CIVIL ENGINEERING / SURVEYING / UTILITIES

August 15, 2023

Leslie Herring
City Administrator
City of Westwood, KS

Re: Traffic Impact Study for 50th and Rainbow Development

BHC has been asked to review the traffic impact of a proposed redevelopment located in the southwest corner of 50th Street and Rainbow Boulevard. The site includes Joe D. Dennis Park and the former Westwood View Elementary School.

Westwood View Elementary School operations have relocated to the northeast corner of 50th Street and Belinder Avenue, approximately 500 feet west of this site. For the 2023-2024 school year, Rushton Elementary School operations will utilize the original Westwood View Elementary School while their school is being rebuilt. After the school year, the proposed development would replace the site for a proposed mixed-use site consisting of 98,750 square feet of general office buildings and 36,300 square feet of retail.

This traffic study provides existing traffic counts, a traffic distribution, trip generation and intersection capacity/queuing analyses for the proposed development for the AM and PM peak hour traffic volumes. The traffic data was collected in the summer without school in session.

A follow-up Traffic Study Addendum will be provided in September after school traffic patterns have settled and new counts can be obtained. That information will be used to update the existing+proposed conditions of this study, as well as a future condition where a 0.5% annual traffic growth rate is applied for a 20-year period.

EXISTING CONDITIONS

The location currently includes Joe D. Dennis Park and the former Westwood View Elementary School. Rainbow Boulevard (169 Highway) is a 35mph 4-lane road that runs along the eastern side of the site. Rainbow Boulevard provides access to Shawnee Mission Parkway approximately 1000 feet to the south, and I-35 approximately 2.5 miles to the north.

The intersection of Rainbow Boulevard and 50th Street is a signalized 4-leg intersection with 50th Street being offset by approximately 70 feet. 50th Street runs along the northern side of the site and is a 25-mph 2-lane minor collector street connecting Mission Road to State Line Road.

51st Street is a 25-mph 2-lane residential street along the southern side of the site that connects Rainbow Boulevard to 51st Terrace. 51st Street forms a T-intersection with Rainbow Boulevard that is Stop-sign controlled for 51st Street.

The existing street network along with AM and PM traffic counts were taken on Tuesday, July 18th may be seen in Figure 1.

EXISTING CONDITIONS (continued)

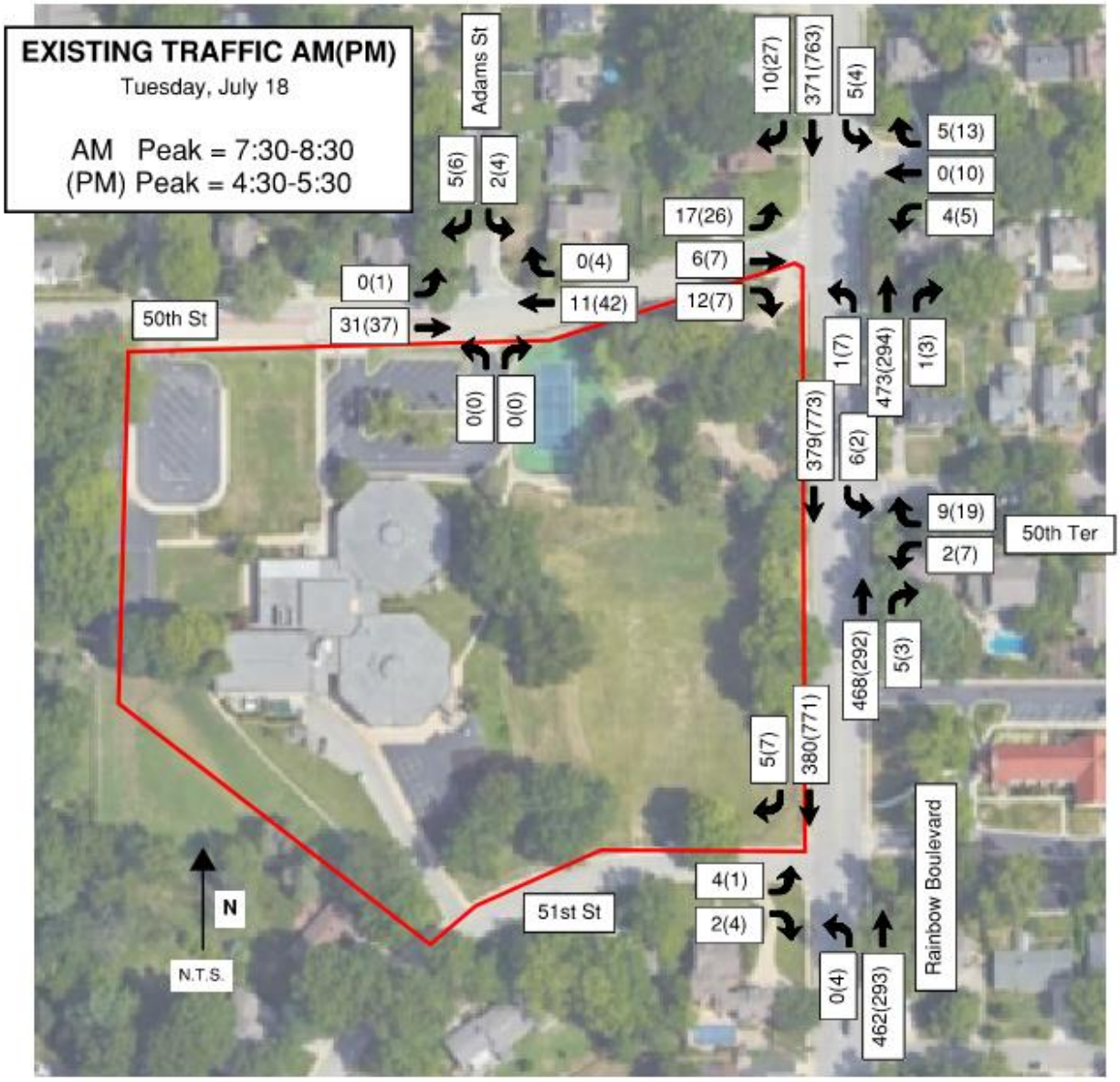


Figure 1: Existing Conditions

PROPOSED CONDITIONS

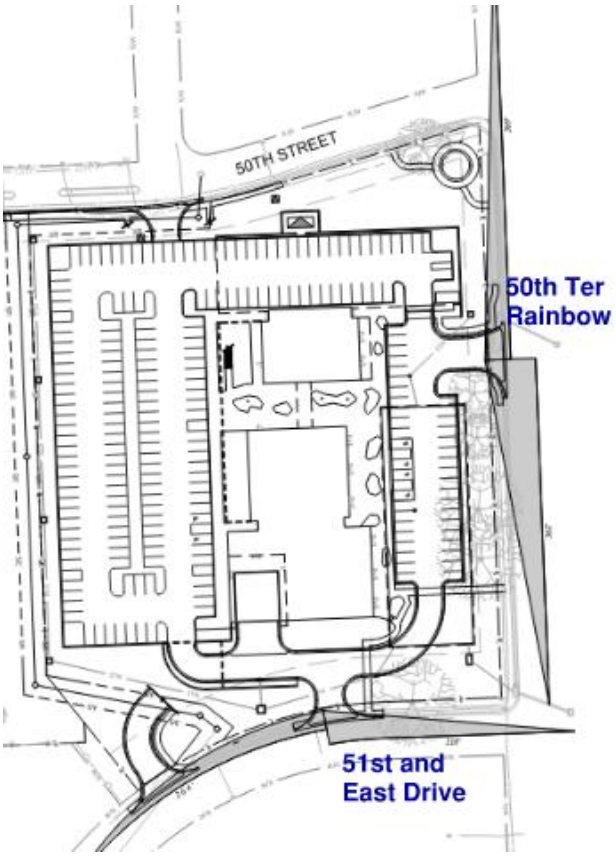
The proposed mixed-use site will consist of 98,750 square feet of general office building and 36,300 square feet of retail.

Along the eastern side of the site (Rainbow Boulevard), a new access driveway is proposed that would align itself across from 50th Terrace. The access driveway will provide access to the ground level of a parking garage with 215 parking spaces.

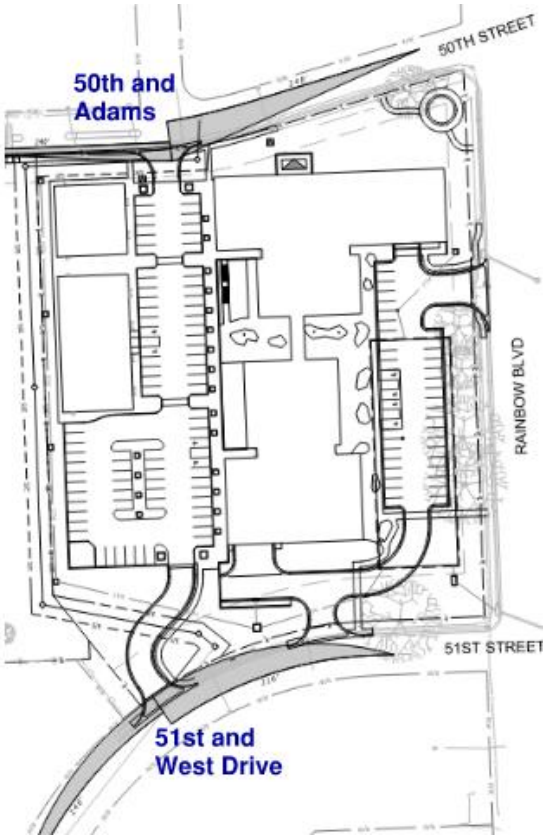
Along the northern side of the site (50th Street), a single proposed driveway that aligns with Adams Street would provide access to the second level of the parking garage with 80 parking spaces.

Along the southern side of the site (51st Street), the eastern of two proposed driveways approximately 150 feet west of Rainbow Boulevard will provide a second access point to the ground level of the parking garage. The western proposed driveway will provide a second access point the second level of the parking garage. There is no internal connectivity of the two levels of the parking garage.

The proposed site layout may be seen in Figure 2. Intersection site triangles have been provided on the plans and may also be seen in Figure 2.



(Ground Level – 215 stalls)



(Second Level – 80 stalls)

Figure 2: Proposed Site Layout

TRIP DISTRIBUTION

The project is situated within a well-established neighborhood. Rainbow Boulevard is anticipated to carry a larger percentage of the proposed site-related traffic due to the nature of a mixed-use site as opposed to a centrally located community elementary school. It is also assumed that a notable percentage of the retail traffic is expected to be pass-by and/or internal capture trips already on the surrounding roadway network.

The fact that Rushton Elementary will (and has) operated in the former Westwood View Elementary school for the 2023-2024 complicates existing traffic counts, traffic patterns, and the future trip distribution. Traffic distributions for a neighborhood school and a mixed-use development are expected to operate differently. Figure 3 illustrates where Rushton Elementary is relative to the project and where its traffic would be expected to originate.

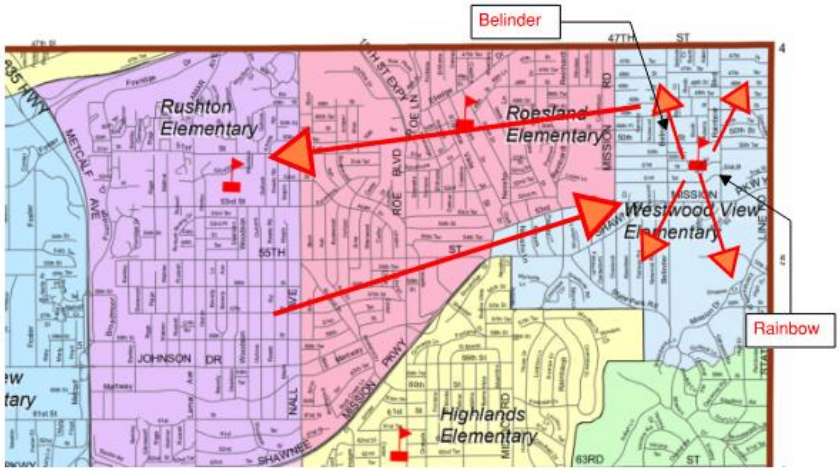


Figure 3: Rushton Elementary Traffic Flow

Figure 4 illustrates where it is anticipated the proposed site office and retail traffic will originate. General office employees would be expected to draw from a much larger population radius within the metropolitan area and less likely to use the residential street networks in their commute. The trip distribution assumptions utilized for distributing the proposed traffic are explained on the following page.

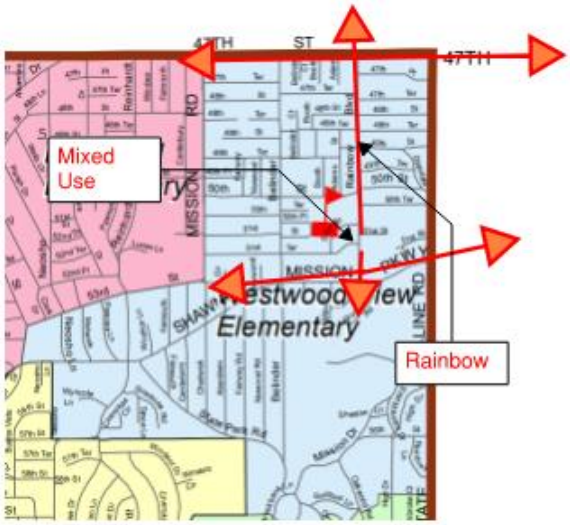


Figure 4: Proposed Mixed-Use Traffic Flow

TRIP DISTRIBUTION (continued)

A review of the surrounding population centers, existing roadway network, and July traffic counts along Rainbow Boulevard was completed to develop a trip distribution. Several assumptions were made for the distribution and are summarized below:

1) 20% of site generated traffic will be assigned to filter through the surrounding neighborhoods via 50th Street, 50th Terrace, and 51st Street. While existing traffic counts in the summer do not support this high percentage (no school in session), 20% has been selected to conservatively account for side-street traffic concerns.
2) 80% of the site generated traffic will be assigned to Rainbow Boulevard with a 50%/50% northbound/southbound directional split. Consideration was given towards a less balanced directional split as Rainbow Boulevard has a definitive 60%/40% north/southbound directional split that reverses in the AM and PM peak hours. However, the location of City of Westwood and this project relative to the surrounding population centers in the metro has lead us to a 50%/50% split.

Figure 5 illustrates the entering (blue numbers) and exiting (red numbers) trip distribution percentage selected based on these assumptions. The numbers in orange represent the directional distributions from each entering street/direction. The sum of the red numbers leaving the site boundary, as well as the sum of the blue numbers entering the site boundary total 100% and represent where the trip generation numbers will be assigned.

TRIP DISTRIBUTION (continued)

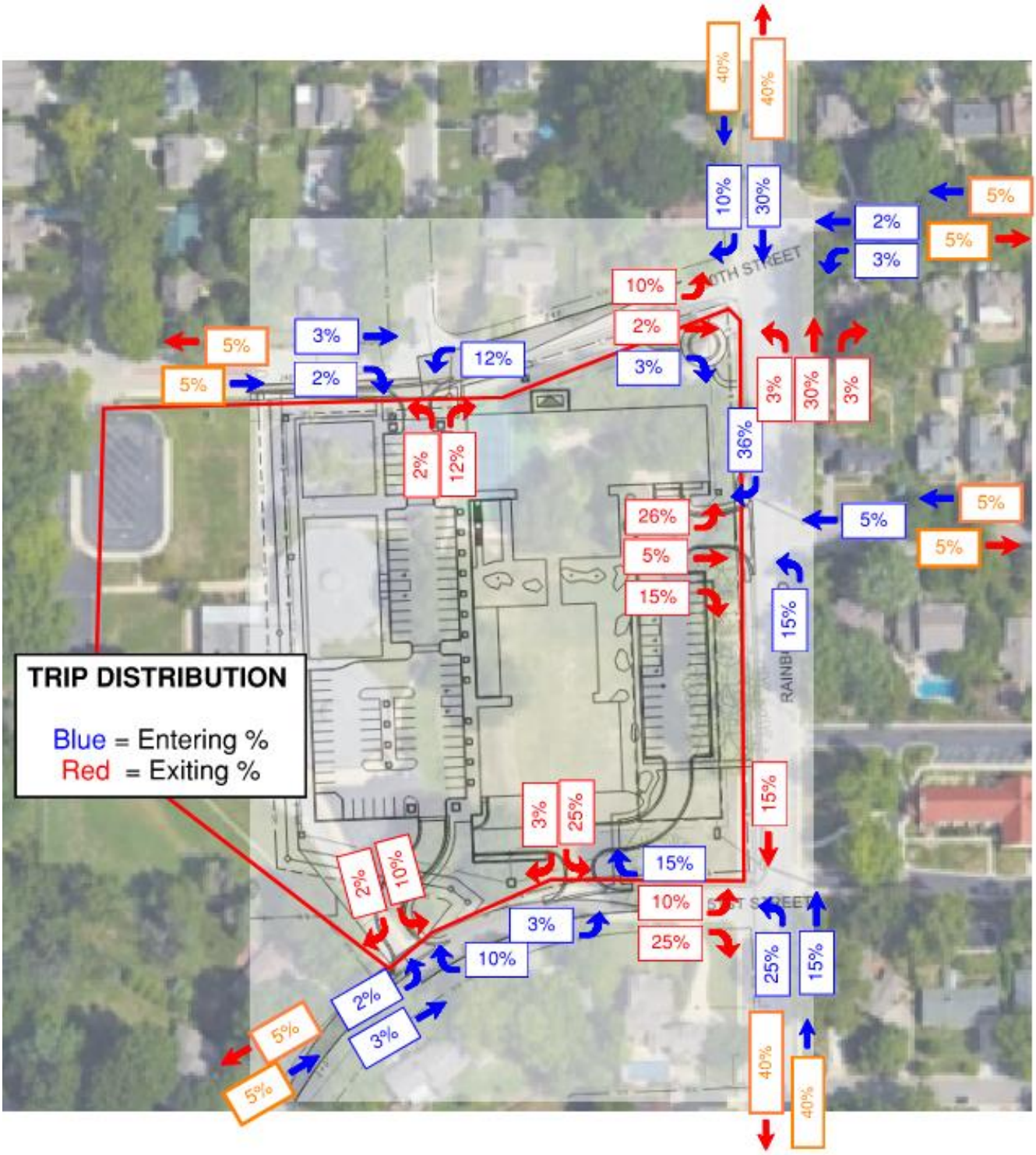


Figure 5: Proposed Trip Distribution

TRIP GENERATION

A trip generation analysis was performed using the Institute of Transportation Engineers (ITE) TripGen web-based app. The 11th edition of the Trip Generation Manual was used. The land use codes used for the proposed site were 710 – General Office Building, and 822 – Strip Retail Plaza.

The ITE Average Rate was used for General Office Building, and the ITE Fitted Curve Equation was used for the Strip Retail Plaza. The fitted curve equation was chosen as a better fit for the ITE data points collected for a Strip Retail Plaza site (the proposed retail is 36,300 square feet which is close to the 40,000 square foot threshold). See ITE Trip Gen plots in Appendix. The number of trips generated may be seen in Table 1 for the AM peak hour, PM peak hour, and weekday total.

Table 1 – Trip Generation						
ITE Code	Land Use	1000 SF	Avg. Rate	Trips Generated		
				Total	Enter	Exit
AM Peak Hour (7-9 AM)						
710	General Office Building	98.75	1.52	150	132	18
822	Strip Retail Plaza (<40k)	36.3	2.36*	67	40	27
Total AM Peak Hour				**217**	**172**	**45**
PM Peak Hour (4-6 PM)						
710	General Office Building	98.75	1.44	142	24	118
822	Strip Retail Plaza (<40k)	36.3	6.59*	194	97	97
Total PM Peak Hour				**336**	**121**	**215**
Weekday Total						
710	General Office Building	98.75	10.84	1070	535	535
822	Strip Retail Plaza (<40k)	36.3	54.45*	1762	881	881
Total Weekday				**2832**	**1416**	**1416**

** ITE Average Rate shown, ITE Fitted Curve Equation used for Strip Retail Plaza <40k*

Pass-By Assumption

Not all traffic entering or exiting a site driveway is necessarily new traffic added to the roadway network. The actual amount of new traffic is dependent upon the purpose of the trip and route used from its origin to its destination. For example, retail-oriented developments such as shopping centers, restaurants, service stations, and convenience markets are often located adjacent to busy roads with the intent of attracting motorists already on the roadway network. These developments attract a portion of their trips from existing traffic passing the site. Thus, these "pass-by" trips do not add new traffic and may be reduced from the total external trips generated by a study site.

Considering the proposed Strip Retail Plaza land use, an average pass-by percentage reduction of 30% is an acceptable practice. ITE indicates that the average pass-by rate for a Shopping Plaza is 40%. This study will stay conservative by not using any pass-by percentage which overestimates the mixed-use traffic generation lowering intersection levels of service. If a pass-by of 30% were applied to the retail plaza this study would decrease those trips by 30%.

TRIP GENERATION (continued)

Figure 6 illustrates the Trip Generations provided in Table 1 and distributes them to the proposed site and surrounding street network to the percentages provided in Figure 5.

