



Hampton, Lenzini and Renwick, Inc.

Civil Engineers • Structural Engineers • Land Surveyors • Environmental Specialists
www.hlrengineering.com

July 14, 2022

Mr. Russell Colby
City of St. Charles
Director of Community Development
2 E. Main Street
St. Charles, IL 60174

RE: River East Development– Traffic Impact Study

Dear Mr. Colby,

HLR has reviewed the revised traffic impact study submitted by BLA, Inc. on June 21, 2022. We offer the following responses for your consideration.

1. It is acknowledged that the revised site-generated traffic based on land use quantity changes is expected to have minimal impact on roadway network operations.
2. The site distance for vehicles turning from 2nd Avenue to Illinois Ave has been improved with the reconfiguration of the proposed building and is no longer a concern.
3. Verify that the appropriate crossing treatments are included in the current site plans at the proposed pedestrian crossing.

Yours truly,

HAMPTON, LENZINI AND RENWICK, INC.

Callie Castro

Callie Castro, PE, PTOE

Date: June 21, 2022

To: Mr. Curt Hurst
STC 216, LLC

From: Lynn M. Means, P.E., PTOE, RSP1
Senior Transportation Engineer - BLA, Inc

Re: *River East Redevelopment*
216 S. Riverside Avenue
St. Charles, Illinois

BLA-Inc. has conducted an evaluation of traffic conditions in connection with the proposed redevelopment of the property located at 216 S. Riverside Avenue in St. Charles, Illinois. The site is currently vacant, formerly containing the St. Charles Chamber of Commerce. As proposed, the development consists of constructing a four-story apartment building with ground floor retail. It also includes the vacation of Indiana Avenue between Riverside Avenue and 2nd Avenue, as well as the realignment of 2nd Avenue at Riverside Avenue.

The following summarizes the analysis conducted, our findings and provides various recommendations for your consideration. *Exhibits* and *Appendices* referenced are in the Technical Addendum at the end of this document.

EXISTING TRAFFIC

Traffic turning movement counts were performed on Thursday, July 15, 2021, between the hours of 7:00 AM and 7:00 PM and on Saturday, July 17, 2021, between the hours of 7:00 AM and 3:00 PM at the following intersections:

- Indiana Avenue and Riverside Avenue
- Indian Avenue and 2nd Avenue

The following presents a summary of the traffic counts:

Weekday, Thursday, July 15, 2021

- On Thursday, July 15, 2021, between the hours of 7:00 AM and 7:00 PM (*12 hours, weekday*) there were a total of 142 vehicles that used Indiana Avenue (40 eastbound and 102 westbound).
 - Of the 102 westbound vehicles approximately 70 percent (72 of 102) were destined to the north on Riverside Avenue and 30 percent (30 of 102) were to the south on Riverside Avenue.
 - Of the 102 westbound vehicles on Indiana Avenue, approximately 82 percent (84 of 102) originated from the west on Indiana Avenue, approximately 13 percent (13 of 102) from the north on 2nd Avenue and approximately 5 percent (5 of 102) from the south on 2nd Avenue.
 - Of the 40 eastbound vehicles, 35 percent (14 of 40) were destined to the north on 2nd Avenue, 62.5% (25 of 40) to the east on Indiana Avenue and one (1) vehicle to the south on 2nd Avenue.
 - Of the 40 eastbound vehicles, approximately 42 percent (17 of 40) originated from the north on Riverside Avenue and approximately 58 percent from the south on Riverside Avenue.
- The *weekday morning peak* hour on Thursday, July 15, 2021, occurred between the hours of 8:30 and 9:30 AM. During this timeframe, there were a total of 17 vehicles that used Indiana Avenue – five (5) eastbound and 12 westbound.
 - Of the 12 westbound vehicles approximately 67 percent (4 of 12) were destined to the north on Riverside Avenue and 33 percent (8 of 12) were to the south on Riverside Avenue.
 - Of the 12 westbound vehicles on Indiana Avenue, approximately 92 percent (11 of 12) originated from the west on Indiana Avenue and approximately 8 percent (1 of 12) from the south on 2nd Avenue.

- Of the 5 eastbound vehicles, 60 percent (3 of 5) were destined to the north on 2nd Avenue and 40% (2 of 5) to the east on Indiana Avenue.
- Of the 5 eastbound vehicles, 20 percent (1 of 5) originated from the north on Riverside Avenue and 80 percent (4 of 5) from the south on Riverside Avenue.
- The **weekday evening peak hour** on Thursday, July 15, 2021, occurred between the hours of 4:30 and 5:30 PM. During this timeframe, there were a total of 13 vehicles that used Indiana Avenue – one (1) eastbound and 12 westbound.
 - Of the 12 westbound vehicles approximately 92 percent (11 of 12) were destined to the north on Riverside Avenue and 8 percent (1 of 12) were to the south on Riverside Avenue.
 - Of the 12 westbound vehicles on Indiana Avenue, approximately 58 percent (7 of 12) originated from the west on Indiana Avenue and approximately 42 percent (5 of 12) from the north on 2nd Avenue.
 - The one eastbound vehicle (100%) was destined to the north on 2nd Avenue.
 - The one eastbound vehicle (100%) originated from the south on Riverside Avenue.

Saturday, July 17, 2021

- On Saturday, July 17, between the hours of 7:00 AM and 3:00 PM (**8 hours, Saturday**) there were a total of 63 vehicles that used Indiana Avenue (23 eastbound and 40 westbound).
 - Of the 40 westbound vehicles 55 percent (22 of 40) were destined to the north on Riverside Avenue and 45 percent (18 of 40) were to the south on Riverside Avenue.
 - Of the 40 westbound vehicles on Indiana Avenue, 80 percent (32 of 40) originated from the west on Indiana Avenue, 15 percent (6 of 40) from the north on 2nd Avenue and 5 percent (2 of 40) from the south on 2nd Avenue.
 - Of the 23 eastbound vehicles, approximately 57 percent (13 of 23) were destined to the north on 2nd Avenue, approximately 39% (9 of 23) to the east on Indiana Avenue and one (1) vehicle to the south on 2nd Avenue (approximately 4 percent).
 - Of the 22 eastbound vehicles, approximately 43 percent (10 of 23) originated from the north on Riverside Avenue and approximately 57 percent from the south on Riverside Avenue (13 of 23).
- The **Saturday midday** peak hour on Saturday, July 17, 2021, occurred between the hours of 11:30 AM and 12:30 PM. During this timeframe, there were a total of 16 vehicles that used Indiana Avenue – eight (8) eastbound and 8 westbound.
 - Of the 8 westbound vehicles 62.5% percent (5 of 8) were destined to the north on Riverside Avenue and 37.5% percent (3 of 8) were to the south on Riverside Avenue.
 - Of the 8 westbound vehicles on Indiana Avenue, approximately 88% percent (7 of 8) originated from the west on Indiana Avenue and approximately 12 percent (1 of 8) from the south on 2nd Avenue.
 - Of the 8 eastbound vehicles, 37.5% percent (3 of 8) were destined to the north on 2nd Avenue and 62.5% (5 of 8) to the east on Indiana Avenue.
 - Of the 8 eastbound vehicles, 37.5% percent (3 of 8) originated from the north on Riverside Avenue and 62.5% percent (5 of 8) from the south on Riverside Avenue.

The annual average daily traffic (AADT) was also obtained from the Illinois Department of Transportation (IDOT) (www.gettingaroundillinois.com) along the study area roadways near the site and are summarized in **Table 1**.

Table 1: Summary of IDOT AADT Volumes

Location	IDOT AADT (year 2018)
Riverside Avenue	
Between Main St (IL 64) and 5 th Ave	1,750
Illinois Avenue	
Between 7 th St and 7 th Ave	3,050
3rd Avenue	
Between Illinois Avenue and Walnut Avenue	400

In addition, the 2021 intersection volumes were compared to the IDOT roadway segment peak hour volumes, as available, to determine and appropriate adjustment factor to account for abnormal traffic conditions within the study area associated with school and business closures and remote learning / working due to COVID-19. *Table 2* summarizes the comparison along with the adjustment assumed. *Note: The highest adjustment realized during each peak period (highlighted in gray in Table 2) was assumed in the analysis to provide a conservative analysis scenario. In addition, the highest adjustment factor (weekday AM peak) was applied to the Saturday midday volumes, since no pre-Covid data was available during that timeframe.*

Table 2: Traffic Volume Comparison: COVID-19 Adjustment

Location / Timeframe	IDOT Volumes (2019/2018)		Intersection Volumes (2021)		COVID Adjustment Factor			
	AM	PM	AM	PM	Calculated		Assumed	
					AM	PM	AM	PM
Riverside Avenue								
Between Main St & 5 th Ave	127	198	82	186	1.55	1.06	1.55	1.06

Summaries of the intersection turning movement and IDOT traffic count data are contained in *Appendix A and Appendix B*, respectively. *It should be noted, the IDOT traffic volumes presented in Appendix B represent “raw”, unadjusted data. These volumes are adjusted based on day of week and month of year factors, resulting in an AADT which is lower than the raw total.*

The unadjusted existing peak hour and IDOT AADT volumes are illustrated on *Exhibit 1A*, and the adjusted existing peak hour volumes are illustrated on *Exhibit 1B*. *Note: The existing traffic volumes at the Riverside Avenue and 2nd Avenue intersection, as illustrated on Exhibit 1, were assumed based on the existing traffic volumes at the adjacent Indiana Avenue intersections.*

EXISTING TRAFFIC ANALYSIS

Capacity and Queue Analysis

A primary result of capacity analysis is the assignment of levels of service to traffic facilities under various traffic flow conditions. The capacity analysis methodology is based on the concepts and procedures in the Transportation Research Board’s (TRB) *Highway Capacity Manual (HCM)*, 6th Edition. The concept of level of service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. A description of the operating condition under each level of service is provided in *Table 3*.

Table 3: Level of Service (LOS) Summary

LOS	Description	Average Control Delay (sec/veh)	
		Signalized	Unsignalized
A	Describes conditions with little to no delay to motorists.	≤ 10	≤ 10
B	Represents a desirable level with relatively low delay to motorists.	>10 and ≤ 20	>10 and ≤ 15
C	Describes conditions with average delays to motorists.	>20 and ≤ 35	>15 and ≤ 25
D	Describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.	>35 and ≤ 55	>25 and ≤ 35
E	Represents operating conditions with high delay values. This level is often considered within urban settings or for minor streets intersecting major arterial roadways to be the limit of acceptable delay.	>55 and ≤ 80	>35 and ≤ 50
F	Is considered unacceptable to most drivers with high delay values that often occur when arrival flow rates exceed the capacity of the intersection.	>80	>50

Capacity and queue analyses were conducted at all study intersections under Existing (adjusted) traffic volume conditions through application of the procedures described above. The results of the intersection analyses are discussed below and are summarized in *Table 4*. All analysis worksheets are provided in *Appendix C*.

Table 4: Level-of-Service and Queue Analysis Summary – Existing Traffic

Intersection/Peak Hour/Movement	Existing		
	Delay ¹	LOS ²	Queue ³
2nd Avenue at Indiana Avenue			
<i>Weekday AM</i>			
Indiana Ave EB approach	9.2	A	--
Indiana Ave WB approach	9.2	A	--
2 nd Ave NB left-turns	7.2	A	--
2 nd Ave SB left-turns	7.2	A	--
<i>Weekday PM</i>			
Indiana Ave EB approach	8.8	A	--
Indiana Ave WB approach	9.2	A	--
2 nd Ave NB left-turns	7.2	A	--
2 nd Ave SB left-turns	7.2	A	--
<i>Saturday Midday</i>			
Indiana Ave EB approach	9.2	A	3
Indiana Ave WB approach	9.2	A	3
2 nd Ave NB left-turns	7.2	A	--
2 nd Ave SB left-turns	7.3	A	--
Riverside Avenue at Indiana Avenue			
<i>Weekday AM</i>			
Indiana Ave WB approach	9.2	A	3
Riverside Ave SB left-turns	7.4	A	--
<i>Weekday PM</i>			
Indiana Ave WB approach	9.0	A	3
Riverside Ave SB left-turns	7.5	A	--
<i>Saturday Midday</i>			
Indiana Ave WB approach	10.0	B	3
Riverside Ave SB left-turns	7.3	A	--
Riverside Avenue at 2nd Avenue			
<i>Weekday AM</i>			
2 nd Ave WB approach	9.4	A	--
Riverside Ave SB left-turns	7.4	A	--
<i>Weekday PM</i>			
2 nd Ave WB approach	9.9	A	3
Riverside Ave SB left-turns	7.5	A	--
<i>Saturday Midday</i>			
2 nd Ave WB approach	10.6	B	3
Riverside Ave SB left-turns	7.7	A	--

¹ Average control delay in seconds per vehicle.

² Level of service.

³ 95th percentile queue length in feet per lane.

As shown, all movements at the unsignalized intersections operate at desirable levels of service (at LOS “B” or better) during all three peak periods studied. The 95th percentile queue lengths on all approaches do not exceed one vehicle.

SITE TRAFFIC CHARACTERISTICS

Proposed Development Plan

As proposed, the development consists of redeveloping the site to provide a four-story building, containing 42 residential dwelling units. The ground floor is anticipated to include a bicycle shop (6,422 square-feet). The development will be served by a total of 60 off-street parking spaces, including 3 accessible spaces. The development also includes the vacation of Indiana Avenue between Riverside Avenue and 2nd Avenue, as well as the realignment of 2nd Avenue at Riverside Avenue.

Trip Generation

The amount of traffic generated by a development depends on the type and density of the land use. Trip generation estimates for the development were calculated based on information published in the Institute of Transportation Engineers (ITE) Manual *Trip Generation*, 11th Edition (see *Appendix D*). The ITE manual is a compilation of national traffic data surveys used to estimate traffic volumes for various land uses.

The ITE data does not represent locations with measurable biking, walking and other non-auto trips. Based on the US Census Bureau, 2015-2019 America Community Survey Data, Mode of Transportation (Journey to Work) for Census Tract 8523, approximately 90 percent use auto (personal vehicles and/or taxi/rideshare carpool) to commute to/from work (see *Appendix E*). However, to provide a conservative scenario, test the maximum site impacts, the ITE trip generation estimates were *not* discounted for residents that carpool and/or use alternative modes to travel to/from work (bike, walk, work from home, etc.).

For multi-use developments, internal trips between the land uses within the development are expected to occur. These are multi-purpose trips from one land use within the development to another land use within the same development. However, to provide a conservative analysis scenario, a reduction for internal capture was *not* applied.

Table 5 provides a summary of the total trips to be generated by the proposed development, including residents, visitors, deliveries, etc.

Table 5: Estimated Trip Generation

Land Use / Size	ITE Land Use Code	Weekday						Saturday		
		AM Peak Hour ¹			PM Peak Hour ²			Peak Hour ³		
		In	Out	Total	In	Out	Total	In	Out	Total
Multi-Family / 42 Units	221	2	5	7	10	7	17	9	8	17
Retail/Bike Shop	822 ⁴	9	6	15	21	21	42	21	21	42
Total		11	11	22	31	28	59	30	29	59

¹ One hour between 7:00 and 9:00 AM.

² One hour between 4:00 and 6:00 PM.

³ The hour with the highest volume of traffic (combined entering & exiting); may occur in the AM or PM.

⁴ The ITE average rates were assumed in the analysis due to the small building footprint and lower anticipated vehicular trip generation based on the proposed use (bike shop).

Note: The existing site formerly contained the St. Charles Chamber of Commerce. Thus, the trips as presented above in Table 5 provide a conservative analysis scenario (do not discount for the former site use).

Directional Distribution

The anticipated trip distribution of new site traffic is summarized in *Table 6*. This was based on current travel patterns, the operational characteristics of the street system and site access.

Table 6: Trip Distribution

Route & Direction	Percent Route (To/From)
Illinois Avenue	
East of 2 nd Avenue	40%
West of Riverside Avenue	20%
Riverside Avenue	
North of Illinois Avenue	25%
South of 2 nd Avenue	15%
Indiana Avenue	
East of 2 nd Avenue	--
2nd Avenue	
North of Illinois Avenue	--
Total	100%

-- Less than 5 percent.

Site Traffic Assignment

As previously described, in connection with the proposed development, Indiana Avenue is proposed to be vacated between Riverside Avenue and 2nd Avenue and Riverside Avenue. *Exhibit 2* illustrates the re-routing of existing traffic volumes with the proposed vacation of Indiana Avenue.

The site vehicular traffic assignment is illustrated on *Exhibit 3*, which is based on the site estimated trips (*Table 5*) and the anticipated direction distribution (*Table 6*).

