0	0	0	0	0	267
8:15 AM	21	35	0	0	0	56	0	116	20	0	0	136	10	0	42	0	0	52	0	0	0	0	0	0	244
8:30 AM	17	44	0	0	0	61	0	79	12	0	0	91	3	0	38	0	0	41	0	0	0	0	0	0	193
8:45 AM	20	50	0	0	0	70	0	79	21	0	0	100	5	0	30	0	0	35	0	0	0	0	0	0	205
Total	91	187	0	0	0	278	0	370	76	0	0	446	31	0	154	0	0	185	0	0	0	0	0	0	909

4:00 PM	30	103	0	0	0	133	0	83	13	0	0	96	21	0	34	0	0	55	0	0	0	0	0	284
4:15 PM	23	66	0	0	0	89	0	76	15	0	0	91	31	0	28	0	0	59	0	0	0	0	0	239
4:30 PM	31	99	0	0	0	130	0	67	11	0	0	78	26	0	34	0	0	60	0	0	0	0	0	268
4:45 PM	36	126	0	0	0	162	0	58	12	0	0	70	17	0	32	0	0	49	0	0	0	0	0	281
Total	120	394	0	0	0	514	0	284	51	0	0	335	95	0	128	0	0	223	0	0	0	0	0	1072
5:00 PM	49	153	0	0	0	202	0	85	10	0	0	95	23	0	29	0	0	52	0	0	0	0	0	349
5:15 PM	48	156	0	0	0	204	0	82	15	0	0	97	25	0	28	0	0	53	0	0	0	0	0	354
5:30 PM	33	115	0	0	0	148	0	70	17	0	0	87	22	0	24	0	0	46	0	0	0	0	0	281
5:45 PM	27	102	0	0	0	129	0	82	11	0	0	93	8	0	16	0	0	24	0	0	0	0	0	246
Total	157	526	0	0	0	683	0	319	53	0	0	372	78	0	97	0	0	175	0	0	0	0	0	1230
Grand Total	452	1272	0	0	0	1724	0	1484	287	0	0	1771	235	0	554	0	0	789	0	0	0	0	0	4284
Apprch	26.2	73.8	0.0	0.0	0.0		0.0	83.8	16.2	0.0	0.0		29.8	0.0	70.2	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total %	10.6	29.7	0.0	0.0	0.0	40.2	0.0	34.6	6.7	0.0	0.0	41.3	5.5	0.0	12.9	0.0	0.0	18.4	0.0	0.0	0.0	0.0	0.0	0.0
Cars, PU, Vans	421	1206	0	0	0	1627	0	1396	268	0	0	1664	218	0	509	0	0	727	0	0	0	0	0	4018
% Cars, PU, Vans	93.1	94.8	0.0	0.0	0.0	94.4	0.0	94.1	93.4	0.0	0.0	94.0	92.8	0.0	91.9	0.0	0.0	92.1	0.0	0.0	0.0	0.0	0.0	93.8
Heavy trucks	31	66	0	0	0	97	0	88	19	0	0	107	17	0	45	0	0	62	0	0	0	0	0	266
%Heavy trucks	6.9	5.2	0.0	0.0	0.0	5.6	0.0	5.9	6.6	0.0	0.0	6.0	7.2	0.0	8.1	0.0	0.0	7.9	0.0	0.0	0.0	0.0	0.0	6.2

Day: Tuesday
Date: 5/6/2025

AM	Newton Bridge Rd Northbound					Newton Bridge Rd Southbound					Kathwood Dr Eastbound					Kathwood Dr Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	23	49	0	0	72	0	116	23	0	139	6	0	43	0	49	0	0	0	0	0	260
7:30 AM	29	28	0	0	57	0	141	32	0	173	6	0	36	0	42	0	0	0	0	0	272
7:45 AM	16	45	0	0	61	0	152	36	0	188	10	0	62	0	72	0	0	0	0	0	321
8:00 AM	33	58	0	0	91	0	96	23	0	119	13	0	44	0	57	0	0	0	0	0	267
Total Volume	101	180	0	0	281	0	505	114	0	619	35	0	185	0	220	0	0	0	0	0	1120
% App. Total	35.9	64.1	0.0	0.0	100	0.0	81.6	18.4	0.0	100	15.9	0.0	84.1	0.0	100	0.0	0.0	0.0	0.0	0.0	100
PHF					0.772	0.823					0.764					0.872					
Cars, PU, Vans	87	170	0	0	257	0	483	107	0	590	31	0	177	0	208	0	0	0	0	0	1055
% Cars, PU, Vans	86.1	94.4	0.0	0.0	91.5	0.0	95.6	93.9	0.0	95.3	88.6	0.0	95.7	0.0	94.5	0.0	0.0	0.0	0.0	0.0	94.2
Heavy trucks	14	10	0	0	24	0	22	7	0	29	4	0	8	0	12	0	0	0	0	0	65
%Heavy trucks	13.9	5.6	0.0	0.0	8.5	0.0	4.4	6.1	0.0	4.7	11.4	0.0	4.3	0.0	5.5	0.0	0.0	0.0	0.0	0.0	5.8

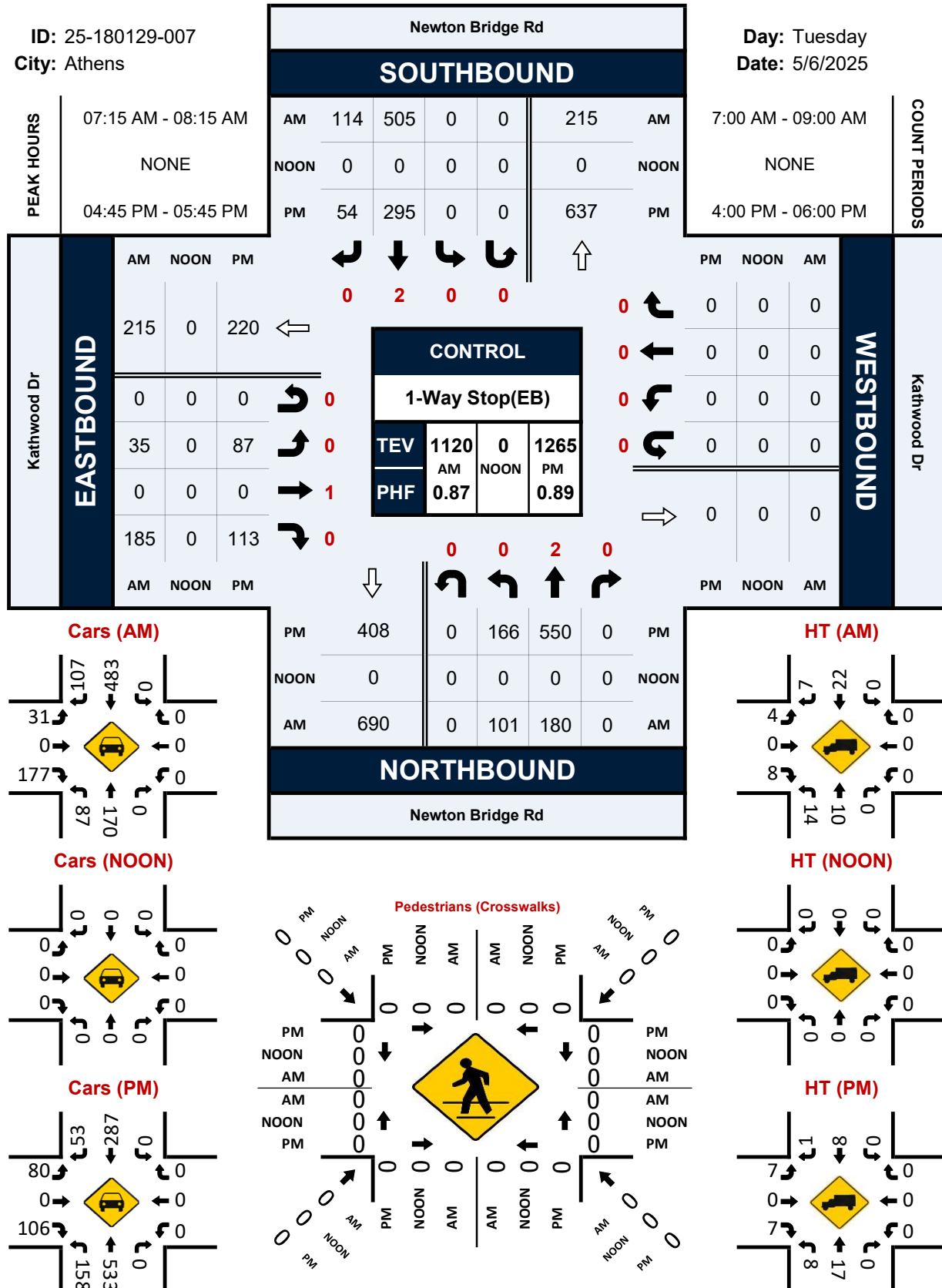
	Newton Bridge Rd Northbound					Newton Bridge Rd Southbound					Kathwood Dr Eastbound					Kathwood Dr Westbound							
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total		
Peak Hour Analysis from 04:00 PM - 06:00 PM																							
Peak Hour for Entire Intersection Begins at 04:45 PM																							
4:45 PM	36	126	0	0	162	0	58	12	0	70	17	0	32	0	49	0	0	0	0	0	281		
5:00 PM	49	153	0	0	202	0	85	10	0	95	23	0	29	0	52	0	0	0	0	0	349		
5:15 PM	48	156	0	0	204	0	82	15	0	97	25	0	28	0	53	0	0	0	0	0	354		
5:30 PM	33	115	0	0	148	0	70	17	0	87	22	0	24	0	46	0	0	0	0	0	281		
Total Volume	166	550	0	0	716	0	295	54	0	349	87	0	113	0	200	0	0	0	0	0	1265		
% App. Total	23.2	76.8	0.0	0.0	100	0.0	84.5	15.5	0.0	100	43.5	0.0	56.5	0.0	100	0.0	0.0	0.0	0.0	0			
PHF					0.877						0.899						0.943						0.893
Cars, PU, Vans	158	533	0	0	691	0	287	53	0	340	80	0	106	0	186	0	0	0	0	0	1217		
% Cars, PU, Vans	95.2	96.9	0.0	0.0	96.5	0.0	97.3	98.1	0.0	97.4	92.0	0.0	93.8	0.0	93.0	0.0	0.0	0.0	0.0	0.0	96.2		
Heavy trucks	8	17	0	0	25	0	8	1	0	9	7	0	7	0	14	0	0	0	0	0	48		
%Heavy trucks	4.8	3.1	0.0	0.0	3.5	0.0	2.7	1.9	0.0	2.6	8.0	0.0	6.2	0.0	7.0	0.0	0.0	0.0	0.0	0.0	3.8		

Newton Bridge Rd & Kathwood Dr

Peak Hour Turning Movement Count

ID: 25-180129-007
City: Athens

Day: Tuesday
Date: 5/6/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & N Paradise Blvd
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-005
Date: 5/6/2025

Data - Total

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				N Paradise Blvd				N Paradise Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	8	64	0	0	0	170	11	0	2	0	4	0	2	0	0	0	261
7:15 AM	5	72	0	0	2	164	6	0	1	0	3	0	2	0	1	0	256
7:30 AM	7	69	1	0	2	181	7	0	2	0	0	0	1	0	2	0	272
7:45 AM	5	76	0	0	3	212	6	0	1	0	1	0	1	0	1	0	306
8:00 AM	7	110	1	0	1	148	3	0	3	0	2	0	2	0	0	0	277
8:15 AM	19	62	0	0	1	161	10	0	3	0	8	0	0	0	0	0	264
8:30 AM	20	70	1	0	1	108	13	0	6	0	7	0	1	1	0	0	228
8:45 AM	11	83	1	0	1	110	6	0	8	1	12	0	1	0	1	0	235
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	82	606	4	0	11	1254	62	0	26	1	37	0	10	1	5	0	2099
PEAK HR :	11.85%	87.57%	0.58%	0.00%	0.83%	94.50%	4.67%	0.00%	40.63%	1.56%	57.81%	0.00%	62.50%	6.25%	31.25%	0.00%	
PEAK HR VOL :	38	317	2	0	7	702	26	0	9	0	11	0	4	0	3	0	TOTAL
PEAK HR FACTOR :	0.500	0.720	0.500	0.000	0.583	0.828	0.650	0.000	0.750	0.000	0.344	0.000	0.500	0.000	0.375	0.000	1119
	0.756				0.831				0.455				0.583				0.914

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	3	116	1	0	0	140	4	0	13	0	4	0	2	0	2	0	285
4:15 PM	6	87	3	1	1	110	6	0	12	0	9	0	3	0	2	0	240
4:30 PM	5	111	1	0	0	115	9	0	15	0	18	0	0	0	0	0	274
4:45 PM	11	163	0	0	0	102	6	0	9	0	11	0	0	0	0	0	302
5:00 PM	9	181	1	0	0	144	2	0	17	0	14	0	0	1	2	0	371
5:15 PM	3	198	1	0	2	131	1	0	14	0	8	0	0	0	1	0	359
5:30 PM	2	145	0	0	0	108	1	0	6	0	6	0	3	0	0	0	271
5:45 PM	1	125	0	0	1	105	3	0	2	1	3	1	3	0	1	0	246
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	40	1126	7	1	4	955	32	0	88	1	73	1	11	1	8	0	2348
PEAK HR :	3.41%	95.91%	0.60%	0.09%	0.40%	96.37%	3.23%	0.00%	53.99%	0.61%	44.79%	0.61%	55.00%	5.00%	40.00%	0.00%	
PEAK HR VOL :	28	653	3	0	2	492	18	0	55	0	51	0	0	1	3	0	TOTAL
PEAK HR FACTOR :	0.636	0.824	0.750	0.000	0.250	0.854	0.500	0.000	0.809	0.000	0.708	0.000	0.000	0.250	0.375	0.000	1306
	0.847				0.877				0.803				0.333				0.880

National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & N Paradise Blvd
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-005
Date: 5/6/2025

Data - Cars

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				N Paradise Blvd				N Paradise Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	8	53	0	0	0	159	11	0	2	0	3	0	2	0	0	0	238
7:15 AM	5	63	0	0	2	157	6	0	1	0	3	0	2	0	1	0	240
7:30 AM	7	65	0	0	2	173	7	0	2	0	0	0	1	0	2	0	259
7:45 AM	4	71	0	0	2	204	6	0	1	0	1	0	1	0	1	0	291
8:00 AM	6	103	1	0	1	138	3	0	2	0	2	0	2	0	0	0	258
8:15 AM	12	54	0	0	1	152	6	0	3	0	7	0	0	0	0	0	235
8:30 AM	11	67	0	0	1	102	4	0	6	0	7	0	1	0	0	0	199
8:45 AM	5	77	0	0	1	101	4	0	8	0	11	0	1	0	1	0	209
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	58	553	1	0	10	1186	47	0	25	0	34	0	10	0	5	0	1929
PEAK HR :	9.48%	90.36%	0.16%	0.00%	0.80%	95.41%	3.78%	0.00%	42.37%	0.00%	57.63%	0.00%	66.67%	0.00%	33.33%	0.00%	
PEAK HR VOL :	29	293	1	0	6	667	22	0	8	0	10	0	4	0	3	0	TOTAL
PEAK HR FACTOR :	0.604	0.711	0.250	0.000	0.750	0.817	0.786	0.000	0.667	0.000	0.357	0.000	0.500	0.000	0.375	0.000	1043
	0.734				0.820				0.450				0.583				0.896

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	2	113	0	0	0	132	4	0	13	0	3	0	0	0	2	0	269
4:15 PM	2	80	3	1	1	101	1	0	12	0	9	0	2	0	1	0	213
4:30 PM	2	104	1	0	0	107	2	0	15	0	16	0	0	0	0	0	247
4:45 PM	4	156	0	0	0	98	2	0	9	0	11	0	0	0	0	0	280
5:00 PM	6	172	1	0	0	141	0	0	17	0	14	0	0	0	2	0	353
5:15 PM	1	192	0	0	2	129	1	0	12	0	8	0	0	0	1	0	346
5:30 PM	0	142	0	0	0	106	1	0	6	0	6	0	2	0	0	0	263
5:45 PM	0	117	0	0	1	99	3	0	2	0	3	1	3	0	1	0	230
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	17	1076	5	1	4	913	14	0	86	0	70	1	7	0	7	0	2201
PEAK HR :	1.55%	97.91%	0.45%	0.09%	0.43%	98.07%	1.50%	0.00%	54.78%	0.00%	44.59%	0.64%	50.00%	0.00%	50.00%	0.00%	
PEAK HR VOL :	13	624	2	0	2	475	5	0	53	0	49	0	0	0	3	0	TOTAL
PEAK HR FACTOR :	0.542	0.813	0.500	0.000	0.250	0.842	0.625	0.000	0.779	0.000	0.766	0.000	0.000	0.000	0.375	0.000	1226
	0.828				0.855				0.823				0.375				0.868

National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & N Paradise Blvd
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-005
Date: 5/6/2025

Data - HT

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				N Paradise Blvd				N Paradise Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	11	0	0	0	11	0	0	0	0	1	0	0	0	0	0	23
7:15 AM	0	9	0	0	0	7	0	0	0	0	0	0	0	0	0	0	16
7:30 AM	0	4	1	0	0	8	0	0	0	0	0	0	0	0	0	0	13
7:45 AM	1	5	0	0	1	8	0	0	0	0	0	0	0	0	0	0	15
8:00 AM	1	7	0	0	0	10	0	0	1	0	0	0	0	0	0	0	19
8:15 AM	7	8	0	0	0	9	4	0	0	0	1	0	0	0	0	0	29
8:30 AM	9	3	1	0	0	6	9	0	0	0	0	0	0	1	0	0	29
8:45 AM	6	6	1	0	0	9	2	0	0	1	1	0	0	0	0	0	26
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	24	53	3	0	1	68	15	0	1	1	3	0	0	1	0	0	170
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	9	24	1	0	1	35	4	0	1	0	1	0	0	0	0	0	76
PEAK HR FACTOR :	0.321	0.750	0.250	0.000	0.250	0.875	0.250	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.655
	0.567				0.769				0.500								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	1	3	1	0	0	8	0	0	0	0	1	0	2	0	0	0	16
4:15 PM	4	7	0	0	0	9	5	0	0	0	0	0	1	0	1	0	27
4:30 PM	3	7	0	0	0	8	7	0	0	0	2	0	0	0	0	0	27
4:45 PM	7	7	0	0	0	4	4	0	0	0	0	0	0	0	0	0	22
5:00 PM	3	9	0	0	0	3	2	0	0	0	0	0	0	1	0	0	18
5:15 PM	2	6	1	0	0	2	0	0	2	0	0	0	0	0	0	0	13
5:30 PM	2	3	0	0	0	2	0	0	0	0	0	0	1	0	0	0	8
5:45 PM	1	8	0	0	0	6	0	0	0	1	0	0	0	0	0	0	16
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	23	50	2	0	0	42	18	0	2	1	3	0	4	1	1	0	147
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	15	29	1	0	0	17	13	0	2	0	2	0	0	1	0	0	80
PEAK HR FACTOR :	0.536	0.806	0.250	0.000	0.000	0.531	0.464	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.741
	0.804				0.500				0.500				0.250				

Project ID: 25-180129-005
Date: 5/6/2025

National Data & Surveying Services
Intersection Turning Movement Count

Location: Newton Bridge Rd & N Paradise Blvd
City: Athens

Project ID: 25-180129-005
Date: 5/6/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Newton Bridge Rd		Newton Bridge Rd		N Paradise Blvd		N Paradise Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	1	1	0	0	2	1	0	0	5
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB 1	WB 1	EB 0	WB 0	NB 2	SB 1	NB 0	SB 0	TOTAL 5
APPROACH %'s :	50.00%	50.00%			66.67%	33.33%			
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	1	1	0	0	2	1	0	0	5
PEAK HR FACTOR :	0.250	0.250			0.250	0.250			0.250
		0.250				0.250			

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	1
5:45 PM	0	0	0	0	1	1	0	0	2
TOTAL VOLUMES :	EB 0	WB 0	EB 0	WB 0	NB 2	SB 2	NB 0	SB 0	TOTAL 4
APPROACH %'s :					50.00%	50.00%			
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :						0.250			0.250
						0.250			

Project ID: 25-180129-005
Location: Newton Bridge Rd & N Paradise Blvd
City: Athens