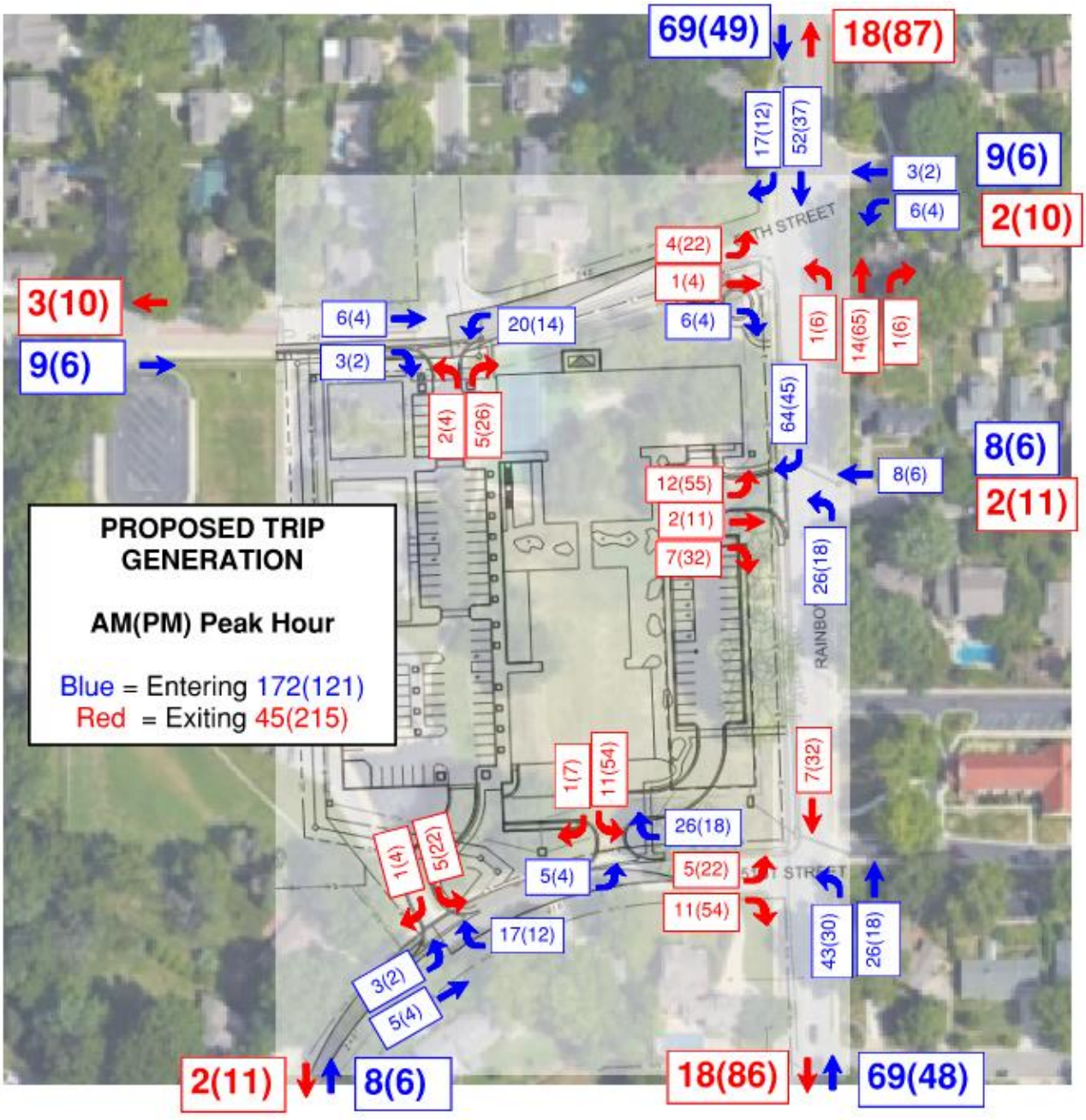


Figure 6: Proposed Trip Generation

TRIP GENERATION (continued)

Figure 6 represents the peak hour traffic increases associated with the site and the trip distribution assumptions. The information in Figure 6 helps identify intersections where projected left-turn movement increases could impact intersection operations.

The highest left-turn volume increase in Figure 6 is the westbound left-turn from the proposed site driveway onto Rainbow Boulevard in the PM peak with 55 vehicles (vehicle queues associated with this movement would occur internal to the site). The second highest left-turn volume increase is the southbound left-turn from the site's eastern driveway onto 51st Street in the PM peak with 54 vehicles (vehicles queues associated with this movement would also occur internal to the site). The highest left-turn increase on Rainbow Boulevard is projected to occur on northbound Rainbow at 51st Street with 43 additional vehicles in the AM peak.

EXISTING + PROPOSED CONDITIONS

The existing traffic volumes in Figure 1 from July have been added to the proposed site traffic volumes in Figure 6 to determine the existing+proposed volumes in Figure 7. These volumes will be used in the intersection capacity analyses for existing+proposed conditions.

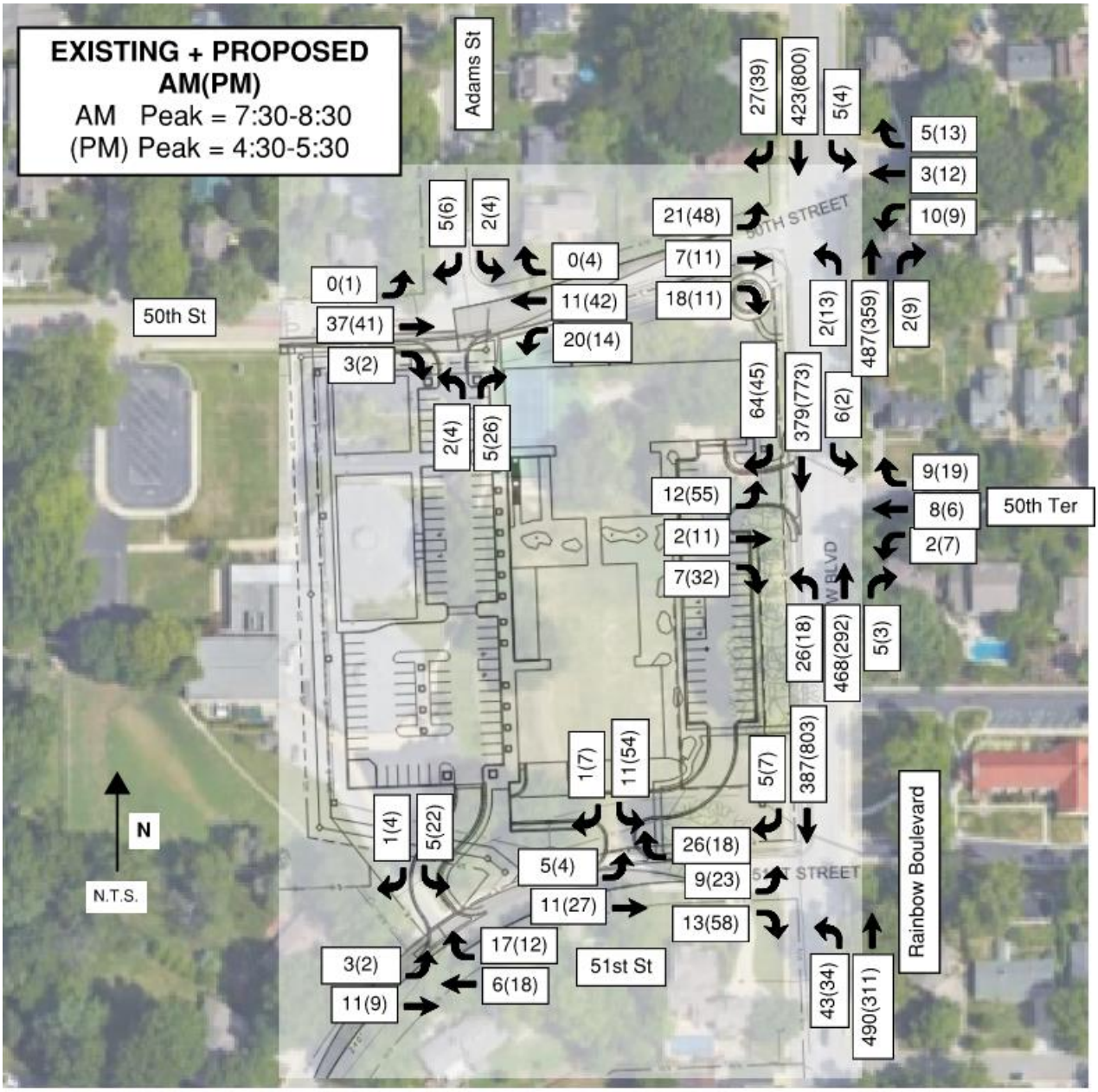


Figure 7: Existing + Proposed Traffic

INTERSECTION CAPACITY ANALYSES

Intersection capacity analyses were performed using the Highway Capacity Manual (HCM) 6th Edition Methodology provided in Synchro v11. The amount of delay is equated to a Level of Service (LOS) based on defined thresholds. A grade of A through F is assigned, with LOS A representing the best intersection operation. Table 2 shows the LOS associated with intersection approach delays, in seconds per vehicle (sec/veh), for signalized and unsignalized intersection cases.

Table 2 – Level of Service Criteria

Level of Service (LOS)	Stop Control Approach Delay (sec/veh)	Signal Control Approach Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

Existing traffic signal timings for 50th Street and Rainbow Boulevard was provided by the City of Westwood. The timings were entered into the Synchro v11 program along with the existing AM and PM peak hour traffic volumes from Figure 1. Analyses were also performed for the existing + proposed peak hour volumes in Figure 7. The results of the analyses for the project intersections may be viewed in Table 3 on the next page.

INTERSECTION CAPACITY ANALYSES (continued)

Table 3 – Intersection Capacity Analyses												
		Existing Conditions						Existing + Proposed Conditions				
		AM			PM			AM			PM	
Intersection		Avg. Delay (sec)	LOS		Avg. Delay (sec)	LOS		Avg. Delay (sec)	LOS		Avg. Delay (sec)	LOS
50th and Adams Street (Two-Way Stop)												
	NB	0.0	A		0.0	A		8.7	A		8.8	A
	SB	8.5	A		8.8	A		8.7	A		9.0	A
	EB	0.0	A		0.2	A		0.0	A		0.2	A
	WB	0.0	A		0.0	A		4.7	A		1.7	A
50th and Rainbow Boulevard (Signalized Intersection)												
	NB	5.2	A		8.4	A		6.7	A		10.0	B
	SB	5.1	A		9.8	A		6.6	A		12.0	B
	EB	22.3	C		26.9	C		22.1	C		29.6	C
	WB	0.1	A		22.5	C		25.8	C		23.6	C
50th Terrace and Rainbow Boulevard (Two-Way Stop)												
	NB	0.0	A		0.0	A		0.4	A		0.6	A
	SB	0.1	A		0.0	A		0.1	A		0.0	A
	EB	-	-		-	-		16.7	C		38.0	E
	WB	11.2	B		11.6	B		16.6	C		15.9	C
51st and Rainbow Boulevard (Eastbound One-Way Stop)												
	NB	0.0	A		0.0	A		0.9	A		1.2	A
	SB	0.0	A		0.0	A		0.0	A		0.0	A
	EB	12.7	B		13.1	B		12.8	B		18.2	C
51st Street and East Drive (Southbound One-Way Stop)												
	SB	-	-		-	-		8.8	A		9.1	A
	EB	-	-		-	-		2.3	A		0.9	A
	WB	-	-		-	-		0.0	A		0.0	A
51st Street and West Drive (Southbound One-Way Stop)												
	SB	0.0	A		0.0	A		8.7	A		8.8	A
	EB	0.0	A		0.0	A		1.6	A		1.3	A
	WB	0.0	A		0.0	A		0.0	A		0.0	A

For the existing conditions (July traffic counts) all intersections and lane movements operate at LOS of C or better. For the existing+proposed conditions, all intersections and lane movements are expected to operate at LOS of C or better with one exception. The eastbound lane movement from the ground level parking garage to Rainbow Boulevard at 50th Terrace is estimated to operate at LOS E during the PM peak hour. Vehicle delays and queues associated with this movement would occur internal to the site.

Note: *A pass-by reduction was not applied to the mixed-use component of the trip generation used for these analyses. If applied, average delays would slightly improve.*

INTERSECTION CAPACITY ANALYSES (continued)

Synchro signalized intersection queuing analyses were performed using Highway Capacity Manual 6th Edition methodology in Synchro v11. The results of the analyses may be seen for the study intersections in Table 4.

Table 4 – Intersection 95% Queues						
		Existing Conditions			Existing + Proposed Conditions	
Intersection	**Storage Provided**	**95% Queue (feet)**			**95% Queue (feet)**	
		AM	**PM**		**AM**	**PM**
50th Street and Adams Street						
Approach Lane						
NB	30’	0’	0’		20’	20’
SB	20’	0’	0’		0’	0’
50th Street and Rainbow Boulevard						
Approach Lane						
NB	300’	105’	73’		117’	97’
SB	450’	85’	205’		107’	237’
EB	250’	35’	42’		42’	64’
WB	150’	0’	30’		24’	36’
50th Terrace and Rainbow Boulevard						
Approach Lane						
EB	55’	0’	0’		20’	60’
WB	200’	20’	20’		20’	20’
NBL	280’	N/A	N/A		20’	20’
51st Street and Rainbow Boulevard						
Approach Lane						
EB	140’	0’	0’		20’	20’
NBL	130’	N/A	N/A		20’	20’
51st Street and East Drive						
Approach Lane						
SB	40’	0’	0’		0’	20’
51st Street and West Drive						
Approach Lane						
SB	160’	0’	0’		0’	20’

All intersections lane movements are expected to have calculated 95% queues within their existing or proposed storage areas with the exception of the eastbound movement leaving the ground level of the parking garage to Rainbow Boulevard. Vehicle queues associated with this movement would occur internal to the site and may not be desirable to the operation of the garage.

Note: *A pass-by reduction was not applied to the mixed-use component of the trip generation used for these analyses.*

CRASH ANALYSES

The Kansas Department of Transportation (KDOT) provided accident data for Rainbow Boulevard from 50th Street to 51st Street during the 5-year period between 2018 and 2022.

Based on the provided data, no intersections reported an average of more than one accident per year during the reporting period (this is less than the requirement for an accident-based traffic signal warrant). A summary of the data can be seen in Table 5.

Table 5 - Crash Analysis Summary

Rainbow Boulevard Intersection	Five Year (2018-2022) Accident Totals					
	PDO	Injury	Fatal	Total	Reported Acc. / Year	Reported Acc. / MEV
50th Street	2	2	0	4	0.8	0.127
50th Terrace	1	0	0	1	0.2	0.032
51st Street	1	1	0	1	0.2	0.032

The KDOT Traffic Count map indicates a 24-hour traffic volume of 17,200 vehicles per day on Rainbow Boulevard just north of Shawnee Mission Parkway in Year 2017. The Accident Rate per Million Entering Vehicles @ 50th and Rainbow is calculated as:

$$\frac{(4 \text{ accidents}) * (1{,}000{,}000)}{(17{,}200 \text{ entering vehicles per day}) * (365 \text{ days/year}) * (5 \text{ years})} = 0.127 \text{ Acc./MEV}$$

Three of the six reported accidents over the period were fixed object related.

ACCESS MANAGEMENT

According to KDOT standards, Rainbow Boulevard is best classified as a Class B roadway, as it is located on the National Highway System. 50th Street, 50th Terrace, and 51st Street are best classified as Class E roadways, as they provide local service only for very short trips.

50th Terrace is situated 220 feet south of 50th Terrace and currently forms a T-intersection with Rainbow Boulevard. The proposed site adds a fourth leg to the existing intersection. See Figure 8.

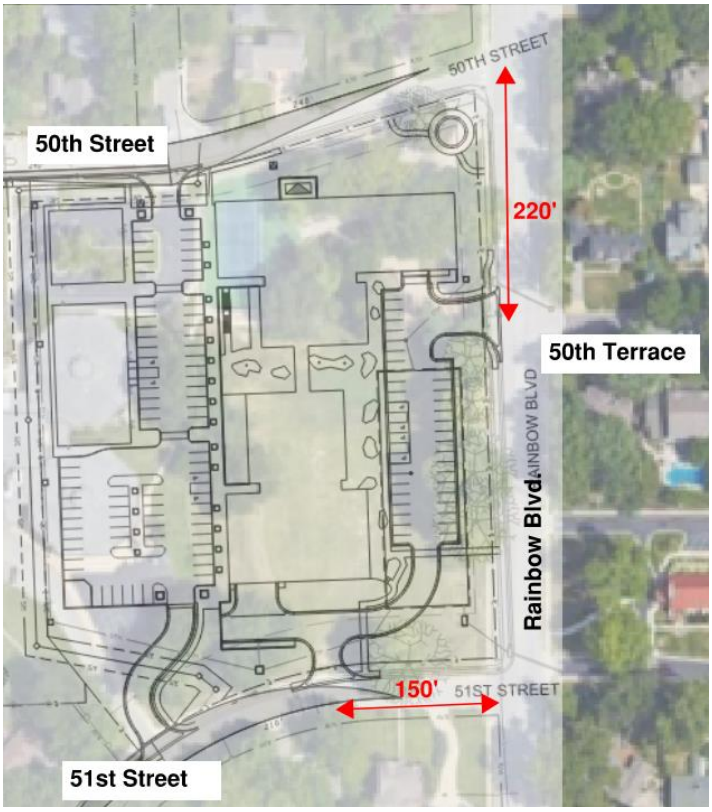


Figure 8: Access Points

With Rainbow being a 35-mph Class B roadway, Table 4-6 of the KDOT Access Management Policy was reviewed to determine unsignalized access spacing. With 50th Terrace already existing 220 feet south of 50th Street, a case for an area type of central business district (CBD) can be made. CBD indicates a 205-foot spacing criteria.

Table 4-6. Unsignalized access spacing criteria

Access Route Classification	Area Type	Posted Speed Limit (mph) (Distance in feet)										
		20	25	30	35	40	45	50	55	60	65	70
B	Undeveloped				350	420	515	610	720	825	955	1075
	Developed	115	170	225	295	365	450	535	640	740		
	CBD	85	120	155	205							

Figure 9: KDOT Unsignalized Access Spacing

ACCESS MANAGEMENT (continued)

The southbound right-turn volumes for Rainbow Boulevard into the proposed site driveway at 50th Terrace is necessary to determine if there is merit for a southbound right-turn auxiliary lane into the site. Figure 6 indicates that the existing+proposed condition is anticipated to have 64 southbound right-turns in the AM peak with 385 thru/left-turns. Figure 6 also indicates that the PM peak is anticipated to have 45 southbound right-turns with 775 thru/left-turns.

KDOT does not provide guidelines for right-turn treatments for 35 mph roadways. Table 4-25 of the KDOT Access Management Policy can be reviewed for 40 mph, in which case the volumes for this development remain under the values to warrant an auxiliary lane.

Table 4-25. Right-turn treatment guidelines for two-lane highways

Highway DDHV (vph)	Highway Operating Speed (mph)											
	40		45		50		55		60		65	
	Lane	Taper	Lane	Taper	Lane	Taper	Lane	Taper	Lane	Taper	Lane	Taper
200				83	73	30	35	14	20	8	15	7
AM = 385 → 300			120	40	41	19	24	9	15	7	12	6
400	200	85	52	27	30	14	19	8	12	6	11	5
PM = 775 → 600	50	27	26	13	20	9	14	6	10	5	9	4
800	25	12	16	8	15	7	11	5	9	4	8	3
1000	14	8	12	5	11	5	9	4	8	3	7	3
1200	10	6	9	4	9	4	8	4	7	3	7	3

Source : "Guidelines for right-turn treatments at unsignalized intersections and driveways," K-Tran:KSU-95-5, Kansas Department of Transportation, Kansas State University, Tanweer Hasan, Dr. Robert W. Stokes

- Turning speed is 15 mph (right-turn)
- The values presented in this table represent minimum right-turn design hour volumes (vph) required to warrant right-turn treatments (lane or taper)
- DDHV = directional design hourly volumes

Table 4-25 does not provide guidelines for 35 mph Operating Speeds

Figure 10: KDOT Right-turn Guidelines

CONCLUSION

This traffic study has conducted traffic counts, provided a traffic distribution, trip generation and analyses for the proposed Westwood Village development.

The analyses contained in this study are based on summer traffic counts. Unfortunately the project schedule did not allow for existing traffic counts to be taken in the fall while Westwood View Elementary School was in session. This will rectified in September with an addendum to this study that replaces the existing summer traffic counts with existing fall school counts. While there will be additional traffic on Rainbow Boulevard and the side streets, there is not much change in intersection level of service and queues anticipated.

Tables 3 and 4 provide the AM and PM intersection capacity and queueing analyses for existing and existing+proposed conditions for the following intersections:

- 50th Street and Adams Street
- 50th Street and Rainbow Boulevard (signalized)
- 50th Terrace and Rainbow Boulevard
- 51st Street and Rainbow Boulevard
- 51st Street and East Proposed Driveway
- 51st Street and West Proposed Driveway

In all cases, the total intersection level of service is LOS C or better. Only one movement, the eastbound approach at 50th Terrace and Rainbow Boulevard operates below LOS C at LOS E. That same movement is also the only approach that indicates a 95% queue that exceeds available storage.

A pass-by reduction was not applied to the mixed-use component of the trip generation used for these analyses. If applied, average delays and queues would improve slightly.

This study has two recommendations on the following page.

RECOMMENDATIONS

Recommendation 1: Increase the width of the eastbound drive approach at 50th Terrace and Rainbow Boulevard to accommodate 3-lanes. One receiving lane, a left-turn only lane, and a right-turn only lane. Sign the outbound approaches as Left-Turn Only and Right-Turn Only to discourage any thru traffic. This modification would be expected to help with capacity and queueing.

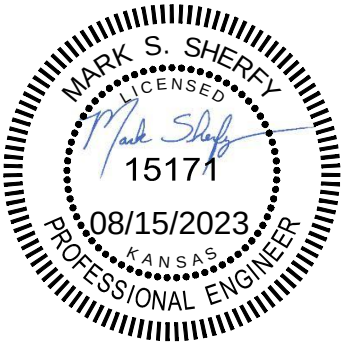
Recommendation 2: Schedule traffic counts to be conducted a minimum of two-weeks after the first day of school at the study intersections and any other driveway in use by Rushton Elementary (in the former Westwood View Elementary). Use the driveway counts to back out the Rushton Elementary traffic to obtain baseline traffic count data for the existing conditions while school in session. With that information, prepare an Addendum to this study that recalculates the existing, and existing+proposed conditions for the AM, PM School Peak, and PM peak periods.

This traffic impact study and its Addendum will be presented to KDOT for review.

If there are any questions regarding this traffic memo, please contact me at your convenience at 913-663-1900 or mark.sherfy@ibhc.com.