Traffic Growth

Construction and occupancy of the proposed development is anticipated to occur by the year 2023. Future traffic volumes were developed for the year 2028, build-out plus five years. Based on a review of historical IDOT traffic volumes (see *Appendix F*), the study area roadways have experienced minimal, if any, growth over the past 10 years. However, to provide a conservative analysis scenario, a 1.0 percent per year compounded growth rate was applied.

Total Traffic Conditions

The site generated traffic volumes (*Exhibit 3*), as well as the re-routing of existing traffic volumes with the vacation of Illinois Avenue (*Exhibit 2*) were then added to the existing traffic volumes (*Exhibit 1B*), as well as a 1.0 percent compounded growth rate applied. The total traffic volumes are shown on *Exhibit 4*.

Site Traffic Increases

The total (including both entering and exiting) weekday AM, weekday PM and Saturday midday peak hour vehicular trips of 22, 59 and 59, are expected on the streets leading beyond the study area, or approximately 1 additional vehicle every 1 to 3 minutes.

As shown on *Exhibit 3* and in *Tables 5 and 6*, approximately 45 percent of the site traffic will travel through the Illinois Street and Riverside Avenue intersection, representing approximately 10 to 27 additional vehicles per hour, or approximately 1 additional vehicle per 2 to 6 minutes. This increase represents less than one additional vehicle per cycle length at this intersection, which, accordingly, will not materially impact overall intersection operations and can be accommodated within the existing roadway geometrics and signal timings.

As noted, this increase does not discount for residences that use alternative modes to travel to/from work or the former site use. Accordingly, the amount of site-generated traffic is expected to have minimal effects on the operations of the external street network, which assumes the vacation of Indiana Avenue between Riverside Avenue and 2nd Avenue.

FUTURE TRAFFIC ANALYSIS

Capacity and queue analyses were conducted for assessing future traffic conditions of the weekday morning and evening and Saturday midday peak hours, again using the methodologies outlined in the *Highway Capacity Manual*. Summaries of the capacity and queue analyses under future (existing plus site traffic, including the resignation of existing traffic associated with the vacation of Indiana Avenue between Riverside Avenue and 2nd Avenue) conditions are presented in *Table 7* and discussed below. All output worksheets used for these analyses are contained in *Appendix G*.

Table 7: Level-of-Service and Queue Analysis Summary – Total Traffic

Intersection/Peak Hour/Movement	Total Traffic		
	Delay ¹	LOS ²	Queue ³
2nd Avenue at Indiana Avenue			
<i>Weekday AM</i>			
Indiana Ave WB approach	8.8	A	3
2 nd Ave SB left-turns	7.3	A	--
<i>Weekday PM</i>			
Indiana Ave WB approach	9.0	A	--
2 nd Ave SB left-turns	7.3	A	--
<i>Saturday Midday</i>			
Indiana Ave WB approach	9.0	A	3
2 nd Ave SB left-turns	7.3	A	--
Riverside Avenue at 2nd Avenue			
<i>Weekday AM</i>			
2 nd Ave WB approach	9.4	A	3
Riverside Ave SB left-turns	7.4	A	--
<i>Weekday PM</i>			
2 nd Ave WB approach	9.7	A	5
Riverside Ave SB left-turns	7.5	A	--
<i>Saturday Midday</i>			
2 nd Ave WB approach	10.7	B	8
Riverside Ave SB left-turns	7.7	A	--

¹ Average control delay in seconds per vehicle.

² Level of service.

³ 95th percentile queue length in feet per lane.

As shown, all movements at the unsignalized intersections will continue to operate at desirable levels of service (at LOS "B" or better) during all three peak periods studied under future conditions with the proposed development traffic. The 95th percentile queue lengths on all approaches do not exceed one vehicle.

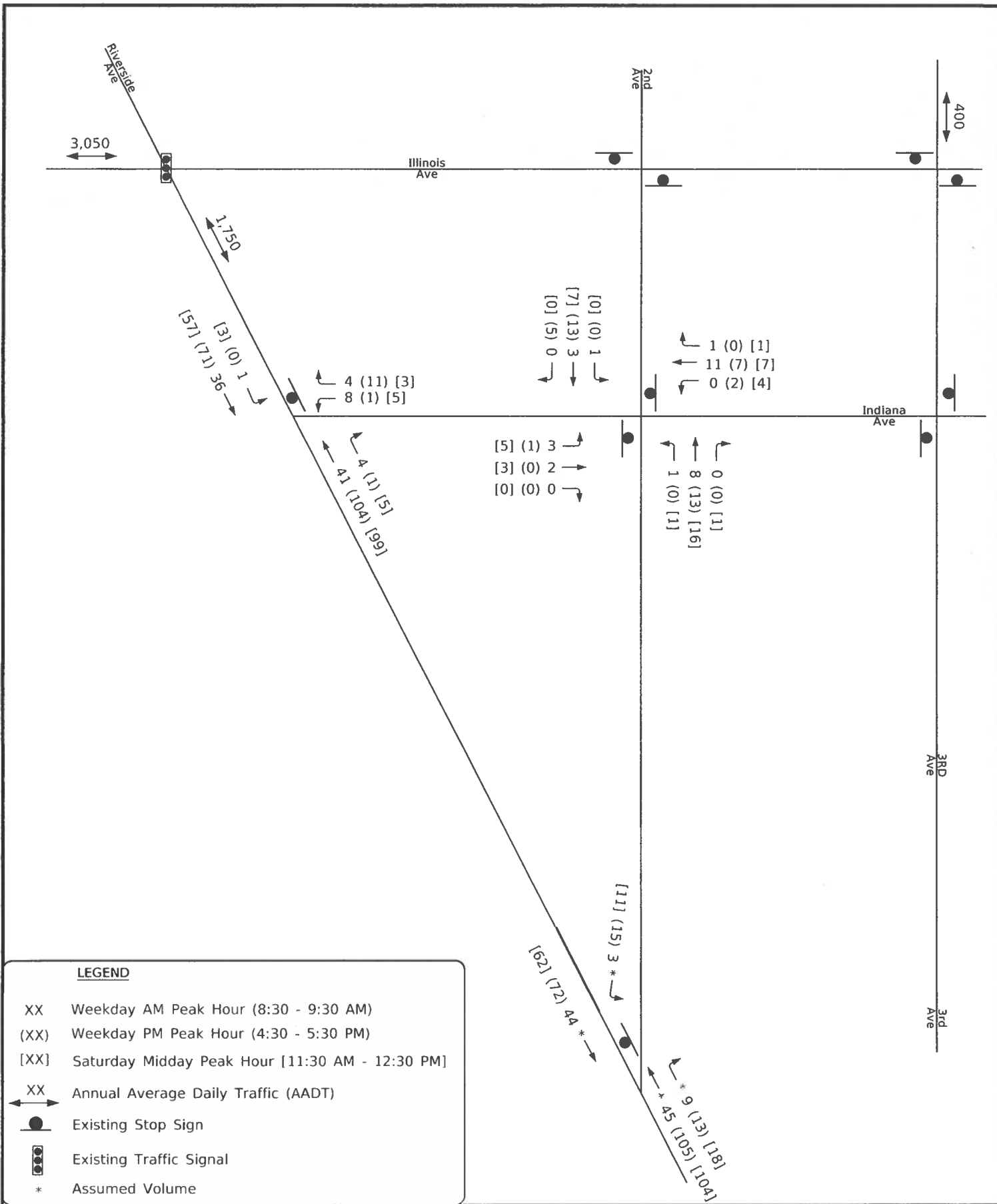
As previously described, future (total) traffic conditions assumed Indiana Avenue would be vacated between Riverside Avenue and 2nd Avenue. It also assumed modifications will be made to the intersection of Riverside Avenue and 2nd Avenue to facilitate traffic operations and improve safety: 2nd Avenue is proposed to be realigned, closer to a 90-degree angle, improving sight lines for turning maneuvers. This will also serve as a traffic calming measure to slow and discourage cut-through traffic on 2nd Avenue (from northbound Riverside Avenue).

CONCLUSIONS AND RECOMMENDATIONS

A traffic summary was performed for the proposed River East redevelopment located at 216 S. Riverside Avenue in St. Charles, Illinois. Overall, the development is anticipated to have little effect on the operations of the area roadway network. It is anticipated that the existing traffic volumes on Indiana Avenue between Riverside Avenue and 2nd Avenue, along with the proposed site traffic, could be readily accommodated within the adjacent roadway network, assuming the proposed vacation of Indiana Avenue. The proposed improvements at Riverside Avenue and 2nd Avenue are anticipated to facilitate and calm traffic operations and improve safety.

TECHNICAL ADDENDUM

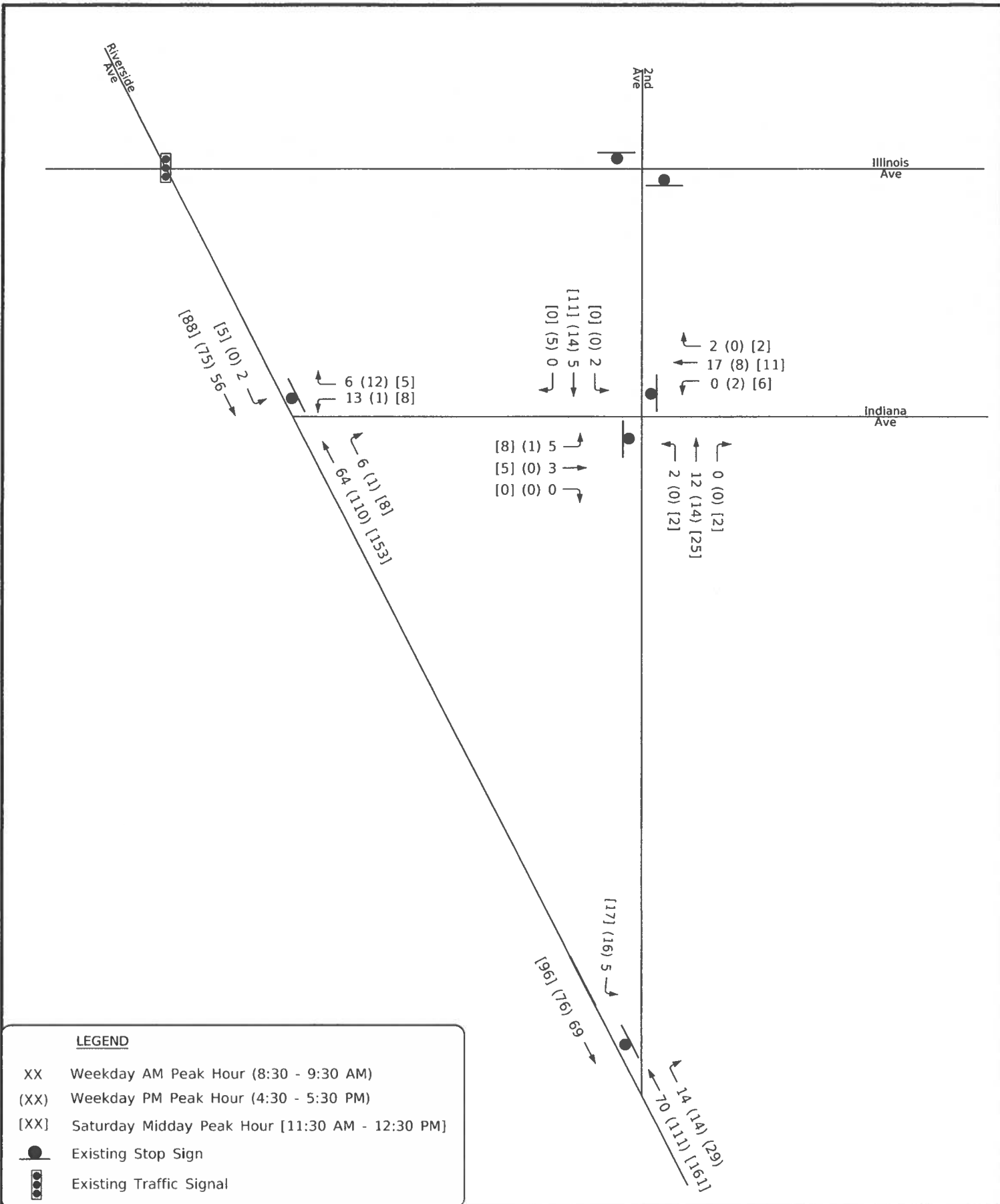
Exhibits



BLA, Inc.
ITASCA, ILLINOIS



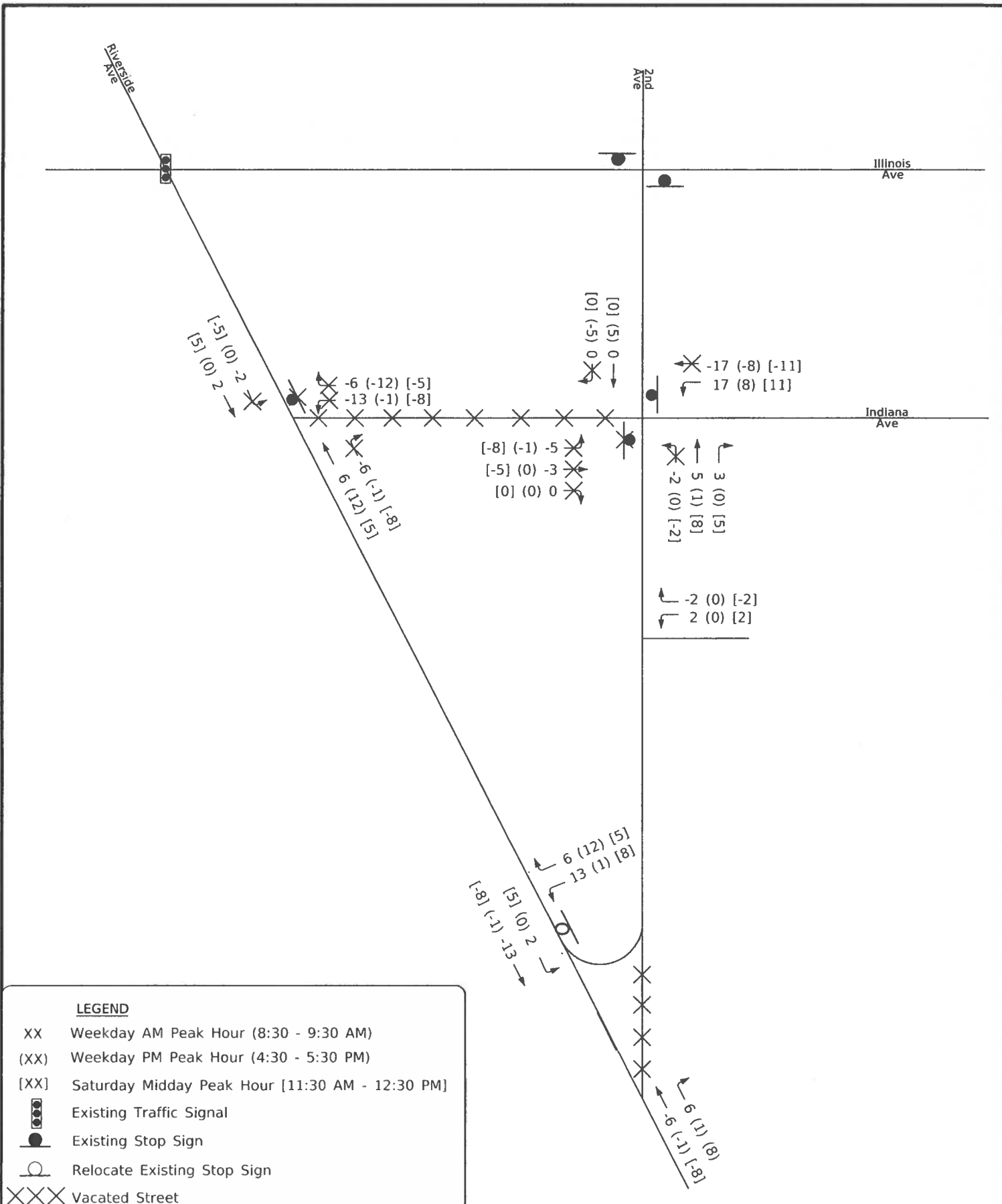
Exhibit 1A
Existing Traffic (Unadjusted)
Source: Traffic Counts July 2021
IDOT AADT 2018



BLA, Inc.
ITASCA, ILLINOIS



Exhibit 1B
Existing Traffic (Adjusted)