Day: Tuesday
Date: 5/6/2025

Groups Printed - Cars, PU, Vans - Heavy Trucks																										
Newton Bridge Rd Northbound							Newton Bridge Rd Southbound						N Paradise Blvd Eastbound						N Paradise Blvd Westbound							
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total	
7:00 AM	8	64	0	0	0	72	0	170	11	0	0	181	2	0	4	0	0	6	2	0	0	0	0	2	261	
7:15 AM	5	72	0	0	0	77	2	164	6	0	0	172	1	0	3	0	0	4	2	0	1	0	0	3	256	
7:30 AM	7	69	1	0	0	77	2	181	7	0	0	190	2	0	0	0	0	2	1	0	2	0	0	3	272	
7:45 AM	5	76	0	0	0	81	3	212	6	0	0	221	1	0	1	0	0	2	1	0	1	0	0	2	306	
Total	25	281	1	0	0	307	7	727	30	0	0	764	6	0	8	0	0	14	6	0	4	0	0	10	1095	
8:00 AM	7	110	1	0	0	118	1	148	3	0	2	152	3	0	2	0	0	5	2	0	0	0	3	2	277	
8:15 AM	19	62	0	0	0	81	1	161	10	0	0	172	3	0	8	0	0	11	0	0	0	0	0	0	264	
8:30 AM	20	70	1	0	0	91	1	108	13	0	0	122	6	0	7	0	0	13	1	1	0	0	0	2	228	
8:45 AM	11	83	1	0	0	95	1	110	6	0	0	117	8	1	12	0	0	21	1	0	1	0	0	2	235	
Total	57	325	3	0	0	385	4	527	32	0	2	563	20	1	29	0	0	50	4	1	1	0	3	6	1004	
BREAK																										
4:00 PM	3	116	1	0	0	120	0	140	4	0	0	144	13	0	4	0	0	17	2	0	2	0	0	4	285	
4:15 PM	6	87	3	1	0	97	1	110	6	0	0	117	12	0	9	0	0	21	3	0	2	0	0	5	240	
4:30 PM	5	111	1	0	0	117	0	115	9	0	0	124	15	0	18	0	0	33	0	0	0	0	0	0	274	
4:45 PM	11	163	0	0	0	174	0	102	6	0	0	108	9	0	11	0	0	20	0	0	0	0	0	0	302	
Total	25	477	5	1	0	508	1	467	25	0	0	493	49	0	42	0	0	91	5	0	4	0	0	9	1101	
5:00 PM	9	181	1	0	0	191	0	144	2	0	0	146	17	0	14	0	0	31	0	1	2	0	1	3	371	
5:15 PM	3	198	1	0	0	202	2	131	1	0	0	134	14	0	8	0	0	22	0	0	1	0	0	1	359	
5:30 PM	2	145	0	0	0	147	0	108	1	0	0	109	6	0	6	0	0	12	3	0	0	0	1	3	271	
5:45 PM	1	125	0	0	0	126	1	105	3	0	0	109	2	1	3	1	0	7	3	0	1	0	2	4	246	
Total	15	649	2	0	0	666	3	488	7	0	0	498	39	1	31	1	0	72	6	1	4	0	4	11	1247	
Grand Total	122	1732	11	1	0	1866	15	2209	94	0	2	2318	114	2	110	1	0	227	21	2	13	0	7	36	4447	
Apprch %	6.5	92.8	0.6	0.1	0.0		0.6	95.3	4.1	0.0	0.1		50.2	0.9	48.5	0.4	0.0		58.3	5.6	36.1	0.0	19.4			
Total %	2.7	38.9	0.2	0.0	0.0	42.0	0.3	49.7	2.1	0.0	0.0	52.1	2.6	0.0	2.5	0.0	0.0	5.1	0.5	0.0	0.3	0.0	0.2	0.8		
Cars, PU, Vans	75	1629	6	1		1711	14	2099	61	0		2174	111	0	104	1		216	17	0	12	0		29	4130	
% Cars, PU, Vans	61.5	94.1	54.5	100.0		91.7	93.3	95.0	64.9	0.0		93.8	97.4	0.0	94.5	100.0		95.2	81.0	0.0	92.3	0.0		80.6	92.9	
Heavy trucks	47	103	5	0		155	1	110	33	0		144	3	2	6	0		11	4	2	1	0		7	317	
%Heavy trucks	38.5	5.9	45.5	0.0		8.3	6.7	5.0	35.1	0.0		6.2	2.6	100.0	5.5	0.0		4.8	19.0	100.0	7.7	0.0		19.4	7.1	

Project ID: 25-180129-005
Location: Newton Bridge Rd & N Paradise Blvd
City: Athens

PEAK HOURS

Day: Tuesday
Date: 5/6/2025

AM																									
	Newton Bridge Rd Northbound						Newton Bridge Rd Southbound						N Paradise Blvd Eastbound						N Paradise Blvd Westbound						
Start Time	Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total	Int. Total	
Peak Hour Analysis from 07:00 AM - 09:00 AM																									
Peak Hour for Entire Intersection Begins at 07:30 AM																									
7:30 AM	7	69	1	0	77		2	181	7	0	190		2	0	0	0	2		1	0	2	0	3	272	
7:45 AM	5	76	0	0	81		3	212	6	0	221		1	0	1	0	2		1	0	1	0	2	306	
8:00 AM	7	110	1	0	118		1	148	3	0	152		3	0	2	0	5		2	0	0	0	2	277	
8:15 AM	19	62	0	0	81		1	161	10	0	172		3	0	8	0	11		0	0	0	0	0	264	
Total Volume	38	317	2	0	357		7	702	26	0	735		9	0	11	0	20		4	0	3	0	7	1119	
% App. Total	10.6	88.8	0.6	0.0	100		1.0	95.5	3.5	0.0	100		45.0	0.0	55.0	0.0	100		57.1	0.0	42.9	0.0	100		
PHF	0.756						0.831						0.455						0.583					0.914	
Cars, PU, Vans	29	293	1	0	323		6	667	22	0	695		8	0	10	0	18		4	0	3	0	7	1043	
% Cars, PU, Vans	76.3	92.4	50.0	0.0	90.5		85.7	95.0	84.6	0.0	94.6		88.9	0.0	90.9	0.0	90.0		100.0	0.0	100.0	0.0	100.0		93.2
Heavy trucks	9	24	1	0	34		1	35	4	0	40		1	0	1	0	2		0	0	0	0	0		76
% Heavy trucks	23.7	7.6	50.0	0.0	9.5		14.3	5.0	15.4	0.0	5.4		11.1	0.0	9.1	0.0	10.0		0.0	0.0	0.0	0.0	0.0		6.8

PM																									
	Newton Bridge Rd Northbound						Newton Bridge Rd Southbound						N Paradise Blvd Eastbound						N Paradise Blvd Westbound						
Start Time	Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total	Int. Total	
Peak Hour Analysis from 04:00 PM - 06:00 PM																									
Peak Hour for Entire Intersection Begins at 04:30 PM																									
4:30 PM	5	111	1	0	117		0	115	9	0	124		15	0	18	0	33		0	0	0	0	0		274
4:45 PM	11	163	0	0	174		0	102	6	0	108		9	0	11	0	20		0	0	0	0	0		302
5:00 PM	9	181	1	0	191		0	144	2	0	146		17	0	14	0	31		0	1	2	0	3		371
5:15 PM	3	198	1	0	202		2	131	1	0	134		14	0	8	0	22		0	0	1	0	1		359
Total Volume	28	653	3	0	684		2	492	18	0	512		55	0	51	0	106		0	1	3	0	4		1306
% App. Total	4.1	95.5	0.4	0.0	100		0.4	96.1	3.5	0.0	100		51.9	0.0	48.1	0.0	100		0.0	25.0	75.0	0.0	100		
PHF	0.847						0.877						0.803						0.333						0.880
Cars, PU, Vans	13	624	2	0	639		2	475	5	0	482		53	0	49	0	102		0	0	3	0	3		1226
% Cars, PU, Vans	46.4	95.6	66.7	0.0	93.4		100.0	96.5	27.8	0.0	94.1		96.4	0.0	96.1	0.0	96.2		0.0	0.0	100.0	0.0	75.0		93.9
Heavy trucks	15	29	1	0	45		0	17	13	0	30		2	0	2	0	4		0	1	0	0	1		80
% Heavy trucks	53.6	4.4	33.3	0.0	6.6		0.0	3.5	72.2	0.0	5.9		3.6	0.0	3.9	0.0	3.8		0.0	100.0	0.0	0.0	25.0		6.1

National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & S Paradise Blvd
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-004
Date: 5/6/2025

Data - Total

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				S Paradise Blvd				S Paradise Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	13	70	0	0	0	180	0	0	0	0	7	0	0	0	0	0	270
7:15 AM	6	75	0	0	0	171	2	0	1	0	7	0	0	0	0	0	262
7:30 AM	15	80	0	0	0	189	1	0	3	0	13	0	0	0	0	0	301
7:45 AM	26	93	0	0	0	214	4	0	1	0	11	0	0	0	0	0	349
8:00 AM	18	125	0	0	0	150	3	0	0	0	6	0	0	0	0	0	302
8:15 AM	28	91	0	0	0	168	2	0	0	0	17	0	0	0	0	0	306
8:30 AM	28	96	0	0	0	120	1	0	0	0	23	0	0	0	0	0	268
8:45 AM	39	94	0	0	0	123	1	0	3	0	37	0	0	0	0	0	297
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	173	724	0	0	0	1315	14	0	8	0	121	0	0	0	0	0	2355
PEAK HR :	19.29%	80.71%	0.00%	0.00%	0.00%	98.95%	1.05%	0.00%	6.20%	0.00%	93.80%	0.00%	0	0	0	0	
PEAK HR VOL :	07:30 AM - 08:30 AM				0	721	10	0	4	0	47	0	0	0	0	0	TOTAL
PEAK HR FACTOR :	0.777	0.778	0.000	0.000	0.000	0.842	0.625	0.000	0.333	0.000	0.691	0.000	0.000	0.000	0.000	0.000	1258
		0.832				0.838				0.750							0.901

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	9	118	0	0	0	142	1	0	0	0	28	0	0	0	0	0	298
4:15 PM	12	104	0	0	0	122	2	0	0	0	20	0	0	0	0	0	260
4:30 PM	26	120	0	0	0	135	2	0	2	0	27	0	0	0	0	0	312
4:45 PM	22	168	0	0	0	120	0	0	1	0	40	0	0	0	0	0	351
5:00 PM	8	185	0	0	0	178	0	0	2	0	41	0	0	0	0	0	414
5:15 PM	2	202	0	0	0	144	0	0	2	0	12	0	0	0	0	0	362
5:30 PM	6	153	0	0	0	126	0	0	0	0	18	0	0	0	0	0	303
5:45 PM	9	128	0	0	0	112	0	0	0	0	14	0	0	0	0	0	263
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	94	1178	0	0	0	1079	5	0	7	0	200	0	0	0	0	0	2563
PEAK HR :	7.39%	92.61%	0.00%	0.00%	0.00%	99.54%	0.46%	0.00%	3.38%	0.00%	96.62%	0.00%	0	0	0	0	
PEAK HR VOL :	04:30 PM - 05:30 PM				0	577	2	0	7	0	120	0	0	0	0	0	TOTAL
PEAK HR FACTOR :	0.558	0.835	0.000	0.000	0.000	0.810	0.250	0.000	0.875	0.000	0.732	0.000	0.000	0.000	0.000	0.000	1439
		0.898				0.813				0.738							0.869

National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & S Paradise Blvd
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-004
Date: 5/6/2025

Data - Cars

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				S Paradise Blvd				S Paradise Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	13	61	0	0	0	168	0	0	0	0	7	0	0	0	0	0	249
7:15 AM	5	67	0	0	0	164	2	0	1	0	4	0	0	0	0	0	243
7:30 AM	13	75	0	0	0	179	1	0	3	0	13	0	0	0	0	0	284
7:45 AM	23	89	0	0	0	205	3	0	0	0	10	0	0	0	0	0	330
8:00 AM	14	117	0	0	0	140	3	0	0	0	5	0	0	0	0	0	279
8:15 AM	11	76	0	0	0	158	2	0	0	0	13	0	0	0	0	0	260
8:30 AM	9	83	0	0	0	113	1	0	0	0	19	0	0	0	0	0	225
8:45 AM	20	83	0	0	0	113	1	0	2	0	34	0	0	0	0	0	253
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	108	651	0	0	0	1240	13	0	6	0	105	0	0	0	0	0	2123
	14.23%	85.77%	0.00%	0.00%	0.00%	98.96%	1.04%	0.00%	5.41%	0.00%	94.59%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	61	357	0	0	0	682	9	0	3	0	41	0	0	0	0	0	1153
PEAK HR FACTOR :	0.663	0.763	0.000	0.000	0.000	0.832	0.750	0.000	0.250	0.000	0.788	0.000	0.000	0.000	0.000	0.000	0.873
			0.798				0.831				0.688						

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	6	113	0	0	0	132	0	0	0	0	28	0	0	0	0	0	279
4:15 PM	2	92	0	0	0	113	1	0	0	0	17	0	0	0	0	0	225
4:30 PM	2	113	0	0	0	126	1	0	1	0	25	0	0	0	0	0	268
4:45 PM	5	154	0	0	0	115	0	0	1	0	37	0	0	0	0	0	312
5:00 PM	4	174	0	0	0	175	0	0	2	0	40	0	0	0	0	0	395
5:15 PM	0	193	0	0	0	142	0	0	2	0	12	0	0	0	0	0	349
5:30 PM	2	148	0	0	0	123	0	0	0	0	18	0	0	0	0	0	291
5:45 PM	3	119	0	0	0	105	0	0	0	0	13	0	0	0	0	0	240
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	24	1106	0	0	0	1031	2	0	6	0	190	0	0	0	0	0	2359
	2.12%	97.88%	0.00%	0.00%	0.00%	99.81%	0.19%	0.00%	3.06%	0.00%	96.94%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	11	634	0	0	0	558	1	0	6	0	114	0	0	0	0	0	1324
PEAK HR FACTOR :	0.550	0.821	0.000	0.000	0.000	0.797	0.250	0.000	0.750	0.000	0.713	0.000	0.000	0.000	0.000	0.000	0.838
			0.835				0.799				0.714						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Newton Bridge Rd & S Paradise Blvd
City: Athens
Control: 1-Way Stop(EB)

Project ID: 25-180129-004
Date: 5/6/2025

Data - HT

NS/EW Streets:	Newton Bridge Rd				Newton Bridge Rd				S Paradise Blvd				S Paradise Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	0	9	0	0	0	12	0	0	0	0	0	0	0	0	0	0	21
7:15 AM	1	8	0	0	0	7	0	0	0	0	3	0	0	0	0	0	19
7:30 AM	2	5	0	0	0	10	0	0	0	0	0	0	0	0	0	0	17
7:45 AM	3	4	0	0	0	9	1	0	1	0	1	0	0	0	0	0	19
8:00 AM	4	8	0	0	0	10	0	0	0	0	1	0	0	0	0	0	23
8:15 AM	17	15	0	0	0	10	0	0	0	0	4	0	0	0	0	0	46
8:30 AM	19	13	0	0	0	7	0	0	0	0	4	0	0	0	0	0	43
8:45 AM	19	11	0	0	0	10	0	0	1	0	3	0	0	0	0	0	44
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	65	73	0	0	0	75	1	0	2	0	16	0	0	0	0	0	232
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	26	32	0	0	0	39	1	0	1	0	6	0	0	0	0	0	105
PEAK HR FACTOR :	0.382	0.533	0.000	0.000	0.000	0.975	0.250	0.000	0.250	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.571
	0.453				1.000				0.438								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	3	5	0	0	0	10	1	0	0	0	0	0	0	0	0	0	19
4:15 PM	10	12	0	0	0	9	1	0	0	0	3	0	0	0	0	0	35
4:30 PM	24	7	0	0	0	9	1	0	1	0	2	0	0	0	0	0	44
4:45 PM	17	14	0	0	0	5	0	0	0	0	3	0	0	0	0	0	39
5:00 PM	4	11	0	0	0	3	0	0	0	0	1	0	0	0	0	0	19
5:15 PM	2	9	0	0	0	2	0	0	0	0	0	0	0	0	0	0	13
5:30 PM	4	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	12
5:45 PM	6	9	0	0	0	7	0	0	0	0	1	0	0	0	0	0	23
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	70	72	0	0	0	48	3	0	1	0	10	0	0	0	0	0	204
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	47	41	0	0	0	19	1	0	1	0	6	0	0	0	0	0	115
PEAK HR FACTOR :	0.490	0.732	0.000	0.000	0.000	0.528	0.250	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.653
	0.710				0.500				0.583								

Project ID: 25-180129-004
Date: 5/6/2025

Location: Newton Bridge Rd & S Paradise Blvd
City: Athens

Data - Pedestrians (Crosswalks)

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	1
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 0	WB 0	NB 0	SB 0	NB 1 100.00%	SB 0 0.00%	TOTAL 1
	PEAK HR : 04:30 PM - 05:30 PM		0	0	0	0	0	0	TOTAL 0
	PEAK HR VOL : PEAK HR FACTOR :								

Project ID: 25-180129-004
Location: Newton Bridge Rd & S Paradise Blvd
City: Athens

Day: Tuesday
Date: 5/6/2025

Groups Printed - Cars, PU, Vans - Heavy Trucks																												
Newton Bridge Rd Northbound							Newton Bridge Rd Southbound							S Paradise Blvd Eastbound							S Paradise Blvd Westbound							
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total			
7:00 AM	13	70	0	0	0	83	0	180	0	0	0	180	0	0	7	0	0	7	0	0	0	0	0	0	270			
7:15 AM	6	75	0	0	0	81	0	171	2	0	0	173	1	0	7	0	0	8	0	0	0	0	0	0	262			
7:30 AM	15	80	0	0	0	95	0	189	1	0	0	190	3	0	13	0	0	16	0	0	0	0	0	0	301			
7:45 AM	26	93	0	0	0	119	0	214	4	0	0	218	1	0	11	0	0	12	0	0	0	0	0	0	349			
Total	60	318	0	0	0	378	0	754	7	0	0	761	5	0	38	0	0	43	0	0	0	0	0	0	1182			
8:00 AM	18	125	0	0	0	143	0	150	3	0	0	153	0	0	6	0	0	6	0	0	0	0	0	0	302			
8:15 AM	28	91	0	0	0	119	0	168	2	0	0	170	0	0	17	0	0	17	0	0	0	0	0	0	306			
8:30 AM	28	96	0	0	0	124	0	120	1	0	0	121	0	0	23	0	0	23	0	0	0	0	0	0	268			
8:45 AM	39	94	0	0	0	133	0	123	1	0	0	124	3	0	37	0	0	40	0	0	0	0	0	0	297			
Total	113	406	0	0	0	519	0	561	7	0	0	568	3	0	83	0	0	86	0	0	0	0	0	0	1173			
BREAK																												
4:00 PM	9	118	0	0	0	127	0	142	1	0	0	143	0	0	28	0	0	28	0	0	0	0	0	0	298			
4:15 PM	12	104	0	0	0	116	0	122	2	0	0	124	0	0	20	0	0	20	0	0	0	0	0	0	260			
4:30 PM	26	120	0	0	0	146	0	135	2	0	0	137	2	0	27	0	0	29	0	0	0	0	0	0	312			
4:45 PM	22	168	0	0	0	190	0	120	0	0	0	120	1	0	40	0	0	41	0	0	0	0	0	0	351			
Total	69	510	0	0	0	579	0	519	5	0	0	524	3	0	115	0	0	118	0	0	0	0	0	0	1221			
5:00 PM	8	185	0	0	0	193	0	178	0	0	0	178	2	0	41	0	0	43	0	0	0	0	0	0	414			
5:15 PM	2	202	0	0	0	204	0	144	0	0	0	144	2	0	12	0	0	14	0	0	0	0	0	0	362			
5:30 PM	6	153	0	0	0	159	0	126	0	0	0	126	0	0	18	0	1	18	0	0	0	0	0	0	303			
5:45 PM	9	128	0	0	0	137	0	112	0	0	0	112	0	0	14	0	0	14	0	0	0	0	0	0	263			
Total	25	668	0	0	0	693	0	560	0	0	0	560	4	0	85	0	1	89	0	0	0	0	0	0	1342			
Grand Total	267	1902	0	0	0	2169	0	2394	19	0	0	2413	15	0	321	0	1	336	0	0	0	0	0	0	4918			
Apprch %	12.3	87.7	0.0	0.0	0.0		0.0	99.2	0.8	0.0	0.0		4.5	0.0	95.5	0.0	0.3		0.0	0.0	0.0	0.0	0.0					
Total %	5.4	38.7	0.0	0.0	0.0	44.1	0.0	48.7	0.4	0.0	0.0	49.1	0.3	0.0	6.5	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0				
Cars, PU, Vans	132	1757	0	0	0	1889	0	2271	15	0	0	2286	12	0	295	0	0	307	0	0	0	0	0	0	4482			
% Cars, PU, Vans	49.4	92.4	0.0	0.0	0.0	87.1	0.0	94.9	78.9	0.0	0.0	94.7	80.0	0.0	91.9	0.0	0.0	91.4	0.0	0.0	0.0	0.0	0.0	0.0	91.1			
Heavy trucks	135	145	0	0	0	280	0	123	4	0	0	127	3	0	26	0	0	29	0	0	0	0	0	0	436			
%Heavy trucks	50.6	7.6	0.0	0.0	0.0	12.9	0.0	5.1	21.1	0.0	0.0	5.3	20.0	0.0	8.1	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0	8.9			