Sincerely,

Mark Sherfy, P.E., PTOE
Traffic Engineer
BHC



APPENDICES

APPENDIX A - TRAFFIC COUNTS

- 50th Street and Adams Street
- 50th Street and Rainbow Boulevard
- 50th Terrace and Rainbow Boulevard
- 51st Street and Rainbow Boulevard

APPENDIX B – ITE TRIP GENERATION REPORTS

APPENDIX C - CAPACITY AND QUEUING ANALYSES

- 50th Street and Adams Street
  - AM Existing
  - PM Existing
  - AM Existing+Proposed
  - PM Existing+Proposed
- 50th Street and Rainbow Boulevard
  - AM Existing
  - PM Existing
  - AM Existing+Proposed
  - PM Existing+Proposed
- 50th Terrace and Rainbow Boulevard
  - AM Existing
  - PM Existing
  - AM Existing+Proposed
  - PM Existing+Proposed
- 51st Street and Rainbow Boulevard
  - AM Existing
  - PM Existing
  - AM Existing+Proposed
  - PM Existing+Proposed
- 51st Street and East Drive
  - AM Existing+Proposed
  - PM Existing+Proposed
- 51st and West Drive
  - AM Existing
  - PM Existing
  - AM Existing+Proposed
  - PM Existing+Proposed

APPENDIX A - TRAFFIC COUNTS

•50th Street and Adams Street
•50th Street and Rainbow Boulevard
•50th Terrace and Rainbow Boulevard
•51st Street and Rainbow Boulevard

West 50th Street & Adams St - TMC

Tue Jul 18, 2023
Full Length (7 AM-9 AM, 2 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090499, Location: 39.037394, -94.612952

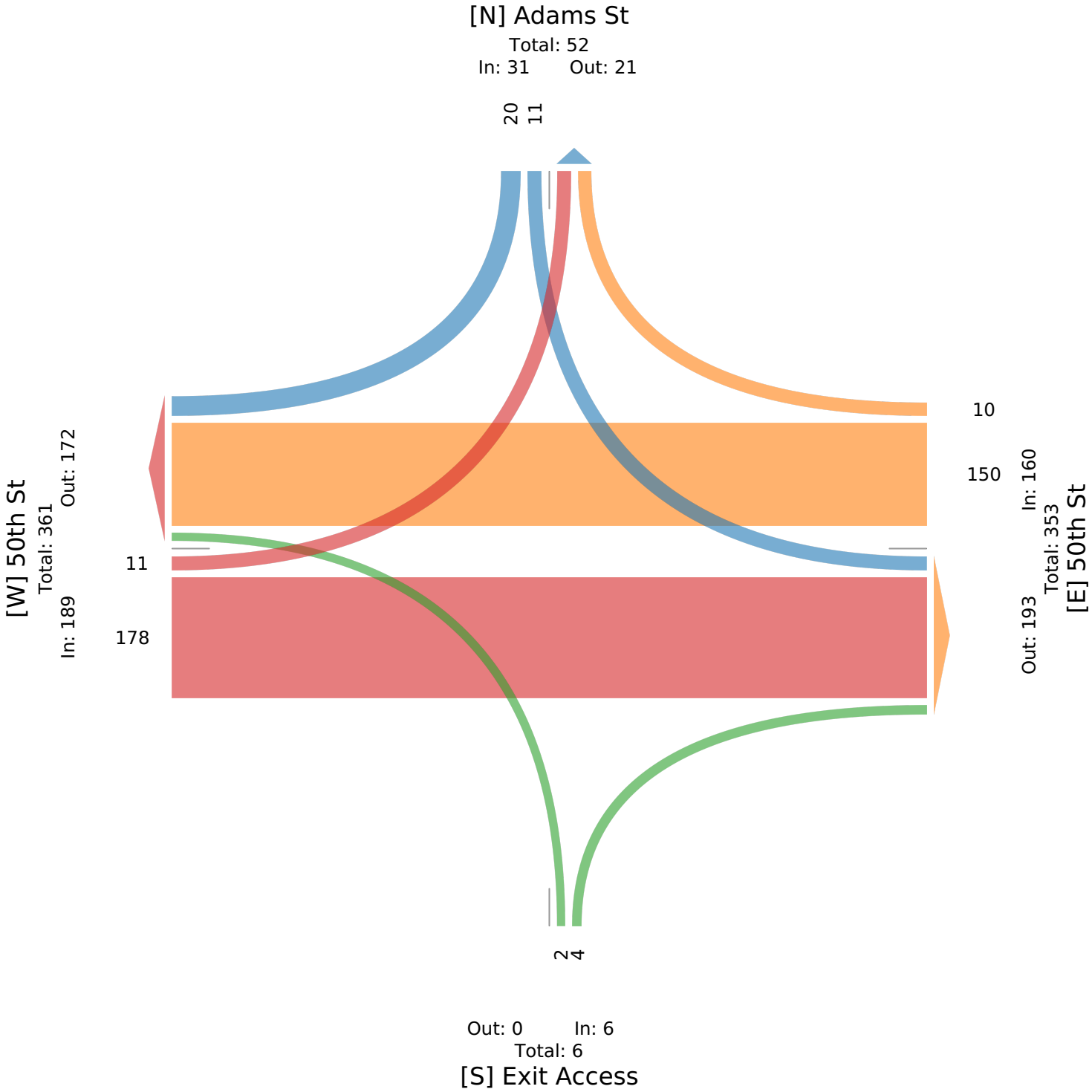
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Adams St				50th St				Exit Access				50th St				
Direction	Southbound				Westbound				Northbound				Eastbound				
Time	R	L	U	App	R	T	U	App	R	T	L	App	T	L	U	App	Int
2023-07-18 7:00AM	0	0	0	**0**	1	3	0	**4**	0	0	0	**0**	4	0	0	**4**	**8**
7:15AM	1	0	0	**1**	0	2	0	**2**	0	0	0	**0**	6	0	0	**6**	**9**
7:30AM	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	6	0	0	**6**	**7**
7:45AM	3	1	0	**4**	0	4	0	**4**	0	0	0	**0**	8	0	0	**8**	**16**
Hourly Total	4	1	0	**5**	1	10	0	**11**	0	0	0	**0**	24	0	0	**24**	**40**
8:00AM	2	1	0	**3**	0	3	0	**3**	0	0	0	**0**	9	0	0	**9**	**15**
8:15AM	0	0	0	**0**	0	3	0	**3**	0	0	0	**0**	8	0	0	**8**	**11**
8:30AM	1	3	0	**4**	0	8	0	**8**	0	0	0	**0**	5	0	0	**5**	**17**
8:45AM	0	0	0	**0**	0	7	0	**7**	0	0	0	**0**	10	0	0	**10**	**17**
Hourly Total	3	4	0	**7**	0	21	0	**21**	0	0	0	**0**	32	0	0	**32**	**60**
2:00PM	1	0	0	**1**	1	6	0	**7**	0	0	0	**0**	10	0	0	**10**	**18**
2:15PM	1	1	0	**2**	1	7	0	**8**	2	0	1	**3**	7	0	0	**7**	**20**
2:30PM	2	1	0	**3**	0	5	0	**5**	0	0	0	**0**	4	3	0	**7**	**15**
2:45PM	1	0	0	**1**	1	1	0	**2**	0	0	0	**0**	3	0	0	**3**	**6**
Hourly Total	5	2	0	**7**	3	19	0	**22**	2	0	1	**3**	24	3	0	**27**	**59**
3:00PM	1	0	0	**1**	0	4	0	**4**	0	0	1	**1**	6	0	0	**6**	**12**
3:15PM	0	0	0	**0**	0	3	0	**3**	0	0	0	**0**	9	0	0	**9**	**12**
3:30PM	1	0	0	**1**	1	7	0	**8**	0	0	0	**0**	1	3	0	**4**	**13**
3:45PM	0	0	0	**0**	0	7	0	**7**	1	0	0	**1**	8	1	0	**9**	**17**
Hourly Total	2	0	0	**2**	1	21	0	**22**	1	0	1	**2**	24	4	0	**28**	**54**
4:00PM	0	0	0	**0**	0	9	0	**9**	1	0	0	**1**	15	1	0	**16**	**26**
4:15PM	0	0	0	**0**	0	6	0	**6**	0	0	0	**0**	11	0	0	**11**	**17**
4:30PM	2	2	0	**4**	1	7	0	**8**	0	0	0	**0**	3	0	0	**3**	**15**
4:45PM	2	1	0	**3**	3	9	0	**12**	0	0	0	**0**	14	1	0	**15**	**30**
Hourly Total	4	3	0	**7**	4	31	0	**35**	1	0	0	**1**	43	2	0	**45**	**88**
5:00PM	1	1	0	**2**	0	8	0	**8**	0	0	0	**0**	12	0	0	**12**	**22**
5:15PM	1	0	0	**1**	0	18	0	**18**	0	0	0	**0**	8	0	0	**8**	**27**
5:30PM	0	0	0	**0**	0	16	0	**16**	0	0	0	**0**	6	2	0	**8**	**24**
5:45PM	0	0	0	**0**	1	6	0	**7**	0	0	0	**0**	5	0	0	**5**	**12**
Hourly Total	2	1	0	**3**	1	48	0	**49**	0	0	0	**0**	31	2	0	**33**	**85**
Total	20	11	0	**31**	10	150	0	**160**	4	0	2	**6**	178	11	0	**189**	**386**
% Approach	64.5%	35.5%	0%	**-**	6.3%	93.8%	0%	**-**	66.7%	0%	33.3%	**-**	94.2%	5.8%	0%	**-**	-
% Total	5.2%	2.8%	0%	**8.0%**	2.6%	38.9%	0%	**41.5%**	1.0%	0%	0.5%	**1.6%**	46.1%	2.8%	0%	**49.0%**	-
Lights	20	11	0	**31**	10	149	0	**159**	4	0	2	**6**	176	11	0	**187**	383
% Lights	100%	100%	0%	**100%**	100%	99.3%	0%	**99.4%**	100%	0%	100%	**100%**	98.9%	100%	0%	**98.9%**	99.2%
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
% Articulated Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%
Buses and Single-Unit Trucks	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	2	0	0	**2**	3
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	0%	0.7%	0%	**0.6%**	0%	0%	0%	**0%**	1.1%	0%	0%	**1.1%**	0.8%

*L: Left, R: Right, T: Thru, U: U-Turn

West 50th Street & Adams St - TMC
Tue Jul 18, 2023
Full Length (7 AM-9 AM, 2 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090499, Location: 39.037394, -94.612952

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



West 50th Street & Adams St - TMC

Tue Jul 18, 2023
AM Peak (8 AM - 9 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090499, Location: 39.037394, -94.612952

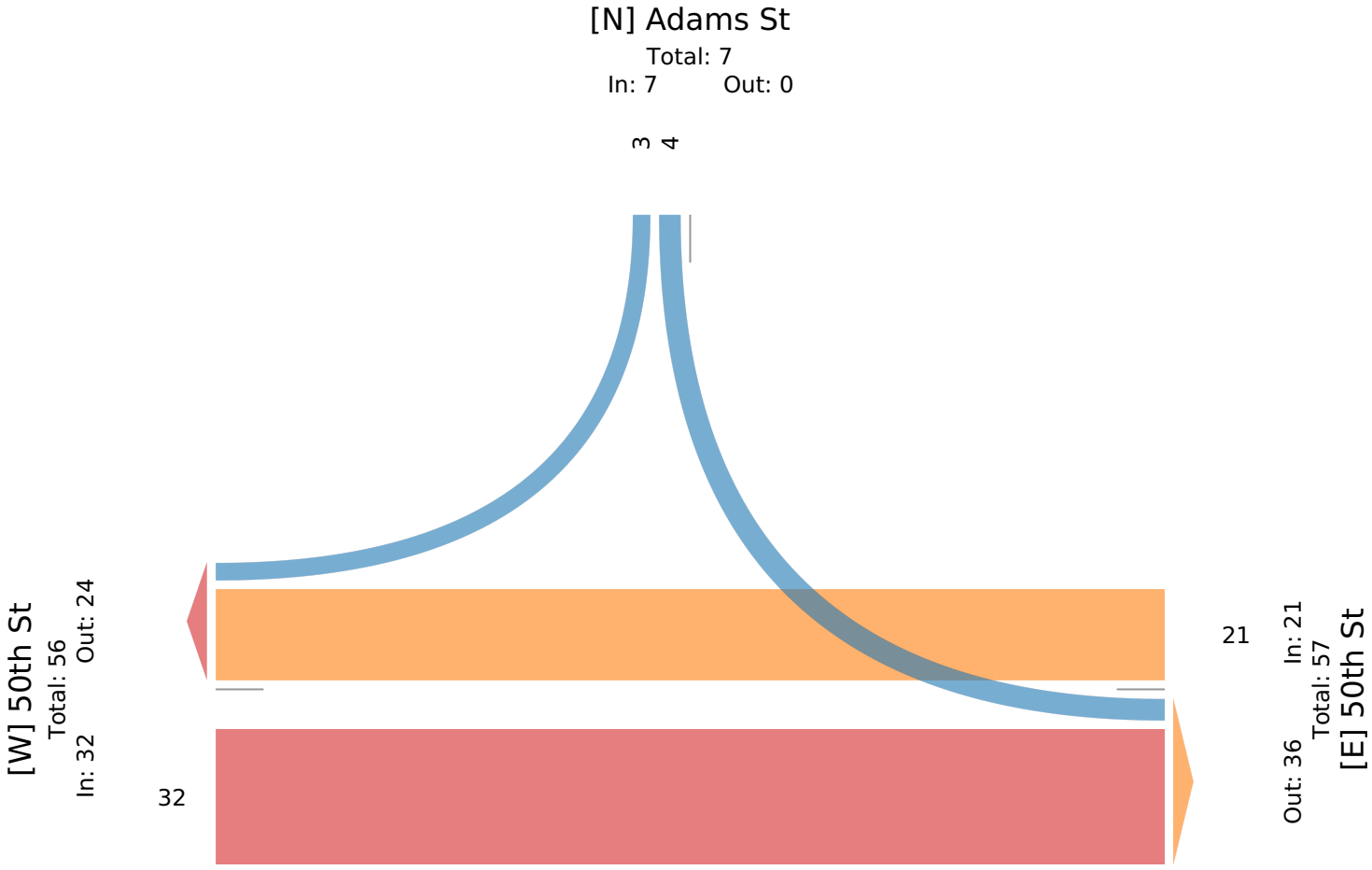
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Adams St				50th St				Exit Access				50th St				
Direction	Southbound				Westbound				Northbound				Eastbound				
Time	R	L	U	**App**	R	T	U	**App**	R	T	L	**App**	T	L	U	**App**	**Int**
2023-07-18 8:00AM	2	1	0	**3**	0	3	0	**3**	0	0	0	**0**	9	0	0	**9**	**15**
8:15AM	0	0	0	**0**	0	3	0	**3**	0	0	0	**0**	8	0	0	**8**	**11**
8:30AM	1	3	0	**4**	0	8	0	**8**	0	0	0	**0**	5	0	0	**5**	**17**
8:45AM	0	0	0	**0**	0	7	0	**7**	0	0	0	**0**	10	0	0	**10**	**17**
Total	3	4	0	**7**	0	21	0	**21**	0	0	0	**0**	32	0	0	**32**	**60**
% Approach	42.9%	57.1%	0%	**-**	0%	100%	0%	**-**	0%	0%	0%	**-**	100%	0%	0%	**-**	-
% Total	5.0%	6.7%	0%	**11.7%**	0%	35.0%	0%	**35.0%**	0%	0%	0%	**0%**	53.3%	0%	0%	**53.3%**	-
PHF	0.375	0.333	-	**0.438**	-	0.656	-	**0.656**	-	-	-	**-**	0.800	-	-	**0.800**	0.882
Lights	3	4	0	**7**	0	21	0	**21**	0	0	0	**0**	32	0	0	**32**	60
% Lights	100%	100%	0%	**100%**	0%	100%	0%	**100%**	0%	0%	0%	**-**	100%	0%	0%	**100%**	100%
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
% Articulated Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%	0%	0%	**-**	0%	0%	0%	**0%**	0%
Buses and Single-Unit Trucks	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%	0%	0%	**-**	0%	0%	0%	**0%**	0%

*L: Left, R: Right, T: Thru, U: U-Turn

West 50th Street & Adams St - TMC
Tue Jul 18, 2023
AM Peak (8 AM - 9 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090499, Location: 39.037394, -94.612952

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



West 50th Street & Adams St - TMC

Tue Jul 18, 2023
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090499, Location: 39.037394, -94.612952

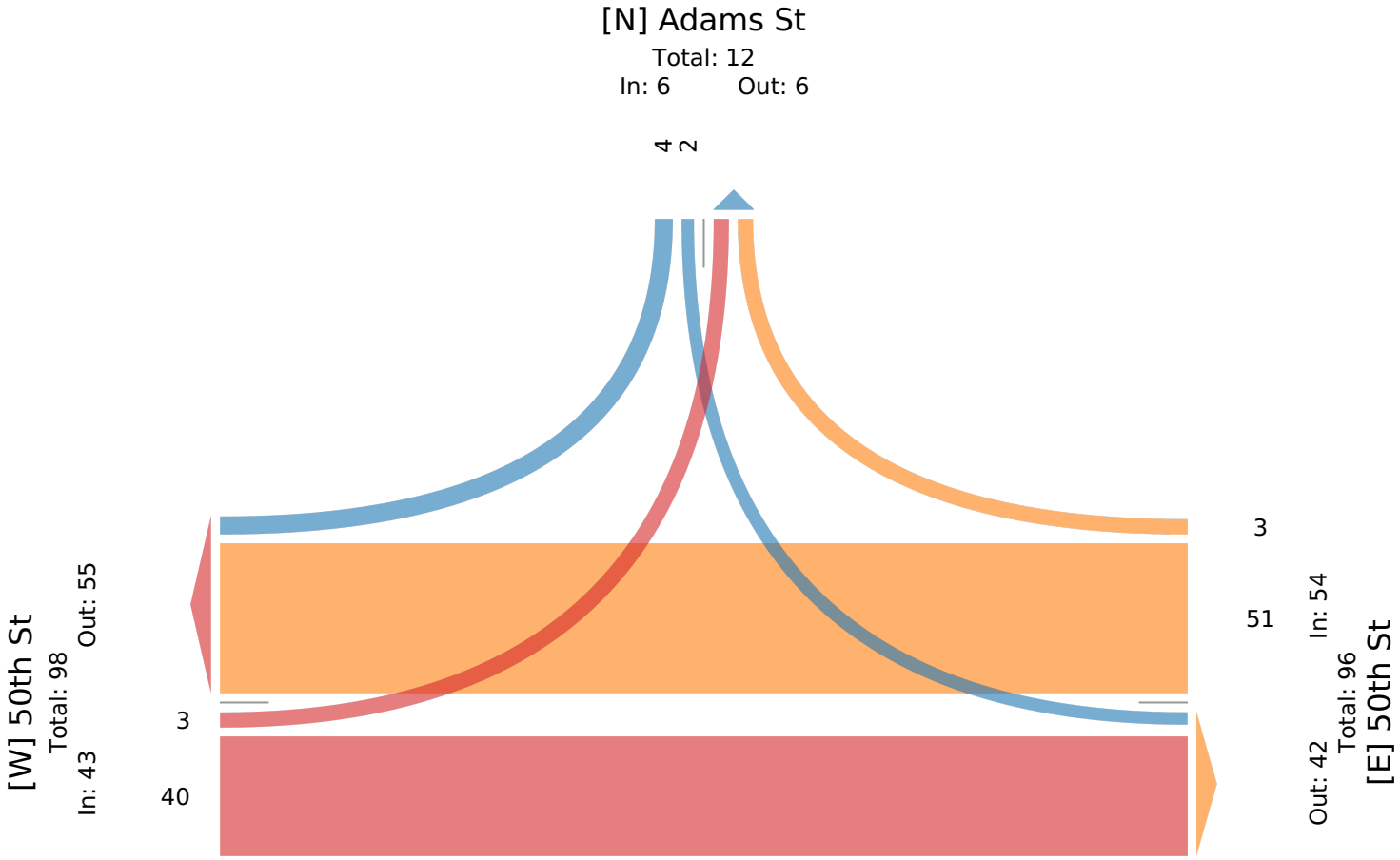
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Adams St				50th St				Exit Access				50th St				
Direction	Southbound				Westbound				Northbound				Eastbound				
Time	R	L	U	**App**	R	T	U	**App**	R	T	L	**App**	T	L	U	**App**	**Int**
2023-07-18 4:45PM	2	1	0	**3**	3	9	0	**12**	0	0	0	**0**	14	1	0	**15**	**30**
5:00PM	1	1	0	**2**	0	8	0	**8**	0	0	0	**0**	12	0	0	**12**	**22**
5:15PM	1	0	0	**1**	0	18	0	**18**	0	0	0	**0**	8	0	0	**8**	**27**
5:30PM	0	0	0	**0**	0	16	0	**16**	0	0	0	**0**	6	2	0	**8**	**24**
Total	4	2	0	**6**	3	51	0	**54**	0	0	0	**0**	40	3	0	**43**	**103**
% Approach	66.7%	33.3%	0%	**-**	5.6%	94.4%	0%	**-**	0%	0%	0%	**-**	93.0%	7.0%	0%	**-**	-
% Total	3.9%	1.9%	0%	**5.8%**	2.9%	49.5%	0%	**52.4%**	0%	0%	0%	**0%**	38.8%	2.9%	0%	**41.7%**	-
PHF	0.500	0.500	-	**0.500**	0.250	0.708	-	**0.750**	-	-	-	**-**	0.714	0.375	-	**0.717**	0.858
Lights	4	2	0	**6**	3	51	0	**54**	0	0	0	**0**	40	3	0	**43**	103
% Lights	100%	100%	0%	**100%**	100%	100%	0%	**100%**	0%	0%	0%	**-**	100%	100%	0%	**100%**	100%
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
% Articulated Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%	0%	0%	**-**	0%	0%	0%	**0%**	0%
Buses and Single-Unit Trucks	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%	0%	0%	**-**	0%	0%	0%	**0%**	0%

*L: Left, R: Right, T: Thru, U: U-Turn

West 50th Street & Adams St - TMC
Tue Jul 18, 2023
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090499, Location: 39.037394, -94.612952

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Rainbow Boulevard & West 50th Street - TMC

Tue Jul 18, 2023
Full Length (7 AM-9 AM, 2 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090495, Location: 39.037585, -94.611889