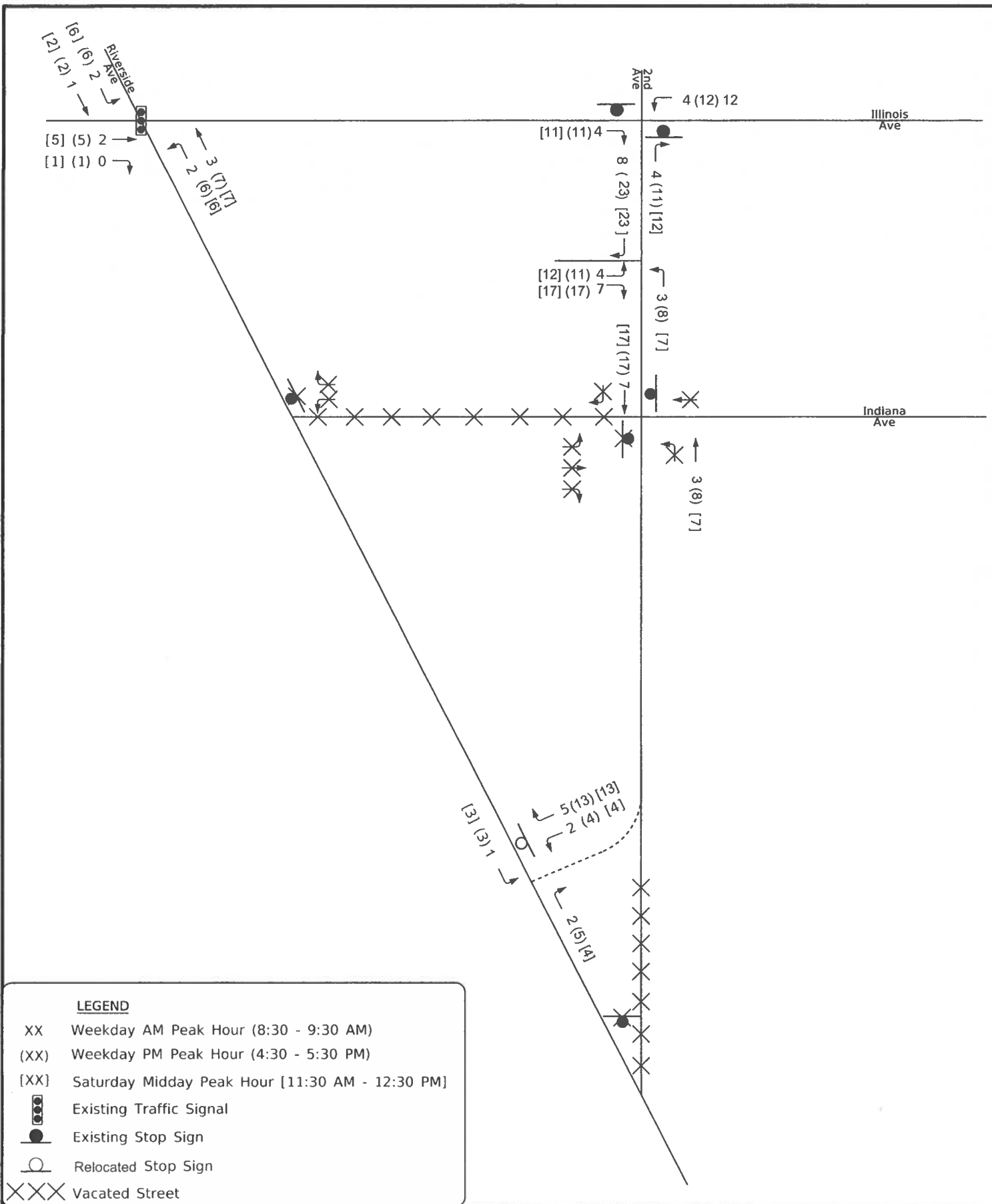
LEGEND

- XX Weekday AM Peak Hour (8:30 - 9:30 AM)
- (XX) Weekday PM Peak Hour (4:30 - 5:30 PM)
- [XX] Saturday Midday Peak Hour [11:30 AM - 12:30 PM]
- Existing Traffic Signal
- Existing Stop Sign
- Relocate Existing Stop Sign
- XXXX Vacated Street



BLA, Inc.
ITASCA, ILLINOIS

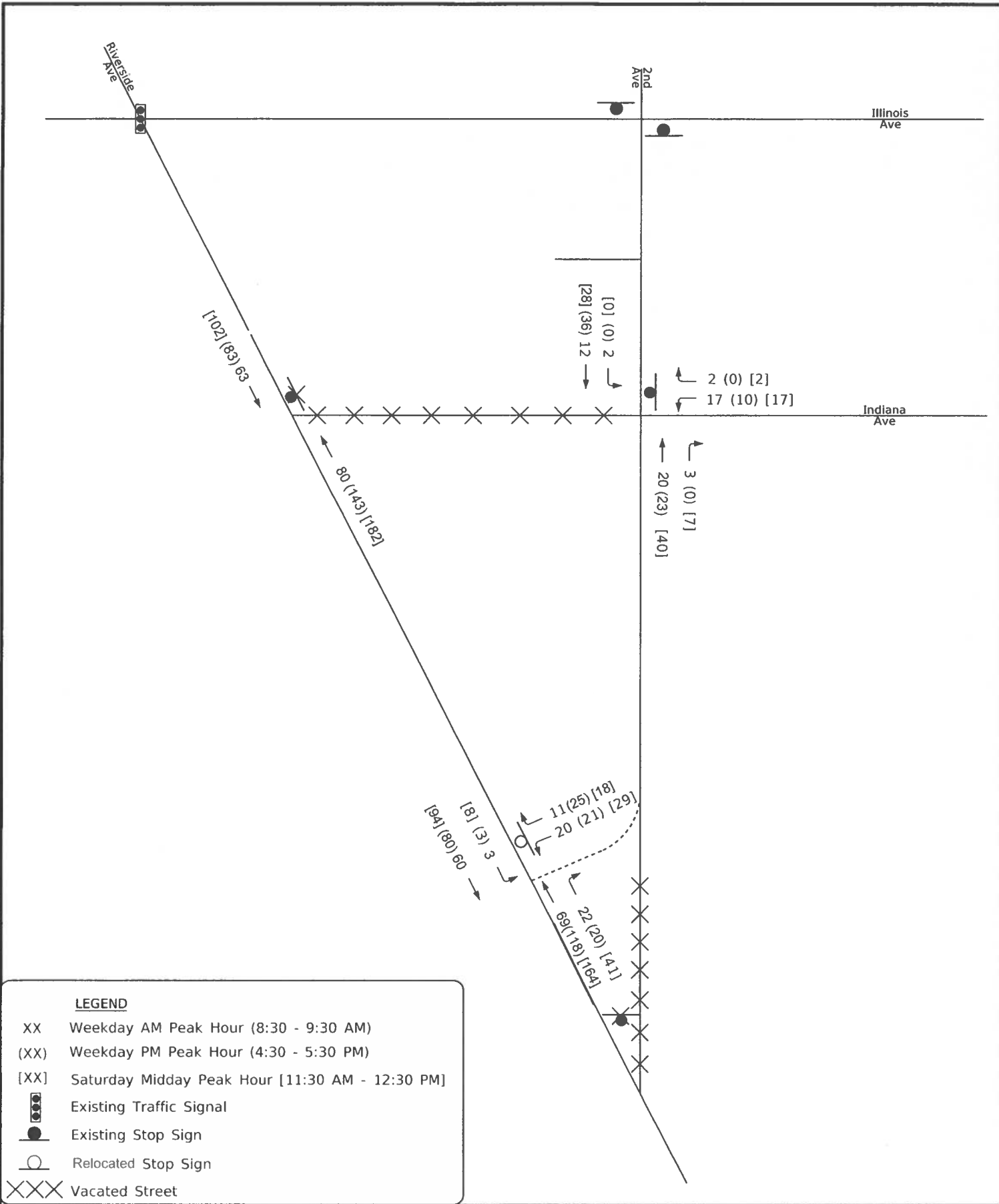




BLA, Inc.
ITASCA, ILLINOIS



Exhibit 3
Site Traffic



LEGEND

- XX Weekday AM Peak Hour (8:30 - 9:30 AM)
- (XX) Weekday PM Peak Hour (4:30 - 5:30 PM)
- [XX] Saturday Midday Peak Hour [11:30 AM - 12:30 PM]
- Existing Traffic Signal
- Existing Stop Sign
- Relocated Stop Sign
- XXXX Vacated Street

Appendices

Appendix A
Intersection Traffic Count Summaries

Indiana Avenue & Riverside Avenue - TMC

Thu Jul 15, 2021

Full Length (7 AM-7 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856004, Location: 41.911772, -88.311372



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

Leg Direction Time	Indiana Westbound					Riverside Northbound					Riverside Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
2021-07-15 7:00AM	0	1	0	1	0	5	1	0	6	0	0	3	0	3	0	10
7:15AM	0	1	0	1	0	3	0	0	3	0	0	4	0	4	0	8
7:30AM	0	2	0	2	0	11	1	0	12	0	0	8	0	8	0	22
7:45AM	0	0	0	0	0	15	0	0	15	0	0	6	0	6	0	21
Hourly Total	0	4	0	4	0	34	2	0	36	0	0	21	0	21	0	61
8:00AM	1	1	0	2	0	10	0	0	10	0	0	10	0	10	0	22
8:15AM	0	0	0	0	0	20	0	0	20	0	0	10	0	10	0	30
8:30AM	4	1	0	5	0	8	1	0	9	0	0	14	0	14	0	28
8:45AM	1	0	0	1	0	13	2	0	15	0	0	7	0	7	0	23
Hourly Total	6	2	0	8	0	51	3	0	54	0	0	41	0	41	0	103
9:00AM	0	2	0	2	0	11	0	0	11	0	1	7	0	8	0	21
9:15AM	2	1	0	3	0	9	1	0	10	0	0	8	0	8	0	21
9:30AM	1	1	0	2	1	9	0	0	9	0	0	12	0	12	0	23
9:45AM	1	0	0	1	0	10	1	0	11	0	0	11	0	11	0	23
Hourly Total	4	4	0	8	1	39	2	0	41	0	1	38	0	39	0	88
10:00AM	0	0	0	0	1	15	0	0	15	0	0	12	0	12	0	27
10:15AM	0	2	0	2	1	11	1	0	12	0	1	11	0	12	0	26
10:30AM	0	1	0	1	0	16	0	0	16	0	0	10	0	10	0	27
10:45AM	0	1	0	1	0	16	0	0	16	0	0	13	0	13	0	30
Hourly Total	0	4	0	4	2	58	1	0	59	0	1	46	0	47	0	110
11:00AM	2	4	0	6	0	21	1	0	22	0	0	20	0	20	0	48
11:15AM	1	2	0	3	0	12	0	0	12	0	1	11	0	12	0	27
11:30AM	1	0	0	1	0	21	0	0	21	0	2	22	0	24	0	46
11:45AM	0	1	0	1	0	14	0	0	14	0	0	18	0	18	0	33
Hourly Total	4	7	0	11	0	68	1	0	69	0	3	71	0	74	0	154
12:00PM	0	4	0	4	2	20	2	0	22	0	1	24	0	25	0	51
12:15PM	0	2	0	2	0	18	0	0	18	0	0	19	0	19	0	39
12:30PM	1	1	0	2	0	16	0	0	16	0	0	26	0	26	0	44
12:45PM	2	0	0	2	0	15	2	0	17	0	0	20	0	20	0	39
Hourly Total	3	7	0	10	2	69	4	0	73	0	1	89	0	90	0	173
1:00PM	3	3	0	6	0	9	0	0	9	0	2	13	0	15	0	30
1:15PM	0	0	0	0	0	11	1	0	12	0	1	10	0	11	0	23
1:30PM	1	0	0	1	0	14	0	0	14	0	0	16	0	16	0	31
1:45PM	0	0	0	0	1	15	0	0	15	0	1	18	0	19	0	34
Hourly Total	4	3	0	7	1	49	1	0	50	0	4	57	0	61	0	118
2:00PM	1	1	0	2	1	10	2	0	12	0	0	22	0	22	0	36
2:15PM	0	0	0	0	0	20	0	0	20	0	0	13	0	13	0	33
2:30PM	0	6	0	6	0	20	0	0	20	0	0	16	0	16	0	42
2:45PM	1	7	0	8	0	15	0	0	15	0	0	20	0	20	0	43
Hourly Total	2	14	0	16	1	65	2	0	67	0	0	71	0	71	0	154
3:00PM	1	1	0	2	1	19	0	0	19	0	1	7	0	8	0	29
3:15PM	2	3	0	5	0	14	0	0	14	0	2	13	0	15	0	34
3:30PM	2	2	0	4	0	24	3	0	27	0	0	9	0	9	0	40
3:45PM	0	1	0	1	0	25	0	0	25	0	1	23	0	24	0	50
Hourly Total	5	7	0	12	1	82	3	0	85	0	4	52	0	56	0	153
4:00PM	0	0	0	0	0	16	1	0	17	0	0	21	0	21	0	38
4:15PM	0	2	0	2	0	22	0	0	22	0	1	13	0	14	0	38
4:30PM	1	4	0	5	0	22	0	0	22	0	0	16	0	16	0	43
4:45PM	0	3	0	3	1	22	1	0	23	0	0	13	0	13	0	39
Hourly Total	1	9	0	10	1	82	2	0	84	0	1	63	0	64	0	158
5:00PM	0	0	0	0	0	27	0	0	27	0	0	22	0	22	0	49
5:15PM	0	4	0	4	0	33	0	0	33	0	0	20	0	20	0	57
5:30PM	1	0	0	1	0	26	0	0	26	0	1	14	0	15	0	42

Leg Direction Time	Indiana Westbound					Riverside Northbound					Riverside Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
5:45PM	0	1	0	1	0	14	1	0	15	0	1	9	0	10	0	26
Hourly Total	1	5	0	6	0	100	1	0	101	0	2	65	0	67	0	174
6:00PM	0	2	0	2	0	18	0	0	18	0	0	11	0	11	0	31
6:15PM	1	2	0	3	3	19	1	0	20	0	0	11	0	11	0	34
6:30PM	0	0	0	0	2	15	0	0	15	0	0	10	0	10	0	25
6:45PM	0	0	0	0	1	17	0	0	17	0	0	7	0	7	0	24
Hourly Total	1	4	0	5	6	69	1	0	70	0	0	39	0	39	0	114
Total	31	70	0	101	15	766	23	0	789	0	17	653	0	670	0	1560
% Approach	30.7%	69.3%	0%	-	-	97.1%	2.9%	0%	-	-	2.5%	97.5%	0%	-	-	-
% Total	2.0%	4.5%	0%	6.5%	-	49.1%	1.5%	0%	50.6%	-	1.1%	41.9%	0%	42.9%	-	-
Lights	30	70	0	100	-	744	22	0	766	-	17	640	0	657	-	1523
% Lights	96.8%	100%	0%	99.0%	-	97.1%	95.7%	0%	97.1%	-	100%	98.0%	0%	98.1%	-	97.6%
Articulated Trucks	0	0	0	0	-	3	0	0	3	-	0	0	0	0	-	3
% Articulated Trucks	0%	0%	0%	0%	-	0.4%	0%	0%	0.4%	-	0%	0%	0%	0%	-	0.2%
Buses and Single-Unit Trucks	1	0	0	1	-	19	1	0	20	-	0	13	0	13	-	34
% Buses and Single-Unit Trucks	3.2%	0%	0%	1.0%	-	2.5%	4.3%	0%	2.5%	-	0%	2.0%	0%	1.9%	-	2.2%
Pedestrians	-	-	-	-	15	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Avenue & Riverside Avenue - TMC

Thu Jul 15, 2021

Forced Peak (8:30 AM - 9:30 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856004, Location: 41.911772, -88.311372



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

Leg Direction	Indiana Westbound					Riverside Northbound					Riverside Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
2021-07-15 8:30AM	4	1	0	5	0	8	1	0	9	0	0	14	0	14	0	28
8:45AM	1	0	0	1	0	13	2	0	15	0	0	7	0	7	0	23
9:00AM	0	2	0	2	0	11	0	0	11	0	1	7	0	8	0	21
9:15AM	2	1	0	3	0	9	1	0	10	0	0	8	0	8	0	21
Total	7	4	0	11	0	41	4	0	45	0	1	36	0	37	0	93
% Approach	63.6%	36.4%	0%	-	-	91.1%	8.9%	0%	-	-	2.7%	97.3%	0%	-	-	-
% Total	7.5%	4.3%	0%	11.8%	-	44.1%	4.3%	0%	48.4%	-	1.1%	38.7%	0%	39.8%	-	-
PHF	0.438	0.500	-	0.550	-	0.788	0.500	-	0.750	-	0.250	0.643	-	0.661	-	0.830
Lights	7	4	0	11	-	40	3	0	43	-	1	34	0	35	-	89
% Lights	100%	100%	0%	100%	-	97.6%	75.0%	0%	95.6%	-	100%	94.4%	0%	94.6%	-	95.7%
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	0	0	0	0	-	1	1	0	2	-	0	2	0	2	-	4
% Buses and Single-Unit Trucks	0%	0%	0%	0%	-	2.4%	25.0%	0%	4.4%	-	0%	5.6%	0%	5.4%	-	4.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Avenue & Riverside Avenue - TMC