Project ID: 25-180129-004
Location: Newton Bridge Rd & S Paradise Blvd
City: Athens

PEAK HOURS

Day: Tuesday
Date: 5/6/2025

AM																											
	Newton Bridge Rd Northbound						Newton Bridge Rd Southbound						S Paradise Blvd Eastbound						S Paradise Blvd Westbound								
Start Time	Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Int. Total		
Peak Hour Analysis from 07:00 AM - 09:00 AM																											
Peak Hour for Entire Intersection Begins at 07:30 AM																											
7:30 AM	15	80	0	0	95		0	189	1	0	190		3	0	13	0	16		0	0	0	0	0		301		
7:45 AM	26	93	0	0	119		0	214	4	0	218		1	0	11	0	12		0	0	0	0	0		349		
8:00 AM	18	125	0	0	143		0	150	3	0	153		0	0	6	0	6		0	0	0	0	0		302		
8:15 AM	28	91	0	0	119		0	168	2	0	170		0	0	17	0	17		0	0	0	0	0		306		
Total Volume	87	389	0	0	476		0	721	10	0	731		4	0	47	0	51		0	0	0	0	0		1258		
% App. Total	18.3	81.7	0.0	0.0	100		0.0	98.6	1.4	0.0	100		7.8	0.0	92.2	0.0	100		0.0	0.0	0.0	0.0	0.0				
PHF	0.832						0.838						0.750												0.901		
Cars, PU, Vans	61	357	0	0	418		0	682	9	0	691		3	0	41	0	44		0	0	0	0	0		1153		
% Cars, PU, Vans	70.1	91.8	0.0	0.0	87.8		0.0	94.6	90.0	0.0	94.5		75.0	0.0	87.2	0.0	86.3		0.0	0.0	0.0	0.0	0.0		91.7		
Heavy trucks	26	32	0	0	58		0	39	1	0	40		1	0	6	0	7		0	0	0	0	0		105		
%Heavy trucks	29.9	8.2	0.0	0.0	12.2		0.0	5.4	10.0	0.0	5.5		25.0	0.0	12.8	0.0	13.7		0.0	0.0	0.0	0.0	0.0		8.3		

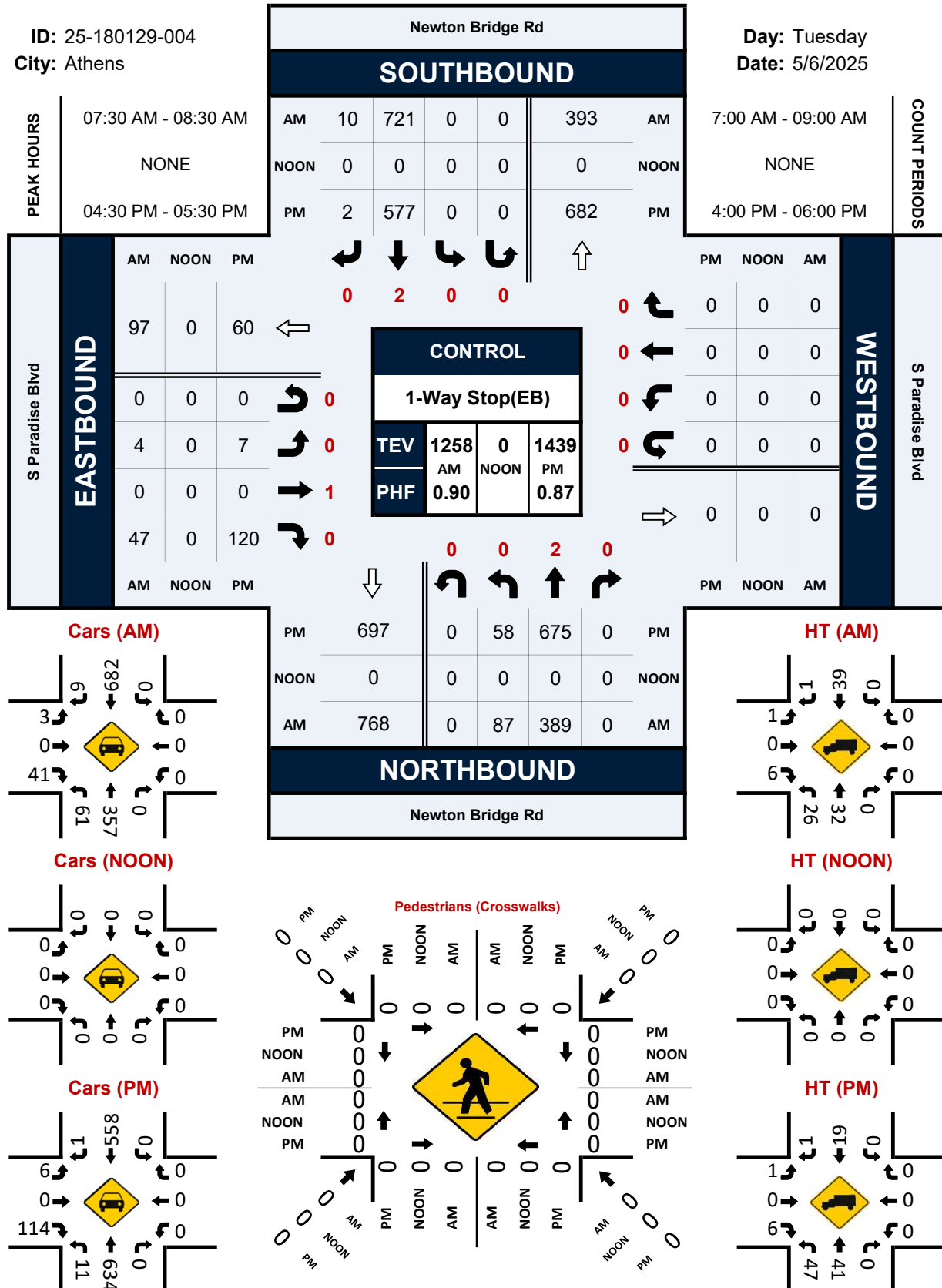
PM																											
	Newton Bridge Rd Northbound						Newton Bridge Rd Southbound						S Paradise Blvd Eastbound						S Paradise Blvd Westbound								
Start Time	Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Left	Thru	Rgt	Uturn	App. Total		Int. Total		
Peak Hour Analysis from 04:00 PM - 06:00 PM																											
Peak Hour for Entire Intersection Begins at 04:30 PM																											
4:30 PM	26	120	0	0	146		0	135	2	0	137		2	0	27	0	29		0	0	0	0	0		312		
4:45 PM	22	168	0	0	190		0	120	0	0	120		1	0	40	0	41		0	0	0	0	0		351		
5:00 PM	8	185	0	0	193		0	178	0	0	178		2	0	41	0	43		0	0	0	0	0		414		
5:15 PM	2	202	0	0	204		0	144	0	0	144		2	0	12	0	14		0	0	0	0	0		362		
Total Volume	58	675	0	0	733		0	577	2	0	579		7	0	120	0	127		0	0	0	0	0		1439		
% App. Total	7.9	92.1	0.0	0.0	100		0.0	99.7	0.3	0.0	100		5.5	0.0	94.5	0.0	100		0.0	0.0	0.0	0.0	0.0				
PHF	0.898						0.813						0.738												0.869		
Cars, PU, Vans	11	634	0	0	645		0	558	1	0	559		6	0	114	0	120		0	0	0	0	0		1324		
% Cars, PU, Vans	19.0	93.9	0.0	0.0	88.0		0.0	96.7	50.0	0.0	96.5		85.7	0.0	95.0	0.0	94.5		0.0	0.0	0.0	0.0	0.0		92.0		
Heavy trucks	47	41	0	0	88		0	19	1	0	20		1	0	6	0	7		0	0	0	0	0		115		
% Heavy trucks	81.0	61.0	0.0	0.0	12.0		0.0	3.3	50.0	0.0	3.5		14.3	0.0	5.0	0.0	5.5		0.0	0.0	0.0	0.0	0.0		8.0		

Newton Bridge Rd & S Paradise Blvd

Peak Hour Turning Movement Count

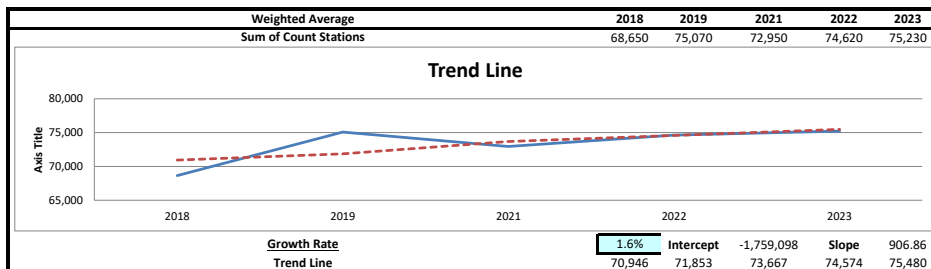
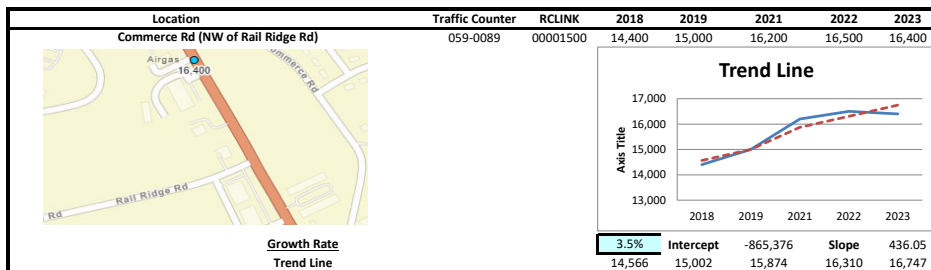
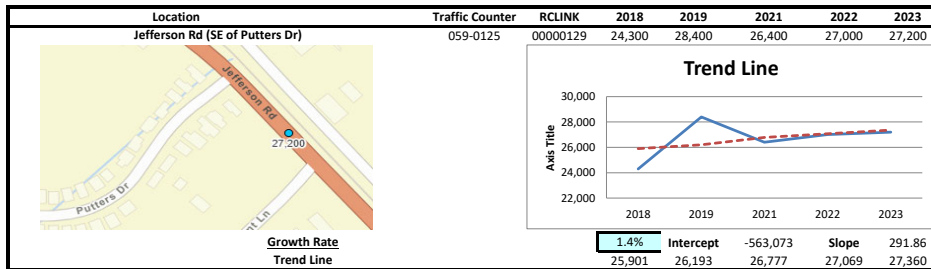
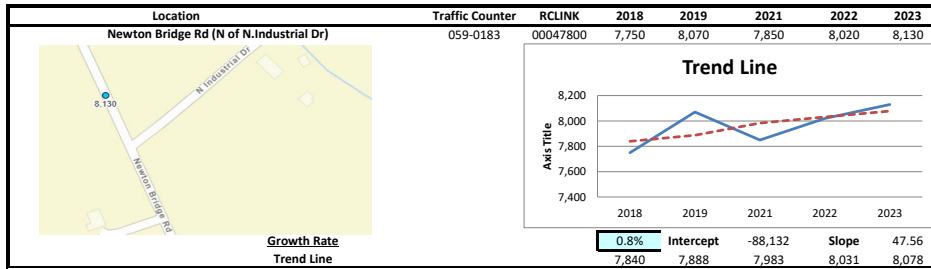
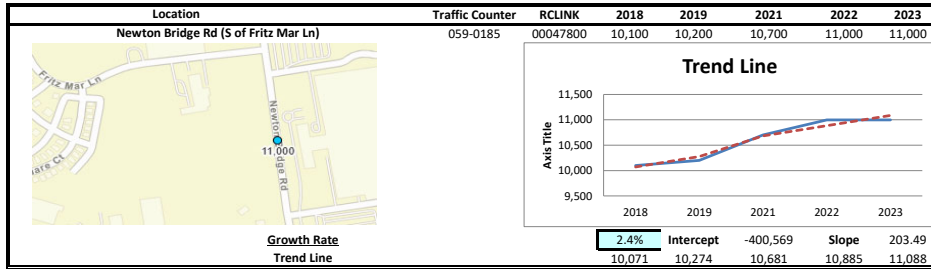
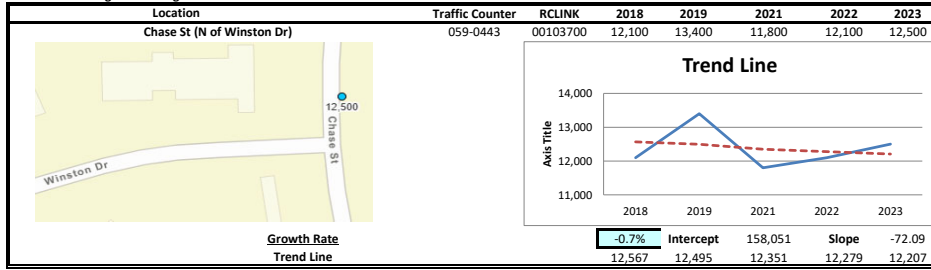
ID: 25-180129-004
City: Athens

Day: Tuesday
Date: 5/6/2025



LINEAR REGRESSION OF DAILY TRAFFIC

Location	Growth Rate	R Squared	Station ID	Route	2018	2019	2021	2022	2023
Chase St (N of Winston Dr)	-0.7%	0.06	059-0443	00103700	12,100	13,400	11,800	12,100	12,500
Newton Bridge Rd (S of Fritz Mar Ln)	2.4%	0.96	059-0185	00047800	10,100	10,200	10,700	11,000	11,000
Newton Bridge Rd (N of N.Industrial Dr)	0.8%	0.39	059-0183	00047800	7,750	8,070	7,850	8,020	8,130
Jefferson Rd (SE of Putters Dr)	1.4%	0.16	059-0125	00000129	24,300	28,400	26,400	27,000	27,200
Commerce Rd (NW of Rail Ridge Rd)	3.5%	0.92	059-0089	00001500	14,400	15,000	16,200	16,500	16,400
Weighted Average	1.6%	0.47	Sum of Count Stations =		68,650	75,070	72,950	74,620	75,230



EXISTING INTERSECTION ANALYSIS

Intersection												
Int Delay, s/veh	14.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	109	0	228	0	0	0	0	270	288	210	736	0
Future Vol, veh/h	109	0	228	0	0	0	0	270	288	210	736	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	0	-	210	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	0	243	0	0	0	0	287	306	223	783	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1373	-	783	-	0	0	593	0	0
Stage 1	1229	-	-	-	-	-	-	-	-
Stage 2	144	-	-	-	-	-	-	-	-
Critical Hdwy	6.63	-	6.23	-	-	-	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	-	3.319	-	-	-	2.219	-	-
Pot Cap-1 Maneuver	148	0	393	0	-	-	981	-	0
Stage 1	275	0	-	0	-	-	-	-	0
Stage 2	869	0	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	~ 114	0	393	-	-	-	981	-	-
Mov Cap-2 Maneuver	~ 114	0	-	-	-	-	-	-	-
Stage 1	275	0	-	-	-	-	-	-	-
Stage 2	672	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	70.8	0	2.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	114	393	981	-
HCM Lane V/C Ratio	-	-	1.017	0.617	0.228	-
HCM Control Delay (s)	-	-	160.7	27.8	9.7	-
HCM Lane LOS	-	-	F	D	A	-
HCM 95th %tile Q(veh)	-	-	6.7	4	0.9	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Timings 2: N Chase St & WB Ramps

1a.Existing 2025 AM
06/06/2025



Lane Group	WBT	WBR	NBL	NBT	SBT	Ø3
Lane Configurations	↰	↱		↰	↰	
Traffic Volume (vph)	1	279	137	228	461	
Future Volume (vph)	1	279	137	228	461	
Lane Group Flow (vph)	550	317	0	415	724	
Turn Type	NA	Perm	pm+pt	NA	NA	
Protected Phases	8		1	6	2	3
Permitted Phases		8	6			
Detector Phase	8	8	1	6	2	
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0	5.0
Minimum Split (s)	23.5	23.5	15.0	23.5	23.5	15.0
Total Split (s)	48.0	48.0	15.0	72.0	57.0	48.0
Total Split (%)	40.0%	40.0%	12.5%	60.0%	47.5%	40%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	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)	5.5	5.5		5.5	5.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	None	C-Min	C-Min	None
v/c Ratio	no cap	0.41		0.37	0.38	
Control Delay		4.7		16.3	13.9	
Queue Delay		0.0		0.0	0.0	
Total Delay	Error	4.7		16.3	13.9	
Queue Length 50th (ft)	~887	0		91	147	
Queue Length 95th (ft)	#1080	55		124	183	
Internal Link Dist (ft)	267			378	554	
Turn Bay Length (ft)		290				
Base Capacity (vph)	1	765		1113	1906	
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	550.00	0.41		0.37	0.38	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

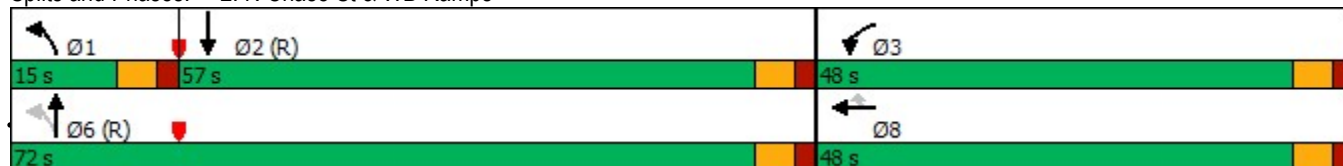
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: N Chase St & WB Ramps



HCM 6th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 1.