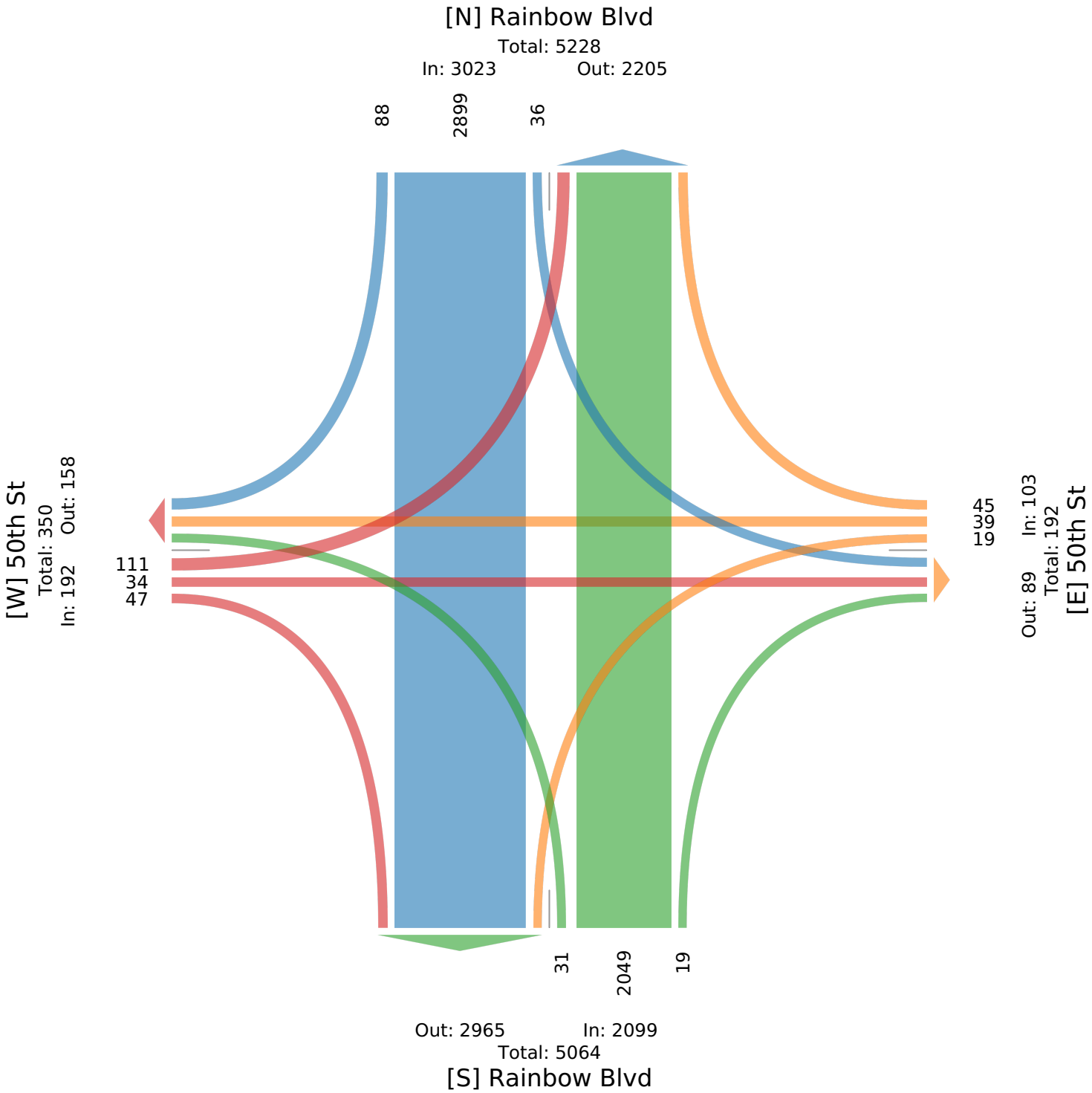
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Rainbow Blvd					50th St					Rainbow Blvd					50th St					
Direction	Southbound					Westbound					Northbound					Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-07-18 7:00AM	0	60	1	0	**61**	0	0	1	0	**1**	1	94	4	0	**99**	2	1	1	0	**4**	**165**
7:15AM	0	71	1	0	**72**	0	1	0	0	**1**	1	103	1	0	**105**	0	0	6	0	**6**	**184**
7:30AM	1	91	0	0	**92**	2	0	0	0	**2**	0	124	0	0	**124**	2	0	3	0	**5**	**223**
7:45AM	4	100	1	0	**105**	1	0	2	0	**3**	0	126	0	0	**126**	2	1	6	0	**9**	**243**
Hourly Total	5	322	3	0	**330**	3	1	3	0	**7**	2	447	5	0	**454**	6	2	16	0	**24**	**815**
8:00AM	3	96	0	0	**99**	0	0	1	0	**1**	1	108	1	0	**110**	3	2	4	0	**9**	**219**
8:15AM	2	84	4	0	**90**	2	0	1	0	**3**	0	115	0	0	**115**	5	3	4	0	**12**	**220**
8:30AM	5	88	2	0	**95**	1	2	0	0	**3**	1	82	1	0	**84**	4	1	3	0	**8**	**190**
8:45AM	3	104	2	0	**109**	1	1	0	0	**2**	0	121	3	0	**124**	4	1	5	0	**10**	**245**
Hourly Total	13	372	8	0	**393**	4	3	2	0	**9**	2	426	5	0	**433**	16	7	16	0	**39**	**874**
2:00PM	6	89	2	0	**97**	0	1	0	0	**1**	4	62	0	0	**66**	1	1	7	0	**9**	**173**
2:15PM	3	106	1	0	**110**	3	2	2	0	**7**	0	76	2	0	**78**	2	0	7	0	**9**	**204**
2:30PM	3	102	1	0	**106**	1	1	2	0	**4**	0	72	1	0	**73**	1	1	3	0	**5**	**188**
2:45PM	0	85	2	0	**87**	1	1	1	0	**3**	0	62	1	0	**63**	1	1	1	0	**3**	**156**
Hourly Total	12	382	6	0	**400**	5	5	5	0	**15**	4	272	4	0	**280**	5	3	18	0	**26**	**721**
3:00PM	3	137	1	0	**141**	1	1	1	0	**3**	0	79	0	0	**79**	1	2	3	0	**6**	**229**
3:15PM	2	111	2	0	**115**	1	1	2	0	**4**	1	55	0	0	**56**	0	4	4	0	**8**	**183**
3:30PM	6	114	1	0	**121**	1	1	1	0	**3**	0	57	2	0	**59**	0	0	2	0	**2**	**185**
3:45PM	4	126	3	0	**133**	2	2	0	0	**4**	2	89	0	0	**91**	2	2	5	0	**9**	**237**
Hourly Total	15	488	7	0	**510**	5	5	4	0	**14**	3	280	2	0	**285**	3	8	14	0	**25**	**834**
4:00PM	5	150	5	0	**160**	2	3	0	0	**5**	2	81	1	0	**84**	7	4	5	0	**16**	**265**
4:15PM	3	137	0	0	**140**	5	3	0	0	**8**	0	85	1	0	**86**	2	2	7	0	**11**	**245**
4:30PM	5	171	0	0	**176**	2	1	1	0	**4**	0	67	1	0	**68**	2	0	3	0	**5**	**253**
4:45PM	6	196	1	0	**203**	2	3	1	0	**6**	1	64	3	0	**68**	2	3	8	0	**13**	**290**
Hourly Total	19	654	6	0	**679**	11	10	2	0	**23**	3	297	6	0	**306**	13	9	23	0	**45**	**1053**
5:00PM	5	217	1	0	**223**	4	2	3	0	**9**	0	74	1	0	**75**	2	1	10	0	**13**	**320**
5:15PM	11	179	2	0	**192**	5	4	0	0	**9**	2	89	2	0	**93**	1	3	5	0	**9**	**303**
5:30PM	8	154	1	0	**163**	7	5	0	0	**12**	2	75	3	0	**80**	1	0	5	0	**6**	**261**
5:45PM	0	131	2	0	**133**	1	4	0	0	**5**	1	89	3	0	**93**	0	1	4	0	**5**	**236**
Hourly Total	24	681	6	0	**711**	17	15	3	0	**35**	5	327	9	0	**341**	4	5	24	0	**33**	**1120**
Total	88	2899	36	0	**3023**	45	39	19	0	**103**	19	2049	31	0	**2099**	47	34	111	0	**192**	**5417**
% Approach	2.9%	95.9%	1.2%	0%	**-**	43.7%	37.9%	18.4%	0%	**-**	0.9%	97.6%	1.5%	0%	**-**	24.5%	17.7%	57.8%	0%	**-**	-
% Total	1.6%	53.5%	0.7%	0%	**55.8%**	0.8%	0.7%	0.4%	0%	**1.9%**	0.4%	37.8%	0.6%	0%	**38.7%**	0.9%	0.6%	2.0%	0%	**3.5%**	-
Lights	88	2827	34	0	**2949**	44	38	19	0	**101**	19	2001	31	0	**2051**	47	34	110	0	**191**	5292
% Lights	100%	97.5%	94.4%	0%	**97.6%**	97.8%	97.4%	100%	0%	**98.1%**	100%	97.7%	100%	0%	**97.7%**	100%	100%	99.1%	0%	**99.5%**	97.7%
Articulated Trucks	0	7	0	0	**7**	0	0	0	0	**0**	0	1	0	0	**1**	0	0	0	0	**0**	8
% Articulated Trucks	0%	0.2%	0%	0%	**0.2%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0.1%
Buses and Single-Unit Trucks	0	65	2	0	**67**	1	1	0	0	**2**	0	47	0	0	**47**	0	0	1	0	**1**	117
% Buses and Single-Unit Trucks	0%	2.2%	5.6%	0%	**2.2%**	2.2%	2.6%	0%	0%	**1.9%**	0%	2.3%	0%	0%	**2.2%**	0%	0%	0.9%	0%	**0.5%**	2.2%

*L: Left, R: Right, T: Thru, U: U-Turn

Rainbow Boulevard & West 50th Street - TMC
Tue Jul 18, 2023
Full Length (7 AM-9 AM, 2 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090495, Location: 39.037585, -94.611889

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Rainbow Boulevard & West 50th Street - TMC

Tue Jul 18, 2023
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090495, Location: 39.037585, -94.611889

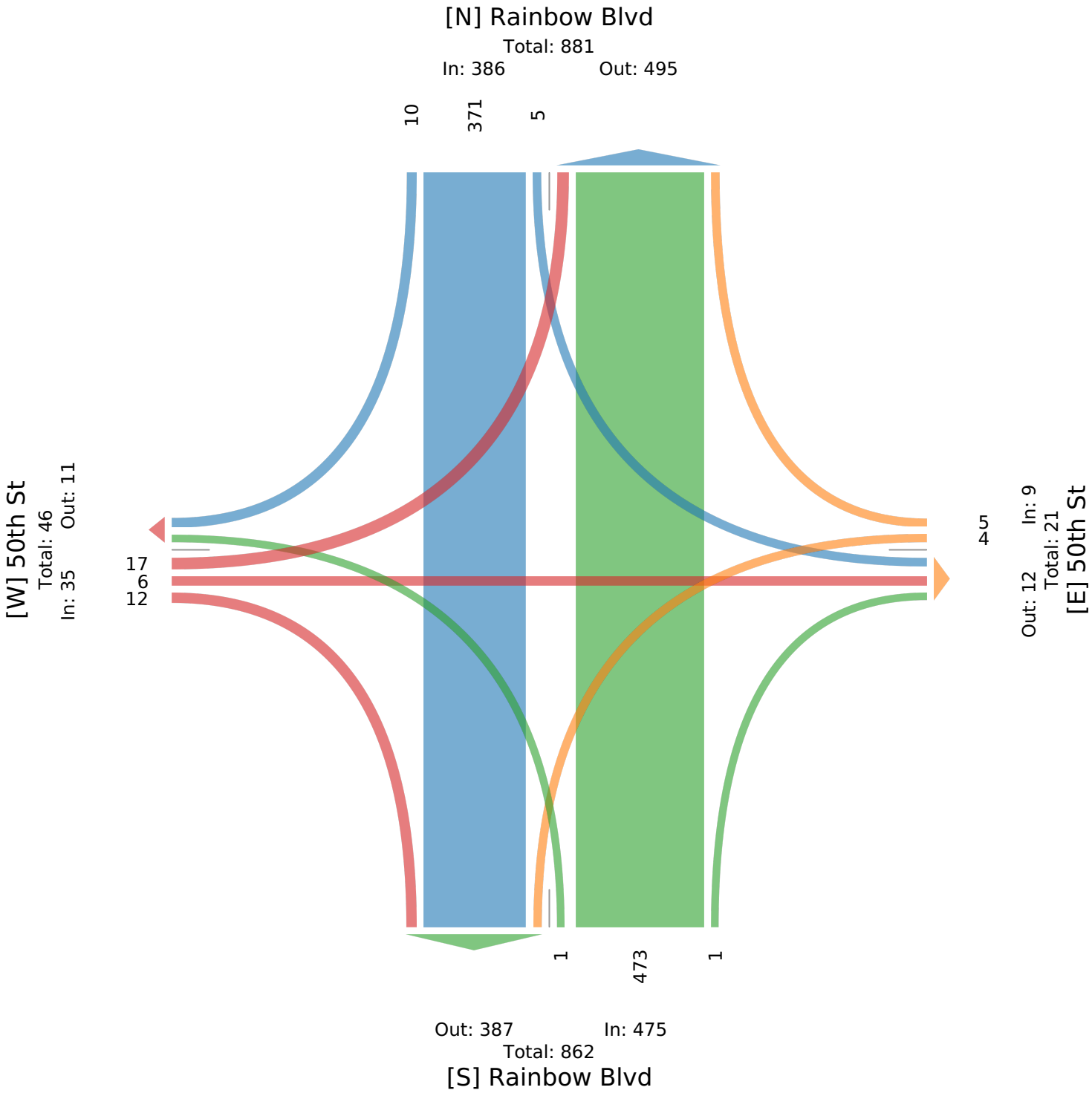
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Rainbow Blvd					50th St					Rainbow Blvd					50th St					
Direction	Southbound					Westbound					Northbound					Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-07-18 7:30AM	1	91	0	0	**92**	2	0	0	0	**2**	0	124	0	0	**124**	2	0	3	0	**5**	**223**
7:45AM	4	100	1	0	**105**	1	0	2	0	**3**	0	126	0	0	**126**	2	1	6	0	**9**	**243**
8:00AM	3	96	0	0	**99**	0	0	1	0	**1**	1	108	1	0	**110**	3	2	4	0	**9**	**219**
8:15AM	2	84	4	0	**90**	2	0	1	0	**3**	0	115	0	0	**115**	5	3	4	0	**12**	**220**
Total	10	371	5	0	**386**	5	0	4	0	**9**	1	473	1	0	**475**	12	6	17	0	**35**	**905**
% Approach	2.6%	96.1%	1.3%	0%	**-**	55.6%	0%	44.4%	0%	**-**	0.2%	99.6%	0.2%	0%	**-**	34.3%	17.1%	48.6%	0%	**-**	-
% Total	1.1%	41.0%	0.6%	0%	**42.7%**	0.6%	0%	0.4%	0%	**1.0%**	0.1%	52.3%	0.1%	0%	**52.5%**	1.3%	0.7%	1.9%	0%	**3.9%**	-
PHF	0.625	0.928	0.313	-	**0.919**	0.625	-	0.500	-	**0.750**	0.250	0.938	0.250	-	**0.942**	0.600	0.500	0.708	-	**0.729**	0.931
Lights	10	354	5	0	**369**	5	0	4	0	**9**	1	465	1	0	**467**	12	6	17	0	**35**	880
% Lights	100%	95.4%	100%	0%	**95.6%**	100%	0%	100%	0%	**100%**	100%	98.3%	100%	0%	**98.3%**	100%	100%	100%	0%	**100%**	97.2%
Articulated Trucks	0	5	0	0	**5**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	5
% Articulated Trucks	0%	1.3%	0%	0%	**1.3%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0.6%
Buses and Single-Unit Trucks	0	12	0	0	**12**	0	0	0	0	**0**	0	8	0	0	**8**	0	0	0	0	**0**	20
% Buses and Single-Unit Trucks	0%	3.2%	0%	0%	**3.1%**	0%	0%	0%	0%	**0%**	0%	1.7%	0%	0%	**1.7%**	0%	0%	0%	0%	**0%**	2.2%

*L: Left, R: Right, T: Thru, U: U-Turn

Rainbow Boulevard & West 50th Street - TMC
Tue Jul 18, 2023
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090495, Location: 39.037585, -94.611889

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Rainbow Boulevard & West 50th Street - TMC

Tue Jul 18, 2023
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090495, Location: 39.037585, -94.611889

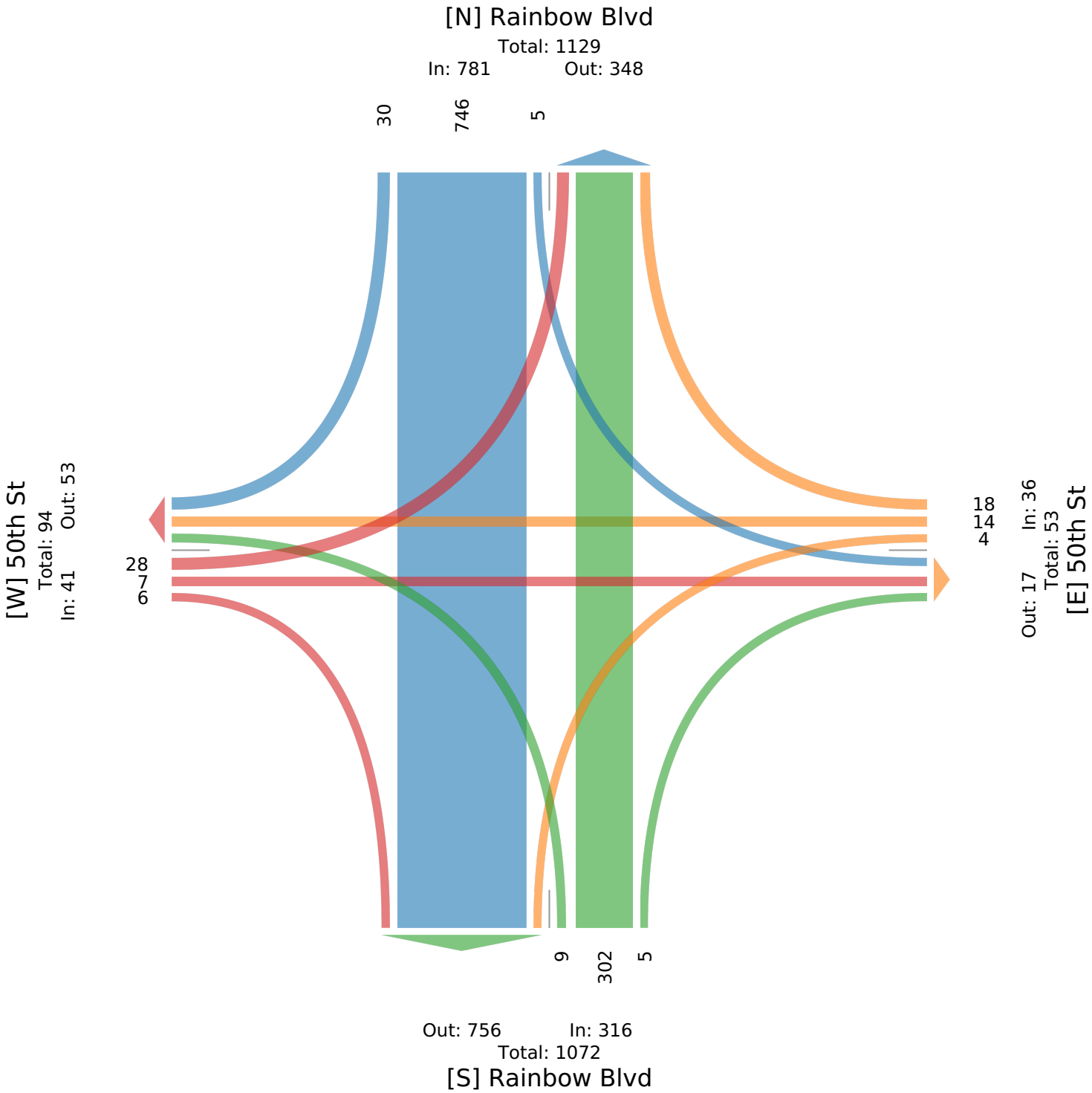
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Rainbow Blvd					50th St					Rainbow Blvd					50th St					
Direction	Southbound					Westbound					Northbound					Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-07-18 4:45PM	6	196	1	0	**203**	2	3	1	0	**6**	1	64	3	0	**68**	2	3	8	0	**13**	**290**
5:00PM	5	217	1	0	**223**	4	2	3	0	**9**	0	74	1	0	**75**	2	1	10	0	**13**	**320**
5:15PM	11	179	2	0	**192**	5	4	0	0	**9**	2	89	2	0	**93**	1	3	5	0	**9**	**303**
5:30PM	8	154	1	0	**163**	7	5	0	0	**12**	2	75	3	0	**80**	1	0	5	0	**6**	**261**
Total	30	746	5	0	**781**	18	14	4	0	**36**	5	302	9	0	**316**	6	7	28	0	**41**	**1174**
% Approach	3.8%	95.5%	0.6%	0%	**-**	50.0%	38.9%	11.1%	0%	**-**	1.6%	95.6%	2.8%	0%	**-**	14.6%	17.1%	68.3%	0%	**-**	-
% Total	2.6%	63.5%	0.4%	0%	**66.5%**	1.5%	1.2%	0.3%	0%	**3.1%**	0.4%	25.7%	0.8%	0%	**26.9%**	0.5%	0.6%	2.4%	0%	**3.5%**	-
PHF	0.682	0.859	0.625	-	**0.876**	0.643	0.700	0.333	-	**0.750**	0.625	0.848	0.750	-	**0.849**	0.750	0.583	0.700	-	**0.788**	0.917
Lights	30	738	4	0	**772**	18	14	4	0	**36**	5	297	9	0	**311**	6	7	28	0	**41**	1160
% Lights	100%	98.9%	80.0%	0%	**98.8%**	100%	100%	100%	0%	**100%**	100%	98.3%	100%	0%	**98.4%**	100%	100%	100%	0%	**100%**	98.8%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%
Buses and Single-Unit Trucks	0	8	1	0	**9**	0	0	0	0	**0**	0	5	0	0	**5**	0	0	0	0	**0**	14
% Buses and Single-Unit Trucks	0%	1.1%	20.0%	0%	**1.2%**	0%	0%	0%	0%	**0%**	0%	1.7%	0%	0%	**1.6%**	0%	0%	0%	0%	**0%**	1.2%

*L: Left, R: Right, T: Thru, U: U-Turn

Rainbow Boulevard & West 50th Street - TMC
Tue Jul 18, 2023
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090495, Location: 39.037585, -94.611889

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Rainbow Boulevard & 50th Terrace - TMC

Tue Jul 18, 2023
Full Length (7 AM-9 AM, 2 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090498, Location: 39.036944, -94.611879