Thu Jul 15, 2021

Midday Peak (12 PM - 1 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks,
Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856004, Location: 41.911772, -88.311372



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

Leg Direction	Indiana Westbound					Riverside Northbound					Riverside Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
Time																
2021-07-15 12:00PM	0	4	0	4	2	20	2	0	22	0	1	24	0	25	0	51
12:15PM	0	2	0	2	0	18	0	0	18	0	0	19	0	19	0	39
12:30PM	1	1	0	2	0	16	0	0	16	0	0	26	0	26	0	44
12:45PM	2	0	0	2	0	15	2	0	17	0	0	20	0	20	0	39
Total	3	7	0	10	2	69	4	0	73	0	1	89	0	90	0	173
% Approach	30.0%	70.0%	0%	-	-	94.5%	5.5%	0%	-	-	1.1%	98.9%	0%	-	-	-
% Total	1.7%	4.0%	0%	5.8%	-	39.9%	2.3%	0%	42.2%	-	0.6%	51.4%	0%	52.0%	-	-
PHF	0.375	0.438	-	0.625	-	0.863	0.500	-	0.830	-	0.250	0.856	-	0.865	-	0.848
Lights	3	7	0	10	-	64	4	0	68	-	1	87	0	88	-	166
% Lights	100%	100%	0%	100%	-	92.8%	100%	0%	93.2%	-	100%	97.8%	0%	97.8%	-	96.0%
Articulated Trucks	0	0	0	0	-	1	0	0	1	-	0	0	0	0	-	1
% Articulated Trucks	0%	0%	0%	0%	-	1.4%	0%	0%	1.4%	-	0%	0%	0%	0%	-	0.6%
Buses and Single-Unit Trucks	0	0	0	0	-	4	0	0	4	-	0	2	0	2	-	6
% Buses and Single-Unit Trucks	0%	0%	0%	0%	-	5.8%	0%	0%	5.5%	-	0%	2.2%	0%	2.2%	-	3.5%
Pedestrians	-	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Avenue & Riverside Avenue - TMC

Thu Jul 15, 2021

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks,
Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856004, Location: 41.911772, -88.311372



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

Leg Direction	Indiana Westbound					Riverside Northbound					Riverside Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
Time																
2021-07-15 4:30PM	1	4	0	5	0	22	0	0	22	0	0	16	0	16	0	0
4:45PM	0	3	0	3	1	22	1	0	23	0	0	13	0	13	0	0
5:00PM	0	0	0	0	0	27	0	0	27	0	0	22	0	22	0	0
5:15PM	0	4	0	4	0	33	0	0	33	0	0	20	0	20	0	0
Total	1	11	0	12	1	104	1	0	105	0	0	71	0	71	0	188
% Approach	8.3%	91.7%	0%	-	-	99.0%	1.0%	0%	-	-	0%	100%	0%	-	-	-
% Total	0.5%	5.9%	0%	6.4%	-	55.3%	0.5%	0%	55.9%	-	0%	37.8%	0%	37.8%	-	-
PHF	0.250	0.688	-	0.600	-	0.788	0.250	-	0.795	-	-	0.807	-	0.807	-	0.825
Lights	1	11	0	12	-	104	1	0	105	-	0	71	0	71	-	188
% Lights	100%	100%	0%	100%	-	100%	100%	0%	100%	-	0%	100%	0%	100%	-	100%
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	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%
Pedestrians	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Riverside Ave / Indiana Ave - TMC

Sat Jul 17, 2021

Full Length (7 AM-3 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856006, Location: 41.911771, -88.31137



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

Leg Direction	Indiana Westbound					Riverside Northbound					Riverside Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
2021-07-17 7:00AM	0	0	0	0	0	1	0	0	1	0	0	7	0	7	0	8
7:15AM	0	0	0	0	2	5	0	0	5	0	0	4	0	4	0	9
7:30AM	0	1	0	1	1	4	0	0	4	0	0	2	0	2	0	7
7:45AM	0	0	0	0	2	0	0	0	0	0	0	6	0	6	0	6
Hourly Total	0	1	0	1	5	10	0	0	10	0	0	19	0	19	0	30
8:00AM	0	1	0	1	2	4	1	0	5	0	0	5	0	5	0	11
8:15AM	0	1	0	1	3	5	0	0	5	0	0	8	0	8	2	14
8:30AM	0	0	0	0	1	4	0	0	4	0	0	3	0	3	0	7
8:45AM	0	1	0	1	0	7	1	0	8	0	0	8	0	8	0	17
Hourly Total	0	3	0	3	6	20	2	0	22	0	0	24	0	24	2	49
9:00AM	0	0	0	0	0	9	0	0	9	0	0	8	0	8	1	17
9:15AM	0	2	0	2	2	15	0	0	15	2	1	11	0	12	0	29
9:30AM	2	0	0	2	0	10	0	0	10	0	1	6	0	7	0	19
9:45AM	1	3	0	4	0	14	1	0	15	0	2	14	0	16	0	35
Hourly Total	3	5	0	8	2	48	1	0	49	2	4	39	0	43	1	100
10:00AM	0	0	0	0	0	12	1	0	13	0	0	11	0	11	0	24
10:15AM	0	1	0	1	1	8	0	0	8	0	0	19	0	19	0	28
10:30AM	1	0	0	1	2	7	0	0	7	0	0	12	0	12	0	20
10:45AM	1	0	0	1	0	15	0	0	15	0	0	15	0	15	0	31
Hourly Total	2	1	0	3	3	42	1	0	43	0	0	57	0	57	0	103
11:00AM	0	0	0	0	0	15	0	0	15	0	0	9	0	9	0	24
11:15AM	1	1	0	2	0	21	0	0	21	0	1	14	0	15	0	38
11:30AM	0	1	0	1	0	25	1	0	26	0	1	14	0	15	0	42
11:45AM	1	1	0	2	0	31	2	0	33	0	2	17	0	19	2	54
Hourly Total	2	3	0	5	0	92	3	0	95	0	4	54	0	58	2	158
12:00PM	1	1	0	2	3	21	0	0	21	0	0	14	0	14	0	37
12:15PM	3	0	0	3	1	22	2	0	24	0	0	12	0	12	0	39
12:30PM	1	0	0	1	0	12	2	0	14	0	0	18	0	18	0	33
12:45PM	1	1	0	2	2	26	0	0	26	0	0	13	0	13	0	41
Hourly Total	6	2	0	8	6	81	4	0	85	0	0	57	0	57	0	150
1:00PM	0	0	0	0	0	19	0	0	19	0	0	13	0	13	0	32
1:15PM	0	4	0	4	0	19	1	0	20	0	0	13	0	13	0	37
1:30PM	1	0	0	1	0	21	0	0	21	0	1	17	0	18	0	40
1:45PM	0	0	0	0	0	16	0	0	16	0	0	13	0	13	0	29
Hourly Total	1	4	0	5	0	75	1	0	76	0	1	56	0	57	0	138
2:00PM	0	1	0	1	0	24	0	0	24	0	0	9	0	9	0	34
2:15PM	1	1	0	2	0	18	1	0	19	0	0	14	0	14	0	35
2:30PM	0	1	0	1	0	14	0	0	14	0	0	17	0	17	0	32
2:45PM	3	0	0	3	0	17	0	0	17	0	1	10	0	11	0	31
Hourly Total	4	3	0	7	0	73	1	0	74	0	1	50	0	51	0	132
Total	18	22	0	40	22	441	13	0	454	2	10	356	0	366	5	860
% Approach	45.0%	55.0%	0%	-	-	97.1%	2.9%	0%	-	-	2.7%	97.3%	0%	-	-	-
% Total	2.1%	2.6%	0%	4.7%	-	51.3%	1.5%	0%	52.8%	-	1.2%	41.4%	0%	42.6%	-	-
Lights	17	22	0	39	-	436	13	0	449	-	10	352	0	362	-	850
% Lights	94.4%	100%	0%	97.5%	-	98.9%	100%	0%	98.9%	-	100%	98.9%	0%	98.9%	-	98.8%
Articulated Trucks	0	0	0	0	-	0	0	0	0	-	0	1	0	1	-	1
% Articulated Trucks	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0.3%	0%	0.3%	-	0.1%
Buses and Single-Unit Trucks	1	0	0	1	-	5	0	0	5	-	0	3	0	3	-	9
% Buses and Single-Unit Trucks	5.6%	0%	0%	2.5%	-	1.1%	0%	0%	1.1%	-	0%	0.8%	0%	0.8%	-	1.0%
Pedestrians	-	-	-	-	19	-	-	-	-	2	-	-	-	-	-	5
% Pedestrians	-	-	-	-	86.4%	-	-	-	-	100%	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	13.6%	-	-	-	-	0%	-	-	-	-	-	0%

Leg Direction	Indiana Westbound	Riverside Northbound	Riverside Southbound	
Time	L R U App Ped*	T R U App Ped*	L T U App Ped*	Int

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Riverside Ave / Indiana Ave - TMC

Sat Jul 17, 2021

Midday Peak (WKND) (11:30 AM - 12:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856006, Location: 41.911771, -88.31137



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

Leg Direction	Indiana Westbound					Riverside Northbound					Riverside Southbound					Int
	L	R	U	App	Ped*	T	R	U	App	Ped*	L	T	U	App	Ped*	
2021-07-17 11:30AM	0	1	0	1	0	25	1	0	26	0	1	14	0	15	0	42
11:45AM	1	1	0	2	0	31	2	0	33	0	2	17	0	19	2	54
12:00PM	1	1	0	2	3	21	0	0	21	0	0	14	0	14	0	37
12:15PM	3	0	0	3	1	22	2	0	24	0	0	12	0	12	0	39
Total	5	3	0	8	4	99	5	0	104	0	3	57	0	60	2	172
% Approach	62.5%	37.5%	0%	-	-	95.2%	4.8%	0%	-	-	5.0%	95.0%	0%	-	-	-
% Total	2.9%	1.7%	0%	4.7%	-	57.6%	2.9%	0%	60.5%	-	1.7%	33.1%	0%	34.9%	-	-
PHF	0.417	0.750	-	0.667	-	0.798	0.625	-	0.788	-	0.375	0.838	-	0.789	-	0.796
Lights	5	3	0	8	-	98	5	0	103	-	3	56	0	59	-	170
% Lights	100%	100%	0%	100%	-	99.0%	100%	0%	99.0%	-	100%	98.2%	0%	98.3%	-	98.8%
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	0	0	0	0	-	1	0	0	1	-	0	1	0	1	-	2
% Buses and Single-Unit Trucks	0%	0%	0%	0%	-	1.0%	0%	0%	1.0%	-	0%	1.8%	0%	1.7%	-	1.2%
Pedestrians	-	-	-	-	4	-	-	-	-	0	-	-	-	-	2	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Avenue & South 2nd Avenue - TMC

Thu Jul 15, 2021

Full Length (7 AM-7 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856005, Location: 41.911852, -88.310965



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

Leg Direction Time	Indiana Eastbound						Indiana Westbound						2nd Northbound						2nd Southbound						Int
	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	
2021-07-15 7:00AM	1	0	0	0	1	0	0	1	0	0	1	1	0	1	0	0	1	0	0	1	0	0	1	1	4
7:15AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30AM	0	1	0	0	1	0	0	1	0	0	1	0	1	1	0	0	2	0	0	0	0	0	0	0	4
7:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3	0	0	3	1	4
Hourly Total	1	1	0	0	2	0	0	3	0	0	3	1	1	3	0	0	4	0	0	4	0	0	4	2	13
8:00AM	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	3
8:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	1	0	0	1	0	5
8:30AM	0	1	0	0	1	0	0	5	0	0	5	0	0	0	0	0	0	0	0	1	0	0	1	0	7
8:45AM	2	0	0	0	2	0	0	1	1	0	2	0	0	5	0	0	5	0	0	0	0	0	0	0	9
Hourly Total	2	1	0	0	3	0	0	8	1	0	9	0	0	10	0	0	10	0	0	2	0	0	2	0	24
9:00AM	0	1	0	0	1	0	0	2	0	0	2	0	0	2	0	0	2	0	1	1	0	0	2	1	7
9:15AM	1	0	0	0	1	0	0	3	0	0	3	0	1	1	0	0	2	0	0	1	0	0	1	0	7
9:30AM	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	2	0	0	2	0	4
9:45AM	1	0	0	0	1	0	0	1	0	0	1	1	0	3	0	0	3	0	0	2	0	0	2	1	7
Hourly Total	2	1	0	0	3	0	0	7	0	0	7	1	1	7	0	0	8	0	1	6	0	0	7	2	25
10:00AM	0	0	0	0	0	0	0	0	2	0	2	0	0	5	0	0	5	0	0	1	0	0	1	1	8
10:15AM	0	1	1	0	2	0	0	1	0	0	1	0	1	1	0	0	2	0	0	3	0	0	3	0	8
10:30AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	2	0	3
10:45AM	0	0	0	0	0	0	0	1	0	0	1	0	0	3	0	0	3	0	1	1	0	0	2	0	6
Hourly Total	0	1	1	0	2	0	0	3	2	0	5	0	1	9	0	0	10	0	2	6	0	0	8	1	25
11:00AM	0	1	0	0	1	0	0	5	0	0	5	0	0	3	0	0	3	0	1	1	1	0	3	1	12
11:15AM	0	1	0	0	1	0	0	4	0	0	4	1	0	2	0	0	2	0	0	3	0	0	3	0	10
11:30AM	1	1	0	0	2	0	0	1	1	0	2	0	0	0	1	0	1	0	0	0	0	0	0	1	5
11:45AM	0	0	0	0	0	0	0	1	1	0	2	0	0	5	0	0	5	0	1	1	0	0	2	0	9
Hourly Total	1	3	0	0	4	0	0	11	2	0	13	1	0	10	1	0	11	0	2	5	1	0	8	2	36
12:00PM	0	3	0	0	3	0	0	4	0	0	4	0	0	4	0	0	4	0	0	0	0	0	0	0	11
12:15PM	0	0	0	0	0	0	0	2	0	0	2	0	0	6	0	0	6	0	0	1	0	0	1	0	9
12:30PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	0	1	0	1	1	0	0	2	0	5
12:45PM	1	1	0	0	2	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	1	0	2	0	6
Hourly Total	1	4	0	0	5	0	0	9	0	0	9	0	0	11	1	0	12	0	1	3	1	0	5	0	31
1:00PM	0	2	0	0	2	0	0	4	0	0	4	0	0	3	0	0	3	0	0	1	2	0	3	0	12
1:15PM	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	4
1:30PM	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2	0	0	2	0	4
1:45PM	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	0	0	1	0	0	1	2	5
Hourly Total	0	5	0	0	5	0	0	5	1	0	6	0	0	7	0	0	7	0	0	5	2	0	7	2	25
2:00PM	2	0	0	0	2	0	0	1	0	0	1	0	1	4	0	0	5	0	1	1	0	0	2	0	10
2:15PM	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	2	0	0	5	0	0	5	0	7
2:30PM	0	0	0	0	0	0	0	5	0	0	5	1	0	2	0	0	2	0	0	2	1	0	3	0	10
2:45PM	0	0	0	0	0	0	1	8	0	0	9	0	0	3	0	0	3	0	0	2	0	0	2	0	14
Hourly Total	2	0	0	0	2	0	1	14	0	0	15	2	1	11	0	0	12	0	1	10	1	0	12	0	41
3:00PM	0	1	0	0	1	0	0	2	1	0	3	2	0	4	0	0	4	0	0	3	0	0	3	2	11
3:15PM	1	1	0	0	2	0	0	5	0	0	5	0	0	0	0	0	0	0	0	3	0	0	3	0	10
3:30PM	1	2	0	0	3	0	1	3	0	0	4	1	0	4	0	0	4	0	1	3	1	0	5	0	16
3:45PM	0	1	0	0	1	0	1	0	1	0	2	0	0	3	0	0	3	0	0	4	1	0	5	0	11
Hourly Total	2	5	0	0	7	0	2	10	2	0	14	3	0	11	0	0	11	0	1	13	2	0	16	2	48
4:00PM	1	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	0	0	1	0	0	1	0	5
4:15PM	0	1	0	0	1	0	0	2	0	0	2	0	0	2	0	0	2	0	1	1	1	0	3	0	8
4:30PM	0	0	0	0	0	0	1	2	0	0	3	2	0	2	0	0	2	0	0	7	2	0	9	2	14
4:45PM	1	0	0	0	1	0	0	2	0	0	2	0	0	5	0	0	5	0	0	1	1	0	2	0	10
Hourly Total	2	1	0	0	3	0	1	6	0	0	7	2	0	12	0	0	12	0	1	10	4	0	15	2	37
5:00PM	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	3
5:15PM	0	0	0	0	0	0	0	2	0	0	2	0	0	5	0	0	5	0	0	4	2	0	6	0	13
5:30PM	0	1	0	0	1	0	0	0	0	0	0	0	1	3	0	0	4	0	0	2	0	0	2	0	7
5:45PM	0	2	0	0	2	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	5
Hourly Total	0	3	0	0	3	0	1	3	0	0	4	0	1	10	0	0	11	0	0	8	2	0	10	0	28
6:00PM	0	0	0	0	0	0	0	2	1	0	3	1	0	2	0	0	2	0	0	0	0	0	0	0	5
6:15PM	1	0	0	0	1	0	0	3	2	0	5	0	0	3	0	0	3	0	2	4	0	0	6	1	15