Timings 3: Barber St/Newton Bridge Rd & N Chase St

1a.Existing 2025 AM
06/06/2025



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	397	52	29	6	27	82	14	182	575
Future Volume (vph)	397	52	29	6	27	82	14	182	575
Lane Group Flow (vph)	296	288	35	7	0	135	0	228	669
Turn Type	Split	NA	NA	Perm	Perm	NA	Perm	NA	Free
Protected Phases	4	4	8			6		2	
Permitted Phases				8	6		2		Free
Detector Phase	4	4	8	8	6	6	2	2	
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	
Total Split (s)	51.0	51.0	25.0	25.0	44.0	44.0	44.0	44.0	
Total Split (%)	42.5%	42.5%	20.8%	20.8%	36.7%	36.7%	36.7%	36.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
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		0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5		5.5		5.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	
v/c Ratio	0.77	0.74	0.29	0.04		0.07		0.21	0.42
Control Delay	51.8	47.3	58.8	0.5		12.4		14.1	0.8
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	51.8	47.3	58.8	0.5		12.4		14.1	0.8
Queue Length 50th (ft)	227	209	26	0		22		83	0
Queue Length 95th (ft)	289	271	57	0		45		152	0
Internal Link Dist (ft)		491	975			882		519	
Turn Bay Length (ft)									
Base Capacity (vph)	637	639	302	318		1832		1108	1583
Starvation Cap Reductn	0	0	0	0		0		0	0
Spillback Cap Reductn	0	0	0	0		0		0	0
Storage Cap Reductn	0	0	0	0		0		0	0
Reduced v/c Ratio	0.46	0.45	0.12	0.02		0.07		0.21	0.42

Intersection Summary

Cycle Length: 120

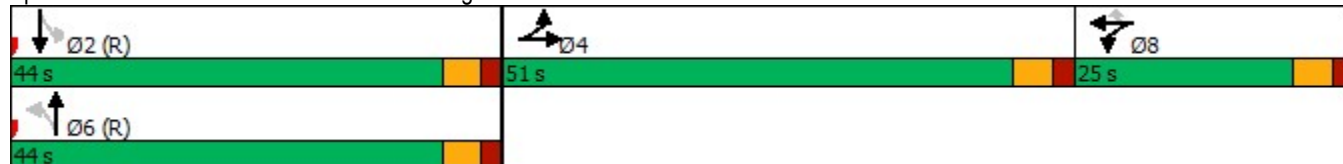
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 3: Barber St/Newton Bridge Rd & N Chase St



HCM 6th Signalized Intersection Summary

3: Barber St/Newton Bridge Rd & N Chase St

1a.Existing 2025 AM

06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	397	52	53	1	29	6	27	82	8	14	182	575
Future Volume (veh/h)	397	52	53	1	29	6	27	82	8	14	182	575
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	298	62	1	34	7	31	95	9	16	212	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	411	347	72	2	68	60	425	1363	135	82	1039	
Arrive On Green	0.23	0.23	0.23	0.04	0.04	0.04	0.59	0.59	0.59	0.59	0.59	0.00
Sat Flow, veh/h	1781	1502	312	53	1814	1585	643	2295	228	83	1749	1585
Grp Volume(v), veh/h	292	0	360	35	0	7	69	0	66	228	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1814	1868	0	1585	1505	0	1661	1833	0	1585
Q Serve(g_s), s	18.1	0.0	22.8	2.2	0.0	0.5	0.0	0.0	2.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.1	0.0	22.8	2.2	0.0	0.5	1.9	0.0	2.0	6.8	0.0	0.0
Prop In Lane	1.00		0.17	0.03		1.00	0.45		0.14	0.07		1.00
Lane Grp Cap(c), veh/h	411	0	419	70	0	60	937	0	986	1121	0	
V/C Ratio(X)	0.71	0.00	0.86	0.50	0.00	0.12	0.07	0.00	0.07	0.20	0.00	
Avail Cap(c_a), veh/h	675	0	688	303	0	258	937	0	986	1121	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.4	0.0	44.3	56.6	0.0	55.8	10.3	0.0	10.3	11.3	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	6.0	5.3	0.0	0.9	0.2	0.0	0.1	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	10.7	1.1	0.0	0.2	0.8	0.0	0.7	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	0.0	50.3	62.0	0.0	56.7	10.4	0.0	10.4	11.7	0.0	0.0
LnGrp LOS	D	A	D	E	A	E	B	A	B	B	A	
Approach Vol, veh/h	652			42			135			228		
Approach Delay, s/veh	47.8			61.1			10.4			11.7		
Approach LOS	D			E			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	76.8			33.2			76.8			10.0		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	38.5			45.5			38.5			19.5		
Max Q Clear Time (g_c+I1), s	8.8			24.8			4.0			4.2		
Green Ext Time (p_c), s	2.4			2.9			1.4			0.1		

Intersection Summary

HCM 6th Ctrl Delay 35.8

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
4: Newton Bridge Rd & Paradise Blvd

1a.Existing 2025 AM
06/06/2025

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	47	87	389	721	10
Future Vol, veh/h	4	47	87	389	721	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	52	97	432	801	11

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1217	406	812	0	-	0
Stage 1	807	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	173	594	810	-	-	-
Stage 1	399	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	146	594	810	-	-	-
Mov Cap-2 Maneuver	146	-	-	-	-	-
Stage 1	336	-	-	-	-	-
Stage 2	638	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	2.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	810	-	479	-	-
HCM Lane V/C Ratio	0.119	-	0.118	-	-
HCM Control Delay (s)	10	0.5	13.5	-	-
HCM Lane LOS	B	A	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.4	-	-

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	9	0	11	4	0	3	38	317	2	7	702	26
Future Vol, veh/h	9	0	11	4	0	3	38	317	2	7	702	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	12	4	0	3	42	348	2	8	771	29

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1060	1236	400	835	1249	175	800	0	0	350	0	0
Stage 1	802	802	-	433	433	-	-	-	-	-	-	-
Stage 2	258	434	-	402	816	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	178	175	600	260	172	838	819	-	-	1206	-	-
Stage 1	344	395	-	571	580	-	-	-	-	-	-	-
Stage 2	724	579	-	596	389	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	167	162	600	240	159	838	819	-	-	1206	-	-
Mov Cap-2 Maneuver	167	162	-	240	159	-	-	-	-	-	-	-
Stage 1	322	390	-	534	543	-	-	-	-	-	-	-
Stage 2	675	542	-	577	384	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	19.1		15.6		1.2		0.1	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	819	-	-	277 346	1206	-	-
HCM Lane V/C Ratio	0.051	-	-	0.079 0.022	0.006	-	-
HCM Control Delay (s)	9.6	0.2	-	19.1 15.6	8	0	-
HCM Lane LOS	A	A	-	C C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3 0.1	0	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	38	20	300	704	5
Future Vol, veh/h	4	38	20	300	704	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	43	23	341	800	6
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1020	403	806	0	-	0
Stage 1	803	-	-	-	-	-
Stage 2	217	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	233	597	814	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	225	597	814	-	-	-
Mov Cap-2 Maneuver	225	-	-	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.7	0.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	814	-	516	-	-	
HCM Lane V/C Ratio	0.028	-	0.092	-	-	
HCM Control Delay (s)	9.6	0.1	12.7	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Intersection						
Int Delay, s/veh	4.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	185	101	180	505	114
Future Vol, veh/h	35	185	101	180	505	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	213	116	207	580	131

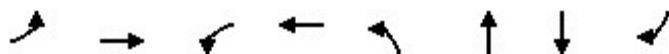
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	982	356	711	0	-	0
Stage 1	646	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	246	640	884	-	-	-
Stage 1	484	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	210	640	884	-	-	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	412	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.4	3.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	884	-	483	-	-
HCM Lane V/C Ratio	0.131	-	0.524	-	-
HCM Control Delay (s)	9.7	0.3	20.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.5	-	3	-	-

Timings
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

1a.Existing 2025 AM
06/06/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR	Ø5
Lane Configurations		↔		↔	↔	↔	↔	↔	
Traffic Volume (vph)	72	0	1	1	32	451	968	306	
Future Volume (vph)	72	0	1	1	32	451	968	306	
Lane Group Flow (vph)	0	114	0	3	39	550	1180	373	
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	NA	Perm	
Protected Phases		4		8	1	6	2		5
Permitted Phases	4		8		6			2	
Detector Phase	4	4	8	8	1	6	2	2	
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	5.0
Minimum Split (s)	38.5	38.5	42.5	42.5	15.0	27.5	26.5	26.5	15.0
Total Split (s)	43.0	43.0	43.0	43.0	15.0	62.0	62.0	62.0	15.0
Total Split (%)	35.8%	35.8%	35.8%	35.8%	12.5%	51.7%	51.7%	51.7%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	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	0.0	
Total Lost Time (s)		5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio		0.63		0.02	0.10	0.19	0.43	0.29	
Control Delay		36.9		42.0	2.9	2.5	6.6	1.5	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		36.9		42.0	2.9	2.5	6.6	1.5	
Queue Length 50th (ft)		31		1	4	33	167	5	
Queue Length 95th (ft)		74		10	12	57	226	25	
Internal Link Dist (ft)		671		311		392	538		
Turn Bay Length (ft)					230			230	
Base Capacity (vph)		486		518	418	2925	2714	1295	
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		0.23		0.01	0.09	0.19	0.43	0.29	

Intersection Summary

Cycle Length: 120

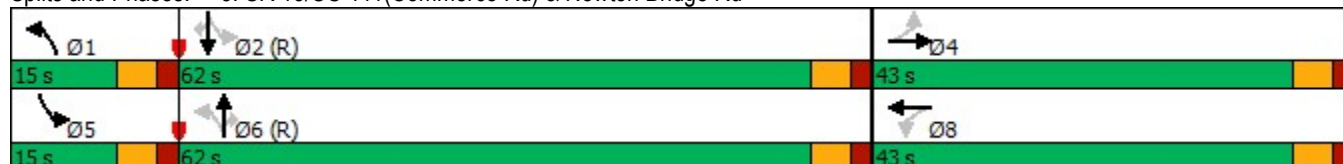
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

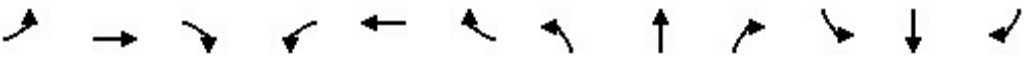
Control Type: Actuated-Coordinated

Splits and Phases: 8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd



HCM 6th Signalized Intersection Summary
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

1a.Existing 2025 AM
06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↕	↕	↔	↕	↕
Traffic Volume (veh/h)	72	0	21	1	1	1	32	451	0	0	968	306
Future Volume (veh/h)	72	0	21	1	1	1	32	451	0	0	968	306
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	0	26	1	1	0	39	550	0	0	1180	373
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1	32	111	96		315	2888		693	2617	1167
Arrive On Green	0.10	0.00	0.10	0.10	0.10	0.00	0.03	0.81	0.00	0.00	0.74	0.74
Sat Flow, veh/h	1109	14	332	687	1007	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	114	0	0	2	0	0	39	550	0	0	1180	373
Grp Sat Flow(s),veh/h/ln	1455	0	0	1694	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.1	0.0	0.0	0.0	0.0	0.0	0.6	4.1	0.0	0.0	15.7	9.7
Cycle Q Clear(g_c), s	9.2	0.0	0.0	0.1	0.0	0.0	0.6	4.1	0.0	0.0	15.7	9.7
Prop In Lane	0.77		0.23	0.50		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	0	0	207	0		315	2888		693	2617	1167
V/C Ratio(X)	0.59	0.00	0.00	0.01	0.00		0.12	0.19		0.00	0.45	0.32
Avail Cap(c_a), veh/h	507	0	0	552	0		402	2888		833	2617	1167
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	0.0	0.0	49.1	0.0	0.0	4.4	2.5	0.0	0.0	6.2	5.4
Incr Delay (d2), s/veh	2.9	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	0.1	0.0	0.0	0.1	0.8	0.0	0.0	4.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.1	0.0	0.0	49.1	0.0	0.0	4.5	2.6	0.0	0.0	6.8	6.2
LnGrp LOS	E	A	A	D	A		A	A		A	A	A
Approach Vol, veh/h	114			2			589			1553		
Approach Delay, s/veh	56.1			49.1			2.8			6.7		
Approach LOS	E			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	93.9		17.0	0.0	103.0		17.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	56.5		37.5	9.5	56.5		37.5				
Max Q Clear Time (g_c+I1), s	2.6	17.7		11.2	0.0	6.1		2.1				
Green Ext Time (p_c), s	0.0	23.2		0.5	0.0	7.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	10.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰		↱					↰↱		↰	↱	
Traffic Vol, veh/h	58	0	202	0	0	0	0	459	640	290	427	0
Future Vol, veh/h	58	0	202	0	0	0	0	459	640	290	427	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	0	-	210	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	0	224	0	0	0	0	510	711	322	474	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1373	-	474	-	0	0	1221	0	0
Stage 1	1118	-	-	-	-	-	-	-	-
Stage 2	255	-	-	-	-	-	-	-	-
Critical Hdwy	6.63	-	6.23	-	-	-	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	-	3.319	-	-	-	2.219	-	-
Pot Cap-1 Maneuver	148	0	590	0	-	-	569	-	0
Stage 1	311	0	-	0	-	-	-	-	0
Stage 2	765	0	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	~ 64	0	590	-	-	-	569	-	-
Mov Cap-2 Maneuver	~ 64	0	-	-	-	-	-	-	-
Stage 1	311	0	-	-	-	-	-	-	-
Stage 2	332	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	61.1	0	7.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	64	590	569	-
HCM Lane V/C Ratio	-	-	1.007	0.38	0.566	-
HCM Control Delay (s)	-	-	222.5	14.8	19.3	-
HCM Lane LOS	-	-	F	B	C	-
HCM 95th %tile Q(veh)	-	-	4.9	1.8	3.5	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Timings 2: N Chase St & WB Ramps

1b.Existing 2025 PM
06/06/2025



Lane Group	WBT	WBR	NBL	NBT	SBT	Ø3
Lane Configurations	↔	↔		↔	↔	
Traffic Volume (vph)	2	262	240	279	436	
Future Volume (vph)	2	262	240	279	436	
Lane Group Flow (vph)	308	294	0	583	733	
Turn Type	NA	Perm	pm+pt	NA	NA	
Protected Phases	8		1	6	2	3
Permitted Phases		8	6			
Detector Phase	8	8	1	6	2	
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0	5.0
Minimum Split (s)	23.5	23.5	15.0	23.5	23.5	15.0
Total Split (s)	44.0	44.0	15.0	76.0	61.0	44.0
Total Split (%)	36.7%	36.7%	12.5%	63.3%	50.8%	37%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	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)	5.5	5.5		5.5	5.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	None	C-Min	C-Min	None
v/c Ratio	no cap	0.42		0.51	0.36	
Control Delay		5.2		16.5	11.8	
Queue Delay		0.0		0.0	0.0	
Total Delay	Error	5.2		16.5	11.8	
Queue Length 50th (ft)	~496	0		132	151	
Queue Length 95th (ft)	#669	59		178	183	
Internal Link Dist (ft)	267			378	554	
Turn Bay Length (ft)		290				
Base Capacity (vph)	1	707		1149	2014	
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	308.00	0.42		0.51	0.36	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

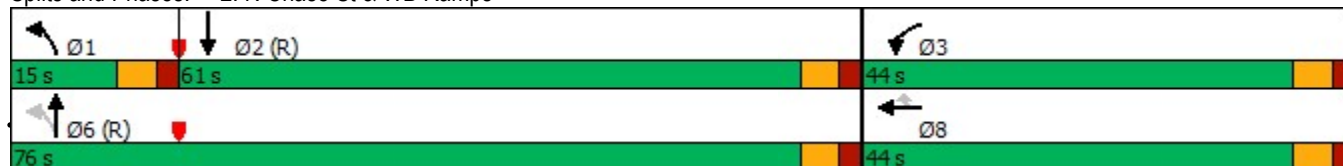
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: N Chase St & WB Ramps



HCM 6th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 1.

Timings
3: Barber St/Newton Bridge Rd & N Chase St

1b.Existing 2025 PM
06/06/2025



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	510	11	80	18	14	216	2	147	540
Future Volume (vph)	510	11	80	18	14	216	2	147	540
Lane Group Flow (vph)	320	316	103	21	0	273	0	173	628
Turn Type	Split	NA	NA	Perm	Perm	NA	Perm	NA	Free
Protected Phases	4	4	8			6		2	
Permitted Phases				8	6		2		Free
Detector Phase	4	4	8	8	6	6	2	2	
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	
Total Split (s)	54.0	54.0	28.0	28.0	38.0	38.0	38.0	38.0	
Total Split (%)	45.0%	45.0%	23.3%	23.3%	31.7%	31.7%	31.7%	31.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
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		0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5		5.5		5.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	
v/c Ratio	0.77	0.75	0.56	0.09		0.16		0.18	0.40
Control Delay	47.8	46.2	62.4	0.8		17.8		18.9	0.7
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	47.8	46.2	62.4	0.8		17.8		18.9	0.7
Queue Length 50th (ft)	244	235	77	0		56		69	0
Queue Length 95th (ft)	312	305	124	0		99		135	0
Internal Link Dist (ft)		491	975			882		519	
Turn Bay Length (ft)									
Base Capacity (vph)	679	679	347	356		1696		955	1583
Starvation Cap Reductn	0	0	0	0		0		0	0
Spillback Cap Reductn	0	0	0	0		0		0	0
Storage Cap Reductn	0	0	0	0		0		0	0
Reduced v/c Ratio	0.47	0.47	0.30	0.06		0.16		0.18	0.40

Intersection Summary

Cycle Length: 120

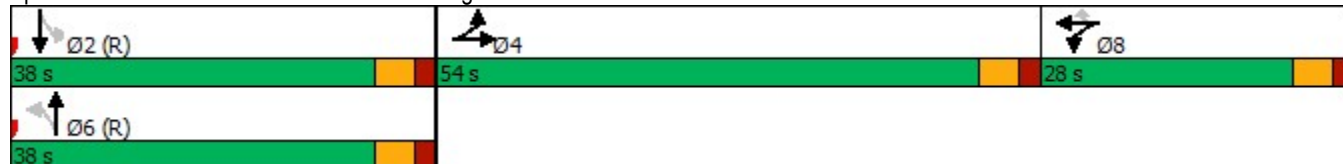
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 3: Barber St/Newton Bridge Rd & N Chase St



HCM 6th Signalized Intersection Summary

3: Barber St/Newton Bridge Rd & N Chase St

1b.Existing 2025 PM

06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	11	26	9	80	18	14	216	5	2	147	540
Future Volume (veh/h)	510	11	26	9	80	18	14	216	5	2	147	540
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	630	0	0	10	93	21	16	251	6	2	171	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	736	386	0	13	123	116	124	1889	45	33	1086	
Arrive On Green	0.21	0.00	0.00	0.07	0.07	0.07	0.58	0.58	0.58	0.58	0.58	0.00
Sat Flow, veh/h	3563	1870	0	181	1681	1585	155	3243	77	4	1864	1585
Grp Volume(v), veh/h	630	0	0	103	0	21	142	0	131	173	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1861	0	1585	1787	0	1688	1868	0	1585
Q Serve(g_s), s	20.5	0.0	0.0	6.5	0.0	1.5	0.0	0.0	4.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	20.5	0.0	0.0	6.5	0.0	1.5	4.1	0.0	4.2	5.1	0.0	0.0
Prop In Lane	1.00		0.00	0.10		1.00	0.11		0.05	0.01		1.00
Lane Grp Cap(c), veh/h	736	386	0	137	0	116	1074	0	983	1118	0	
V/C Ratio(X)	0.86	0.00	0.00	0.75	0.00	0.18	0.13	0.00	0.13	0.15	0.00	
Avail Cap(c_a), veh/h	1440	756	0	349	0	297	1074	0	983	1118	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	45.9	0.0	0.0	54.5	0.0	52.2	11.3	0.0	11.3	11.5	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.0	8.1	0.0	0.7	0.3	0.0	0.3	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	0.0	0.0	3.4	0.0	0.6	1.7	0.0	1.5	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.9	0.0	0.0	62.6	0.0	52.9	11.6	0.0	11.6	11.8	0.0	0.0
LnGrp LOS	D	A	A	E	A	D	B	A	B	B	A	
Approach Vol, veh/h	630			124			273			173		
Approach Delay, s/veh	48.9			61.0			11.6			11.8		
Approach LOS	D			E			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	75.4			30.3			75.4			14.3		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	32.5			48.5			32.5			22.5		
Max Q Clear Time (g_c+I1), s	7.1			22.5			6.2			8.5		
Green Ext Time (p_c), s	1.6			2.3			2.7			0.4		

Intersection Summary

HCM 6th Ctrl Delay 36.3

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
4: Newton Bridge Rd & Paradise Blvd

1b.Existing 2025 PM
06/06/2025

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	120	58	675	577	2
Future Vol, veh/h	7	120	58	675	577	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	138	67	776	663	2

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1186	333	665	0	-	0
Stage 1	664	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	181	663	920	-	-	-
Stage 1	474	-	-	-	-	-
Stage 2	560	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	158	663	920	-	-	-
Mov Cap-2 Maneuver	158	-	-	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	560	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	920	-	564	-	-
HCM Lane V/C Ratio	0.072	-	0.259	-	-
HCM Control Delay (s)	9.2	0.5	13.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1	-	-

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	55	0	51	0	1	3	28	653	3	2	492	18
Future Vol, veh/h	55	0	51	0	1	3	28	653	3	2	492	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	0	58	0	1	3	32	742	3	2	559	20
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1009	1382	290	1092	1391	373	579	0	0	745	0	0
Stage 1	573	573	-	808	808	-	-	-	-	-	-	-
Stage 2	436	809	-	284	583	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	194	143	707	169	141	624	991	-	-	859	-	-
Stage 1	472	502	-	341	392	-	-	-	-	-	-	-
Stage 2	569	392	-	699	497	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	183	135	707	148	133	624	991	-	-	859	-	-
Mov Cap-2 Maneuver	183	135	-	148	133	-	-	-	-	-	-	-
Stage 1	446	500	-	322	370	-	-	-	-	-	-	-
Stage 2	533	370	-	640	496	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	26.7		16.2		0.5		0					
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	991	-	-	284	325	859	-	-				
HCM Lane V/C Ratio	0.032	-	-	0.424	0.014	0.003	-	-				
HCM Control Delay (s)	8.8	0.2	-	26.7	16.2	9.2	0	-				
HCM Lane LOS	A	A	-	D	C	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	2	0	0	-	-				

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	46	27	717	419	8
Future Vol, veh/h	7	46	27	717	419	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	51	30	797	466	9
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	930	238	475	0	-	0
Stage 1	471	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	266	763	1083	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	253	763	1083	-	-	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	564	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.6	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1083	-	603	-	-	
HCM Lane V/C Ratio	0.028	-	0.098	-	-	
HCM Control Delay (s)	8.4	0.2	11.6	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Intersection						
Int Delay, s/veh	8.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	87	113	166	550	295	54
Future Vol, veh/h	87	113	166	550	295	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	127	187	618	331	61
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1045	196	392	0	-	0
Stage 1	362	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	224	812	1163	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	169	812	1163	-	-	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	510	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	43.4	2.6		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1163	-	306	-	-	
HCM Lane V/C Ratio	0.16	-	0.734	-	-	
HCM Control Delay (s)	8.7	0.7	43.4	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	0.6	-	5.4	-	-	