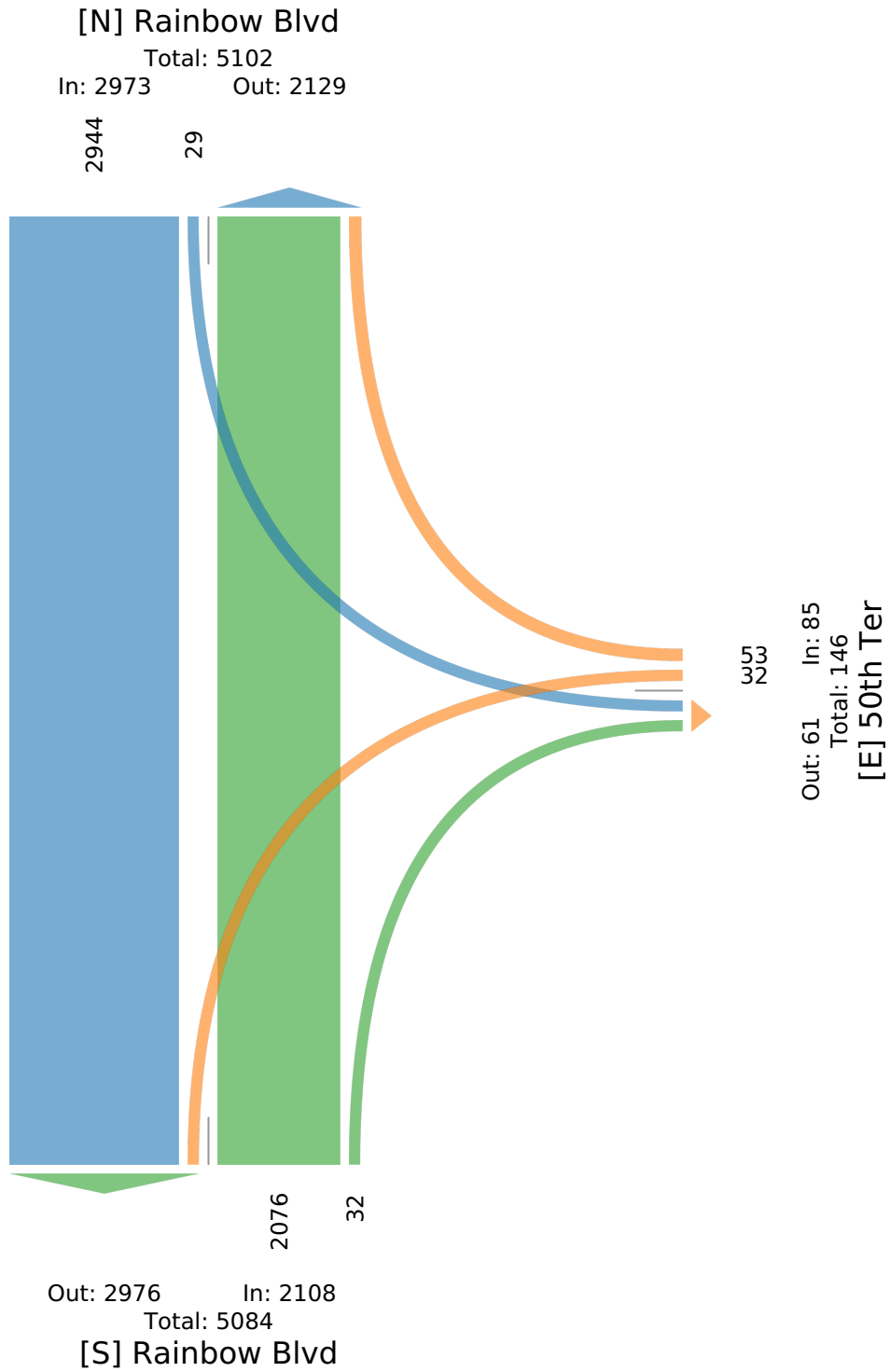
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Rainbow Blvd				50th Ter				Rainbow Blvd				
Direction	Southbound				Westbound				Northbound				
Time	T	L	U	**App**	R	L	U	**App**	R	T	U	**App**	**Int**
2023-07-18 7:00AM	62	2	0	**64**	1	2	0	**3**	4	99	0	**103**	**170**
7:15AM	70	0	0	**70**	0	1	0	**1**	1	105	0	**106**	**177**
7:30AM	91	1	0	**92**	1	1	0	**2**	3	125	0	**128**	**222**
7:45AM	101	2	0	**103**	1	0	0	**1**	0	125	0	**125**	**229**
Hourly Total	324	5	0	**329**	3	4	0	**7**	8	454	0	**462**	**798**
8:00AM	98	0	0	**98**	6	0	0	**6**	1	105	0	**106**	**210**
8:15AM	89	3	0	**92**	1	1	0	**2**	1	113	0	**114**	**208**
8:30AM	91	2	0	**93**	3	3	0	**6**	3	82	0	**85**	**184**
8:45AM	104	4	0	**108**	2	1	0	**3**	0	126	0	**126**	**237**
Hourly Total	382	9	0	**391**	12	5	0	**17**	5	426	0	**431**	**839**
2:00PM	91	0	0	**91**	1	0	0	**1**	3	68	0	**71**	**163**
2:15PM	111	1	0	**112**	0	2	0	**2**	2	80	0	**82**	**196**
2:30PM	103	1	0	**104**	0	1	0	**1**	2	72	0	**74**	**179**
2:45PM	85	1	0	**86**	2	1	0	**3**	0	62	0	**62**	**151**
Hourly Total	390	3	0	**393**	3	4	0	**7**	7	282	0	**289**	**689**
3:00PM	136	2	0	**138**	4	1	0	**5**	0	77	0	**77**	**220**
3:15PM	110	2	0	**112**	0	3	0	**3**	3	57	0	**60**	**175**
3:30PM	116	0	0	**116**	1	1	0	**2**	3	59	0	**62**	**180**
3:45PM	133	3	0	**136**	1	3	0	**4**	0	93	0	**93**	**233**
Hourly Total	495	7	0	**502**	6	8	0	**14**	6	286	0	**292**	**808**
4:00PM	158	1	0	**159**	1	2	0	**3**	2	82	0	**84**	**246**
4:15PM	139	0	0	**139**	3	1	0	**4**	1	87	0	**88**	**231**
4:30PM	170	2	0	**172**	4	1	0	**5**	0	66	0	**66**	**243**
4:45PM	199	0	0	**199**	7	3	0	**10**	2	68	0	**70**	**279**
Hourly Total	666	3	0	**669**	15	7	0	**22**	5	303	0	**308**	**999**
5:00PM	223	0	0	**223**	2	2	0	**4**	1	74	0	**75**	**302**
5:15PM	181	0	0	**181**	6	1	0	**7**	0	84	0	**84**	**272**
5:30PM	153	1	0	**154**	3	0	0	**3**	0	77	0	**77**	**234**
5:45PM	130	1	0	**131**	3	1	0	**4**	0	90	0	**90**	**225**
Hourly Total	687	2	0	**689**	14	4	0	**18**	1	325	0	**326**	**1033**
Total	2944	29	0	**2973**	53	32	0	**85**	32	2076	0	**2108**	**5166**
% Approach	99.0%	1.0%	0%	**-**	62.4%	37.6%	0%	**-**	1.5%	98.5%	0%	**-**	-
% Total	57.0%	0.6%	0%	**57.5%**	1.0%	0.6%	0%	**1.6%**	0.6%	40.2%	0%	**40.8%**	-
Lights	2876	29	0	**2905**	52	32	0	**84**	32	2028	0	**2060**	5049
% Lights	97.7%	100%	0%	**97.7%**	98.1%	100%	0%	**98.8%**	100%	97.7%	0%	**97.7%**	97.7%
Articulated Trucks	5	0	0	**5**	0	0	0	**0**	0	1	0	**1**	6
% Articulated Trucks	0.2%	0%	0%	**0.2%**	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0.1%
Buses and Single-Unit Trucks	63	0	0	**63**	1	0	0	**1**	0	47	0	**47**	111
% Buses and Single-Unit Trucks	2.1%	0%	0%	**2.1%**	1.9%	0%	0%	**1.2%**	0%	2.3%	0%	**2.2%**	2.1%

*L: Left, R: Right, T: Thru, U: U-Turn

Rainbow Boulevard & 50th Terrace - TMC
Tue Jul 18, 2023
Full Length (7 AM-9 AM, 2 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090498, Location: 39.036944, -94.611879

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Rainbow Boulevard & 50th Terrace - TMC

Tue Jul 18, 2023
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090498, Location: 39.036944, -94.611879

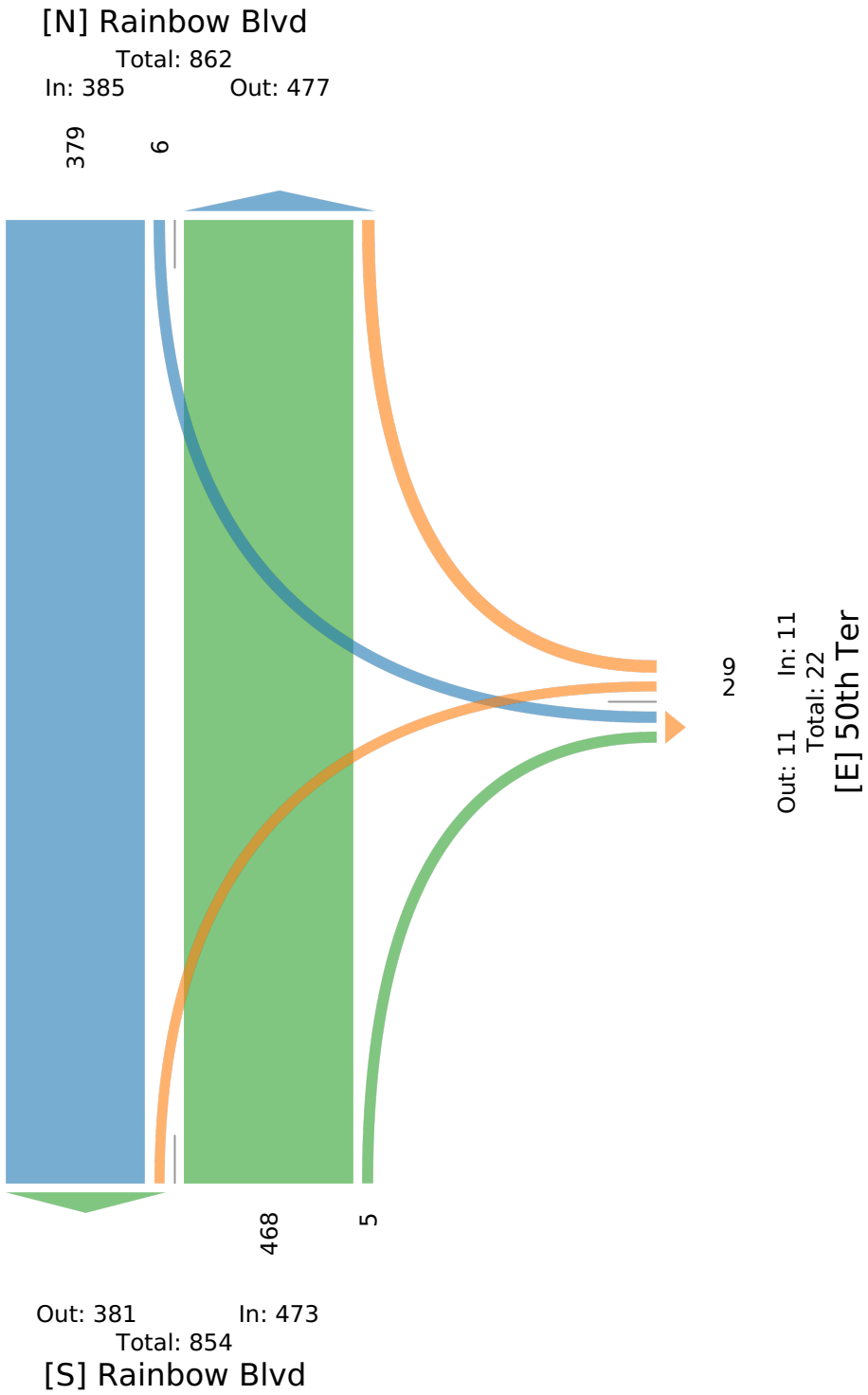
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Rainbow Blvd				50th Ter				Rainbow Blvd				
Direction	Southbound				Westbound				Northbound				
Time	T	L	U	**App**	R	L	U	**App**	R	T	U	**App**	**Int**
2023-07-18 7:30AM	91	1	0	**92**	1	1	0	**2**	3	125	0	**128**	**222**
7:45AM	101	2	0	**103**	1	0	0	**1**	0	125	0	**125**	**229**
8:00AM	98	0	0	**98**	6	0	0	**6**	1	105	0	**106**	**210**
8:15AM	89	3	0	**92**	1	1	0	**2**	1	113	0	**114**	**208**
Total	379	6	0	**385**	9	2	0	**11**	5	468	0	**473**	**869**
% Approach	98.4%	1.6%	0%	**-**	81.8%	18.2%	0%	**-**	1.1%	98.9%	0%	**-**	-
% Total	43.6%	0.7%	0%	**44.3%**	1.0%	0.2%	0%	**1.3%**	0.6%	53.9%	0%	**54.4%**	-
PHF	0.938	0.500	-	**0.934**	0.375	0.500	-	**0.458**	0.417	0.936	-	**0.924**	0.949
Lights	364	6	0	**370**	9	2	0	**11**	5	460	0	**465**	846
% Lights	96.0%	100%	0%	**96.1%**	100%	100%	0%	**100%**	100%	98.3%	0%	**98.3%**	97.4%
Articulated Trucks	3	0	0	**3**	0	0	0	**0**	0	0	0	**0**	3
% Articulated Trucks	0.8%	0%	0%	**0.8%**	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0.3%
Buses and Single-Unit Trucks	12	0	0	**12**	0	0	0	**0**	0	8	0	**8**	20
% Buses and Single-Unit Trucks	3.2%	0%	0%	**3.1%**	0%	0%	0%	**0%**	0%	1.7%	0%	**1.7%**	2.3%

*L: Left, R: Right, T: Thru, U: U-Turn

Rainbow Boulevard & 50th Terrace - TMC
Tue Jul 18, 2023
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090498, Location: 39.036944, -94.611879

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Rainbow Boulevard & 50th Terrace - TMC

Tue Jul 18, 2023
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090498, Location: 39.036944, -94.611879

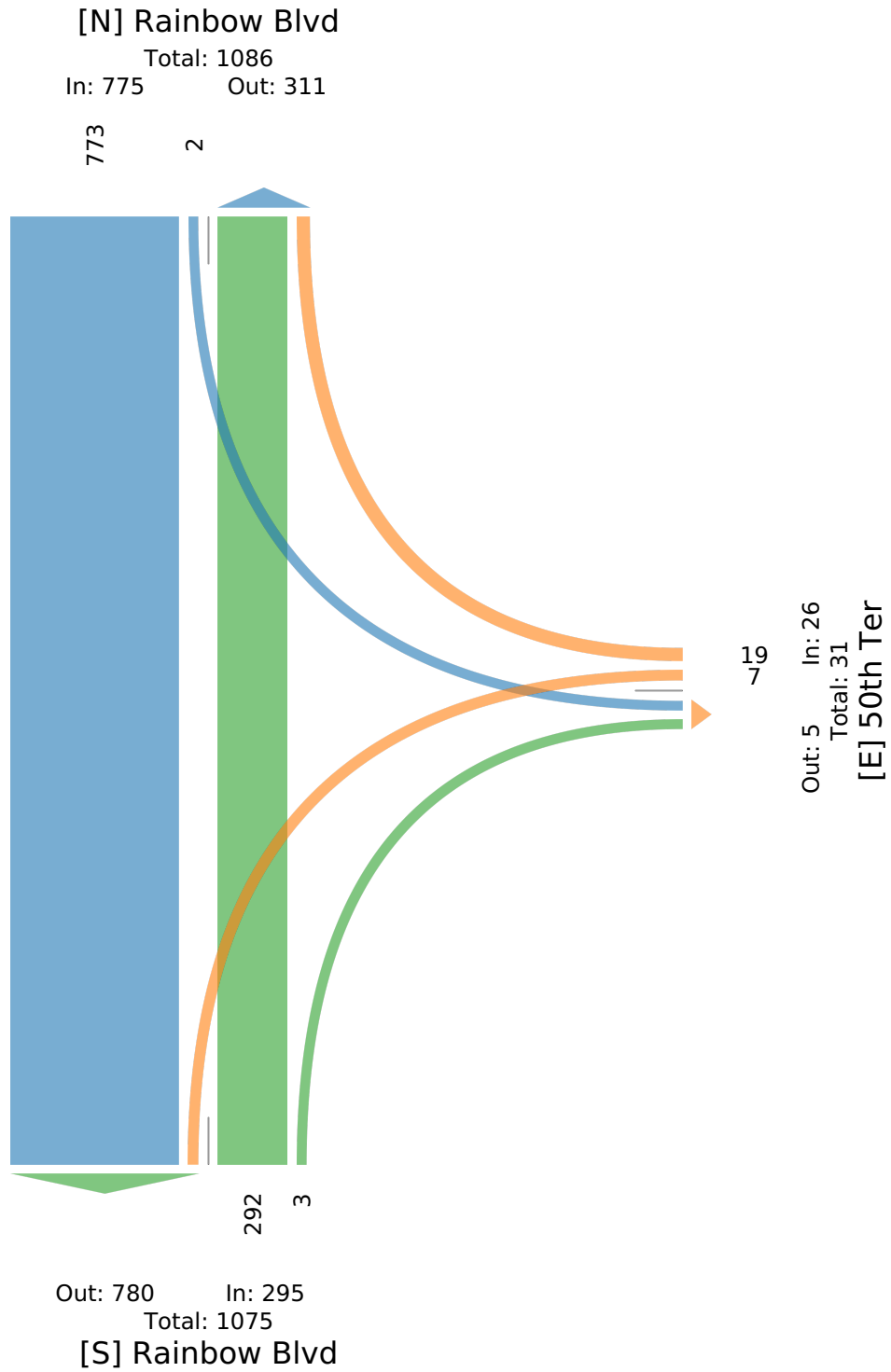
GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Rainbow Blvd				50th Ter				Rainbow Blvd				
Direction	Southbound				Westbound				Northbound				
Time	T	L	U	**App**	R	L	U	**App**	R	T	U	**App**	**Int**
2023-07-18 4:30PM	170	2	0	**172**	4	1	0	**5**	0	66	0	**66**	**243**
4:45PM	199	0	0	**199**	7	3	0	**10**	2	68	0	**70**	**279**
5:00PM	223	0	0	**223**	2	2	0	**4**	1	74	0	**75**	**302**
5:15PM	181	0	0	**181**	6	1	0	**7**	0	84	0	**84**	**272**
Total	773	2	0	**775**	19	7	0	**26**	3	292	0	**295**	**1096**
% Approach	99.7%	0.3%	0%	**-**	73.1%	26.9%	0%	**-**	1.0%	99.0%	0%	**-**	-
% Total	70.5%	0.2%	0%	**70.7%**	1.7%	0.6%	0%	**2.4%**	0.3%	26.6%	0%	**26.9%**	-
PHF	0.867	0.250	-	**0.869**	0.679	0.583	-	**0.650**	0.375	0.869	-	**0.878**	0.907
Lights	764	2	0	**766**	18	7	0	**25**	3	288	0	**291**	1082
% Lights	98.8%	100%	0%	**98.8%**	94.7%	100%	0%	**96.2%**	100%	98.6%	0%	**98.6%**	98.7%
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
% Articulated Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%
Buses and Single-Unit Trucks	9	0	0	**9**	1	0	0	**1**	0	4	0	**4**	14
% Buses and Single-Unit Trucks	1.2%	0%	0%	**1.2%**	5.3%	0%	0%	**3.8%**	0%	1.4%	0%	**1.4%**	1.3%

*L: Left, R: Right, T: Thru, U: U-Turn

Rainbow Boulevard & 50th Terrace - TMC
Tue Jul 18, 2023
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090498, Location: 39.036944, -94.611879

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Rainbow Boulevard & West 51st Street - TMC

Tue Jul 18, 2023
Full Length (7 AM-9 AM, 2 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090496, Location: 39.036048, -94.611877

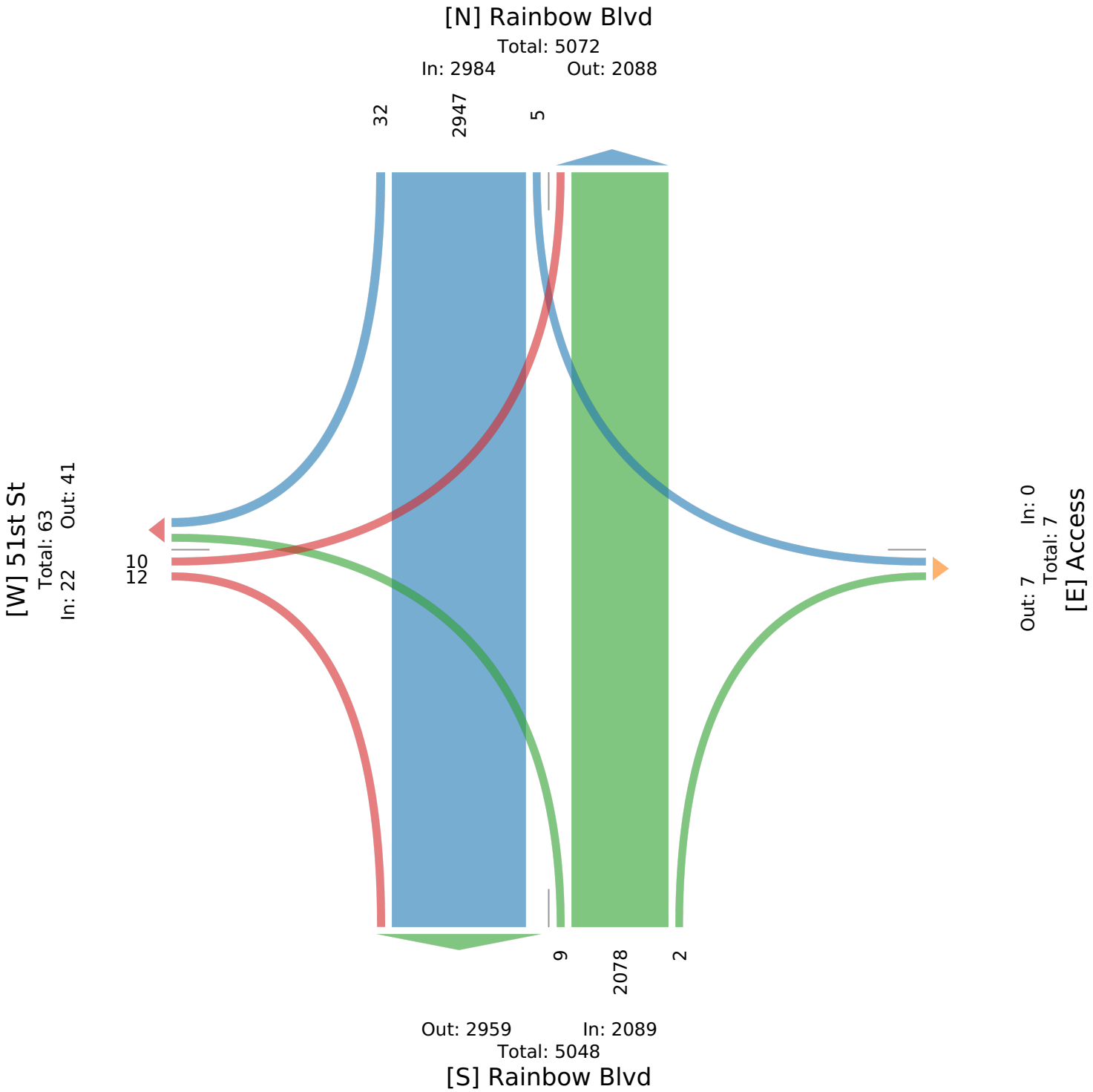
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Rainbow Blvd					Access					Rainbow Blvd					51st St					
Direction	Southbound					Westbound					Northbound					Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-07-18 7:00AM	1	68	0	0	**69**	0	0	0	0	**0**	0	97	0	0	**97**	0	0	0	0	**0**	**166**
7:15AM	0	83	0	0	**83**	0	0	0	0	**0**	0	102	0	0	**102**	0	0	1	0	**1**	**186**
7:30AM	2	93	0	0	**95**	0	0	0	0	**0**	0	125	0	0	**125**	2	0	1	0	**3**	**223**
7:45AM	2	99	0	0	**101**	0	0	0	0	**0**	1	122	0	0	**123**	0	0	0	0	**0**	**224**
Hourly Total	5	343	0	0	**348**	0	0	0	0	**0**	1	446	0	0	**447**	2	0	2	0	**4**	**799**
8:00AM	1	99	1	0	**101**	0	0	0	0	**0**	0	104	0	0	**104**	0	0	0	0	**0**	**205**
8:15AM	0	89	1	0	**90**	0	0	0	0	**0**	0	111	0	0	**111**	0	0	3	0	**3**	**204**
8:30AM	1	93	0	0	**94**	0	0	0	0	**0**	1	81	0	0	**82**	0	0	1	0	**1**	**177**
8:45AM	0	103	1	0	**104**	0	0	0	0	**0**	0	125	0	0	**125**	1	0	0	0	**1**	**230**
Hourly Total	2	384	3	0	**389**	0	0	0	0	**0**	1	421	0	0	**422**	1	0	4	0	**5**	**816**
2:00PM	2	90	0	0	**92**	0	0	0	0	**0**	0	71	1	0	**72**	0	0	0	0	**0**	**164**
2:15PM	3	107	0	0	**110**	0	0	0	0	**0**	0	83	1	0	**84**	0	0	0	0	**0**	**194**
2:30PM	2	107	0	0	**109**	0	0	0	0	**0**	0	74	0	0	**74**	0	0	1	0	**1**	**184**
2:45PM	1	84	1	0	**86**	0	0	0	0	**0**	0	62	0	0	**62**	0	0	0	0	**0**	**148**
Hourly Total	8	388	1	0	**397**	0	0	0	0	**0**	0	290	2	0	**292**	0	0	1	0	**1**	**690**
3:00PM	1	133	0	0	**134**	0	0	0	0	**0**	0	77	1	0	**78**	0	0	0	0	**0**	**212**
3:15PM	0	114	0	0	**114**	0	0	0	0	**0**	0	59	0	0	**59**	1	0	1	0	**2**	**175**
3:30PM	0	104	0	0	**104**	0	0	0	0	**0**	0	61	0	0	**61**	1	0	1	0	**2**	**167**
3:45PM	2	125	1	0	**128**	0	0	0	0	**0**	0	93	0	0	**93**	1	0	0	0	**1**	**222**
Hourly Total	3	476	1	0	**480**	0	0	0	0	**0**	0	290	1	0	**291**	3	0	2	0	**5**	**776**
4:00PM	4	159	0	0	**163**	0	0	0	0	**0**	0	84	0	0	**84**	1	0	0	0	**1**	**248**
4:15PM	2	140	0	0	**142**	0	0	0	0	**0**	0	87	0	0	**87**	0	0	0	0	**0**	**229**
4:30PM	2	167	0	0	**169**	0	0	0	0	**0**	0	66	0	0	**66**	0	0	0	0	**0**	**235**
4:45PM	3	201	0	0	**204**	0	0	0	0	**0**	0	69	2	0	**71**	0	0	0	0	**0**	**275**
Hourly Total	11	667	0	0	**678**	0	0	0	0	**0**	0	306	2	0	**308**	1	0	0	0	**1**	**987**
5:00PM	1	216	0	0	**217**	0	0	0	0	**0**	0	73	1	0	**74**	3	0	1	0	**4**	**295**
5:15PM	1	187	0	0	**188**	0	0	0	0	**0**	0	85	1	0	**86**	1	0	0	0	**1**	**275**
5:30PM	1	153	0	0	**154**	0	0	0	0	**0**	0	77	0	0	**77**	1	0	0	0	**1**	**232**
5:45PM	0	133	0	0	**133**	0	0	0	0	**0**	0	90	2	0	**92**	0	0	0	0	**0**	**225**
Hourly Total	3	689	0	0	**692**	0	0	0	0	**0**	0	325	4	0	**329**	5	0	1	0	**6**	**1027**
Total	32	2947	5	0	**2984**	0	0	0	0	**0**	2	2078	9	0	**2089**	12	0	10	0	**22**	**5095**
% Approach	1.1%	98.8%	0.2%	0%	-	0%	0%	0%	0%	-	0.1%	99.5%	0.4%	0%	-	54.5%	0%	45.5%	0%	-	-
% Total	0.6%	57.8%	0.1%	0%	**58.6%**	0%	0%	0%	0%	**0%**	0%	40.8%	0.2%	0%	**41.0%**	0.2%	0%	0.2%	0%	**0.4%**	-
Lights	32	2880	5	0	**2917**	0	0	0	0	**0**	2	2031	8	0	**2041**	11	0	10	0	**21**	4979
% Lights	100%	97.7%	100%	0%	**97.8%**	0%	0%	0%	0%	-	100%	97.7%	88.9%	0%	**97.7%**	91.7%	0%	100%	0%	**95.5%**	97.7%
Articulated Trucks	0	6	0	0	**6**	0	0	0	0	**0**	0	1	0	0	**1**	0	0	0	0	**0**	7
% Articulated Trucks	0%	0.2%	0%	0%	**0.2%**	0%	0%	0%	0%	-	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0.1%
Buses and Single-Unit Trucks	0	61	0	0	**61**	0	0	0	0	**0**	0	46	1	0	**47**	1	0	0	0	**1**	109
% Buses and Single-Unit Trucks	0%	2.1%	0%	0%	**2.0%**	0%	0%	0%	0%	-	0%	2.2%	11.1%	0%	**2.2%**	8.3%	0%	0%	0%	**4.5%**	2.1%