Leg Direction	Indiana Eastbound						Indiana Westbound						2nd Northbound						2nd Southbound						Int
	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	
6:30PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	1	0	0	1	1	3
6:45PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	0	1	0	3
Hourly Total	1	0	0	0	1	0	0	5	3	0	8	1	0	9	0	0	9	1	2	6	0	0	8	2	26
Total	14	25	1	0	40	0	5	84	11	0	100	11	5	110	2	0	117	1	11	78	13	0	102	15	359
% Approach	35.0%	62.5%	2.5%	0%	-	-	5.0%	84.0%	11.0%	0%	-	-	4.3%	94.0%	1.7%	0%	-	-	10.8%	76.5%	12.7%	0%	-	-	-
% Total	3.9%	7.0%	0.3%	0%	11.1%	-	1.4%	23.4%	3.1%	0%	27.9%	-	1.4%	30.6%	0.6%	0%	32.6%	-	3.1%	21.7%	3.6%	0%	28.4%	-	-
Lights	13	25	1	0	39	-	5	82	11	0	98	-	5	109	2	0	116	-	11	77	13	0	101	-	354
% Lights	92.9%	100%	100%	0%	97.5%	-	100%	97.6%	100%	0%	98.0%	-	100%	99.1%	100%	0%	99.1%	-	100%	98.7%	100%	0%	99.0%	-	98.6%
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	1	0	0	0	1	-	0	2	0	0	2	-	0	1	0	0	1	-	0	1	0	0	1	-	5
% Buses and Single-Unit Trucks	7.1%	0%	0%	0%	2.5%	-	0%	2.4%	0%	0%	2.0%	-	0%	0.9%	0%	0%	0.9%	-	0%	1.3%	0%	0%	1.0%	-	1.4%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	11	-	-	-	-	-	1	-	-	-	-	-	13	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	86.7%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	13.3%	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Avenue & South 2nd Avenue - TMC

Thu Jul 15, 2021

AM Peak (8:30 AM - 9:30 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856005, Location: 41.911852, -88.310965



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

Leg Direction	Indiana Eastbound					Indiana Westbound					2nd Northbound					2nd Southbound					Int			
	L	T	R	U	App Ped*	L	T	R	U	App Ped*	L	T	R	U	App Ped*	L	T	R	U	App Ped*				
2021-07-15 8:30AM	0	1	0	0	1	0	0	5	0	0	5	0	0	0	0	0	0	0	1	0	0	7		
8:45AM	2	0	0	0	2	0	0	1	1	0	2	0	0	5	0	0	5	0	0	0	0	0	0	9
9:00AM	0	1	0	0	1	0	0	2	0	0	2	0	0	2	0	0	2	0	1	1	0	0	2	7
9:15AM	1	0	0	0	1	0	0	3	0	0	3	0	1	1	0	0	2	0	0	1	0	0	1	7
Total	3	2	0	0	5	0	0	11	1	0	12	0	1	8	0	0	9	0	1	3	0	0	4	30
% Approach	60.0%	40.0%	0%	0%	-	0%	91.7%	8.3%	0%	-	-	-	11.1%	88.9%	0%	0%	-	-	25.0%	75.0%	0%	0%	-	-
% Total	10.0%	6.7%	0%	0%	16.7%	-	0%	36.7%	3.3%	0%	40.0%	-	3.3%	26.7%	0%	0%	30.0%	-	3.3%	10.0%	0%	0%	13.3%	-
PHF	0.375	0.500	-	-	0.625	-	-	0.550	0.250	-	0.600	-	0.250	0.400	-	-	0.450	-	0.250	0.750	-	-	0.500	0.833
Lights	2	2	0	0	4	-	0	11	1	0	12	-	1	8	0	0	9	-	1	3	0	0	4	29
% Lights	66.7%	100%	0%	0%	80.0%	-	0%	100%	100%	0%	100%	-	100%	100%	0%	0%	100%	-	100%	100%	0%	0%	100%	96.7%
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	1	0	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	1
% Buses and Single-Unit Trucks	33.3%	0%	0%	0%	20.0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	3.3%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Avenue & South 2nd Avenue - TMC

Thu Jul 15, 2021

Midday Peak (11 AM - 12 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856005, Location: 41.911852, -88.310965



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

Leg Direction	Indiana Eastbound					Indiana Westbound					2nd Northbound					2nd Southbound					Int				
	L	T	R	U	App Ped*	L	T	R	U	App Ped*	L	T	R	U	App Ped*	L	T	R	U	App Ped*					
2021-07-15 11:00AM	0	1	0	0	1	0	0	5	0	0	5	0	0	3	0	0	3	0	1	1	1	0	3	1	12
11:15AM	0	1	0	0	1	0	0	4	0	0	4	1	0	2	0	0	2	0	0	3	0	0	3	0	10
11:30AM	1	1	0	0	2	0	0	1	1	0	2	0	0	0	1	0	1	0	0	0	0	0	0	1	5
11:45AM	0	0	0	0	0	0	0	1	1	0	2	0	0	5	0	0	5	0	1	1	0	0	2	0	9
Total	1	3	0	0	4	0	0	11	2	0	13	1	0	10	1	0	11	0	2	5	1	0	8	2	36
% Approach	25.0%	75.0%	0%	0%	-	-	0%	84.6%	15.4%	0%	-	-	0%	90.9%	9.1%	0%	-	-	25.0%	62.5%	12.5%	0%	-	-	-
% Total	2.8%	8.3%	0%	0%	11.1%	-	0%	30.6%	5.6%	0%	36.1%	-	0%	27.8%	2.8%	0%	30.6%	-	5.6%	13.9%	2.8%	0%	22.2%	-	-
PHF	0.250	0.750	-	-	0.500	-	-	0.550	0.500	-	0.650	-	-	0.500	0.250	-	0.550	-	0.500	0.417	0.250	-	0.667	-	0.750
Lights	1	3	0	0	4	-	0	9	2	0	11	-	0	10	1	0	11	-	2	5	1	0	8	-	34
% Lights	100%	100%	0%	0%	100%	-	0%	81.8%	100%	0%	84.6%	-	0%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	94.4%
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	0	0	0	0	-	0	2	0	0	2	-	0	0	0	0	0	-	0	0	0	0	0	-	2
% Buses and Single-Unit Trucks	0%	0%	0%	0%	0%	-	0%	18.2%	0%	0%	15.4%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	5.6%
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Avenue & South 2nd Avenue - TMC

Thu Jul 15, 2021

Forced Peak (4:30 PM - 5:30 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856005, Location: 41.911852, -88.310965



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

Leg Direction	Indiana Eastbound						Indiana Westbound						2nd Northbound						2nd Southbound						Int
	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	
Time																									
2021-07-15 4:30PM	0	0	0	0	0	0	1	2	0	0	3	2	0	2	0	0	2	0	0	7	2	0	9	2	14
4:45PM	1	0	0	0	1	0	0	2	0	0	2	0	0	5	0	0	5	0	0	1	1	0	2	0	10
5:00PM	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	3
5:15PM	0	0	0	0	0	0	0	2	0	0	2	0	0	5	0	0	5	0	0	4	2	0	6	0	13
Total	1	0	0	0	1	0	2	6	0	0	8	2	0	13	0	0	13	0	0	13	5	0	18	2	40
% Approach	100%	0%	0%	0%	-	-	25.0%	75.0%	0%	0%	-	-	0%	100%	0%	0%	-	-	0%	72.2%	27.8%	0%	-	-	-
% Total	2.5%	0%	0%	0%	2.5%	-	5.0%	15.0%	0%	0%	20.0%	-	0%	32.5%	0%	0%	32.5%	-	0%	32.5%	12.5%	0%	45.0%	-	-
PHF	0.250	-	-	-	0.250	-	0.500	0.750	-	-	0.667	-	-	0.650	-	-	0.650	-	-	0.464	0.625	-	0.500	-	0.714
Lights	1	0	0	0	1	-	2	6	0	0	8	-	0	13	0	0	13	-	0	13	5	0	18	-	40
% Lights	100%	0%	0%	0%	100%	-	100%	100%	0%	0%	100%	-	0%	100%	0%	0%	100%	-	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	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	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%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Indiana Ave / 2nd Ave - TMC

Sat Jul 17, 2021

Forced Peak (11:30 AM - 12:30 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks,

Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 856007, Location: 41.91185, -88.31097



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

Leg Direction	Indiana Eastbound						Indiana Westbound						2nd Northbound						2nd Southbound						Int
	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	
2021-07-17 11:30AM	1	1	0	0	2	0	0	1	0	0	1	1	0	2	0	0	2	0	0	3	0	0	3	0	8
11:45AM	1	2	0	0	3	0	0	1	1	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	6
12:00PM	0	0	0	0	0	0	2	2	0	0	4	0	0	6	0	0	6	0	0	3	0	0	3	0	13
12:15PM	1	1	0	0	2	0	0	2	0	0	2	3	1	4	1	0	6	0	0	1	0	0	1	0	11
Total	3	4	0	0	7	0	2	6	1	0	9	4	1	13	1	0	15	0	0	7	0	0	7	0	38
% Approach	42.9%	57.1%	0%	0%	-	-	22.2%	66.7%	11.1%	0%	-	-	6.7%	86.7%	6.7%	0%	-	-	0%	100%	0%	0%	-	-	-
% Total	7.9%	10.5%	0%	0%	18.4%	-	5.3%	15.8%	2.6%	0%	23.7%	-	2.6%	34.2%	2.6%	0%	39.5%	-	0%	18.4%	0%	0%	18.4%	-	-
PHF	0.750	0.500	-	-	0.583	-	0.250	0.750	0.250	-	0.563	-	0.250	0.542	0.250	-	0.625	-	-	0.583	-	-	0.583	-	0.731
Lights	3	4	0	0	7	-	2	6	1	0	9	-	1	13	1	0	15	-	0	7	0	0	7	-	38
% Lights	100%	100%	0%	0%	100%	-	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	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	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	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%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Appendix B
IDOT Traffic Count Summary



Volume Count Report

LOCATION INFO	
Location ID	045 3790
Type	LINK
Funct'l Class	5
Located On	1ST AVE
From Road	Main St
To Road	5th Ave
Direction	2-WAY
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Mon 6/25/2018
End Date	Tue 6/26/2018
Start Time	12:00:00 PM
End Time	12:00:00 PM
Direction	2-WAY
Notes	
Station	1ST AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	Hourly Count
0:00-1:00	9
1:00-2:00	3
2:00-3:00	4
3:00-4:00	0
4:00-5:00	2
5:00-6:00	20
6:00-7:00	59
7:00-8:00	121
8:00-9:00	127
9:00-10:00	90
10:00-11:00	87
11:00-12:00	100
12:00-13:00	151
13:00-14:00	142
14:00-15:00	142
15:00-16:00	167
16:00-17:00	198
17:00-18:00	198
18:00-19:00	135
19:00-20:00	76
20:00-21:00	71
21:00-22:00	65
22:00-23:00	23
23:00-24:00	16
Total	2,006
AM Peak	08:00-09:00 127
PM Peak	16:00-17:00 198



Volume Count Report

LOCATION INFO	
Location ID	045 3590
Type	LINK
Funct'l Class	5
Located On	ILLINOIS AVE
From Road	7TH ST
To Road	7TH AVE
Direction	2-WAY
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Thu 7/19/2018
End Date	Fri 7/20/2018
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	2-WAY
Notes	
Station	ILLINOIS AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	TcdsBinToVol
Latitude,Longitude	

INTERVAL:60-MIN	
Time	Hourly Count
0:00-1:00	9
1:00-2:00	4
2:00-3:00	5
3:00-4:00	0
4:00-5:00	2
5:00-6:00	16
6:00-7:00	80
7:00-8:00	219
8:00-9:00	270
9:00-10:00	163
10:00-11:00	212
11:00-12:00	259
12:00-13:00	239
13:00-14:00	266
14:00-15:00	256
15:00-16:00	308
16:00-17:00	369
17:00-18:00	353
18:00-19:00	243
19:00-20:00	155
20:00-21:00	84
21:00-22:00	55
22:00-23:00	27
23:00-24:00	11
Total	3,605
AM Peak	08:00-09:00 270
PM Peak	16:00-17:00 369



Volume Count Report

LOCATION INFO	
Location ID	045 3080
Type	LINK
Funct'l Class	7
Located On	3RD AVE
From Road	WALNUT AVE
To Road	ILLINOIS AVE
Direction	2-WAY
County	Kane
Community	ST CHARLES
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/26/2018
End Date	Wed 6/27/2018
Start Time	2:00:00 PM
End Time	2:00:00 PM
Direction	2-WAY
Notes	
Station	3RD AVE
Study	
Speed Limit	
Description	
Sensor Type	
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	Hourly Count
0:00-1:00	0
1:00-2:00	0
2:00-3:00	0
3:00-4:00	0
4:00-5:00	2
5:00-6:00	9
6:00-7:00	27
7:00-8:00	31
8:00-9:00	49
9:00-10:00	25
10:00-11:00	22
11:00-12:00	29
12:00-13:00	30
13:00-14:00	37
14:00-15:00	32
15:00-16:00	46
16:00-17:00	41
17:00-18:00	29
18:00-19:00	31
19:00-20:00	27
20:00-21:00	27
21:00-22:00	15
22:00-23:00	11
23:00-24:00	7
Total	527
AM Peak	08:00-09:00 49
PM Peak	15:00-16:00 46

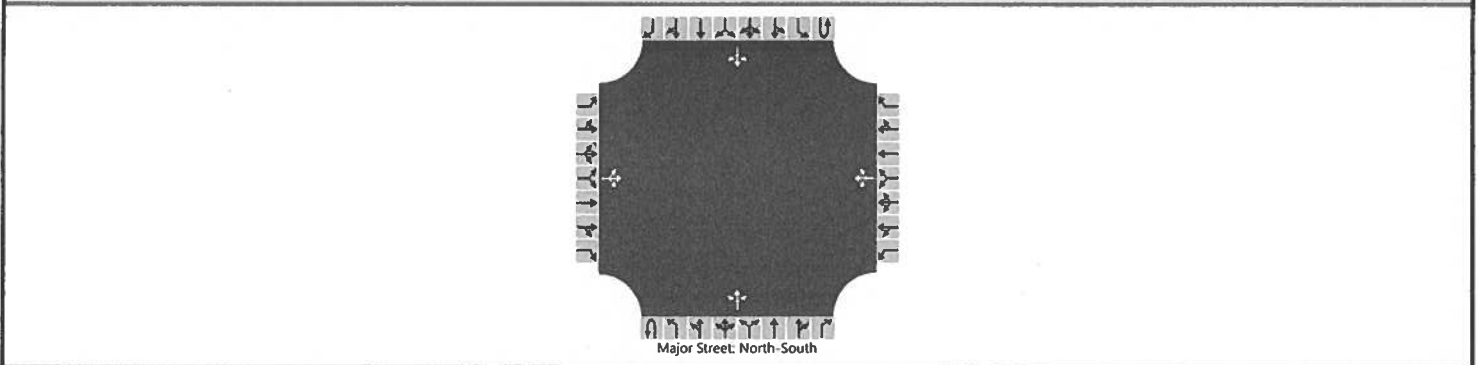
Appendix C

Existing Capacity Analysis Worksheets

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	2nd Ave / Indiana Ave
Agency/Co.	BLA	Jurisdiction	
Date Performed	8/2/2021	East/West Street	Indiana Ave
Analysis Year	2021	North/South Street	2nd Ave
Time Analyzed	Weekday AM	Peak Hour Factor	0.83
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		5	3	0		0	17	2		2	12	0		2	5	0	
Percent Heavy Vehicles (%)		33	0	0		0	0	0		0				0			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1			
Critical Headway (sec)		7.43	6.50	6.20		7.10	6.50	6.20		4.10				4.10			
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2			
Follow-Up Headway (sec)		3.80	4.00	3.30		3.50	4.00	3.30		2.20				2.20			