Timings
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

1b.Existing 2025 PM

06/06/2025

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø5
Lane Configurations										
Traffic Volume (vph)	181	0	1	1	51	1086	1	621	154	
Future Volume (vph)	181	0	1	1	51	1086	1	621	154	
Lane Group Flow (vph)	0	279	0	3	61	1308	1	748	186	
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm	
Protected Phases		4		8	1	6		2		5
Permitted Phases	4		8		6		6		2	
Detector Phase	4	4	8	8	1	6	6	2	2	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0	5.0
Minimum Split (s)	38.5	38.5	42.5	42.5	15.0	27.5	27.5	26.5	26.5	15.0
Total Split (s)	43.0	43.0	43.0	43.0	15.0	62.0	62.0	62.0	62.0	15.0
Total Split (%)	35.8%	35.8%	35.8%	35.8%	12.5%	51.7%	51.7%	51.7%	51.7%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	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	0.0	0.0	
Total Lost Time (s)		5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	None
v/c Ratio		0.83		0.01	0.13	0.52	0.00	0.34	0.18	
Control Delay		52.8		29.0	7.5	10.1	0.0	13.4	2.5	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		52.8		29.0	7.5	10.1	0.0	13.4	2.5	
Queue Length 50th (ft)		157		1	13	221	0	145	0	
Queue Length 95th (ft)		206		8	32	316	0	210	27	
Internal Link Dist (ft)		671		311		392		538		
Turn Bay Length (ft)					230		120		230	
Base Capacity (vph)		485		517	499	2504	1141	2195	1052	
Starvation Cap Reductn		0		0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	
Reduced v/c Ratio		0.58		0.01	0.12	0.52	0.00	0.34	0.18	

Intersection Summary

Cycle Length: 120

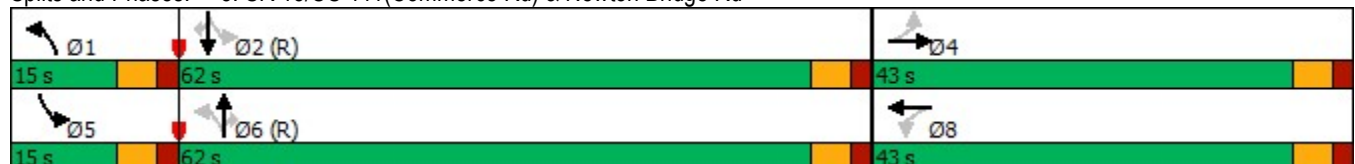
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

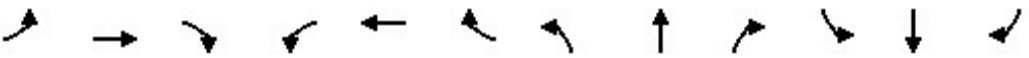
Control Type: Actuated-Coordinated

Splits and Phases: 8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd



HCM 6th Signalized Intersection Summary
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

1b.Existing 2025 PM
06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↕	↕	↔	↕	↕
Traffic Volume (veh/h)	181	0	51	1	1	1	51	1086	1	0	621	154
Future Volume (veh/h)	181	0	51	1	1	1	51	1086	1	0	621	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	218	0	61	1	1	0	61	1308	0	0	748	186
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	0	68	205	192		430	2469		279	2178	971
Arrive On Green	0.21	0.00	0.21	0.21	0.21	0.00	0.04	0.69	0.00	0.00	0.61	0.61
Sat Flow, veh/h	1134	0	317	752	898	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	279	0	0	2	0	0	61	1308	0	0	748	186
Grp Sat Flow(s),veh/h/ln	1451	0	0	1649	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	22.4	0.0	0.0	0.0	0.0	0.0	1.4	21.3	0.0	0.0	12.4	6.2
Cycle Q Clear(g_c), s	22.5	0.0	0.0	0.1	0.0	0.0	1.4	21.3	0.0	0.0	12.4	6.2
Prop In Lane	0.78		0.22	0.50		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	363	0	0	397	0		430	2469		279	2178	971
V/C Ratio(X)	0.77	0.00	0.00	0.01	0.00		0.14	0.53		0.00	0.34	0.19
Avail Cap(c_a), veh/h	507	0	0	552	0		507	2469		419	2178	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	0.0	0.0	37.2	0.0	0.0	7.9	8.8	0.0	0.0	11.4	10.2
Incr Delay (d2), s/veh	4.6	0.0	0.0	0.0	0.0	0.0	0.1	0.8	0.0	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	0.0	0.0	0.0	0.0	0.5	6.7	0.0	0.0	4.3	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	0.0	0.0	37.2	0.0	0.0	8.1	9.7	0.0	0.0	11.8	10.6
LnGrp LOS	D	A	A	D	A		A	A		A	B	B
Approach Vol, veh/h	279			2			1369			934		
Approach Delay, s/veh	50.6			37.2			9.6			11.6		
Approach LOS	D			D			A			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	79.0		31.1	0.0	88.9		31.1				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	56.5		37.5	9.5	56.5		37.5				
Max Q Clear Time (g_c+I1), s	3.4	14.4		24.5	0.0	23.3		2.1				
Green Ext Time (p_c), s	0.0	12.6		1.2	0.0	19.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

**FUTURE “NO-BUILD” INTERSECTION
ANALYSIS**

Intersection						
Intersection Delay, s/veh	14.0					
Intersection LOS	B					
Approach	EB		WB		NB	SB
Entry Lanes	2		0		1	1
Conflicting Circle Lanes	1		1		1	1
Adj Approach Flow, veh/h	381		0		632	1111
Demand Flow Rate, veh/h	389		0		644	1133
Vehicles Circulating, veh/h	1133		451		393	0
Vehicles Exiting, veh/h	0		261		1129	451
Ped Vol Crossing Leg, #/h	0		0		0	0
Ped Cap Adj	1.000		1.000		1.000	1.000
Approach Delay, s/veh	15.0		0.0		7.2	17.5
Approach LOS	C		-		A	C
Lane	Left	Right	Left	Bypass	Left	
Designated Moves	LT	R	T	R	LT	
Assumed Moves	LT	R	T	R	LT	
RT Channelized				Yield		
Lane Util	0.339	0.661	1.000		1.000	
Follow-Up Headway, s	2.535	2.535	2.609		2.609	
Critical Headway, s	4.544	4.544	4.976	325	4.976	
Entry Flow, veh/h	132	257	319	1057	1133	
Cap Entry Lane, veh/h	506	506	924	0.980	1380	
Entry HV Adj Factor	0.977	0.981	0.980	319	0.980	
Flow Entry, veh/h	129	252	313	1037	1111	
Cap Entry, veh/h	495	497	906	0.308	1353	
V/C Ratio	0.261	0.508	0.345	6.5	0.821	
Control Delay, s/veh	11.1	17.0	7.8	A	17.5	
LOS	B	C	A	1	C	
95th %tile Queue, veh	1	3	2		10	

Intersection					
Intersection Delay, s/veh21.6					
Intersection LOS C					
Approach	EB	WB	NB	SB	
Entry Lanes	0	1	1	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	0	910	454	849	
Demand Flow Rate, veh/h	0	928	463	866	
Vehicles Circulating, veh/h	1208	463	0	746	
Vehicles Exiting, veh/h	165	0	1208	299	
Ped Vol Crossing Leg, #/h	0	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	12.7	5.7	39.6	
Approach LOS	-	B	A	E	
Lane	Left	Bypass	Left	Left	Bypass
Designated Moves	LT	R	LT	T	R
Assumed Moves	LT	R	LT	T	R
RT Channelized		Yield			Free
Lane Util	1.000		1.000	1.000	
Follow-Up Headway, s	2.609		2.609	2.609	
Critical Headway, s	4.976	346	4.976	4.976	239
Entry Flow, veh/h	582	1017	463	627	1938
Cap Entry Lane, veh/h	861	0.980	1380	645	0.980
Entry HV Adj Factor	0.981	339	0.981	0.980	234
Flow Entry, veh/h	571	997	454	615	1900
Cap Entry, veh/h	844	0.340	1353	632	0.123
V/C Ratio	0.676	7.2	0.336	0.972	0.0
Control Delay, s/veh	16.1	A	5.7	54.7	A
LOS	C	2	A	F	0
95th %tile Queue, veh	5		1	14	

Timings 3: Barber St/Newton Bridge Rd & N Chase St

2a.No Build 2027 AM
06/06/2025



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	442	54	30	6	28	98	15	228	684
Future Volume (vph)	442	54	30	6	28	98	15	228	684
Lane Group Flow (vph)	514	127	36	7	0	156	0	282	795
Turn Type	Split	NA	NA	Perm	Perm	NA	Perm	NA	Free
Protected Phases	4	4	8			6		2	
Permitted Phases				8	6		2		Free
Detector Phase	4	4	8	8	6	6	2	2	
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	
Total Split (s)	57.0	57.0	23.5	23.5	39.5	39.5	39.5	39.5	
Total Split (%)	47.5%	47.5%	19.6%	19.6%	32.9%	32.9%	32.9%	32.9%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
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		0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5		5.5		5.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	
v/c Ratio	0.84	0.20	0.30	0.04		0.11		0.32	0.50
Control Delay	48.3	14.9	58.9	0.5		20.0		23.4	1.1
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	48.3	14.9	58.9	0.5		20.0		23.4	1.1
Queue Length 50th (ft)	362	39	27	0		35		140	0
Queue Length 95th (ft)	412	68	58	0		64		234	0
Internal Link Dist (ft)		491	975			882		519	
Turn Bay Length (ft)	100								
Base Capacity (vph)	759	768	279	299		1463		892	1583
Starvation Cap Reductn	0	0	0	0		0		0	0
Spillback Cap Reductn	0	0	0	0		0		0	0
Storage Cap Reductn	0	0	0	0		0		0	0
Reduced v/c Ratio	0.68	0.17	0.13	0.02		0.11		0.32	0.50

Intersection Summary

Cycle Length: 120

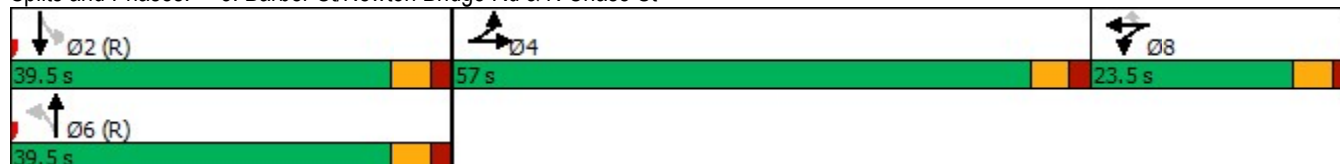
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 3: Barber St/Newton Bridge Rd & N Chase St



HCM 6th Signalized Intersection Summary

3: Barber St/Newton Bridge Rd & N Chase St

2a.No Build 2027 AM

06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	442	54	55	1	30	6	28	98	8	15	228	684
Future Volume (veh/h)	442	54	55	1	30	6	28	98	8	15	228	684
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	514	63	64	1	35	7	33	114	9	17	265	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	558	266	271	2	69	60	334	1207	100	64	909	
Arrive On Green	0.31	0.31	0.31	0.04	0.04	0.04	0.51	0.51	0.51	0.51	0.51	0.00
Sat Flow, veh/h	1781	851	864	52	1816	1585	570	2360	196	62	1779	1585
Grp Volume(v), veh/h	514	0	127	36	0	7	80	0	76	282	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1715	1868	0	1585	1460	0	1667	1841	0	1585
Q Serve(g_s), s	33.4	0.0	6.6	2.3	0.0	0.5	0.0	0.0	2.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	33.4	0.0	6.6	2.3	0.0	0.5	2.6	0.0	2.8	10.4	0.0	0.0
Prop In Lane	1.00		0.50	0.03		1.00	0.41		0.12	0.06		1.00
Lane Grp Cap(c), veh/h	558	0	537	71	0	60	789	0	852	973	0	
V/C Ratio(X)	0.92	0.00	0.24	0.51	0.00	0.12	0.10	0.00	0.09	0.29	0.00	
Avail Cap(c_a), veh/h	764	0	736	280	0	238	789	0	852	973	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.8	0.0	30.6	56.6	0.0	55.8	15.0	0.0	15.0	16.9	0.0	0.0
Incr Delay (d2), s/veh	13.3	0.0	0.2	5.5	0.0	0.8	0.3	0.0	0.2	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.2	0.0	2.7	1.2	0.0	0.2	1.1	0.0	1.1	4.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.1	0.0	30.8	62.1	0.0	56.6	15.2	0.0	15.2	17.6	0.0	0.0
LnGrp LOS	D	A	C	E	A	E	B	A	B	B	A	
Approach Vol, veh/h	641			43			156			282		
Approach Delay, s/veh	48.7			61.2			15.2			17.6		
Approach LOS	D			E			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	66.8			43.1			66.8			10.1		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	34.0			51.5			34.0			18.0		
Max Q Clear Time (g_c+I1), s	12.4			35.4			4.8			4.3		
Green Ext Time (p_c), s	2.8			2.2			1.5			0.1		
Intersection Summary												
HCM 6th Ctrl Delay	36.7											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	49	90	447	875	10
Future Vol, veh/h	4	49	90	447	875	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	54	100	497	972	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1427	492	983	0	-	0
Stage 1	978	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	126	522	698	-	-	-
Stage 1	325	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	101	522	698	-	-	-
Mov Cap-2 Maneuver	101	-	-	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.6	2.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	698	-	397	-	-
HCM Lane V/C Ratio	0.143	-	0.148	-	-
HCM Control Delay (s)	11	0.8	15.6	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0.5	-	0.5	-	-

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	0	11	4	0	3	40	372	2	7	855	27
Future Vol, veh/h	9	0	11	4	0	3	40	372	2	7	855	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	12	4	0	3	44	409	2	8	940	30

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1264	1470	485	984	1484	206	970	0	0	411	0	0
Stage 1	971	971	-	498	498	-	-	-	-	-	-	-
Stage 2	293	499	-	486	986	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	126	126	528	203	124	800	706	-	-	1144	-	-
Stage 1	271	329	-	523	543	-	-	-	-	-	-	-
Stage 2	691	542	-	531	324	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	116	114	528	184	112	800	706	-	-	1144	-	-
Mov Cap-2 Maneuver	116	114	-	184	112	-	-	-	-	-	-	-
Stage 1	249	324	-	481	499	-	-	-	-	-	-	-
Stage 2	632	498	-	511	319	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	24.9		18.5		1.3		0.2	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	706	-	-	203	275	1144	-
HCM Lane V/C Ratio	0.062	-	-	0.108	0.028	0.007	-
HCM Control Delay (s)	10.4	0.3	-	24.9	18.5	8.2	0.1
HCM Lane LOS	B	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.1	0	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	40	21	354	857	5
Future Vol, veh/h	4	40	21	354	857	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	45	24	402	974	6

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1226	490	980	0	-	0
Stage 1	977	-	-	-	-	-
Stage 2	249	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	171	524	700	-	-	-
Stage 1	325	-	-	-	-	-
Stage 2	769	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	163	524	700	-	-	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	311	-	-	-	-	-
Stage 2	769	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	700	-	436	-	-
HCM Lane V/C Ratio	0.034	-	0.115	-	-
HCM Control Delay (s)	10.3	0.2	14.3	-	-
HCM Lane LOS	B	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection						
Int Delay, s/veh	6.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	192	105	229	650	127
Future Vol, veh/h	39	192	105	229	650	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	221	121	263	747	146

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1194	447	893	0	-	0
Stage 1	820	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	179	559	755	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	145	559	755	-	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	319	-	-	-	-	-
Stage 2	666	-	-	-	-	-

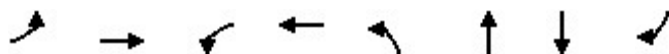
Approach	EB	NB	SB
HCM Control Delay, s	34.3	3.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	755	-	377	-	-
HCM Lane V/C Ratio	0.16	-	0.704	-	-
HCM Control Delay (s)	10.7	0.5	34.3	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th %tile Q(veh)	0.6	-	5.2	-	-

Timings
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

2a.No Build 2027 AM

06/06/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR	Ø5
Lane Configurations		↕		↕	↗	↕	↕	↗	
Traffic Volume (vph)	75	0	1	0	33	469	1007	318	
Future Volume (vph)	75	0	1	0	33	469	1007	318	
Lane Group Flow (vph)	0	118	0	1	40	572	1228	388	
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	NA	Perm	
Protected Phases		4		8	1	6	2		5
Permitted Phases	4		8		6			2	
Detector Phase	4	4	8	8	1	6	2	2	
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	5.0
Minimum Split (s)	38.5	38.5	42.5	42.5	15.0	27.5	26.5	26.5	15.0
Total Split (s)	43.0	43.0	43.0	43.0	15.0	62.0	62.0	62.0	15.0
Total Split (%)	35.8%	35.8%	35.8%	35.8%	12.5%	51.7%	51.7%	51.7%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	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	0.0	
Total Lost Time (s)		5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio		0.64		0.01	0.11	0.20	0.47	0.31	
Control Delay		37.9		47.0	3.1	2.6	7.5	1.7	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		37.9		47.0	3.1	2.6	7.5	1.7	
Queue Length 50th (ft)		34		1	4	36	178	8	
Queue Length 95th (ft)		77		6	12	61	241	29	
Internal Link Dist (ft)		671		311		392	538		
Turn Bay Length (ft)					230			230	
Base Capacity (vph)		487		435	397	2916	2638	1268	
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		0.24		0.00	0.10	0.20	0.47	0.31	

Intersection Summary

Cycle Length: 120

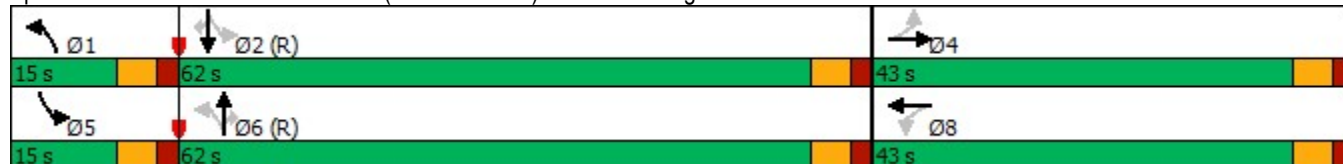
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

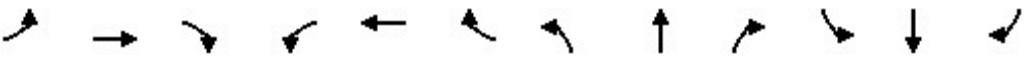
Splits and Phases: 8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd



HCM 6th Signalized Intersection Summary
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