*L: Left, R: Right, T: Thru, U: U-Turn

Rainbow Boulevard & West 51st Street - TMC
Tue Jul 18, 2023
Full Length (7 AM-9 AM, 2 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090496, Location: 39.036048, -94.611877

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Rainbow Boulevard & West 51st Street - TMC

Tue Jul 18, 2023
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090496, Location: 39.036048, -94.611877

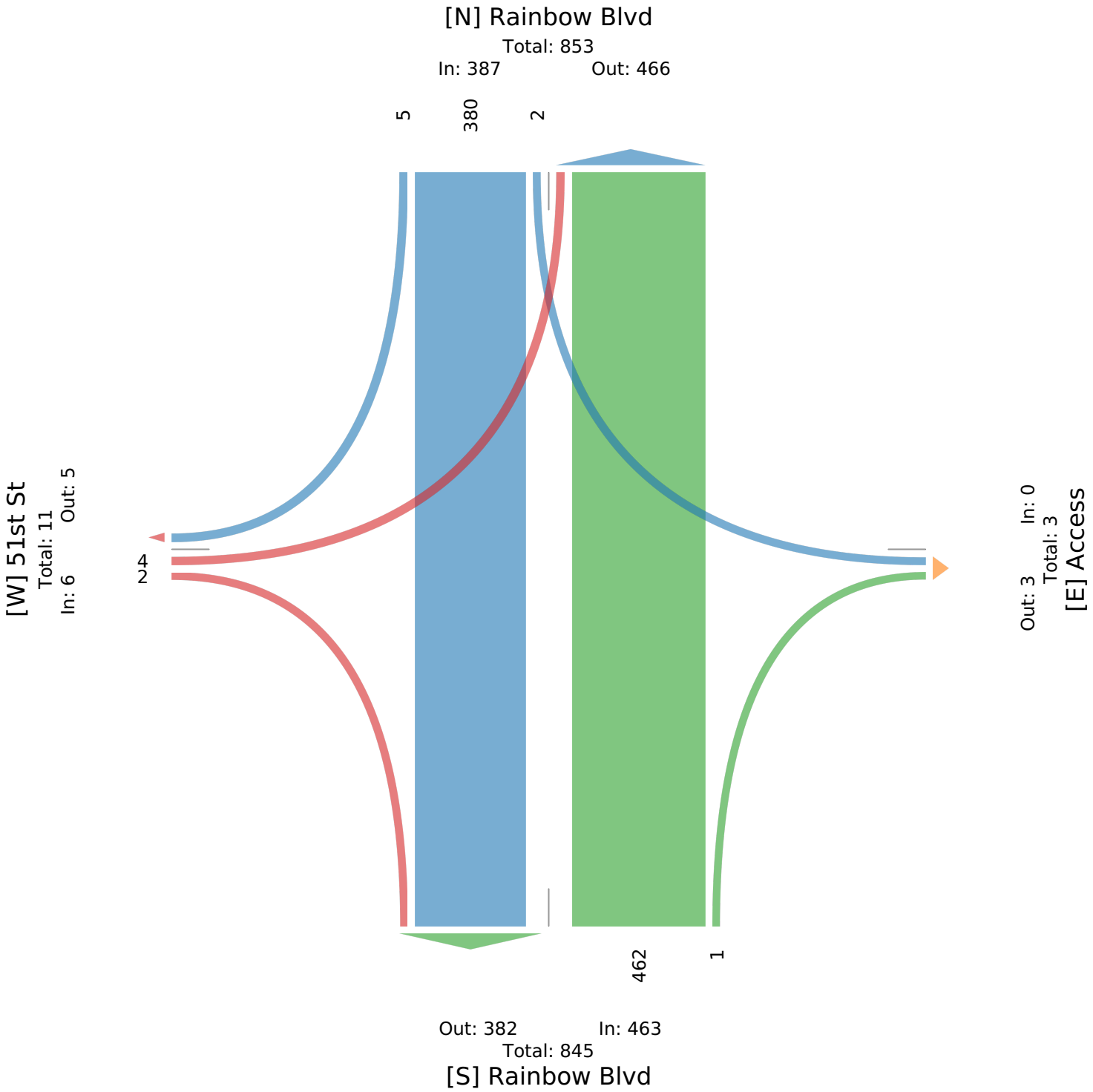
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Rainbow Blvd					Access					Rainbow Blvd					51st St					
Direction	Southbound					Westbound					Northbound					Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-07-18 7:30AM	2	93	0	0	**95**	0	0	0	0	**0**	0	125	0	0	**125**	2	0	1	0	**3**	**223**
7:45AM	2	99	0	0	**101**	0	0	0	0	**0**	1	122	0	0	**123**	0	0	0	0	**0**	**224**
8:00AM	1	99	1	0	**101**	0	0	0	0	**0**	0	104	0	0	**104**	0	0	0	0	**0**	**205**
8:15AM	0	89	1	0	**90**	0	0	0	0	**0**	0	111	0	0	**111**	0	0	3	0	**3**	**204**
Total	5	380	2	0	**387**	0	0	0	0	**0**	1	462	0	0	**463**	2	0	4	0	**6**	**856**
% Approach	1.3%	98.2%	0.5%	0%	**-**	0%	0%	0%	0%	**-**	0.2%	99.8%	0%	0%	**-**	33.3%	0%	66.7%	0%	**-**	-
% Total	0.6%	44.4%	0.2%	0%	**45.2%**	0%	0%	0%	0%	**0%**	0.1%	54.0%	0%	0%	**54.1%**	0.2%	0%	0.5%	0%	**0.7%**	-
PHF	0.625	0.960	0.500	-	**0.958**	-	-	-	-	**-**	0.250	0.924	-	-	**0.926**	0.250	-	0.333	-	**0.500**	0.955
Lights	5	365	2	0	**372**	0	0	0	0	**0**	1	455	0	0	**456**	2	0	4	0	**6**	834
% Lights	100%	96.1%	100%	0%	**96.1%**	0%	0%	0%	0%	**-**	100%	98.5%	0%	0%	**98.5%**	100%	0%	100%	0%	**100%**	97.4%
Articulated Trucks	0	5	0	0	**5**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	5
% Articulated Trucks	0%	1.3%	0%	0%	**1.3%**	0%	0%	0%	0%	**-**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0.6%
Buses and Single-Unit Trucks	0	10	0	0	**10**	0	0	0	0	**0**	0	7	0	0	**7**	0	0	0	0	**0**	17
% Buses and Single-Unit Trucks	0%	2.6%	0%	0%	**2.6%**	0%	0%	0%	0%	**-**	0%	1.5%	0%	0%	**1.5%**	0%	0%	0%	0%	**0%**	2.0%

*L: Left, R: Right, T: Thru, U: U-Turn

Rainbow Boulevard & West 51st Street - TMC
Tue Jul 18, 2023
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090496, Location: 39.036048, -94.611877

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Rainbow Boulevard & West 51st Street - TMC

Tue Jul 18, 2023
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090496, Location: 39.036048, -94.611877

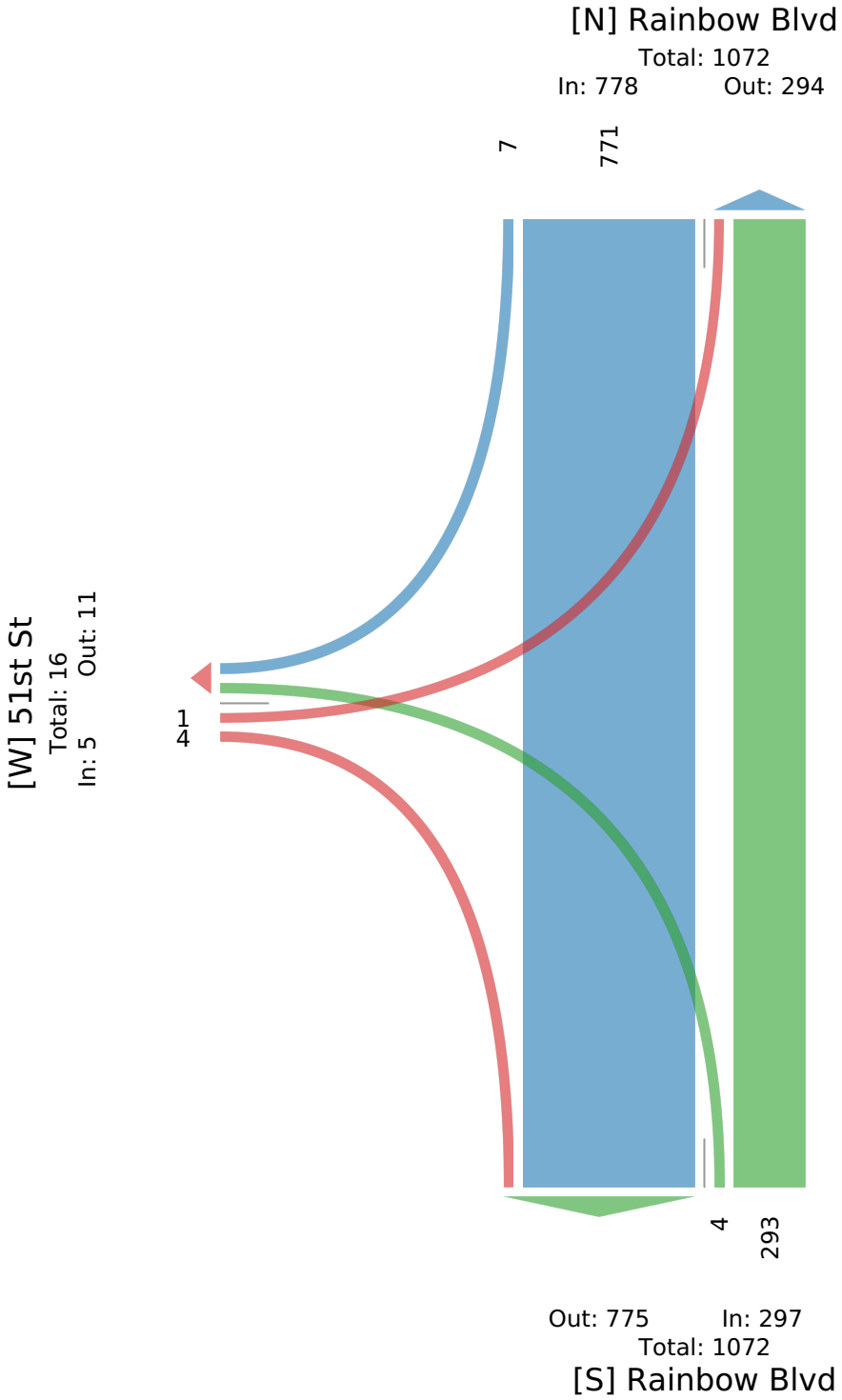
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Rainbow Blvd					Access					Rainbow Blvd					51st St					
Direction	Southbound					Westbound					Northbound					Eastbound					
Time	R	T	L	U	**App**	R	T	L	U	**App**	R	T	L	U	**App**	R	T	L	U	**App**	**Int**
2023-07-18 4:30PM	2	167	0	0	**169**	0	0	0	0	**0**	0	66	0	0	**66**	0	0	0	0	**0**	**235**
4:45PM	3	201	0	0	**204**	0	0	0	0	**0**	0	69	2	0	**71**	0	0	0	0	**0**	**275**
5:00PM	1	216	0	0	**217**	0	0	0	0	**0**	0	73	1	0	**74**	3	0	1	0	**4**	**295**
5:15PM	1	187	0	0	**188**	0	0	0	0	**0**	0	85	1	0	**86**	1	0	0	0	**1**	**275**
Total	7	771	0	0	**778**	0	0	0	0	**0**	0	293	4	0	**297**	4	0	1	0	**5**	**1080**
% Approach	0.9%	99.1%	0%	0%	**-**	0%	0%	0%	0%	**-**	0%	98.7%	1.3%	0%	**-**	80.0%	0%	20.0%	0%	**-**	-
% Total	0.6%	71.4%	0%	0%	**72.0%**	0%	0%	0%	0%	**0%**	0%	27.1%	0.4%	0%	**27.5%**	0.4%	0%	0.1%	0%	**0.5%**	-
PHF	0.583	0.892	-	-	**0.896**	-	-	-	-	**-**	-	0.862	0.500	-	**0.863**	0.333	-	0.250	-	**0.313**	0.915
Lights	7	762	0	0	**769**	0	0	0	0	**0**	0	289	4	0	**293**	4	0	1	0	**5**	1067
% Lights	100%	98.8%	0%	0%	**98.8%**	0%	0%	0%	0%	**-**	0%	98.6%	100%	0%	**98.7%**	100%	0%	100%	0%	**100%**	98.8%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**-**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%
Buses and Single-Unit Trucks	0	9	0	0	**9**	0	0	0	0	**0**	0	4	0	0	**4**	0	0	0	0	**0**	13
% Buses and Single-Unit Trucks	0%	1.2%	0%	0%	**1.2%**	0%	0%	0%	0%	**-**	0%	1.4%	0%	0%	**1.3%**	0%	0%	0%	0%	**0%**	1.2%

*L: Left, R: Right, T: Thru, U: U-Turn

Rainbow Boulevard & West 51st Street - TMC
Tue Jul 18, 2023
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1090496, Location: 39.036048, -94.611877

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



APPENDIX B – ITE TRIP GENERATION PLOTS

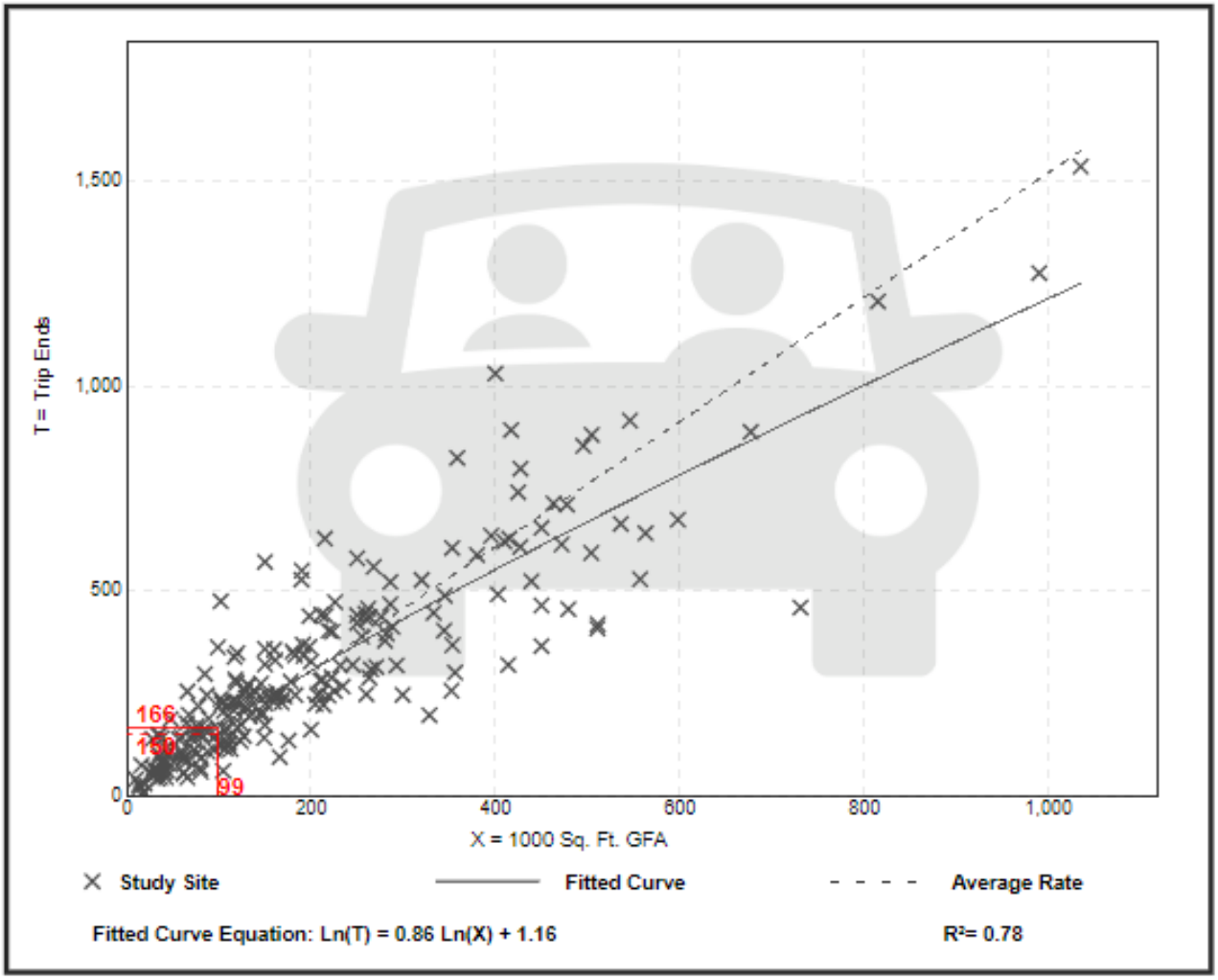
General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 221
Avg. 1000 Sq. Ft. GFA: 201
Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.52	0.32 - 4.93	0.58