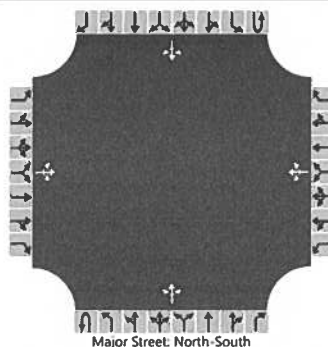
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10				23			2				2			
Capacity, c (veh/h)			867				882			1628				1617			
v/c Ratio			0.01				0.03			0.00				0.00			
95% Queue Length, Q ₉₅ (veh)			0.0				0.1			0.0				0.0			
Control Delay (s/veh)			9.2				9.2			7.2				7.2			
Level of Service (LOS)			A				A			A				A			
Approach Delay (s/veh)		9.2				9.2				1.0				2.1			
Approach LOS		A				A											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	2nd Ave / Indiana Ave
Agency/Co.	BLA	Jurisdiction	
Date Performed	8/2/2021	East/West Street	Indiana Ave
Analysis Year	2021	North/South Street	2nd Ave
Time Analyzed	Weekday PM	Peak Hour Factor	0.71
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		1	0	0		2	8	0		0	14	0		0	14	5	
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1			
Critical Headway (sec)		7.10	6.50	6.20		7.10	6.50	6.20		4.10				4.10			
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2			
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20			

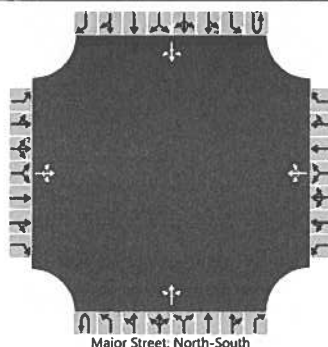
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			1				14				0				0		
Capacity, c (veh/h)			947				870				1600				1610		
v/c Ratio			0.00				0.02				0.00				0.00		
95% Queue Length, Q ₉₅ (veh)			0.0				0.0				0.0				0.0		
Control Delay (s/veh)			8.8				9.2				7.2				7.2		
Level of Service (LOS)			A				A				A				A		
Approach Delay (s/veh)		8.8				9.2				0.0				0.0			
Approach LOS		A				A											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	2nd Ave / Indiana Ave
Agency/Co.	BLA	Jurisdiction	
Date Performed	8/2/2021	East/West Street	Indiana Ave
Analysis Year	2021	North/South Street	2nd Ave
Time Analyzed	Saturday MID	Peak Hour Factor	0.73
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

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

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		7.10	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		

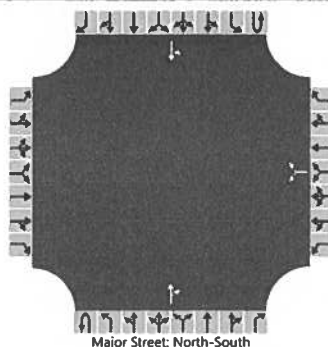
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			18				26				3				0	
Capacity, c (veh/h)			884				885				1616				1587	
v/c Ratio			0.02				0.03				0.00				0.00	
95% Queue Length, Q ₉₅ (veh)			0.1				0.1				0.0				0.0	
Control Delay (s/veh)			9.2				9.2				7.2				7.3	
Level of Service (LOS)			A				A				A				A	
Approach Delay (s/veh)	9.2				9.2				0.5				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	
Agency/Co.	BLA	Jurisdiction	
Date Performed	8/2/2021	East/West Street	Indiana Ave
Analysis Year	2021	North/South Street	Riverside Ave
Time Analyzed	Weekday AM	Peak Hour Factor	0.83
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration							LR					TR		LT			
Volume (veh/h)						13		6			64	6		2	56		
Percent Heavy Vehicles (%)						0		0						0			
Proportion Time Blocked																	
Percent Grade (%)						0											
Right Turn Channelized																	
Median Type Storage						Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2								4.1	
Critical Headway (sec)						6.40		6.20								4.10	
Base Follow-Up Headway (sec)						3.5		3.3								2.2	
Follow-Up Headway (sec)						3.50		3.30								2.20	

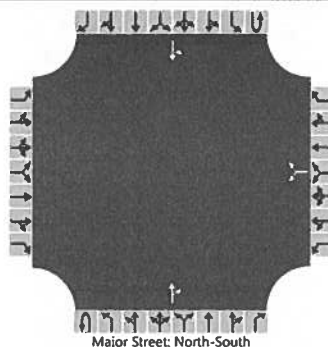
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						23								2			
Capacity, c (veh/h)						882								1525			
v/c Ratio						0.03								0.00			
95% Queue Length, Q ₉₅ (veh)						0.1								0.0			
Control Delay (s/veh)						9.2								7.4			
Level of Service (LOS)						A								A			
Approach Delay (s/veh)						9.2								0.3			
Approach LOS						A											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	
Agency/Co.	BLA	Jurisdiction	
Date Performed	8/2/2021	East/West Street	Indiana Ave
Analysis Year	2021	North/South Street	Riverside Ave
Time Analyzed	Weekday PM	Peak Hour Factor	0.83
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR			LT	
Volume (veh/h)						1		12			110	1		0	75	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1	
Critical Headway (sec)						6.40		6.20							4.10	
Base Follow-Up Headway (sec)						3.5		3.3							2.2	
Follow-Up Headway (sec)						3.50		3.30							2.20	

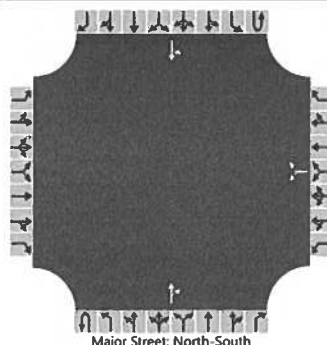
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						16									0	
Capacity, c (veh/h)						908									1463	
v/c Ratio						0.02									0.00	
95% Queue Length, Q ₉₅ (veh)						0.1									0.0	
Control Delay (s/veh)						9.0									7.5	
Level of Service (LOS)						A									A	
Approach Delay (s/veh)					9.0								0.0			
Approach LOS					A											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	
Agency/Co.	BLA	Jurisdiction	
Date Performed	8/2/2021	East/West Street	Indiana Ave
Analysis Year	2021	North/South Street	Riverside Ave
Time Analyzed	Saturday MID	Peak Hour Factor	0.80
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration							LR					TR		LT			
Volume (veh/h)						8		5			153	8		5	88		
Percent Heavy Vehicles (%)						0		0						0			
Proportion Time Blocked																	
Percent Grade (%)							0										
Right Turn Channelized																	
Median Type Storage						Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2								4.1	
Critical Headway (sec)						6.40		6.20								4.10	
Base Follow-Up Headway (sec)						3.5		3.3								2.2	
Follow-Up Headway (sec)						3.50		3.30								2.20	

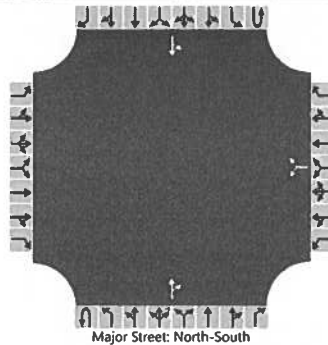
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						16								6			
Capacity, c (veh/h)						733								1383			
v/c Ratio						0.02								0.00			
95% Queue Length, Q ₉₅ (veh)						0.1								0.0			
Control Delay (s/veh)						10.0								7.6			
Level of Service (LOS)						B								A			
Approach Delay (s/veh)						10.0								0.4			
Approach LOS						B											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	Riverside/2nd
Agency/Co.	BLA	Jurisdiction	
Date Performed	4/11/22	East/West Street	2nd Ave
Analysis Year	2021	North/South Street	Riverside Ave
Time Analyzed	Weekday AM	Peak Hour Factor	0.83
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR			LT	
Volume (veh/h)						5		0			70	14			0	69
Percent Heavy Vehicles (%)						0		0							0	
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1	
Critical Headway (sec)						6.40		6.20							4.10	
Base Follow-Up Headway (sec)						3.5		3.3							2.2	
Follow-Up Headway (sec)						3.50		3.30							2.20	

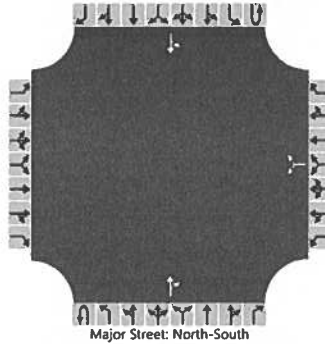
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						6									0	
Capacity, c (veh/h)						819									1504	
v/c Ratio						0.01									0.00	
95% Queue Length, Q ₉₅ (veh)						0.0									0.0	
Control Delay (s/veh)						9.4									7.4	
Level of Service (LOS)						A									A	
Approach Delay (s/veh)					9.4								0.0			
Approach LOS					A											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	Riverside/2nd
Agency/Co.	BLA	Jurisdiction	
Date Performed	4/11/22	East/West Street	2nd Ave
Analysis Year	2021	North/South Street	Riverside Ave
Time Analyzed	Weekday PM	Peak Hour Factor	0.83
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0		0	1	0		0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						16		0			111	14		0		76
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2								4.1
Critical Headway (sec)						6.40		6.20								4.10
Base Follow-Up Headway (sec)						3.5		3.3								2.2
Follow-Up Headway (sec)						3.50		3.30								2.20

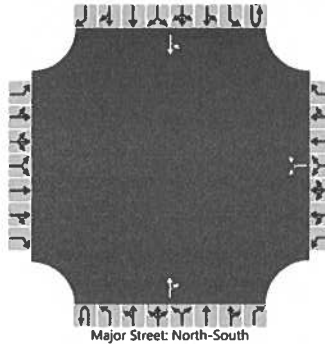
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						19										0
Capacity, c (veh/h)						759										1443
v/c Ratio						0.03										0.00
95% Queue Length, Q ₉₅ (veh)						0.1										0.0
Control Delay (s/veh)						9.9										7.5
Level of Service (LOS)						A										A
Approach Delay (s/veh)					9.9								0.0			
Approach LOS					A											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	Riverside/2nd
Agency/Co.	BLA	Jurisdiction	
Date Performed	4/11/22	East/West Street	2nd Ave
Analysis Year	2021	North/South Street	Riverside Ave
Time Analyzed	Saturday MID	Peak Hour Factor	0.80
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						17		0			161	29		0	96	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						21								0		
Capacity, c (veh/h)						661								1341		
v/c Ratio						0.03								0.00		
95% Queue Length, Q ₉₅ (veh)						0.1								0.0		
Control Delay (s/veh)						10.6								7.7		
Level of Service (LOS)						B								A		
Approach Delay (s/veh)					10.6								0.0			
Approach LOS					B											

Appendix D

ITE Trip Generation Excerpts

Land Use: 221

Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments and condominiums located in a building that has between four and 10 floors of living space. Access to individual dwelling units is through an outside building entrance, a lobby, elevator, and a set of hallways.

Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (mid-rise) (Land Use 226), and mid-rise residential with ground-floor commercial (Land Use 231) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.5 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, Montana, New Jersey, New York, Ontario (CAN), Oregon, Utah, and Virginia.

Source Numbers

168, 188, 204, 305, 306, 321, 818, 857, 862, 866, 901, 904, 910, 949, 951, 959, 963, 964, 966, 967, 969, 970, 1004, 1014, 1022, 1023, 1025, 1031, 1032, 1035, 1047, 1056, 1057, 1058, 1071, 1076

Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

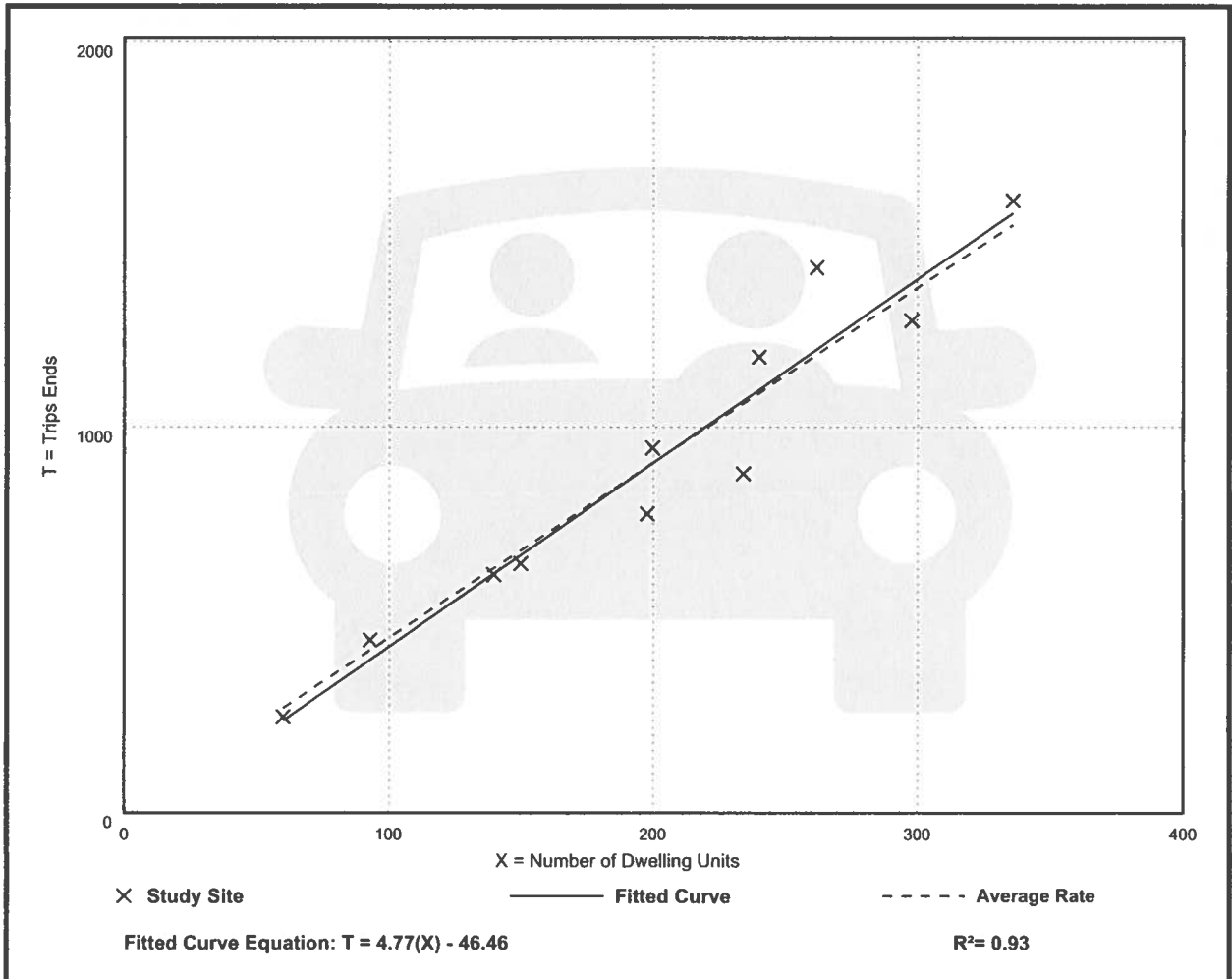
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Dwelling Units: 201
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.54	3.76 - 5.40	0.51