2a.No Build 2027 AM

06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↕	↕	↔	↕	↕
Traffic Volume (veh/h)	75	0	22	1	0	0	33	469	0	0	1007	318
Future Volume (veh/h)	75	0	22	1	0	0	33	469	0	0	1007	318
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	0	27	1	0	0	40	572	0	0	1228	388
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	1	33	204	0		300	2877		678	2605	1162
Arrive On Green	0.10	0.00	0.10	0.10	0.00	0.00	0.03	0.81	0.00	0.00	0.73	0.73
Sat Flow, veh/h	1111	12	333	1455	0	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	118	0	0	1	0	0	40	572	0	0	1228	388
Grp Sat Flow(s),veh/h/ln	1456	0	0	1455	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.4	0.0	0.0	0.0	0.0	0.0	0.6	4.4	0.0	0.0	16.9	10.4
Cycle Q Clear(g_c), s	9.5	0.0	0.0	0.1	0.0	0.0	0.6	4.4	0.0	0.0	16.9	10.4
Prop In Lane	0.77		0.23	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	197	0	0	204	0		300	2877		678	2605	1162
V/C Ratio(X)	0.60	0.00	0.00	0.00	0.00		0.13	0.20		0.00	0.47	0.33
Avail Cap(c_a), veh/h	507	0	0	499	0		386	2877		817	2605	1162
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	0.0	0.0	48.8	0.0	0.0	4.7	2.6	0.0	0.0	6.5	5.7
Incr Delay (d2), s/veh	2.9	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	0.0	0.0	0.0	0.2	0.9	0.0	0.0	4.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	0.0	0.0	48.8	0.0	0.0	4.9	2.7	0.0	0.0	7.1	6.4
LnGrp LOS	E	A	A	D	A		A	A		A	A	A
Approach Vol, veh/h	118			1			612			1616		
Approach Delay, s/veh	55.9			48.8			2.9			7.0		
Approach LOS	E			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	93.5		17.3	0.0	102.7		17.3				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	56.5		37.5	9.5	56.5		37.5				
Max Q Clear Time (g_c+I1), s	2.6	18.9		11.5	0.0	6.4		2.1				
Green Ext Time (p_c), s	0.0	23.8		0.5	0.0	7.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Intersection Delay, s/veh	14.7					
Intersection LOS	B					
Approach	EB		WB		NB	SB
Entry Lanes	2		0		1	1
Conflicting Circle Lanes	1		1		1	1
Adj Approach Flow, veh/h	327		0		1316	874
Demand Flow Rate, veh/h	334		0		1343	891
Vehicles Circulating, veh/h	891		684		455	0
Vehicles Exiting, veh/h	0		359		770	684
Ped Vol Crossing Leg, #/h	0		0		0	0
Ped Cap Adj	1.000		1.000		1.000	1.000
Approach Delay, s/veh	10.2		0.0		18.5	10.6
Approach LOS	B		-		C	B
Lane	Left	Right	Left	Bypass	Left	
Designated Moves	LT	R	T	R	LT	
Assumed Moves	LT	R	T	R	LT	
RT Channelized				Yield		
Lane Util	0.287	0.713	1.000		1.000	
Follow-Up Headway, s	2.535	2.535	2.609		2.609	
Critical Headway, s	4.544	4.544	4.976	755	4.976	
Entry Flow, veh/h	96	238	588	957	891	
Cap Entry Lane, veh/h	631	631	868	0.980	1380	
Entry HV Adj Factor	0.979	0.979	0.980	740	0.980	
Flow Entry, veh/h	94	233	576	938	874	
Cap Entry, veh/h	618	618	851	0.789	1353	
V/C Ratio	0.152	0.377	0.678	20.4	0.646	
Control Delay, s/veh	7.6	11.2	16.0	C	10.6	
LOS	A	B	C	8	B	
95th %tile Queue, veh	1	2	5		5	

Intersection					
Intersection Delay, s/veh 11.6					
Intersection LOS B					
Approach	EB	WB	NB	SB	
Entry Lanes	0	1	1	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	0	654	681	825	
Demand Flow Rate, veh/h	0	667	695	841	
Vehicles Circulating, veh/h	890	695	0	613	
Vehicles Exiting, veh/h	289	0	890	408	
Ped Vol Crossing Leg, #/h	0	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	10.4	7.9	15.6	
Approach LOS	-	B	A	C	
Lane	Left	Bypass	Left	Left	Bypass
Designated Moves	LT	R	LT	T	R
Assumed Moves	LT	R	LT	T	R
RT Channelized		Yield			Free
Lane Util	1.000		1.000	1.000	
Follow-Up Headway, s	2.609		2.609	2.609	
Critical Headway, s	4.976	341	4.976	4.976	275
Entry Flow, veh/h	326	910	695	566	1938
Cap Entry Lane, veh/h	679	0.980	1380	738	0.980
Entry HV Adj Factor	0.981	334	0.980	0.980	270
Flow Entry, veh/h	320	892	681	555	1900
Cap Entry, veh/h	667	0.374	1352	724	0.142
V/C Ratio	0.480	8.3	0.504	0.766	0.0
Control Delay, s/veh	12.7	A	7.9	23.2	A
LOS	B	2	A	C	0
95th %tile Queue, veh	3		3	7	

Timings 3: Barber St/Newton Bridge Rd & N Chase St

2b.No Build 2027 PM
06/06/2025



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	620	11	83	19	15	266	2	179	618
Future Volume (vph)	620	11	83	19	15	266	2	179	618
Lane Group Flow (vph)	721	44	107	22	0	332	0	210	719
Turn Type	Split	NA	NA	Perm	Perm	NA	Perm	NA	Free
Protected Phases	4	4	8			6		2	
Permitted Phases				8	6		2		Free
Detector Phase	4	4	8	8	6	6	2	2	
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	
Total Split (s)	68.0	68.0	23.5	23.5	28.5	28.5	28.5	28.5	
Total Split (%)	56.7%	56.7%	19.6%	19.6%	23.8%	23.8%	23.8%	23.8%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
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		0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5		5.5		5.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	
v/c Ratio	0.87	0.06	0.57	0.10		0.34		0.39	0.45
Control Delay	40.6	7.0	62.6	0.8		37.0		39.5	0.9
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	40.6	7.0	62.6	0.8		37.0		39.5	0.9
Queue Length 50th (ft)	471	5	80	0		108		133	0
Queue Length 95th (ft)	557	22	128	0		160		217	0
Internal Link Dist (ft)		491	975			882		519	
Turn Bay Length (ft)	100								
Base Capacity (vph)	921	882	277	299		965		544	1583
Starvation Cap Reductn	0	0	0	0		0		0	0
Spillback Cap Reductn	0	0	0	0		0		0	0
Storage Cap Reductn	0	0	0	0		0		0	0
Reduced v/c Ratio	0.78	0.05	0.39	0.07		0.34		0.39	0.45

Intersection Summary

Cycle Length: 120

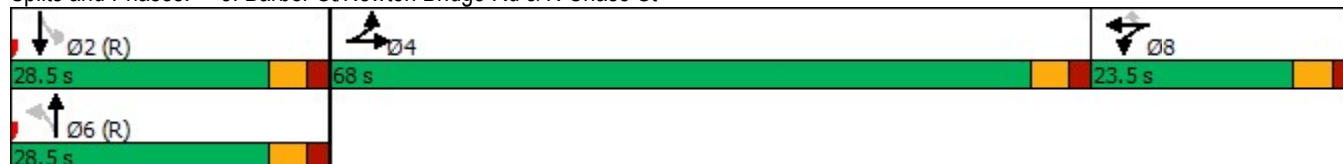
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 3: Barber St/Newton Bridge Rd & N Chase St



HCM 6th Signalized Intersection Summary

3: Barber St/Newton Bridge Rd & N Chase St

2b.No Build 2027 PM

06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	620	11	27	9	83	19	15	266	5	2	179	618
Future Volume (veh/h)	620	11	27	9	83	19	15	266	5	2	179	618
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	721	13	31	10	97	22	17	309	6	2	208	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	760	209	499	13	126	118	72	1200	23	31	673	
Arrive On Green	0.43	0.43	0.43	0.07	0.07	0.07	0.36	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	1781	490	1169	174	1688	1585	108	3325	64	3	1865	1585
Grp Volume(v), veh/h	721	0	44	107	0	22	173	0	159	210	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1660	1862	0	1585	1806	0	1691	1868	0	1585
Q Serve(g_s), s	46.8	0.0	1.9	6.8	0.0	1.6	0.0	0.0	8.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	46.8	0.0	1.9	6.8	0.0	1.6	7.8	0.0	8.0	9.7	0.0	0.0
Prop In Lane	1.00		0.70	0.09		1.00	0.10		0.04	0.01		1.00
Lane Grp Cap(c), veh/h	760	0	709	139	0	118	685	0	610	705	0	
V/C Ratio(X)	0.95	0.00	0.06	0.77	0.00	0.19	0.25	0.00	0.26	0.30	0.00	
Avail Cap(c_a), veh/h	928	0	865	279	0	238	685	0	610	705	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.1	0.0	20.2	54.5	0.0	52.1	27.0	0.0	27.1	27.6	0.0	0.0
Incr Delay (d2), s/veh	16.5	0.0	0.0	8.6	0.0	0.7	0.9	0.0	1.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.6	0.0	0.7	3.5	0.0	0.6	3.5	0.0	3.3	4.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	0.0	20.3	63.1	0.0	52.8	27.9	0.0	28.1	28.7	0.0	0.0
LnGrp LOS	D	A	C	E	A	D	C	A	C	C	A	
Approach Vol, veh/h	765			129			332			210		
Approach Delay, s/veh	47.9			61.4			28.0			28.7		
Approach LOS	D			E			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	48.8			56.7			48.8			14.5		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	23.0			62.5			23.0			18.0		
Max Q Clear Time (g_c+I1), s	11.7			48.8			10.0			8.8		
Green Ext Time (p_c), s	1.3			2.5			2.5			0.3		
Intersection Summary												
HCM 6th Ctrl Delay	41.7											
HCM 6th LOS	D											

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	125	60	833	682	2
Future Vol, veh/h	7	125	60	833	682	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	144	69	957	784	2

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1402	393	786	0	-	0
Stage 1	785	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	131	606	829	-	-	-
Stage 1	410	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	108	606	829	-	-	-
Mov Cap-2 Maneuver	108	-	-	-	-	-
Stage 1	337	-	-	-	-	-
Stage 2	501	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	829	-	487	-	-
HCM Lane V/C Ratio	0.083	-	0.312	-	-
HCM Control Delay (s)	9.7	0.8	15.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	1.3	-	-

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	57	0	53	0	1	3	29	810	3	2	594	19
Future Vol, veh/h	57	0	53	0	1	3	29	810	3	2	594	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	0	60	0	1	3	33	920	3	2	675	22
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1217	1679	349	1330	1689	462	697	0	0	923	0	0
Stage 1	690	690	-	988	988	-	-	-	-	-	-	-
Stage 2	527	989	-	342	701	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	137	94	647	113	93	547	895	-	-	736	-	-
Stage 1	401	444	-	265	323	-	-	-	-	-	-	-
Stage 2	502	323	-	646	439	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	127	86	647	96	86	547	895	-	-	736	-	-
Mov Cap-2 Maneuver	127	86	-	96	86	-	-	-	-	-	-	-
Stage 1	371	442	-	245	298	-	-	-	-	-	-	-
Stage 2	459	298	-	584	437	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	45.8		20.7		0.6		0					
HCM LOS	E		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	895	-	-	207	234	736	-	-				
HCM Lane V/C Ratio	0.037	-	-	0.604	0.019	0.003	-	-				
HCM Control Delay (s)	9.2	0.3	-	45.8	20.7	9.9	0	-				
HCM Lane LOS	A	A	-	E	C	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	3.4	0.1	0	-	-				

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	48	28	877	518	8
Future Vol, veh/h	7	48	28	877	518	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	53	31	974	576	9
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1130	293	585	0	-	0
Stage 1	581	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	197	703	986	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	183	703	986	-	-	-
Mov Cap-2 Maneuver	183	-	-	-	-	-
Stage 1	486	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.9	0.6		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	986	-	516	-	-	
HCM Lane V/C Ratio	0.032	-	0.118	-	-	
HCM Control Delay (s)	8.8	0.3	12.9	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-	

Intersection						
Int Delay, s/veh	24.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	98	118	173	703	389	61
Future Vol, veh/h	98	118	173	703	389	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	133	194	790	437	69
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1255	253	506	0	-	0
Stage 1	472	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	164	746	1055	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 110	746	1055	-	-	-
Mov Cap-2 Maneuver	~ 110	-	-	-	-	-
Stage 1	399	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	166.8	2.6		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1055	-	206	-	-	
HCM Lane V/C Ratio	0.184	-	1.178	-	-	
HCM Control Delay (s)	9.2	1	166.8	-	-	
HCM Lane LOS	A	A	F	-	-	
HCM 95th %tile Q(veh)	0.7	-	12.1	-	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Timings
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

2b.No Build 2027 PM

06/06/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø5
Lane Configurations		↔		↔	↔	↔	↔	↔	↔	
Traffic Volume (vph)	188	0	1	0	53	1129	1	646	160	
Future Volume (vph)	188	0	1	0	53	1129	1	646	160	
Lane Group Flow (vph)	0	291	0	2	64	1360	1	778	193	
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm	
Protected Phases		4		8	1	6		2		5
Permitted Phases	4		8		6		6		2	
Detector Phase	4	4	8	8	1	6	6	2	2	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0	5.0
Minimum Split (s)	38.5	38.5	42.5	42.5	15.0	27.5	27.5	26.5	26.5	15.0
Total Split (s)	43.0	43.0	43.0	43.0	15.0	62.0	62.0	62.0	62.0	15.0
Total Split (%)	35.8%	35.8%	35.8%	35.8%	12.5%	51.7%	51.7%	51.7%	51.7%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	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	0.0	0.0	
Total Lost Time (s)		5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	None
v/c Ratio		0.83		0.01	0.14	0.55	0.00	0.36	0.19	
Control Delay		52.9		0.0	8.0	11.0	0.0	14.2	2.6	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		52.9		0.0	8.0	11.0	0.0	14.2	2.6	
Queue Length 50th (ft)		166		0	14	244	0	157	0	
Queue Length 95th (ft)		215		0	34	345	0	225	28	
Internal Link Dist (ft)		671		311		392		538		
Turn Bay Length (ft)					230		120		230	
Base Capacity (vph)		486		541	478	2473	1128	2163	1042	
Starvation Cap Reductn		0		0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	
Reduced v/c Ratio		0.60		0.00	0.13	0.55	0.00	0.36	0.19	

Intersection Summary

Cycle Length: 120

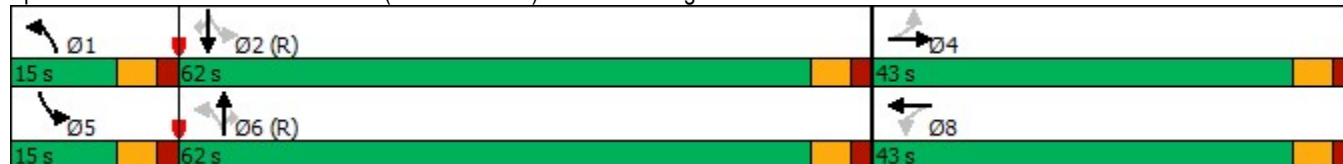
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

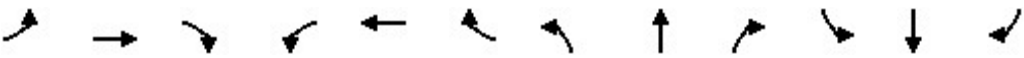
Splits and Phases: 8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd



HCM 6th Signalized Intersection Summary
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

2b.No Build 2027 PM

06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↕	↕	↔	↕	↕
Traffic Volume (veh/h)	188	0	53	1	0	1	53	1129	1	0	646	160
Future Volume (veh/h)	188	0	53	1	0	1	53	1129	1	0	646	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	227	0	64	1	0	0	64	1360	0	0	778	193
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	0	71	380	0		411	2441		259	2147	958
Arrive On Green	0.22	0.00	0.22	0.22	0.00	0.00	0.04	0.69	0.00	0.00	0.60	0.60
Sat Flow, veh/h	1133	0	319	1445	0	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	291	0	0	1	0	0	64	1360	0	0	778	193
Grp Sat Flow(s),veh/h/ln	1452	0	0	1445	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	23.3	0.0	0.0	0.0	0.0	0.0	1.5	23.3	0.0	0.0	13.3	6.6
Cycle Q Clear(g_c), s	23.4	0.0	0.0	0.1	0.0	0.0	1.5	23.3	0.0	0.0	13.3	6.6
Prop In Lane	0.78		0.22	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	375	0	0	380	0		411	2441		259	2147	958
V/C Ratio(X)	0.78	0.00	0.00	0.00	0.00		0.16	0.56		0.00	0.36	0.20
Avail Cap(c_a), veh/h	507	0	0	502	0		487	2441		398	2147	958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	0.0	0.0	36.4	0.0	0.0	8.4	9.5	0.0	0.0	12.0	10.7
Incr Delay (d2), s/veh	5.2	0.0	0.0	0.0	0.0	0.0	0.2	0.9	0.0	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	0.0	0.0	0.0	0.0	0.0	0.5	7.4	0.0	0.0	4.7	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	0.0	0.0	36.4	0.0	0.0	8.6	10.5	0.0	0.0	12.5	11.2
LnGrp LOS	D	A	A	D	A		A	B		A	B	B
Approach Vol, veh/h	291			1			1424			971		
Approach Delay, s/veh	50.7			36.4			10.4			12.2		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	78.0		32.1	0.0	87.9		32.1				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	56.5		37.5	9.5	56.5		37.5				
Max Q Clear Time (g_c+I1), s	3.5	15.3		25.4	0.0	25.3		2.1				
Green Ext Time (p_c), s	0.0	13.2		1.2	0.0	19.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay 15.4

HCM 6th LOS B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

FUTURE “BUILD” INTERSECTION ANALYSIS

Intersection						
Intersection Delay, s/veh	15.1					
Intersection LOS	C					
Approach	EB		WB		NB	SB
Entry Lanes	2		0		1	1
Conflicting Circle Lanes	1		1		1	1
Adj Approach Flow, veh/h	412		0		693	1142
Demand Flow Rate, veh/h	420		0		706	1164
Vehicles Circulating, veh/h	1164		544		438	0
Vehicles Exiting, veh/h	0		275		1146	544
Ped Vol Crossing Leg, #/h	0		0		0	0
Ped Cap Adj	1.000		1.000		1.000	1.000
Approach Delay, s/veh	15.9		0.0		8.2	19.1
Approach LOS	C		-		A	C
Lane	Left	Right	Left	Bypass	Left	
Designated Moves	LT	R	T	R	LT	
Assumed Moves	LT	R	T	R	LT	
RT Channelized				Yield		
Lane Util	0.388	0.612	1.000		1.000	
Follow-Up Headway, s	2.535	2.535	2.609		2.609	
Critical Headway, s	4.544	4.544	4.976	325	4.976	
Entry Flow, veh/h	163	257	381	1042	1164	
Cap Entry Lane, veh/h	492	492	883	0.980	1380	
Entry HV Adj Factor	0.982	0.981	0.980	319	0.981	
Flow Entry, veh/h	160	252	374	1022	1142	
Cap Entry, veh/h	483	483	865	0.312	1353	
V/C Ratio	0.331	0.522	0.432	6.7	0.844	
Control Delay, s/veh	12.7	17.9	9.4	A	19.1	
LOS	B	C	A	1	C	
95th %tile Queue, veh	1	3	2		11	

Intersection					
Intersection Delay, s/veh26.5					
Intersection LOS D					
Approach	EB	WB	NB	SB	
Entry Lanes	0	1	1	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	0	966	554	892	
Demand Flow Rate, veh/h	0	985	565	910	
Vehicles Circulating, veh/h	1243	565	0	746	
Vehicles Exiting, veh/h	165	0	1243	401	
Ped Vol Crossing Leg, #/h	0	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	0.0	16.4	6.5	49.7	
Approach LOS	-	C	A	E	
Lane	Left	Bypass	Left	Left	Bypass
Designated Moves	LT	R	LT	T	R
Assumed Moves	LT	R	LT	T	R
RT Channelized		Yield			Free
Lane Util	1.000		1.000	1.000	
Follow-Up Headway, s	2.609		2.609	2.609	
Critical Headway, s	4.976	403	4.976	4.976	248
Entry Flow, veh/h	582	917	565	662	1938
Cap Entry Lane, veh/h	775	0.980	1380	645	0.980
Entry HV Adj Factor	0.981	395	0.981	0.980	243
Flow Entry, veh/h	571	899	554	649	1900
Cap Entry, veh/h	761	0.440	1353	632	0.128
V/C Ratio	0.750	9.3	0.409	1.027	0.0
Control Delay, s/veh	21.3	A	6.5	68.4	A
LOS	C	2	A	F	0
95th %tile Queue, veh	7		2	17	

Timings

3a.Build 2027 AM

3: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd

06/06/2025



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	468	165	61	22	28	98	57	228	691
Future Volume (vph)	468	165	61	22	28	98	57	228	691
Lane Group Flow (vph)	544	256	77	26	0	173	0	331	803
Turn Type	Split	NA	NA	Perm	Perm	NA	Perm	NA	Free
Protected Phases	4	4	8			6		2	
Permitted Phases				8	6		2		Free
Detector Phase	4	4	8	8	6	6	2	2	
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	
Total Split (s)	54.0	54.0	23.5	23.5	42.5	42.5	42.5	42.5	
Total Split (%)	45.0%	45.0%	19.6%	19.6%	35.4%	35.4%	35.4%	35.4%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
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		0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5		5.5		5.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	
v/c Ratio	0.87	0.40	0.48	0.13		0.13		0.45	0.51
Control Delay	51.4	28.1	61.8	1.3		21.2		29.0	1.2
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	51.4	28.1	61.8	1.3		21.2		29.0	1.2
Queue Length 50th (ft)	382	135	58	0		38		185	0
Queue Length 95th (ft)	465	183	100	0		67		291	0
Internal Link Dist (ft)		491	326			882		519	
Turn Bay Length (ft)	100			100					
Base Capacity (vph)	715	734	278	299		1311		743	1583
Starvation Cap Reductn	0	0	0	0		0		0	0
Spillback Cap Reductn	0	0	0	0		0		0	0
Storage Cap Reductn	0	0	0	0		0		0	0
Reduced v/c Ratio	0.76	0.35	0.28	0.09		0.13		0.45	0.51