Data Plot and Equation



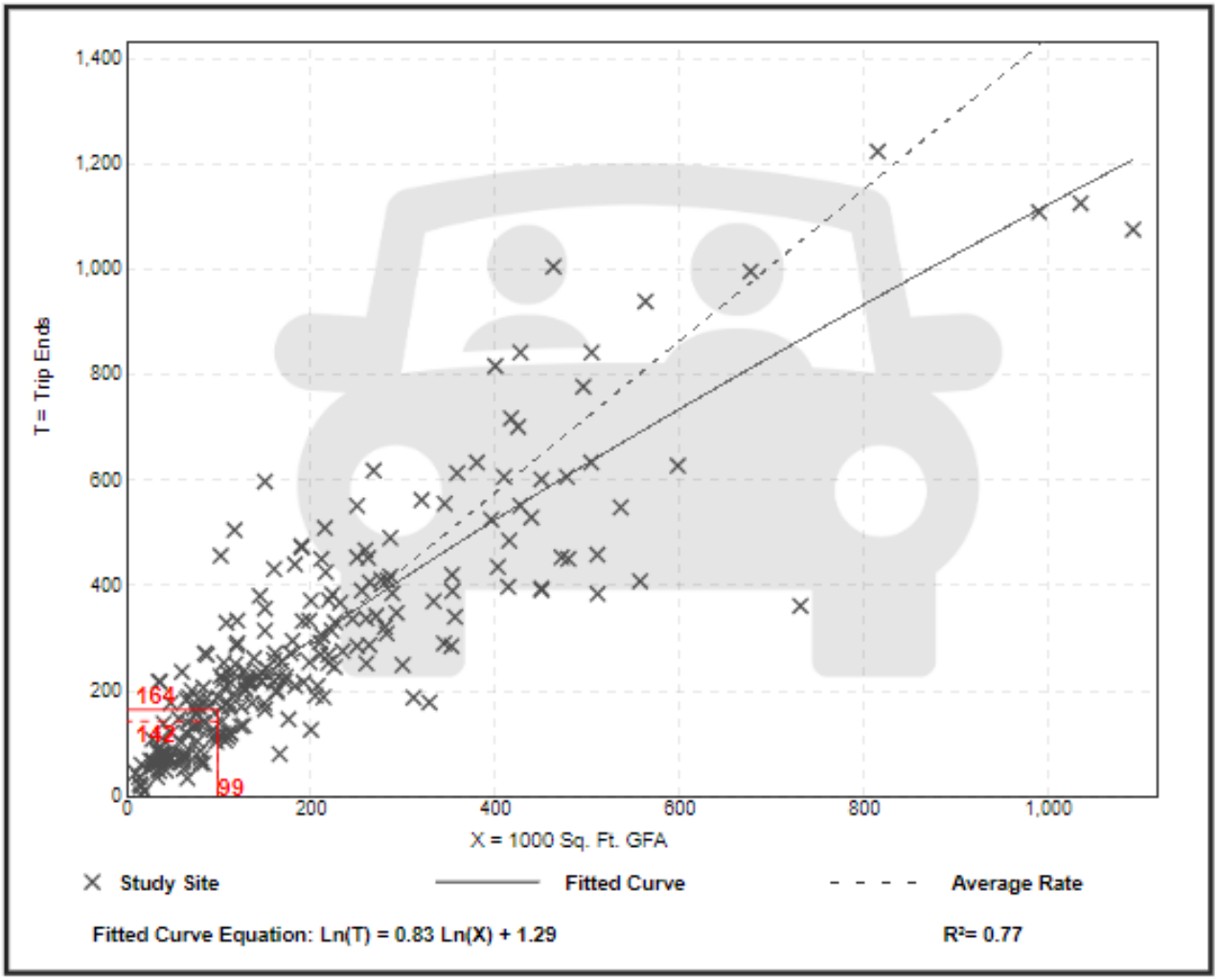
General Office Building
(710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 232
Avg. 1000 Sq. Ft. GFA: 199
Directional Distribution: 17% entering, 83% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.44	0.26 - 6.20	0.60

Data Plot and Equation



Strip Retail Plaza (<40k)
(822)

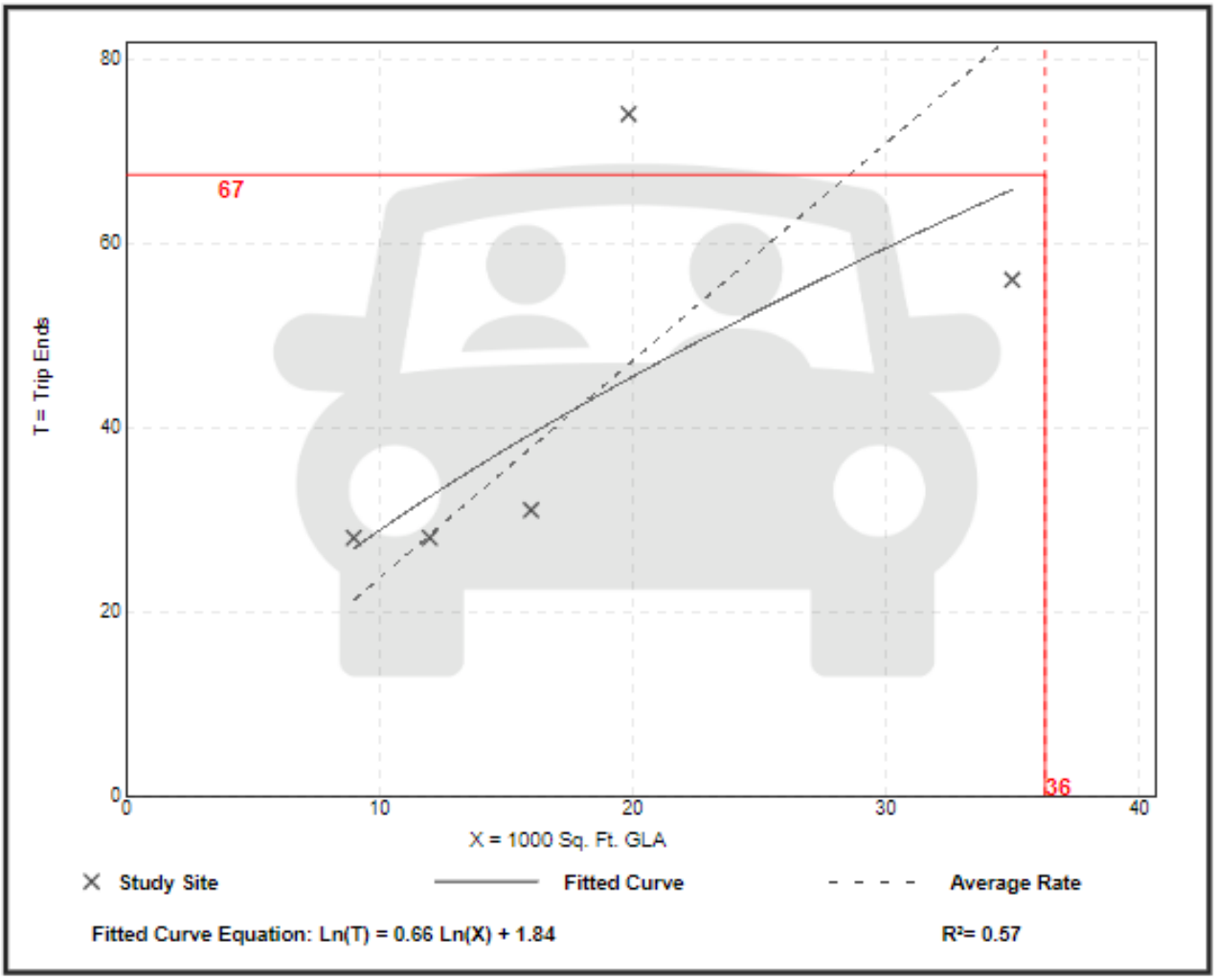
Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	5
Avg. 1000 Sq. Ft. GLA:	18
Directional Distribution:	60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation

Caution – Small Sample Size



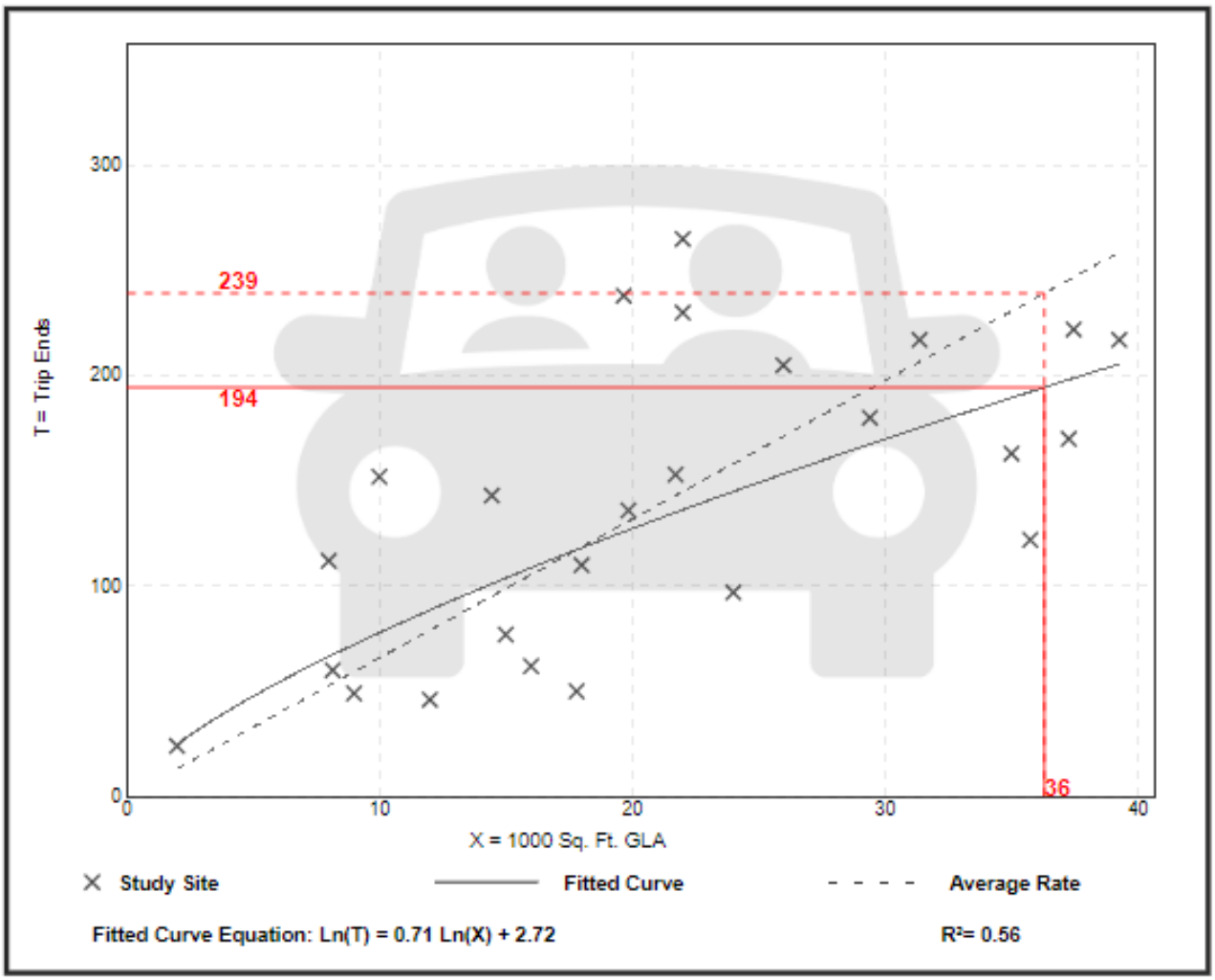
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	25
Avg. 1000 Sq. Ft. GLA:	21
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



APPENDIX C - CAPACITY AND QUEUING ANALYSES

- 50th Street and Adams Street
  - AM Existing
  - PM Existing
  - AM Existing+Proposed
  - PM Existing+Proposed
- 50th Street and Rainbow Boulevard
  - AM Existing
  - AM Existing Queues
  - PM Existing
  - PM Existing Queues
  - AM Existing+Proposed
  - AM Existing+Proposed Queues
  - PM Existing+Proposed
  - PM Existing+Proposed Queues
- 50th Terrace and Rainbow Boulevard
  - AM Existing
  - PM Existing
  - AM Existing+Proposed
  - PM Existing+Proposed
- 51st Street and Rainbow Boulevard
  - AM Existing
  - PM Existing
  - AM Existing+Proposed
  - PM Existing+Proposed
- 51st Street and East Drive
  - AM Existing+Proposed
  - PM Existing+Proposed
- 51st and West Drive
  - AM Existing
  - PM Existing
  - AM Existing+Proposed
  - PM Existing+Proposed

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	31	0	0	11	0	0	0	0	2	0	5
Future Vol, veh/h	0	31	0	0	11	0	0	0	0	2	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	34	0	0	12	0	0	0	0	2	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	34	0	0	49	46	34	46	46	12
Stage 1	-	-	-	-	-	-	34	34	-	12	12	-
Stage 2	-	-	-	-	-	-	15	12	-	34	34	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607	-	-	1578	-	-	951	846	1039	955	846	1069
Stage 1	-	-	-	-	-	-	982	867	-	1009	886	-
Stage 2	-	-	-	-	-	-	1005	886	-	982	867	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1607	-	-	1578	-	-	946	846	1039	955	846	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	946	846	-	955	846	-
Stage 1	-	-	-	-	-	-	982	867	-	1009	886	-
Stage 2	-	-	-	-	-	-	1000	886	-	982	867	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	8.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1607	-	-	1578	-	-	1034
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.007
HCM Control Delay (s)	0	0	-	-	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

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	1	37	0	0	42	4	0	0	0	4	0	6
Future Vol, veh/h	1	37	0	0	42	4	0	0	0	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	40	0	0	46	4	0	0	0	4	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	40	0	0	94	92	40	90	90	48
Stage 1	-	-	-	-	-	-	42	42	-	48	48	-
Stage 2	-	-	-	-	-	-	52	50	-	42	42	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1557	-	-	1570	-	-	889	798	1031	895	800	1021
Stage 1	-	-	-	-	-	-	972	860	-	965	855	-
Stage 2	-	-	-	-	-	-	961	853	-	972	860	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1557	-	-	1570	-	-	883	797	1031	894	799	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	883	797	-	894	799	-
Stage 1	-	-	-	-	-	-	971	859	-	964	855	-
Stage 2	-	-	-	-	-	-	955	853	-	971	859	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	0	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1557	-	-	1570	-	-	966
HCM Lane V/C Ratio	-	0.001	-	-	-	-	-	0.011
HCM Control Delay (s)	0	7.3	0	-	0	-	-	8.8
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	37	3	20	11	0	4	0	26	2	0	5
Future Vol, veh/h	0	37	3	20	11	0	4	0	26	2	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	40	3	22	12	0	4	0	28	2	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	43	0	0	101	98	42	112	99	12
Stage 1	-	-	-	-	-	-	42	42	-	56	56	-
Stage 2	-	-	-	-	-	-	59	56	-	56	43	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607	-	-	1566	-	-	880	792	1029	866	791	1069
Stage 1	-	-	-	-	-	-	972	860	-	956	848	-
Stage 2	-	-	-	-	-	-	953	848	-	956	859	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1607	-	-	1566	-	-	866	781	1029	833	780	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	866	781	-	833	780	-
Stage 1	-	-	-	-	-	-	972	860	-	956	836	-
Stage 2	-	-	-	-	-	-	935	836	-	930	859	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.7	8.7	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1004	1607	-	-	1566	-	-	989
HCM Lane V/C Ratio	0.032	-	-	-	0.014	-	-	0.008
HCM Control Delay (s)	8.7	0	-	-	7.3	0	-	8.7
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	41	2	14	42	4	4	0	26	4	0	6
Future Vol, veh/h	1	41	2	14	42	4	4	0	26	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	45	2	15	46	4	4	0	28	4	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	47	0	0	130	128	46	140	127	48
Stage 1	-	-	-	-	-	-	48	48	-	78	78	-
Stage 2	-	-	-	-	-	-	82	80	-	62	49	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1557	-	-	1560	-	-	843	763	1023	830	764	1021
Stage 1	-	-	-	-	-	-	965	855	-	931	830	-
Stage 2	-	-	-	-	-	-	926	828	-	949	854	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1557	-	-	1560	-	-	830	755	1023	800	756	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	830	755	-	800	756	-
Stage 1	-	-	-	-	-	-	964	854	-	930	822	-
Stage 2	-	-	-	-	-	-	911	820	-	922	853	-

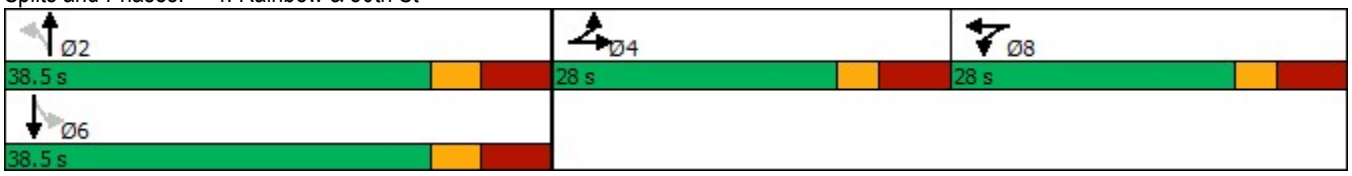
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.7	8.8	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	992	1557	-	-	1560	-	-	919
HCM Lane V/C Ratio	0.033	0.001	-	-	0.01	-	-	0.012
HCM Control Delay (s)	8.8	7.3	0	-	7.3	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	1	473	5	371
Future Volume (vph)	6	0	1	473	5	371
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	8		2		6
Permitted Phases			2		6	
Detector Phase	4	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	24.0	24.5	24.5	24.5	24.5
Total Split (s)	28.0	28.0	38.5	38.5	38.5	38.5
Total Split (%)	29.6%	29.6%	40.7%	40.7%	40.7%	40.7%
Yellow Time (s)	3.0	3.0	3.5	3.5	3.5	3.5
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0
Total Lost Time (s)	8.0	8.0		8.5		8.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Max	Max	Max	Max
Act Effct Green (s)	6.6	5.6		48.7		48.7
Actuated g/C Ratio	0.11	0.09		0.82		0.82
v/c Ratio	0.19	0.03		0.19		0.15
Control Delay	22.3	0.1		5.2		5.1
Queue Delay	0.0	0.0		0.0		0.0
Total Delay	22.3	0.1		5.2		5.1
LOS	C	A		A		A
Approach Delay	22.3	0.1		5.2		5.1
Approach LOS	C	A		A		A

Intersection Summary	
Cycle Length: 94.5	
Actuated Cycle Length: 59.5	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.19	
Intersection Signal Delay: 5.8	Intersection LOS: A
Intersection Capacity Utilization 31.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Rainbow & 50th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	6	12	4	0	5	1	473	1	5	371	10
Future Volume (veh/h)	17	6	12	4	0	5	1	473	1	5	371	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	18	7	13	4	0	5	1	514	1	5	403	11
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	26	10	19	7	0	9	64	1873	4	69	1811	49
Arrive On Green	0.03	0.03	0.03	0.01	0.00	0.01	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	814	317	588	739	0	924	1	3548	7	8	3431	93
Grp Volume(v), veh/h	38	0	0	9	0	0	270	0	246	220	0	199
Grp Sat Flow(s),veh/h/ln	1718	0	0	1663	0	0	1862	0	1694	1854	0	1679
Q Serve(g_s), s	1.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	4.6	0.0	0.0	3.6
Cycle Q Clear(g_c), s	1.2	0.0	0.0	0.3	0.0	0.0	4.6	0.0	4.6	3.6	0.0	3.6
Prop In Lane	0.47		0.34	0.44		0.56	0.00		0.00	0.02		0.06
Lane Grp Cap(c), veh/h	55	0	0	16	0	0	1046	0	894	1043	0	886
V/C Ratio(X)	0.70	0.00	0.00	0.58	0.00	0.00	0.26	0.00	0.27	0.21	0.00	0.22
Avail Cap(c_a), veh/h	605	0	0	585	0	0	1046	0	894	1043	0	886
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	0.0	28.0	0.0	0.0	7.4	0.0	7.4	7.2	0.0	7.2
Incr Delay (d2), s/veh	14.8	0.0	0.0	30.0	0.0	0.0	0.6	0.0	0.8	0.5	0.0	0.6
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	0.8	0.0	0.0	0.3	0.0	0.0	2.5	0.0	2.3	2.0	0.0	1.8
LnGrp Delay(d),s/veh	42.0	0.0	0.0	58.0	0.0	0.0	8.0	0.0	8.2	7.6	0.0	7.8
LnGrp LOS	D			E			A		A	A		A
Approach Vol, veh/h		38			9			516			419	
Approach Delay, s/veh		42.0			58.0			8.1			7.7	
Approach LOS		D			E			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		38.5		9.8		38.5		8.5
Change Period (Y+Rc), s		8.5		8.0		8.5		8.0
Max Green Setting (Gmax), s		30.0		20.0		30.0		20.0
Max Q Clear Time (g_c+I1), s		6.6		3.2		5.6		2.3
Green Ext Time (p_c), s		3.0		0.1		2.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	9.7
HCM 2010 LOS	A

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	38	9	516	419
v/c Ratio	0.19	0.03	0.19	0.15
Control Delay	22.3	0.1	5.2	5.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.3	0.1	5.2	5.1
Queue Length 50th (ft)	7	0	0	0
Queue Length 95th (ft)	35	0	105	85
Internal Link Dist (ft)	236	436	184	566
Turn Bay Length (ft)				
Base Capacity (vph)	600	677	2764	2739
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.01	0.19	0.15

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	6	12	4	0	5	1	473	1	5	371	10
Future Volume (veh/h)	17	6	12	4	0	5	1	473	1	5	371	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	18	7	13	4	0	5	1	514	1	5	403	11
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	26	10	19	7	0	9	64	1873	4	69	1811	49
Arrive On Green	0.03	0.03	0.03	0.01	0.00	0.01	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	814	317	588	739	0	924	1	3548	7	8	3431	93
Grp Volume(v), veh/h	38	0	0	9	0	0	270	0	246	220	0	199
Grp Sat Flow(s),veh/h/ln	1718	0	0	1663	0	0	1862	0	1694	1854	0	1679
Q Serve(g_s), s	1.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	4.6	0.0	0.0	3.6
Cycle Q Clear(g_c), s	1.2	0.0	0.0	0.3	0.0	0.0	4.6	0.0	4.6	3.6	0.0	3.6
Prop In Lane	0.47		0.34	0.44		0.56	0.00		0.00	0.02		0.06
Lane Grp Cap(c), veh/h	55	0	0	16	0	0	1046	0	894	1043	0	886
V/C Ratio(X)	0.70	0.00	0.00	0.58	0.00	0.00	0.26	0.00	0.27	0.21	0.00	0.22
Avail Cap(c_a), veh/h	605	0	0	585	0	0	1046	0	894	1043	0	886
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	0.0	28.0	0.0	0.0	7.4	0.0	7.4	7.2	0.0	7.2
Incr Delay (d2), s/veh	14.8	0.0	0.0	30.0	0.0	0.0	0.6	0.0	0.8	0.5	0.0	0.6
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	0.8	0.0	0.0	0.3	0.0	0.0	2.5	0.0	2.3	2.0	0.0	1.8
LnGrp Delay(d),s/veh	42.0	0.0	0.0	58.0	0.0	0.0	8.0	0.0	8.2	7.6	0.0	7.8
LnGrp LOS	D			E			A		A	A		A
Approach Vol, veh/h		38			9			516			419	
Approach Delay, s/veh		42.0			58.0			8.1			7.7	
Approach LOS		D			E			A			A	