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

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: 30

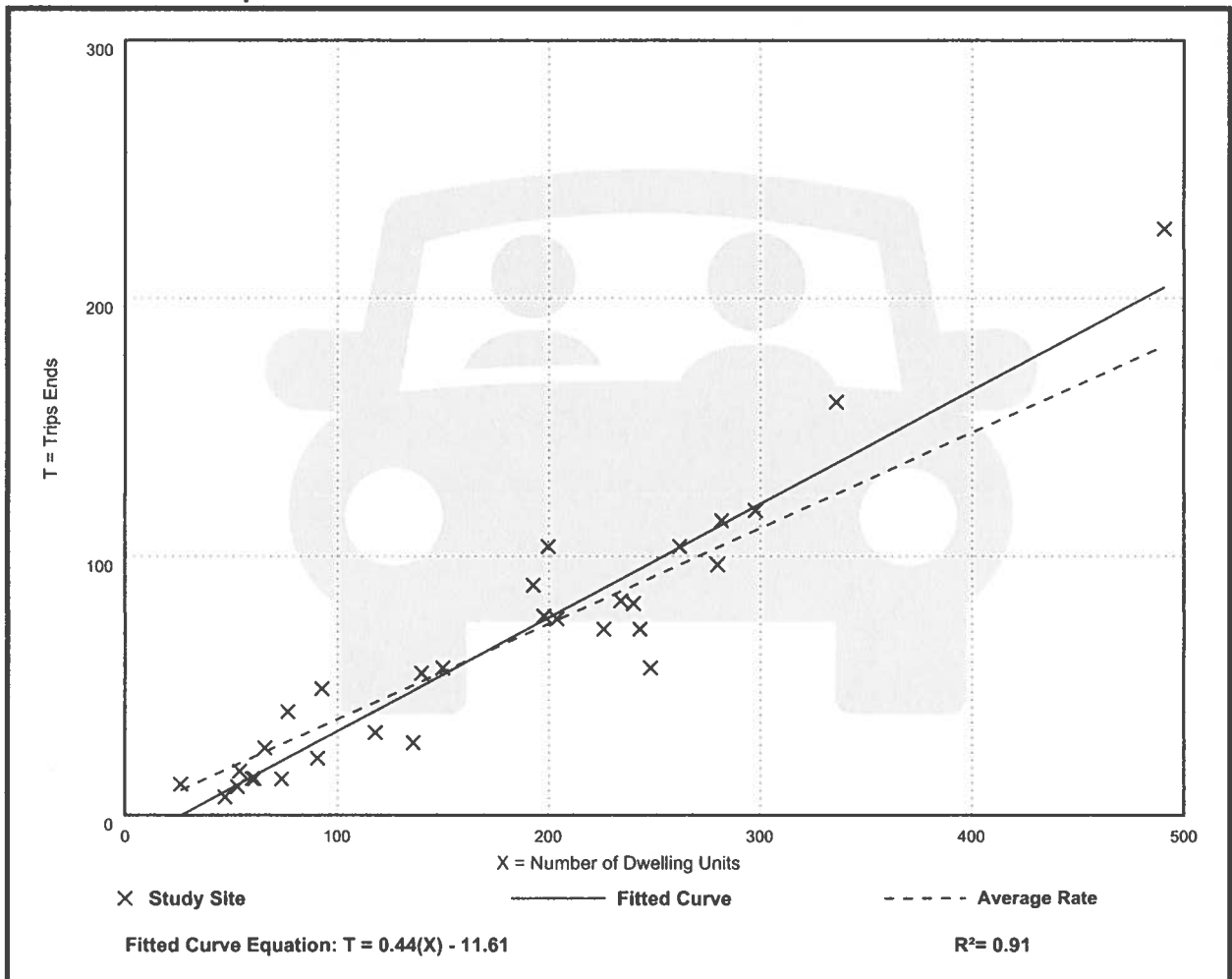
Avg. Num. of Dwelling Units: 173

Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

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: 31

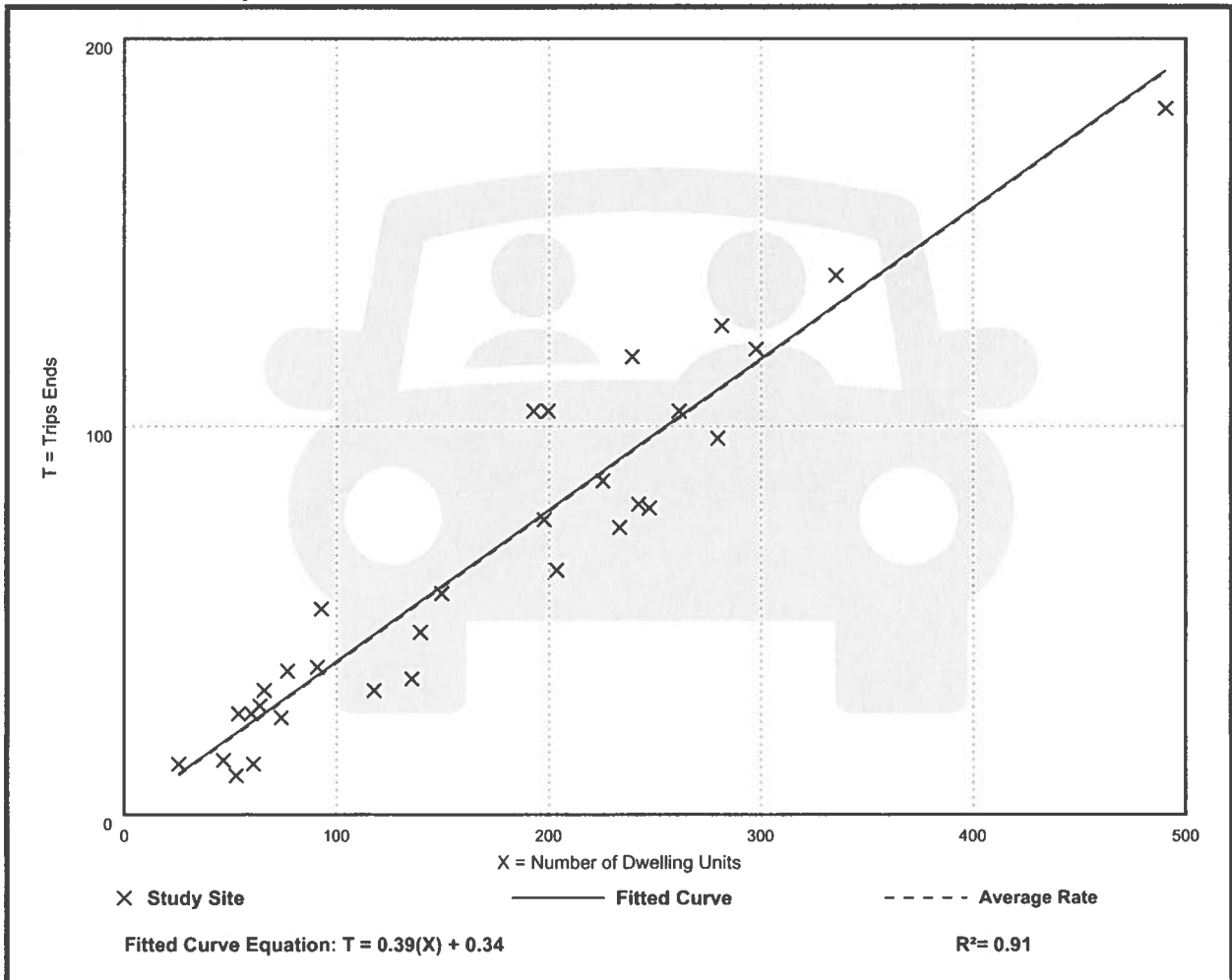
Avg. Num. of Dwelling Units: 169

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

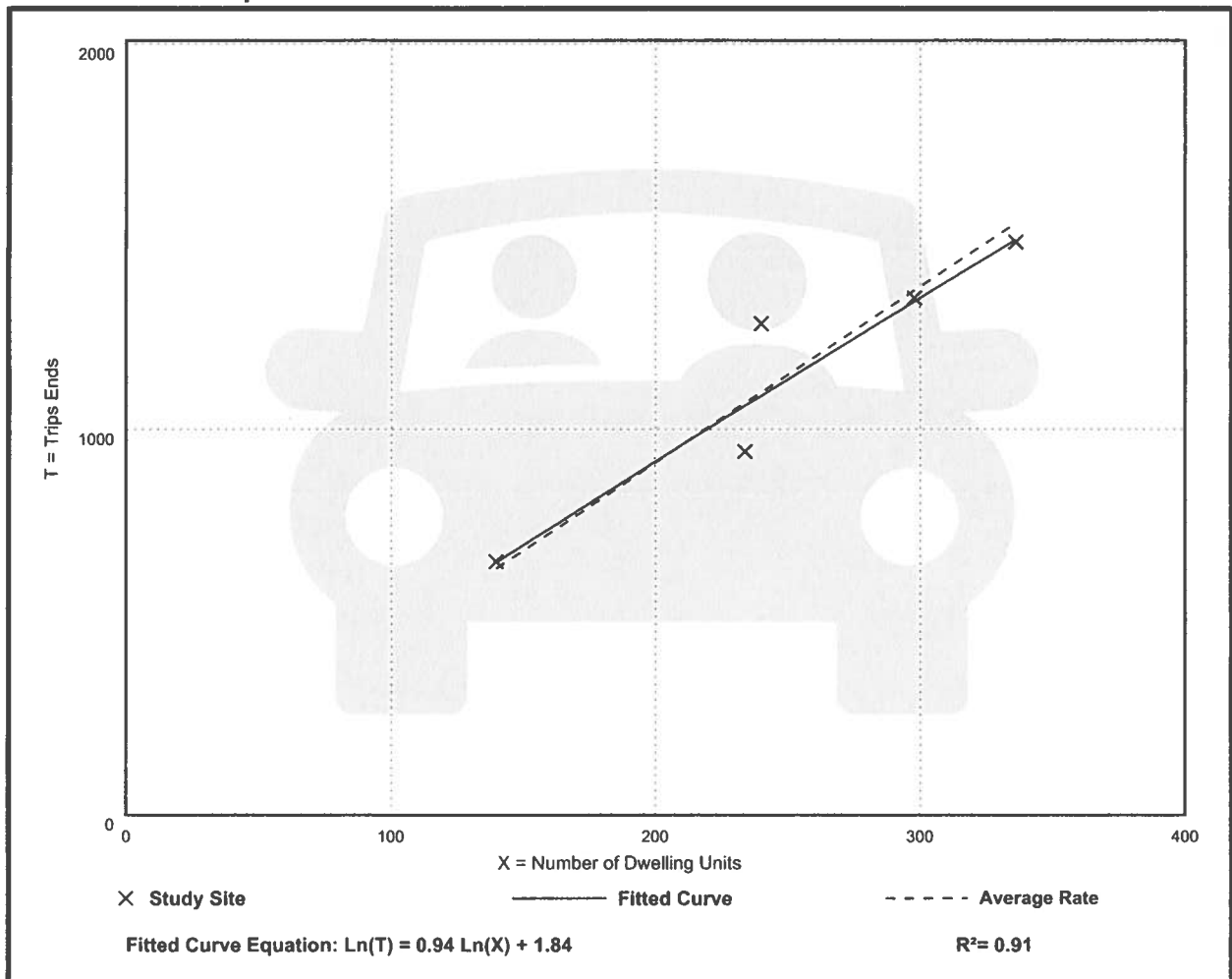
Vehicle Trip Ends vs: Dwelling Units
On a: Saturday

Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. Num. of Dwelling Units: 250
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.57	4.03 - 5.31	0.46

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

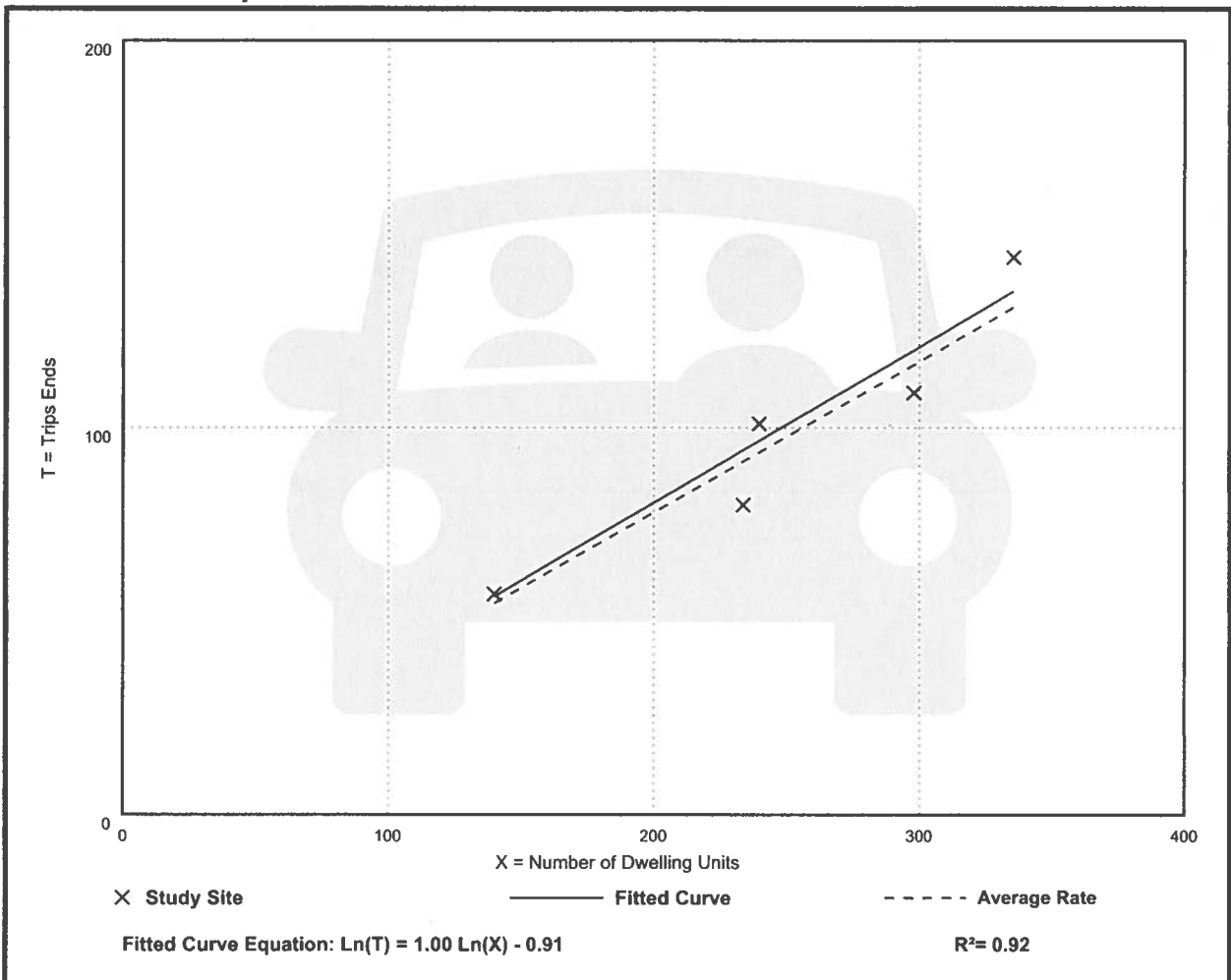
Avg. Num. of Dwelling Units: 250

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.34 - 0.43	0.04

Data Plot and Equation



Land Use: 822

Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building.

The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA.

Shopping center (>150k) (Land use 820), shopping plaza (40-150k) (Land Use 821), and factory outlet center (Land Use 823) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Delaware, Florida, New Jersey, Ontario (CAN), South Dakota, Vermont, Washington, and Wisconsin.

Source Numbers

304, 358, 423, 428, 437, 507, 715, 728, 936, 960, 961, 974, 1009

Strip Retail Plaza (<40k) (822)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday**