Intersection Summary

Cycle Length: 120

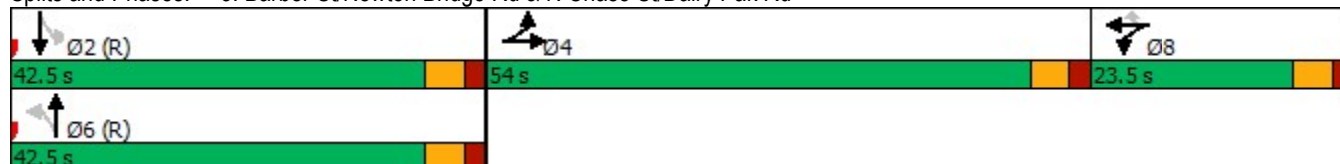
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 3: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd



HCM 6th Signalized Intersection Summary 3: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd

3a.Build 2027 AM
06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	468	165	55	5	61	22	28	98	22	57	228	691
Future Volume (veh/h)	468	165	55	5	61	22	28	98	22	57	228	691
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	544	192	64	6	71	26	33	114	26	66	265	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	591	446	149	8	99	92	280	980	234	174	678	
Arrive On Green	0.33	0.33	0.33	0.06	0.06	0.06	0.47	0.47	0.47	0.47	0.47	0.00
Sat Flow, veh/h	1781	1342	447	145	1718	1585	504	2073	495	291	1434	1585
Grp Volume(v), veh/h	544	0	256	77	0	26	88	0	85	331	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1790	1863	0	1585	1460	0	1613	1725	0	1585
Q Serve(g_s), s	35.2	0.0	13.4	4.9	0.0	1.9	0.0	0.0	3.5	6.3	0.0	0.0
Cycle Q Clear(g_c), s	35.2	0.0	13.4	4.9	0.0	1.9	3.1	0.0	3.5	14.3	0.0	0.0
Prop In Lane	1.00		0.25	0.08		1.00	0.37		0.31	0.20		1.00
Lane Grp Cap(c), veh/h	591	0	594	108	0	92	731	0	763	852	0	
V/C Ratio(X)	0.92	0.00	0.43	0.72	0.00	0.28	0.12	0.00	0.11	0.39	0.00	
Avail Cap(c_a), veh/h	720	0	723	279	0	238	731	0	763	852	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.5	0.0	31.2	55.6	0.0	54.2	17.5	0.0	17.6	20.3	0.0	0.0
Incr Delay (d2), s/veh	15.2	0.0	0.5	8.5	0.0	1.7	0.3	0.0	0.3	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	0.0	5.7	2.6	0.0	0.8	1.4	0.0	1.3	6.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	0.0	31.7	64.1	0.0	55.8	17.8	0.0	17.9	21.7	0.0	0.0
LnGrp LOS	D	A	C	E	A	E	B	A	B	C	A	
Approach Vol, veh/h	800			103			173			331		
Approach Delay, s/veh	46.7			62.0			17.9			21.7		
Approach LOS	D			E			B			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	62.2			45.3			62.2			12.4		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	37.0			48.5			37.0			18.0		
Max Q Clear Time (g_c+I1), s	16.3			37.2			5.5			6.9		
Green Ext Time (p_c), s	3.3			2.6			1.8			0.3		
Intersection Summary												
HCM 6th Ctrl Delay	38.4											
HCM 6th LOS	D											

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	4	2	49	6	0	22	90	475	14	95	920	10
Future Vol, veh/h	4	2	49	6	0	22	90	475	14	95	920	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	175	235	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	2	54	7	0	24	100	528	16	106	1022	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1704	1984	517	1452	1973	264	1033	0	0	544	0	0
Stage 1	1240	1240	-	728	728	-	-	-	-	-	-	-
Stage 2	464	744	-	724	1245	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	59	61	503	92	62	734	668	-	-	1021	-	-
Stage 1	186	245	-	381	427	-	-	-	-	-	-	-
Stage 2	548	420	-	383	244	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	44	43	503	61	44	734	668	-	-	1021	-	-
Mov Cap-2 Maneuver	44	43	-	61	44	-	-	-	-	-	-	-
Stage 1	146	220	-	299	335	-	-	-	-	-	-	-
Stage 2	416	330	-	303	219	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	25.7		23.2		2.5		0.8	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	668	-	-	234 61 734	1021	-	-
HCM Lane V/C Ratio	0.15	-	-	0.261 0.109 0.033	0.103	-	-
HCM Control Delay (s)	11.3	0.9	-	25.7 71.1 10.1	8.9	-	-
HCM Lane LOS	B	A	-	D F B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	1 0.3 0.1	0.3	-	-

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	9	0	13	4	0	3	40	410	2	7	989	27
Future Vol, veh/h	9	0	13	4	0	3	40	410	2	7	989	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	14	4	0	3	44	451	2	8	1087	30

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1432	1659	559	1100	1673	227	1117	0	0	453	0	0
Stage 1	1118	1118	-	540	540	-	-	-	-	-	-	-
Stage 2	314	541	-	560	1133	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	95	97	472	167	95	776	621	-	-	1104	-	-
Stage 1	221	281	-	494	519	-	-	-	-	-	-	-
Stage 2	671	519	-	480	276	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	86	86	472	148	84	776	621	-	-	1104	-	-
Mov Cap-2 Maneuver	86	86	-	148	84	-	-	-	-	-	-	-
Stage 1	200	276	-	447	470	-	-	-	-	-	-	-
Stage 2	605	470	-	457	271	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	30.3		21.4		1.4		0.2	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	621	-	-	166	227	1104	-
HCM Lane V/C Ratio	0.071	-	-	0.146	0.034	0.007	-
HCM Control Delay (s)	11.2	0.4	-	30.3	21.4	8.3	0.1
HCM Lane LOS	B	A	-	D	C	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.1	0	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	42	21	390	989	5
Future Vol, veh/h	4	42	21	390	989	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	48	24	443	1124	6

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1397	565	1130	0	-	0
Stage 1	1127	-	-	-	-	-
Stage 2	270	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	132	468	614	-	-	-
Stage 1	271	-	-	-	-	-
Stage 2	751	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	125	468	614	-	-	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	257	-	-	-	-	-
Stage 2	751	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	614	-	378	-	-
HCM Lane V/C Ratio	0.039	-	0.138	-	-
HCM Control Delay (s)	11.1	0.3	16	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	210	110	260	764	127
Future Vol, veh/h	39	210	110	260	764	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	241	126	299	878	146

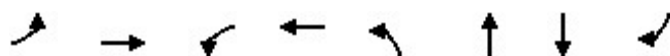
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1353	512	1024	0	-	0
Stage 1	951	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	141	507	674	-	-	-
Stage 1	336	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	109	507	674	-	-	-
Mov Cap-2 Maneuver	109	-	-	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	644	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	3.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	674	-	601	-	-
HCM Lane V/C Ratio	0.188	-	0.476	-	-
HCM Control Delay (s)	11.6	0.7	16.3	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0.7	-	2.6	-	-

Timings 8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

3a.Build 2027 AM
06/06/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR	Ø5
Lane Configurations		↔		↔	↔	↕	↕	↔	
Traffic Volume (vph)	93	0	1	1	86	469	1007	380	
Future Volume (vph)	93	0	1	1	86	469	1007	380	
Lane Group Flow (vph)	0	157	0	3	105	572	1228	463	
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	NA	Perm	
Protected Phases		4		8	1	6	2		5
Permitted Phases	4		8		6			2	
Detector Phase	4	4	8	8	1	6	2	2	
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	5.0
Minimum Split (s)	38.5	38.5	42.5	42.5	15.0	27.5	26.5	26.5	15.0
Total Split (s)	43.0	43.0	43.0	43.0	15.0	62.0	62.0	62.0	15.0
Total Split (%)	35.8%	35.8%	35.8%	35.8%	12.5%	51.7%	51.7%	51.7%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	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	0.0	
Total Lost Time (s)		5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio		0.72		0.02	0.30	0.20	0.50	0.38	
Control Delay		44.8		38.0	5.4	3.5	10.8	2.4	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		44.8		38.0	5.4	3.5	10.8	2.4	
Queue Length 50th (ft)		63		1	14	44	209	11	
Queue Length 95th (ft)		110		10	32	74	304	40	
Internal Link Dist (ft)		671		311		392	538		
Turn Bay Length (ft)					230			230	
Base Capacity (vph)		489		521	376	2827	2434	1218	
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		0.32		0.01	0.28	0.20	0.50	0.38	

Intersection Summary

Cycle Length: 120

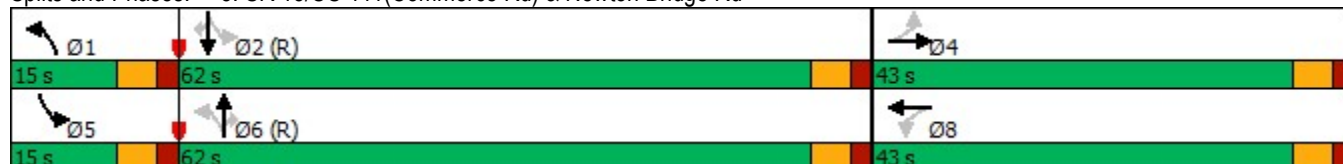
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

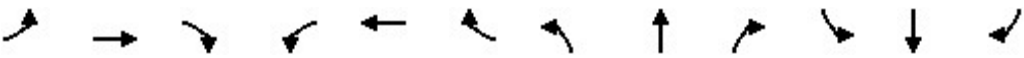
Control Type: Actuated-Coordinated

Splits and Phases: 8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd



HCM 6th Signalized Intersection Summary
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

3a.Build 2027 AM
06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↕	↕	↔	↕	↕
Traffic Volume (veh/h)	93	0	36	1	1	1	86	469	0	0	1007	380
Future Volume (veh/h)	93	0	36	1	1	1	86	469	0	0	1007	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	0	44	1	1	0	105	572	0	0	1228	463
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	1	52	133	119		287	2776		645	2470	1102
Arrive On Green	0.13	0.00	0.13	0.13	0.13	0.00	0.04	0.78	0.00	0.00	0.70	0.70
Sat Flow, veh/h	1044	9	410	689	933	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	157	0	0	2	0	0	105	572	0	0	1228	463
Grp Sat Flow(s),veh/h/ln	1462	0	0	1622	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.5	0.0	0.0	0.0	0.0	0.0	1.9	5.0	0.0	0.0	19.3	15.1
Cycle Q Clear(g_c), s	12.6	0.0	0.0	0.1	0.0	0.0	1.9	5.0	0.0	0.0	19.3	15.1
Prop In Lane	0.72		0.28	0.50		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	0	0	251	0		287	2776		645	2470	1102
V/C Ratio(X)	0.66	0.00	0.00	0.01	0.00		0.37	0.21		0.00	0.50	0.42
Avail Cap(c_a), veh/h	508	0	0	543	0		356	2776		785	2470	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	0.0	0.0	45.8	0.0	0.0	6.9	3.4	0.0	0.0	8.5	7.9
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.0	0.0	0.0	0.8	0.2	0.0	0.0	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	0.0	0.1	0.0	0.0	0.5	1.2	0.0	0.0	6.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	0.0	0.0	45.8	0.0	0.0	7.7	3.6	0.0	0.0	9.2	9.1
LnGrp LOS	D	A	A	D	A		A	A		A	A	A
Approach Vol, veh/h	157			2			677			1691		
Approach Delay, s/veh	54.3			45.8			4.2			9.2		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	88.9		20.7	0.0	99.3		20.7				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	56.5		37.5	9.5	56.5		37.5				
Max Q Clear Time (g_c+I1), s	3.9	21.3		14.6	0.0	7.0		2.1				
Green Ext Time (p_c), s	0.1	23.7		0.7	0.0	7.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	123	122	43	0	0	44
Future Vol, veh/h	123	122	43	0	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	134	133	47	0	0	48
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	47	0	-	0	448	47
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	401	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1560	-	-	-	568	1022
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	676	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1560	-	-	-	515	1022
Mov Cap-2 Maneuver	-	-	-	-	515	-
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	676	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.8	0		8.7		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1560	-	-	-	1022	
HCM Lane V/C Ratio	0.086	-	-	-	0.047	
HCM Control Delay (s)	7.5	0	-	-	8.7	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	77	37	0	0	6
Future Vol, veh/h	45	77	37	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	84	40	0	0	7
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	40	0	-	0	222	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	182	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1570	-	-	-	766	1031
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	849	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1570	-	-	-	741	1031
Mov Cap-2 Maneuver	-	-	-	-	741	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	849	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.7	0		8.5		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1570	-	-	-	1031	
HCM Lane V/C Ratio	0.031	-	-	-	0.006	
HCM Control Delay (s)	7.4	0	-	-	8.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0.1	-	-	-	0	

Intersection						
Intersection Delay, s/veh	17.6					
Intersection LOS	C					
Approach	EB		WB		NB	SB
Entry Lanes	2		0		1	1
Conflicting Circle Lanes	1		1		1	1
Adj Approach Flow, veh/h	339		0		1339	979
Demand Flow Rate, veh/h	346		0		1366	999
Vehicles Circulating, veh/h	999		719		516	0
Vehicles Exiting, veh/h	0		408		829	719
Ped Vol Crossing Leg, #/h	0		0		0	0
Ped Cap Adj	1.000		1.000		1.000	1.000
Approach Delay, s/veh	11.7		0.0		22.6	12.9
Approach LOS	B		-		C	B
Lane	Left	Right	Left	Bypass	Left	
Designated Moves	LT	R	T	R	LT	
Assumed Moves	LT	R	T	R	LT	
RT Channelized				Yield		
Lane Util	0.312	0.688	1.000		1.000	
Follow-Up Headway, s	2.535	2.535	2.609		2.609	
Critical Headway, s	4.544	4.544	4.976	755	4.976	
Entry Flow, veh/h	108	238	611	910	999	
Cap Entry Lane, veh/h	572	572	815	0.980	1380	
Entry HV Adj Factor	0.981	0.979	0.980	740	0.980	
Flow Entry, veh/h	106	233	599	892	979	
Cap Entry, veh/h	561	560	799	0.829	1353	
V/C Ratio	0.189	0.416	0.749	24.4	0.724	
Control Delay, s/veh	8.8	13.0	20.4	C	12.9	
LOS	A	B	C	10	B	
95th %tile Queue, veh	1	2	7		7	

Intersection

Intersection Delay, s/veh 17.0

Intersection LOS C

Approach	EB	WB	NB	SB
Entry Lanes	0	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	0	673	716	964
Demand Flow Rate, veh/h	0	686	731	983
Vehicles Circulating, veh/h	1001	731	0	613
Vehicles Exiting, veh/h	289	0	1001	444
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	11.2	8.3	27.4
Approach LOS	-	B	A	D

Lane	Left	Bypass	Left	Left	Bypass
Designated Moves	LT	R	LT	T	R
Assumed Moves	LT	R	LT	T	R
RT Channelized		Yield			Free
Lane Util	1.000		1.000	1.000	
Follow-Up Headway, s	2.609		2.609	2.609	
Critical Headway, s	4.976	360	4.976	4.976	306
Entry Flow, veh/h	326	877	731	677	1938
Cap Entry Lane, veh/h	655	0.980	1380	738	0.980
Entry HV Adj Factor	0.981	353	0.980	0.980	300
Flow Entry, veh/h	320	860	716	664	1900
Cap Entry, veh/h	643	0.410	1352	724	0.158
V/C Ratio	0.498	9.1	0.530	0.917	0.0
Control Delay, s/veh	13.5	A	8.3	39.8	A
LOS	B	2	A	E	1
95th %tile Queue, veh	3		3	12	

Timings

3b.Build 2027 PM

06/06/2025

3: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	630	51	179	54	15	266	22	179	643
Future Volume (vph)	630	51	179	54	15	266	22	179	643
Lane Group Flow (vph)	733	90	232	63	0	336	0	234	748
Turn Type	Split	NA	NA	Perm	Perm	NA	Perm	NA	Free
Protected Phases	4	4	8			6		2	
Permitted Phases				8	6		2		Free
Detector Phase	4	4	8	8	6	6	2	2	
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	
Total Split (s)	64.0	64.0	25.0	25.0	31.0	31.0	31.0	31.0	
Total Split (%)	53.3%	53.3%	20.8%	20.8%	25.8%	25.8%	25.8%	25.8%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
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		0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5		5.5		5.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	
v/c Ratio	0.91	0.11	0.82	0.21		0.40		0.53	0.47
Control Delay	46.4	11.8	72.1	9.6		40.4		46.0	1.0
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	46.4	11.8	72.1	9.6		40.4		46.0	1.0
Queue Length 50th (ft)	493	24	172	0		120		166	0
Queue Length 95th (ft)	616	50	#268	29		160		241	0
Internal Link Dist (ft)		491	326			882		519	
Turn Bay Length (ft)	100			100					
Base Capacity (vph)	862	876	305	321		834		438	1583
Starvation Cap Reductn	0	0	0	0		0		0	0
Spillback Cap Reductn	0	0	0	0		0		0	0
Storage Cap Reductn	0	0	0	0		0		0	0
Reduced v/c Ratio	0.85	0.10	0.76	0.20		0.40		0.53	0.47

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

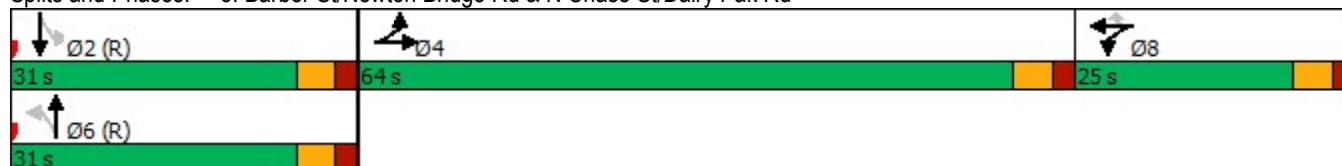
Natural Cycle: 90

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd



HCM 6th Signalized Intersection Summary

3: Barber St/Newton Bridge Rd & N Chase St/Dairy Pak Rd

3b.Build 2027 PM
06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	630	51	27	21	179	54	15	266	9	22	179	643
Future Volume (veh/h)	630	51	27	21	179	54	15	266	9	22	179	643
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	733	59	31	24	208	63	17	309	10	26	208	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	770	499	262	27	237	225	60	950	30	67	480	
Arrive On Green	0.43	0.43	0.43	0.14	0.14	0.14	0.29	0.29	0.29	0.29	0.29	0.00
Sat Flow, veh/h	1781	1155	607	192	1668	1585	95	3298	105	116	1665	1585
Grp Volume(v), veh/h	733	0	90	232	0	63	175	0	161	234	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1761	1861	0	1585	1814	0	1683	1782	0	1585
Q Serve(g_s), s	47.6	0.0	3.7	14.7	0.0	4.3	0.0	0.0	9.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	47.6	0.0	3.7	14.7	0.0	4.3	8.8	0.0	9.0	12.2	0.0	0.0
Prop In Lane	1.00		0.34	0.10		1.00	0.10		0.06	0.11		1.00
Lane Grp Cap(c), veh/h	770	0	761	264	0	225	556	0	485	547	0	
V/C Ratio(X)	0.95	0.00	0.12	0.88	0.00	0.28	0.32	0.00	0.33	0.43	0.00	
Avail Cap(c_a), veh/h	868	0	859	302	0	258	556	0	485	547	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.9	0.0	20.4	50.5	0.0	46.0	33.5	0.0	33.6	34.7	0.0	0.0
Incr Delay (d2), s/veh	18.7	0.0	0.1	22.2	0.0	0.7	1.5	0.0	1.8	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.4	0.0	1.5	8.3	0.0	1.7	4.1	0.0	3.8	5.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	0.0	20.4	72.6	0.0	46.7	35.0	0.0	35.4	37.2	0.0	0.0
LnGrp LOS	D	A	C	E	A	D	D	A	D	D	A	
Approach Vol, veh/h	823			295			336			234		
Approach Delay, s/veh	48.2			67.1			35.2			37.2		
Approach LOS	D			E			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	40.1			57.4			40.1			22.5		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	25.5			58.5			25.5			19.5		
Max Q Clear Time (g_c+I1), s	14.2			49.6			11.0			16.7		
Green Ext Time (p_c), s	1.6			2.2			2.7			0.4		

Intersection Summary

HCM 6th Ctrl Delay 47.4
HCM 6th LOS D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