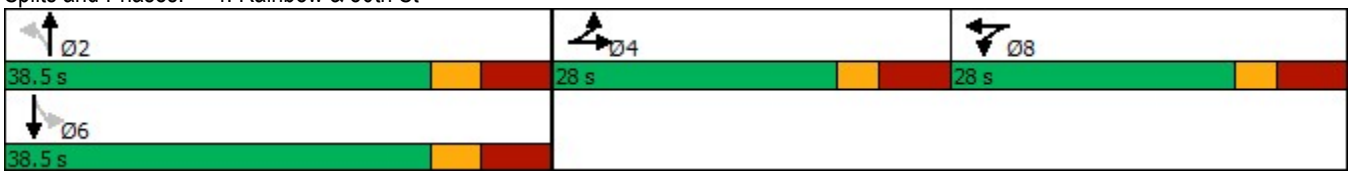
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		38.5		9.8		38.5		8.5
Change Period (Y+Rc), s		8.5		8.0		8.5		8.0
Max Green Setting (Gmax), s		30.0		20.0		30.0		20.0
Max Q Clear Time (g_c+I1), s		6.6		3.2		5.6		2.3
Green Ext Time (p_c), s		3.0		0.1		2.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	9.7
HCM 2010 LOS	A

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	7	10	7	294	4	763
Future Volume (vph)	7	10	7	294	4	763
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	8		2		6
Permitted Phases			2		6	
Detector Phase	4	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	24.0	24.5	24.5	24.5	24.5
Total Split (s)	28.0	28.0	38.5	38.5	38.5	38.5
Total Split (%)	29.6%	29.6%	40.7%	40.7%	40.7%	40.7%
Yellow Time (s)	3.0	3.0	3.5	3.5	3.5	3.5
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0
Total Lost Time (s)	8.0	8.0		8.5		8.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Max	Max	Max	Max
Act Effct Green (s)	6.9	6.3		44.4		44.4
Actuated g/C Ratio	0.11	0.10		0.70		0.70
v/c Ratio	0.22	0.16		0.14		0.37
Control Delay	26.9	22.5		8.4		9.8
Queue Delay	0.0	0.0		0.0		0.0
Total Delay	26.9	22.5		8.4		9.8
LOS	C	C		A		A
Approach Delay	26.9	22.5		8.4		9.8
Approach LOS	C	C		A		A

Intersection Summary	
Cycle Length: 94.5	
Actuated Cycle Length: 63.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.37	
Intersection Signal Delay: 10.3	Intersection LOS: B
Intersection Capacity Utilization 44.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Rainbow & 50th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	7	7	5	10	13	7	294	3	4	763	27
Future Volume (veh/h)	26	7	7	5	10	13	7	294	3	4	763	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	28	8	8	5	11	14	8	320	3	4	829	29
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	11	11	8	17	21	77	1783	17	64	1763	61
Arrive On Green	0.04	0.04	0.04	0.03	0.03	0.03	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1114	318	318	285	626	797	24	3451	32	3	3413	119
Grp Volume(v), veh/h	44	0	0	30	0	0	173	0	158	454	0	408
Grp Sat Flow(s),veh/h/ln	1751	0	0	1708	0	0	1817	0	1689	1860	0	1674
Q Serve(g_s), s	1.4	0.0	0.0	1.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	9.1
Cycle Q Clear(g_c), s	1.4	0.0	0.0	1.0	0.0	0.0	2.9	0.0	2.9	9.0	0.0	9.1
Prop In Lane	0.64		0.18	0.17		0.47	0.05		0.02	0.01		0.07
Lane Grp Cap(c), veh/h	61	0	0	45	0	0	1004	0	873	1024	0	865
V/C Ratio(X)	0.72	0.00	0.00	0.66	0.00	0.00	0.17	0.00	0.18	0.44	0.00	0.47
Avail Cap(c_a), veh/h	603	0	0	588	0	0	1004	0	873	1024	0	865
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	0.0	28.0	0.0	0.0	7.5	0.0	7.5	9.0	0.0	9.0
Incr Delay (d2), s/veh	14.5	0.0	0.0	15.5	0.0	0.0	0.4	0.0	0.5	1.4	0.0	1.8
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	0.9	0.0	0.0	0.7	0.0	0.0	1.5	0.0	1.4	4.9	0.0	4.5
LnGrp Delay(d),s/veh	42.2	0.0	0.0	43.5	0.0	0.0	7.8	0.0	7.9	10.4	0.0	10.8
LnGrp LOS	D			D			A		A	B		B
Approach Vol, veh/h		44			30			331			862	
Approach Delay, s/veh		42.2			43.5			7.9			10.6	
Approach LOS		D			D			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		38.5		10.0		38.5		9.5
Change Period (Y+Rc), s		8.5		8.0		8.5		8.0
Max Green Setting (Gmax), s		30.0		20.0		30.0		20.0
Max Q Clear Time (g_c+I1), s		4.9		3.4		11.1		3.0
Green Ext Time (p_c), s		1.9		0.1		5.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.8
HCM 2010 LOS	B

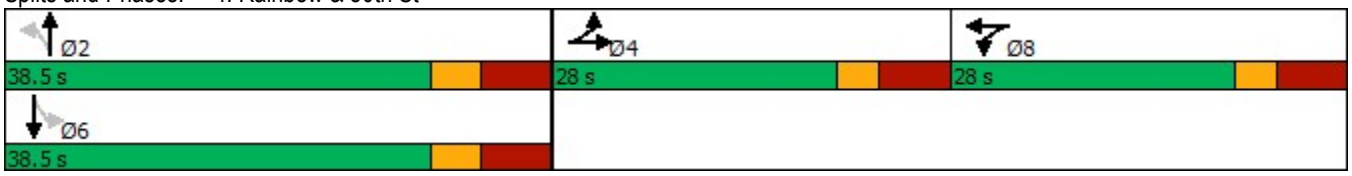
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	44	30	331	862
v/c Ratio	0.22	0.16	0.14	0.37
Control Delay	26.9	22.5	8.4	9.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.9	22.5	8.4	9.8
Queue Length 50th (ft)	14	6	23	73
Queue Length 95th (ft)	42	30	73	205
Internal Link Dist (ft)	236	436	178	566
Turn Bay Length (ft)				
Base Capacity (vph)	572	567	2315	2361
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.14	0.37

Intersection Summary

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	7	3	2	487	5	423
Future Volume (vph)	7	3	2	487	5	423
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	8		2		6
Permitted Phases			2		6	
Detector Phase	4	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	24.0	24.5	24.5	24.5	24.5
Total Split (s)	28.0	28.0	38.5	38.5	38.5	38.5
Total Split (%)	29.6%	29.6%	40.7%	40.7%	40.7%	40.7%
Yellow Time (s)	3.0	3.0	3.5	3.5	3.5	3.5
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0
Total Lost Time (s)	8.0	8.0		8.5		8.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Max	Max	Max	Max
Act Effct Green (s)	6.8	6.2		46.0		46.0
Actuated g/C Ratio	0.11	0.10		0.74		0.74
v/c Ratio	0.25	0.11		0.21		0.20
Control Delay	22.1	25.8		6.7		6.6
Queue Delay	0.0	0.0		0.0		0.0
Total Delay	22.1	25.8		6.7		6.6
LOS	C	C		A		A
Approach Delay	22.1	25.8		6.7		6.6
Approach LOS	C	C		A		A

Intersection Summary	
Cycle Length: 94.5	
Actuated Cycle Length: 62	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.25	
Intersection Signal Delay: 7.7	Intersection LOS: A
Intersection Capacity Utilization 33.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Rainbow & 50th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	7	18	10	3	5	2	487	2	5	423	27
Future Volume (veh/h)	21	7	18	10	3	5	2	487	2	5	423	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	23	8	20	11	3	5	2	529	2	5	460	29
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	30	10	26	18	5	8	64	1837	7	67	1713	107
Arrive On Green	0.04	0.04	0.04	0.02	0.02	0.02	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	769	268	669	1003	274	456	2	3538	13	7	3300	206
Grp Volume(v), veh/h	51	0	0	19	0	0	279	0	254	260	0	234
Grp Sat Flow(s),veh/h/ln	1706	0	0	1732	0	0	1861	0	1693	1855	0	1659
Q Serve(g_s), s	1.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0	4.9	0.0	0.0	4.6
Cycle Q Clear(g_c), s	1.7	0.0	0.0	0.6	0.0	0.0	4.9	0.0	4.9	4.5	0.0	4.6
Prop In Lane	0.45		0.39	0.58		0.26	0.01		0.01	0.02		0.12
Lane Grp Cap(c), veh/h	66	0	0	32	0	0	1029	0	879	1026	0	861
V/C Ratio(X)	0.77	0.00	0.00	0.60	0.00	0.00	0.27	0.00	0.29	0.25	0.00	0.27
Avail Cap(c_a), veh/h	591	0	0	599	0	0	1029	0	879	1026	0	861
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	0.0	28.2	0.0	0.0	7.9	0.0	7.9	7.8	0.0	7.8
Incr Delay (d2), s/veh	17.1	0.0	0.0	17.1	0.0	0.0	0.7	0.0	0.8	0.6	0.0	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	1.1	0.0	0.0	0.4	0.0	0.0	2.7	0.0	2.5	2.5	0.0	2.3
LnGrp Delay(d),s/veh	44.7	0.0	0.0	45.3	0.0	0.0	8.5	0.0	8.7	8.4	0.0	8.6
LnGrp LOS	D			D			A		A	A		A
Approach Vol, veh/h		51			19			533			494	
Approach Delay, s/veh		44.7			45.3			8.6			8.5	
Approach LOS		D			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		38.5		10.2		38.5		9.1
Change Period (Y+Rc), s		8.5		8.0		8.5		8.0
Max Green Setting (Gmax), s		30.0		20.0		30.0		20.0
Max Q Clear Time (g_c+I1), s		6.9		3.7		6.6		2.6
Green Ext Time (p_c), s		3.1		0.2		2.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

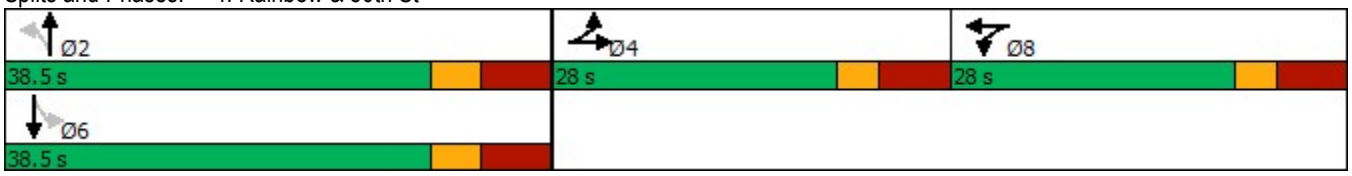
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	51	19	533	494
v/c Ratio	0.25	0.11	0.21	0.20
Control Delay	22.1	25.8	6.7	6.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.1	25.8	6.7	6.6
Queue Length 50th (ft)	12	6	39	35
Queue Length 95th (ft)	42	24	117	107
Internal Link Dist (ft)	236	436	184	566
Turn Bay Length (ft)				
Base Capacity (vph)	578	574	2502	2473
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.03	0.21	0.20

Intersection Summary

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	11	12	13	359	4	800
Future Volume (vph)	11	12	13	359	4	800
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	8		2		6
Permitted Phases			2		6	
Detector Phase	4	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	24.0	24.5	24.5	24.5	24.5
Total Split (s)	28.0	28.0	38.5	38.5	38.5	38.5
Total Split (%)	29.6%	29.6%	40.7%	40.7%	40.7%	40.7%
Yellow Time (s)	3.0	3.0	3.5	3.5	3.5	3.5
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0
Total Lost Time (s)	8.0	8.0		8.5		8.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Max	Max	Max	Max
Act Effct Green (s)	8.0	6.6		40.9		40.9
Actuated g/C Ratio	0.12	0.10		0.62		0.62
v/c Ratio	0.34	0.20		0.21		0.44
Control Delay	29.6	23.6		10.0		12.0
Queue Delay	0.0	0.0		0.0		0.0
Total Delay	29.6	23.6		10.0		12.0
LOS	C	C		B		B
Approach Delay	29.6	23.6		10.0		12.0
Approach LOS	C	C		B		B

Intersection Summary	
Cycle Length: 94.5	
Actuated Cycle Length: 66	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 12.7	Intersection LOS: B
Intersection Capacity Utilization 48.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Rainbow & 50th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	11	11	9	12	13	13	359	9	4	800	39
Future Volume (veh/h)	48	11	11	9	12	13	13	359	9	4	800	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	52	12	12	10	13	14	14	390	10	4	870	42
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	16	16	14	19	20	85	1671	42	62	1687	81
Arrive On Green	0.06	0.06	0.06	0.03	0.03	0.03	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1200	277	277	466	606	652	42	3330	84	3	3362	162
Grp Volume(v), veh/h	76	0	0	37	0	0	214	0	200	483	0	433
Grp Sat Flow(s),veh/h/ln	1754	0	0	1724	0	0	1776	0	1680	1860	0	1667
Q Serve(g_s), s	2.6	0.0	0.0	1.3	0.0	0.0	0.0	0.0	4.0	0.0	0.0	10.5
Cycle Q Clear(g_c), s	2.6	0.0	0.0	1.3	0.0	0.0	3.9	0.0	4.0	10.4	0.0	10.5
Prop In Lane	0.68		0.16	0.27		0.38	0.07		0.05	0.01		0.10
Lane Grp Cap(c), veh/h	101	0	0	53	0	0	955	0	843	994	0	836
V/C Ratio(X)	0.75	0.00	0.00	0.70	0.00	0.00	0.22	0.00	0.24	0.49	0.00	0.52
Avail Cap(c_a), veh/h	587	0	0	577	0	0	955	0	843	994	0	836
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	0.0	28.7	0.0	0.0	8.4	0.0	8.4	10.0	0.0	10.0
Incr Delay (d2), s/veh	10.5	0.0	0.0	15.3	0.0	0.0	0.5	0.0	0.7	1.7	0.0	2.3
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	1.5	0.0	0.0	0.8	0.0	0.0	2.1	0.0	2.0	5.7	0.0	5.2
LnGrp Delay(d),s/veh	38.2	0.0	0.0	44.0	0.0	0.0	8.9	0.0	9.1	11.7	0.0	12.3
LnGrp LOS	D			D			A		A	B		B
Approach Vol, veh/h		76			37			414			916	
Approach Delay, s/veh		38.2			44.0			9.0			12.0	
Approach LOS		D			D			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		38.5		11.5		38.5		9.8
Change Period (Y+Rc), s		8.5		8.0		8.5		8.0
Max Green Setting (Gmax), s		30.0		20.0		30.0		20.0
Max Q Clear Time (g_c+I1), s		6.0		4.6		12.5		3.3
Green Ext Time (p_c), s		2.4		0.3		5.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	76	37	414	916
v/c Ratio	0.34	0.20	0.21	0.44
Control Delay	29.6	23.6	10.0	12.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.6	23.6	10.0	12.0
Queue Length 50th (ft)	24	8	32	84
Queue Length 95th (ft)	64	36	97	237
Internal Link Dist (ft)	236	436	178	566
Turn Bay Length (ft)				
Base Capacity (vph)	547	545	1991	2079
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.07	0.21	0.44

Intersection Summary

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	2	0	9	0	468	5	6	379	0
Future Vol, veh/h	0	0	0	2	0	9	0	468	5	6	379	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	2	0	10	0	509	5	7	412	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	681	940	206	732	938	257	-	0	0	514	0	0
Stage 1	426	426	-	512	512	-	-	-	-	-	-	-
Stage 2	255	514	-	220	426	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	-	-	-	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	-	-
Pot Cap-1 Maneuver	336	262	800	309	263	742	0	-	-	1048	-	0
Stage 1	577	584	-	513	535	-	0	-	-	-	-	0
Stage 2	727	534	-	762	584	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	329	260	800	307	261	742	-	-	-	1048	-	-
Mov Cap-2 Maneuver	329	260	-	307	261	-	-	-	-	-	-	-
Stage 1	577	579	-	513	535	-	-	-	-	-	-	-
Stage 2	717	534	-	755	579	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	11.2	0	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	590	1048	-
HCM Lane V/C Ratio	-	-	-	0.02	0.006	-
HCM Control Delay (s)	-	-	0	11.2	8.5	0
HCM Lane LOS	-	-	A	B	A	A
HCM 95th %tile Q(veh)	-	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	19	292	3	2	773
Future Vol, veh/h	7	19	292	3	2	773
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	21	317	3	2	840

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	743	160	0	0	320	0
Stage 1	319	-	-	-	-	-
Stage 2	424	-	-	-	-	-
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	351	857	-	-	1237	-
Stage 1	710	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	350	857	-	-	1237	-
Mov Cap-2 Maneuver	350	-	-	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	626	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	617	1237	-
HCM Lane V/C Ratio	-	-	0.046	0.002	-
HCM Control Delay (s)	-	-	11.1	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

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	12	2	7	2	8	9	26	468	5	6	379	64
Future Vol, veh/h	12	2	7	2	8	9	26	468	5	6	379	64
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	2	8	2	9	10	28	509	5	7	412	70

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	776	1031	241	789	1064	257	482	0	0	514	0	0
Stage 1	461	461	-	568	568	-	-	-	-	-	-	-
Stage 2	315	570	-	221	496	-	-	-	-	-	-	-
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	287	232	760	281	221	742	1077	-	-	1048	-	-
Stage 1	550	564	-	475	505	-	-	-	-	-	-	-
Stage 2	671	504	-	761	544	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	265	222	760	267	211	742	1077	-	-	1048	-	-
Mov Cap-2 Maneuver	265	222	-	267	211	-	-	-	-	-	-	-
Stage 1	530	559	-	458	487	-	-	-	-	-	-	-
Stage 2	627	486	-	744	539	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.7	16.6	0.4	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1077	-	-	331	330	1048	-	-
HCM Lane V/C Ratio	0.026	-	-	0.069	0.063	0.006	-	-
HCM Control Delay (s)	8.4	-	-	16.7	16.6	8.5	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	11	32	7	6	19	18	292	3	2	773	45
Future Vol, veh/h	55	11	32	7	6	19	18	292	3	2	773	45
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	12	35	8	7	21	20	317	3	2	840	49

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1071	1229	445	789	1252	160	889	0	0	320	0	0
Stage 1	869	869	-	359	359	-	-	-	-	-	-	-
Stage 2	202	360	-	430	893	-	-	-	-	-	-	-
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	175	177	561	281	171	857	758	-	-	1237	-	-
Stage 1	313	367	-	632	626	-	-	-	-	-	-	-
Stage 2	781	625	-	574	358	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	161	171	561	243	165	857	758	-	-	1237	-	-
Mov Cap-2 Maneuver	161	171	-	243	165	-	-	-	-	-	-	-
Stage 1	303	366	-	612	606	-	-	-	-	-	-	-
Stage 2	730	605	-	519	357	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	38	15.9	0.6	0
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	758	-	-	212	366	1237	-	-
HCM Lane V/C Ratio	0.026	-	-	0.502	0.095	0.002	-	-
HCM Control Delay (s)	9.9	-	-	38	15.9	7.9	0	-
HCM Lane LOS	A	-	-	E	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.5	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	2	0	462	380	5
Future Vol, veh/h	4	2	0	462	380	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	2	0	502	413	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	667	209	418	0	-	0
Stage 1	416	-	-	-	-	-
Stage 2	251	-	-	-	-	-
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	392	797	1138	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	392	797	1138	-	-	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	768	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1138	-	472	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	12.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	4	0	293	771	7
Future Vol, veh/h	1	4	0	293	771	7
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	4	0	318	838	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1001	423	846	0	-	0
Stage 1	842	-	-	-	-	-
Stage 2	159	-	-	-	-	-
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	239	579	787	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	239	579	787	-	-	-
Mov Cap-2 Maneuver	239	-	-	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	853	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	787	-	451	-	-
HCM Lane V/C Ratio	-	-	0.012	-	-
HCM Control Delay (s)	0	-	13.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	13	43	490	387	5
Future Vol, veh/h	9	13	43	490	387	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	14	47	533	421	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	785	213	426	0	-	0
Stage 1	424	-	-	-	-	-
Stage 2	361	-	-	-	-	-
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	330	792	1130	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	311	792	1130	-	-	-
Mov Cap-2 Maneuver	311	-	-	-	-	-
Stage 1	591	-	-	-	-	-
Stage 2	676	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1130	-	485	-	-
HCM Lane V/C Ratio	0.041	-	0.049	-	-
HCM Control Delay (s)	8.3	0.2	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	58	34	311	803	7
Future Vol, veh/h	23	58	34	311	803	7
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	63	37	338	873	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1120	441	881	0	-	0
Stage 1	877	-	-	-	-	-
Stage 2	243	-	-	-	-	-
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	200	564	763	-	-	-
Stage 1	367	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	188	564	763	-	-	-
Mov Cap-2 Maneuver	188	-	-	-	-	-
Stage 1	345	-	-	-	-	-
Stage 2	775	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.2	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	763	-	360	-	-
HCM Lane V/C Ratio	0.048	-	0.245	-	-
HCM Control Delay (s)	10	0.2	18.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	11	22	26	11	1
Future Vol, veh/h	5	11	22	26	11	1
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	5	12	24	28	12	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	52	0	-	0	60	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	22	-
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	1554	-	-	-	947	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	1001	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1554	-	-	-	944	1034
Mov Cap-2 Maneuver	-	-	-	-	944	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	1001	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1554	-	-	-	951
HCM Lane V/C Ratio	0.003	-	-	-	0.014
HCM Control Delay (s)	7.3	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	27	23	0	54	7
Future Vol, veh/h	4	27	23	0	54	7
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	4	29	25	0	59	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	25	0	-	0	62	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	37	-
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	1589	-	-	-	944	1051
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	985	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1589	-	-	-	941	1051
Mov Cap-2 Maneuver	-	-	-	-	941	-
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1589	-	-	-	952
HCM Lane V/C Ratio	0.003	-	-	-	0.07
HCM Control Delay (s)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	5	0	0	0
Future Vol, veh/h	0	6	5	0	0	0
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	0	7	5	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	5	0	-	0	12	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	7	-
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	1616	-	-	-	1008	1078
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	1016	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1616	-	-	-	1008	1078
Mov Cap-2 Maneuver	-	-	-	-	1008	-
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	1016	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1616	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	11	0	0	0
Future Vol, veh/h	0	5	11	0	0	0
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	0	5	12	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	12	0	-	0	17	12
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	5	-
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	1607	-	-	-	1001	1069
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	1018	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1607	-	-	-	1001	1069
Mov Cap-2 Maneuver	-	-	-	-	1001	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	1018	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1607	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	11	6	17	5	1
Future Vol, veh/h	3	11	6	17	5	1
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	3	12	7	18	5	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	25	0	-	0	34	16
Stage 1	-	-	-	-	16	-
Stage 2	-	-	-	-	18	-
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	1589	-	-	-	979	1063
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1589	-	-	-	977	1063
Mov Cap-2 Maneuver	-	-	-	-	977	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	1005	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1589	-	-	-	990
HCM Lane V/C Ratio	0.002	-	-	-	0.007
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	9	18	12	22	4
Future Vol, veh/h	2	9	18	12	22	4
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	2	10	20	13	24	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	33	0	-	0	41	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	14	-
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	1579	-	-	-	970	1048
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	1009	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1579	-	-	-	969	1048
Mov Cap-2 Maneuver	-	-	-	-	969	-
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	1009	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1579	-	-	-	980
HCM Lane V/C Ratio	0.001	-	-	-	0.029
HCM Control Delay (s)	7.3	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1