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	7	0	125	19	2	93	60	861	16	37	705	2
Future Vol, veh/h	7	0	125	19	2	93	60	861	16	37	705	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	175	235	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	144	22	2	107	69	990	18	43	810	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1531	2043	406	1619	2026	495	812	0	0	1008	0	0
Stage 1	897	897	-	1128	1128	-	-	-	-	-	-	-
Stage 2	634	1146	-	491	898	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	80	56	594	69	57	520	810	-	-	683	-	-
Stage 1	301	357	-	218	278	-	-	-	-	-	-	-
Stage 2	434	272	-	528	356	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	50	42	594	42	43	520	810	-	-	683	-	-
Mov Cap-2 Maneuver	50	42	-	42	43	-	-	-	-	-	-	-
Stage 1	242	335	-	175	224	-	-	-	-	-	-	-
Stage 2	275	219	-	375	334	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.8	42.9	1.4	0.5
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	810	-	-	377 42 520	683	-	-
HCM Lane V/C Ratio	0.085	-	-	0.402 0.575 0.206	0.062	-	-
HCM Control Delay (s)	9.9	0.8	-	20.8 172 13.7	10.6	-	-
HCM Lane LOS	A	A	-	C F B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.9 2.1 0.8	0.2	-	-

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	57	0	53	0	1	3	31	929	3	2	641	19
Future Vol, veh/h	57	0	53	0	1	3	31	929	3	2	641	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	0	60	0	1	3	35	1056	3	2	728	22
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1342	1872	375	1496	1882	530	750	0	0	1059	0	0
Stage 1	743	743	-	1128	1128	-	-	-	-	-	-	-
Stage 2	599	1129	-	368	754	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	110	71	623	85	70	493	855	-	-	653	-	-
Stage 1	373	420	-	218	278	-	-	-	-	-	-	-
Stage 2	455	277	-	624	415	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	99	64	623	71	63	493	855	-	-	653	-	-
Mov Cap-2 Maneuver	99	64	-	71	63	-	-	-	-	-	-	-
Stage 1	336	418	-	196	250	-	-	-	-	-	-	-
Stage 2	405	249	-	561	413	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	73.3		25.3		0.7		0					
HCM LOS	F		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	855	-	-	166	182	653	-	-				
HCM Lane V/C Ratio	0.041	-	-	0.753	0.025	0.003	-	-				
HCM Control Delay (s)	9.4	0.4	-	73.3	25.3	10.5	0	-				
HCM Lane LOS	A	A	-	F	D	B	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	4.7	0.1	0	-	-				

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	48	30	994	564	8
Future Vol, veh/h	7	48	30	994	564	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	53	33	1104	627	9

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1250	318	636
Stage 1	632	-	-
Stage 2	618	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	165	678	943
Stage 1	492	-	-
Stage 2	500	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	150	678	943
Mov Cap-2 Maneuver	150	-	-
Stage 1	447	-	-
Stage 2	500	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	943	-	468	-	-
HCM Lane V/C Ratio	0.035	-	0.131	-	-
HCM Control Delay (s)	9	0.4	13.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection						
Int Delay, s/veh	46.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	98	125	189	804	429	61
Future Vol, veh/h	98	125	189	804	429	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	140	212	903	482	69
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1393	276	551	0	-	0
Stage 1	517	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	133	721	1015	-	-	-
Stage 1	563	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 77	721	1015	-	-	-
Mov Cap-2 Maneuver	~ 77	-	-	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	\$ 343		2.9		0	
HCM LOS	F					
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1015		-	158	-	-
HCM Lane V/C Ratio	0.209		-	1.586	-	-
HCM Control Delay (s)	9.5		1.4	\$ 343	-	-
HCM Lane LOS	A		A	F	-	-
HCM 95th %tile Q(veh)	0.8		-	17.1	-	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Timings
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

3b.Build 2027 PM
06/06/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø5
Lane Configurations		↔		↔	↔	↔	↔	↔	↔	
Traffic Volume (vph)	241	0	1	1	72	1129	1	646	181	
Future Volume (vph)	241	0	1	1	72	1129	1	646	181	
Lane Group Flow (vph)	0	410	0	3	87	1360	1	778	218	
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm	
Protected Phases		4		8	1	6		2		5
Permitted Phases	4		8		6		6		2	
Detector Phase	4	4	8	8	1	6	6	2	2	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0	5.0
Minimum Split (s)	38.5	38.5	42.5	42.5	15.0	27.5	27.5	26.5	26.5	15.0
Total Split (s)	44.0	44.0	44.0	44.0	15.0	61.0	61.0	61.0	61.0	15.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	12.5%	50.8%	50.8%	50.8%	50.8%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	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	0.0	0.0	
Total Lost Time (s)		5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	None
v/c Ratio		0.91		0.01	0.22	0.61	0.00	0.43	0.24	
Control Delay		59.3		24.5	11.3	15.9	0.0	20.1	3.1	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		59.3		24.5	11.3	15.9	0.0	20.1	3.1	
Queue Length 50th (ft)		252		1	26	334	0	200	0	
Queue Length 95th (ft)		332		8	47	370	0	241	31	
Internal Link Dist (ft)		671		311		392		538		
Turn Bay Length (ft)					230		120		230	
Base Capacity (vph)		501		531	411	2217	1019	1818	919	
Starvation Cap Reductn		0		0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	
Reduced v/c Ratio		0.82		0.01	0.21	0.61	0.00	0.43	0.24	

Intersection Summary

Cycle Length: 120

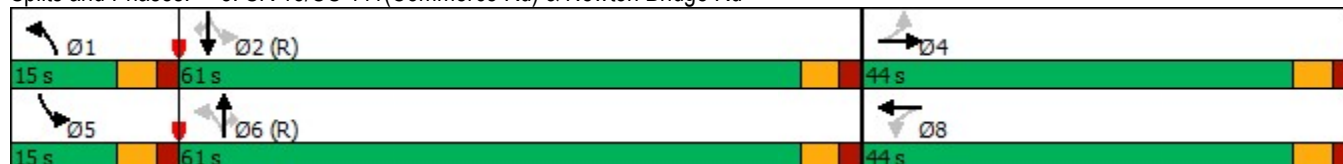
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

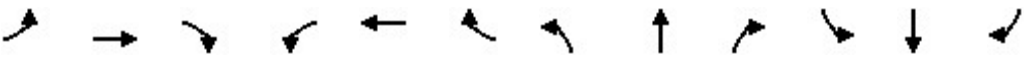
Control Type: Actuated-Coordinated

Splits and Phases: 8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd



HCM 6th Signalized Intersection Summary
8: SR 15/US 441(Commerce Rd) & Newton Bridge Rd

3b.Build 2027 PM
06/06/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↕	↕	↔	↕	↕
Traffic Volume (veh/h)	241	0	100	1	1	1	72	1129	1	0	646	181
Future Volume (veh/h)	241	0	100	1	1	1	72	1129	1	0	646	181
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	290	0	120	1	1	0	87	1360	0	0	778	218
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	0	127	262	248		353	2172		210	1870	834
Arrive On Green	0.30	0.00	0.30	0.30	0.30	0.00	0.04	0.61	0.00	0.00	0.53	0.53
Sat Flow, veh/h	1035	0	428	730	835	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	410	0	0	2	0	0	87	1360	0	0	778	218
Grp Sat Flow(s),veh/h/ln	1463	0	0	1565	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	32.8	0.0	0.0	0.0	0.0	0.0	2.6	28.9	0.0	0.0	15.9	9.1
Cycle Q Clear(g_c), s	32.9	0.0	0.0	0.1	0.0	0.0	2.6	28.9	0.0	0.0	15.9	9.1
Prop In Lane	0.71		0.29	0.50		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	486	0	0	510	0		353	2172		210	1870	834
V/C Ratio(X)	0.84	0.00	0.00	0.00	0.00		0.25	0.63		0.00	0.42	0.26
Avail Cap(c_a), veh/h	520	0	0	546	0		423	2172		349	1870	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	0.0	0.0	29.7	0.0	0.0	12.6	14.7	0.0	0.0	17.3	15.6
Incr Delay (d2), s/veh	11.5	0.0	0.0	0.0	0.0	0.0	0.4	1.4	0.0	0.0	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	0.0	0.0	0.0	0.0	0.0	0.9	10.3	0.0	0.0	6.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	0.0	0.0	29.7	0.0	0.0	13.0	16.1	0.0	0.0	17.9	16.4
LnGrp LOS	D	A	A	C	A		B	B		A	B	B
Approach Vol, veh/h	410			2			1447			996		
Approach Delay, s/veh	52.7			29.7			15.9			17.6		
Approach LOS	D			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	68.6		41.1	0.0	78.9		41.1				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	55.5		38.5	9.5	55.5		38.5				
Max Q Clear Time (g_c+I1), s	4.6	17.9		34.9	0.0	30.9		2.1				
Green Ext Time (p_c), s	0.1	13.1		0.8	0.0	16.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	55	27	151	2	0	103
Future Vol, veh/h	55	27	151	2	0	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	29	164	2	0	112
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	166	0	-	0	314	165
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	149	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1412	-	-	-	679	879
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	879	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1412	-	-	-	650	879
Mov Cap-2 Maneuver	-	-	-	-	650	-
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	879	-
Approach	EB	WB		SB		
HCM Control Delay, s	5.1	0		9.7		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1412	-	-	-	879	
HCM Lane V/C Ratio	0.042	-	-	-	0.127	
HCM Control Delay (s)	7.7	0	-	-	9.7	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	19	109	2	0	43
Future Vol, veh/h	8	19	109	2	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	21	118	2	0	47
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	120	0	-	0	158	119
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	39	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1468	-	-	-	833	933
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1468	-	-	-	828	933
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	983	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.2	0		9.1		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1468	-	-	-	933	
HCM Lane V/C Ratio	0.006	-	-	-	0.05	
HCM Control Delay (s)	7.5	0	-	-	9.1	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	210	110	260	764	127
Future Vol, veh/h	39	210	110	260	764	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	241	126	299	878	146

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1353	512	1024	0	-	0
Stage 1	951	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	141	507	674	-	-	-
Stage 1	336	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	109	507	674	-	-	-
Mov Cap-2 Maneuver	109	-	-	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	644	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.8	3.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	674	-	109	507	-	-
HCM Lane V/C Ratio	0.188	-	0.411	0.476	-	-
HCM Control Delay (s)	11.6	0.7	59.4	18.4	-	-
HCM Lane LOS	B	A	F	C	-	-
HCM 95th %tile Q(veh)	0.7	-	1.7	2.5	-	-

Intersection						
Int Delay, s/veh	22.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Vol, veh/h	98	125	189	804	429	61
Future Vol, veh/h	98	125	189	804	429	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	140	212	903	482	69
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1393	276	551	0	-	0
Stage 1	517	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	133	721	1015	-	-	-
Stage 1	563	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 77	721	1015	-	-	-
Mov Cap-2 Maneuver	~ 77	-	-	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	158.8	2.9		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1015	-	77	721	-	-
HCM Lane V/C Ratio	0.209	-	1.43	0.195	-	-
HCM Control Delay (s)	9.5	1.4	\$ 347.1	11.2	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.8	-	8.8	0.7	-	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

T R A F F I C V O L U M E W O R K S H E E T S

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Traffic Volumes

A&R Engineering
June 2025

5. Newton Rd @ Paradise Blvd(N)

A.M. Peak Hour

Condition	Newton Bridge Road Northbound				Newton Bridge Road Southbound				Paradise Boulevard (North) Eastbound				Paradise Boulevard Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	38	317	2	357	7	702	26	735	9	0	11	20	4	0	3	7
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	42	0	42	0	125	0	125	0	0	0	0	0	0	0	0
No-Build 2027 Volumes:	40	372	2	414	7	855	27	889	9	0	11	20	4	0	3	7
Total New Trips (Residential):	0	6	0	6	0	2	0	2	0	0	0	0	0	0	0	0
Total New Trips (Office):	0	15	0	15	0	113	0	113	0	0	2	2	0	0	0	0
Total New Trips (Restaurant):	0	17	0	17	0	19	0	19	0	0	0	0	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2027 Traffic Volumes:	40	410	2	452	7	989	27	1023	9	0	13	22	4	0	3	7

P.M. Peak Hour

Condition	Newton Bridge Road Northbound				Newton Bridge Road Southbound				Paradise Boulevard (North) Eastbound				Paradise Boulevard Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	28	653	3	684	2	492	18	512	55	0	51	106	0	1	3	4
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	131	0	131	0	82	0	82	0	0	0	0	0	0	0	0
No-Build 2027 Volumes:	29	810	3	842	2	594	19	615	57	0	53	110	0	1	3	4
Total New Trips (Residential):	0	3	0	3	0	6	0	6	0	0	0	0	0	0	0	0
Total New Trips (Office):	2	104	0	106	0	21	0	21	0	0	0	0	0	0	0	0
Total New Trips (Restaurant):	0	12	0	12	0	20	0	20	0	0	0	0	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2027 Traffic Volumes:	31	929	3	963	2	641	19	662	57	0	53	110	0	1	3	4

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Traffic Volumes

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6. Newton Bridge @ Fritz Mar Ln

A.M. Peak Hour

Condition	Newton Bridge Road Northbound				Newton Bridge Road Southbound				Fritz Mar Lane Eastbound				- Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	20	300	0	320	0	704	5	709	4	0	38	42	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	42	0	42	0	125	0	125	0	0	0	0	0	0	0	0
No-Build 2027 Volumes:	21	354	0	375	0	857	5	862	4	0	40	44	0	0	0	0
Total New Trips (Residential):	0	6	0	6	0	2	0	2	0	0	0	0	0	0	0	0
Total New Trips (Office):	0	14	0	14	0	111	0	111	0	0	2	2	0	0	0	0
Total New Trips (Restaurant):	0	16	0	16	0	19	0	19	0	0	0	0	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2027 Traffic Volumes:	21	390	0	411	0	989	5	994	4	0	42	46	0	0	0	0

P.M. Peak Hour

Condition	Newton Bridge Road Northbound				Newton Bridge Road Southbound				Fritz Mar Lane Eastbound				- Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	27	717	0	744	0	419	8	427	7	0	46	53	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	131	0	131	0	82	0	82	0	0	0	0	0	0	0	0
No-Build 2027 Volumes:	28	877	0	905	0	518	8	526	7	0	48	55	0	0	0	0
Total New Trips (Residential):	0	3	0	3	0	6	0	6	0	0	0	0	0	0	0	0
Total New Trips (Office):	2	102	0	104	0	20	0	20	0	0	0	0	0	0	0	0
Total New Trips (Restaurant):	0	12	0	12	0	20	0	20	0	0	0	0	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2027 Traffic Volumes:	30	994	0	1024	0	564	8	572	7	0	48	55	0	0	0	0

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Traffic Volumes

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7. Newton Bridge @ Kathwood Dr

A.M. Peak Hour

Condition	Newton Bridge Road Northbound				Newton Bridge Road Southbound				Kathwood Drive Eastbound				- Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	101	180	0	281	0	505	114	619	35	0	185	220	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	42	0	42	0	125	8	133	3	0	0	3	0	0	0	0
No-Build 2027 Volumes:	105	229	0	334	0	650	127	777	39	0	192	231	0	0	0	0
Total New Trips (Residential):	1	5	0	6	0	2	0	2	0	0	0	0	0	0	0	0
Total New Trips (Office):	2	12	0	14	0	96	0	96	0	0	15	15	0	0	0	0
Total New Trips (Restaurant):	2	14	0	16	0	16	0	16	0	0	3	3	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2027 Traffic Volumes:	110	260	0	370	0	764	127	891	39	0	210	249	0	0	0	0

P.M. Peak Hour

Condition	Newton Bridge Road Northbound				Newton Bridge Road Southbound				Kathwood Drive Eastbound				- Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	166	550	0	716	0	295	54	349	87	0	113	200	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	131	0	131	0	82	5	87	8	0	0	8	0	0	0	0
No-Build 2027 Volumes:	173	703	0	876	0	389	61	450	98	0	118	216	0	0	0	0
Total New Trips (Residential):	0	3	0	3	0	5	0	5	0	0	1	1	0	0	0	0
Total New Trips (Office):	14	88	0	102	0	18	0	18	0	0	3	3	0	0	0	0
Total New Trips (Restaurant):	2	10	0	12	0	17	0	17	0	0	3	3	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2027 Traffic Volumes:	189	804	0	993	0	429	61	490	98	0	125	223	0	0	0	0

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8. SR 15 US 441 @ Newton Bridge

A.M. Peak Hour

Condition	SR 15/US 441 (Commerce Road)				SR 15/US 441 (Commerce Road)				Newton Bridge Road				Taqueria Mi Tierra Driveway			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	U+L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	32	451	0	483	0	968	306	1274	72	0	21	93	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2027 Volumes:	33	469	0	502	0	1007	318	1325	75	0	22	97	0	0	0	0
Total New Trips (Residential):	1	0	0	1	0	0	1	1	3	0	2	5	0	0	0	0
Total New Trips (Office):	44	0	0	44	0	0	52	52	7	0	6	13	0	0	0	0
Total New Trips (Restaurant):	8	0	0	8	0	0	9	9	8	0	6	14	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2027 Traffic Volumes:	86	469	0	555	0	1007	380	1387	93	0	36	129	0	0	0	0

P.M. Peak Hour

Condition	SR 15/US 441 (Commerce Road)				SR 15/US 441 (Commerce Road)				Newton Bridge Road				Taqueria Mi Tierra Driveway			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	U+L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	51	1086	1	1138	0	621	154	775	181	0	51	232	0	0	1	1
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2027 Volumes:	53	1129	1	1183	0	646	160	806	188	0	53	241	0	0	1	1
Total New Trips (Residential):	3	0	0	3	0	0	3	3	1	0	1	2	0	0	0	0
Total New Trips (Office):	8	0	0	8	0	0	9	9	47	0	41	88	0	0	0	0
Total New Trips (Restaurant):	8	0	0	8	0	0	9	9	5	0	5	10	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2027 Traffic Volumes:	72	1129	1	1202	0	646	181	827	241	0	100	341	0	0	1	1

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9. Dairy Pak Rd @ Drwy 2

A.M. Peak Hour

Condition	- Northbound				Site Driveway 2 Southbound				Dairy Pak Road Eastbound				Dairy Pak Road Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	0	0	0	0	0	0	0	0	0	74	0	74	0	36	0	36
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2027 Volumes:	0	0	0	0	0	0	0	0	0	77	0	77	0	37	0	37
Total New Trips (Residential):	0	0	0	0	0	0	2	2	1	0	0	1	0	0	0	0
Total New Trips (Office):	0	0	0	0	0	0	11	11	86	45	0	131	0	6	0	6
Total New Trips (Restaurant):	0	0	0	0	0	0	31	31	36	0	0	36	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2027 Traffic Volumes:	0	0	0	0	0	0	44	44	123	122	0	245	0	43	0	43

P.M. Peak Hour

Condition	- Northbound				Site Driveway 2 Southbound				Dairy Pak Road Eastbound				Dairy Pak Road Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	0	0	0	0	0	0	0	0	0	18	0	18	0	107	0	107
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2027 Volumes:	0	0	0	0	0	0	0	0	0	19	0	19	0	111	0	111
Total New Trips (Residential):	0	0	0	0	0	0	1	1	2	0	0	2	0	0	0	0
Total New Trips (Office):	0	0	0	0	0	0	79	79	16	8	0	24	0	42	0	42
Total New Trips (Restaurant):	0	0	0	0	0	0	22	22	37	0	0	37	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	1	1	0	0	0	0	0	-2	2	0
Future 2027 Traffic Volumes:	0	0	0	0	0	0	103	103	55	27	0	82	0	151	2	153

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10. Dairy Pak Rd @ Drwy 3

A.M. Peak Hour

Condition	-				Site Driveway 2				Dairy Pak Road				Dairy Pak Road			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	0	0	0	0	0	0	0	0	0	74	0	74	0	36	0	36
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2027 Volumes:	0	0	0	0	0	0	0	0	0	77	0	77	0	37	0	37
Total New Trips (Residential):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total New Trips (Office):	0	0	0	0	0	0	6	6	45	0	0	45	0	0	0	0
Total New Trips (Restaurant):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2027 Traffic Volumes:	0	0	0	0	0	0	6	6	45	77	0	122	0	37	0	37

P.M. Peak Hour

Condition	-				Site Driveway 2				Dairy Pak Road				Dairy Pak Road			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2025 Traffic Counts:	0	0	0	0	0	0	0	0	0	18	0	18	0	107	0	107
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Adjacent Site Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2027 Volumes:	0	0	0	0	0	0	0	0	0	19	0	19	0	111	0	111
Total New Trips (Residential):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total New Trips (Office):	0	0	0	0	0	0	42	42	8	0	0	8	0	0	0	0
Total New Trips (Restaurant):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	1	1	0	0	0	0	0	-2	2	0
Future 2027 Traffic Volumes:	0	0	0	0	0	0	43	43	8	19	0	27	0	109	2	111