Setting/Location: General Urban/Suburban

Number of Studies: 4

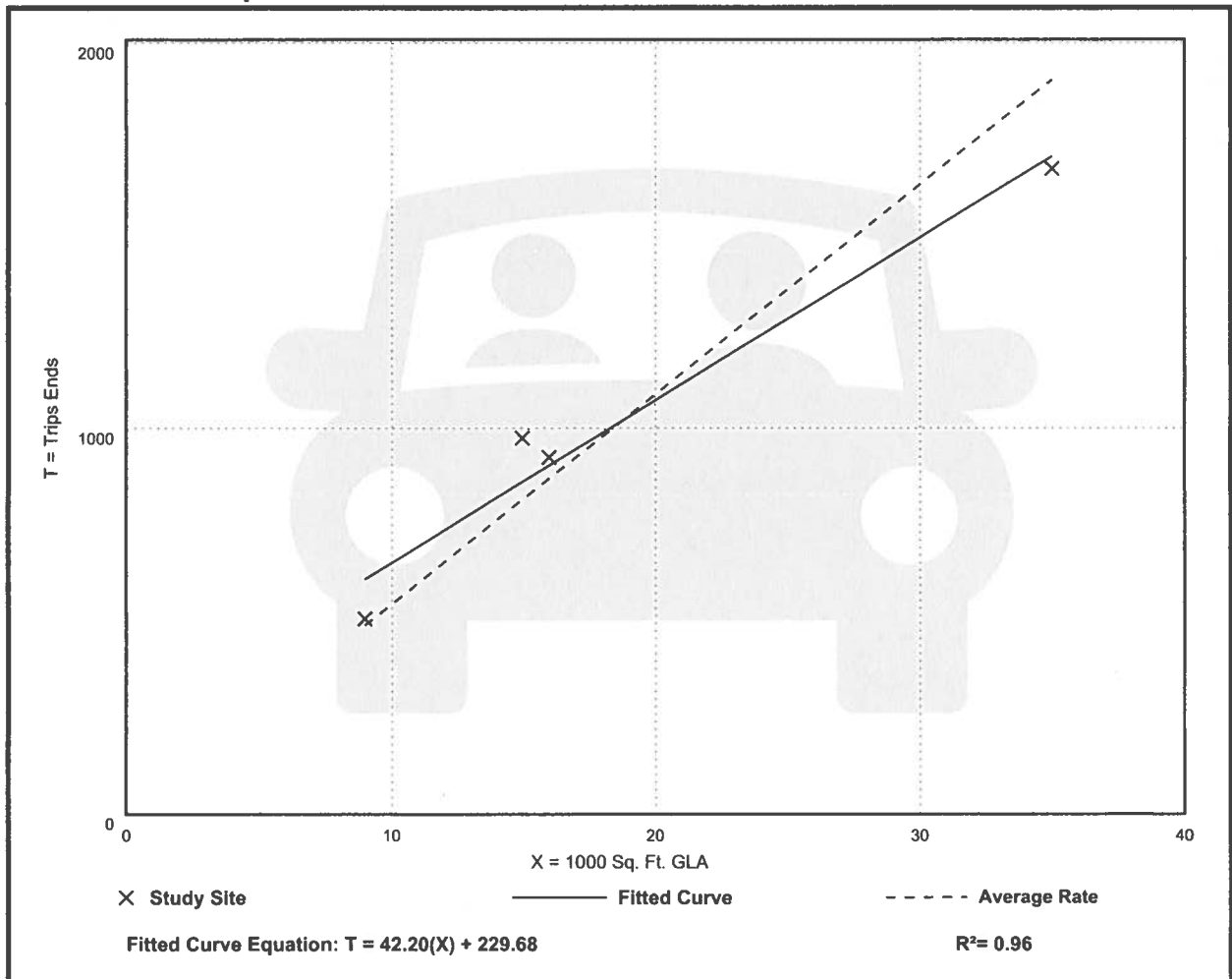
Avg. 1000 Sq. Ft. GLA: 19

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation



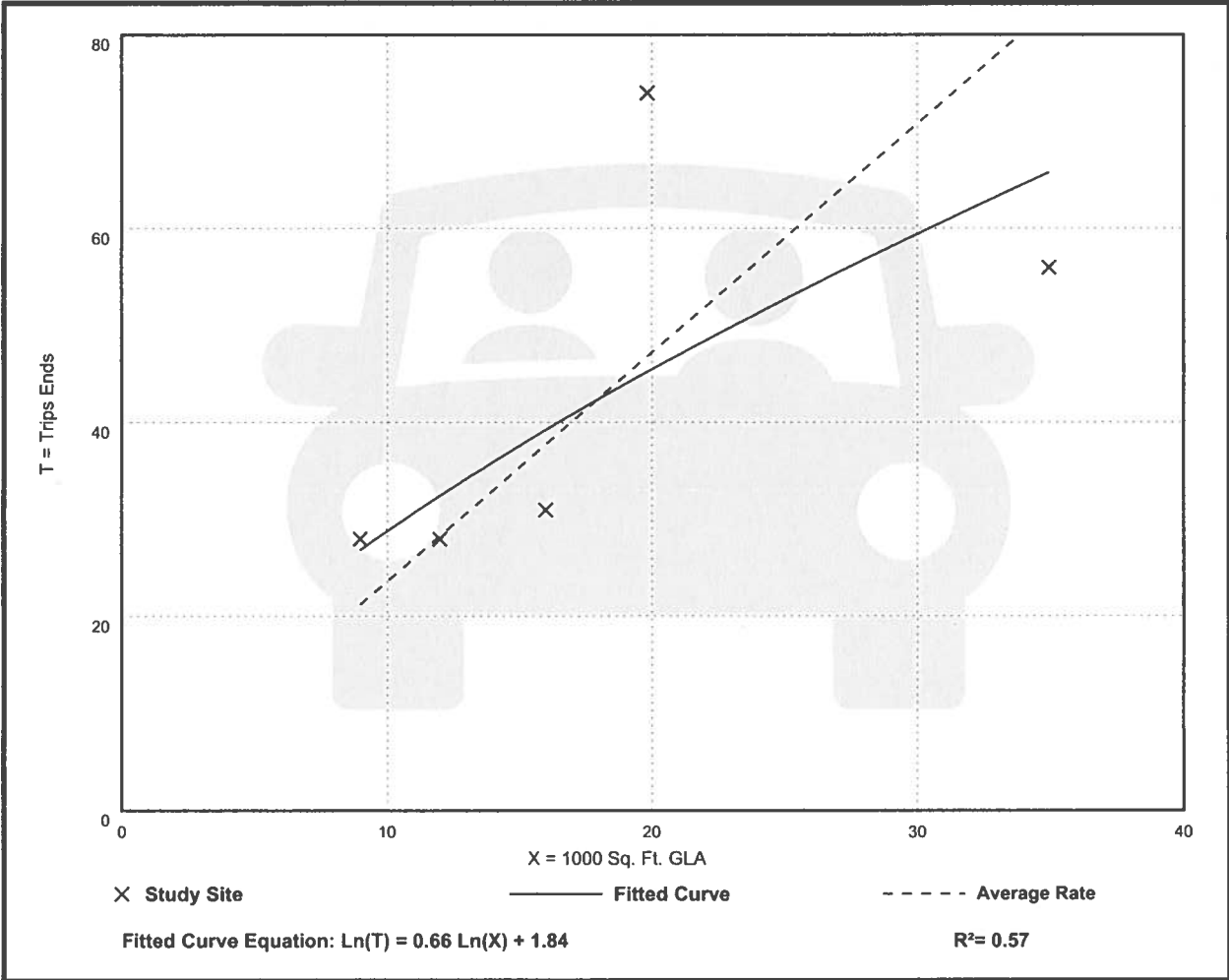
Strip Retail Plaza (<40k) (822)

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



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

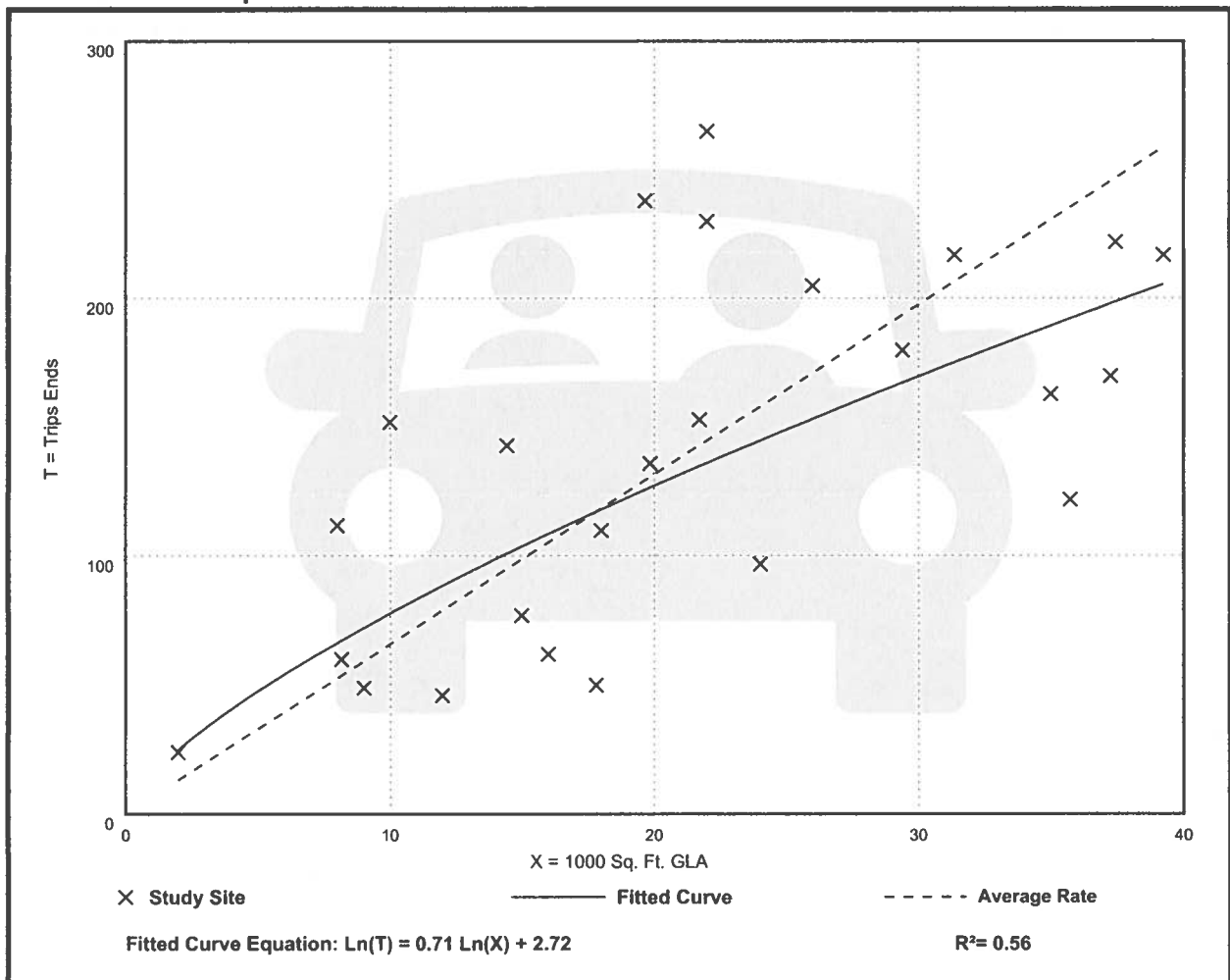
Avg. 1000 Sq. Ft. GLA: 21

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



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 12

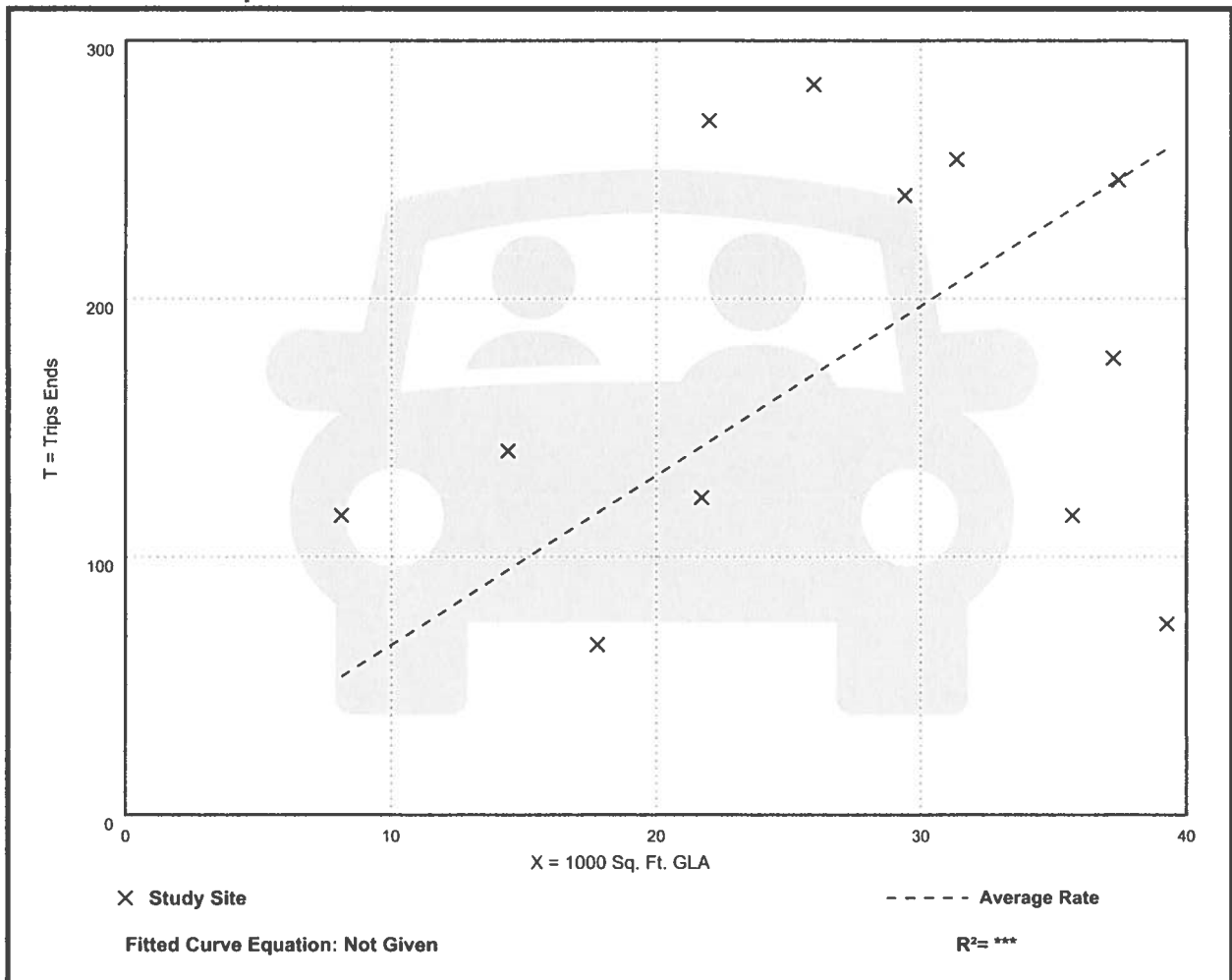
Avg. 1000 Sq. Ft. GLA: 27

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.57	1.88 - 14.23	3.45

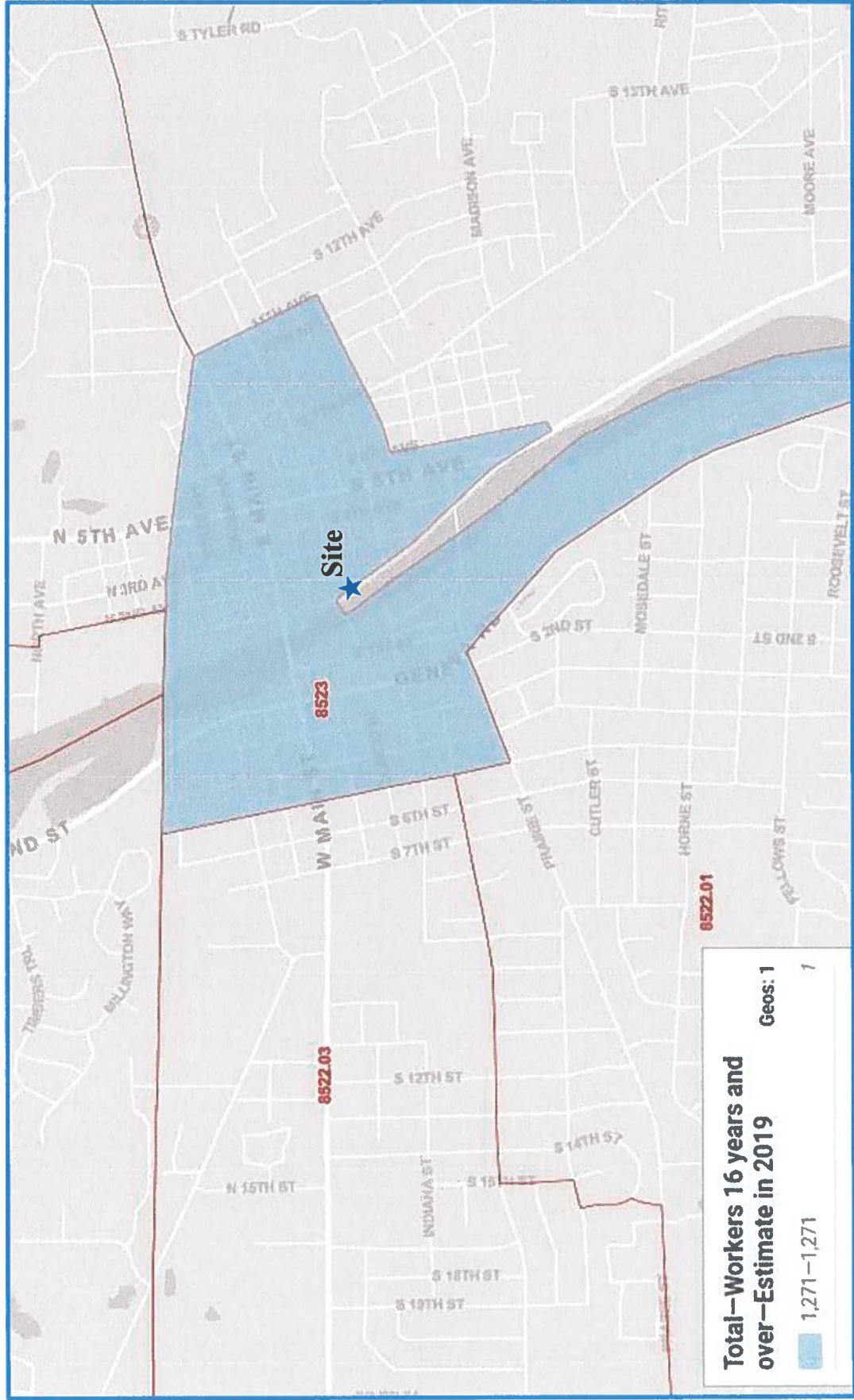
Data Plot and Equation



Appendix E
US Census Data



US Census Tract Map



MEANS OF TRANSPORTATION TO WORK

Note: This is a modified view of the original table produced by the U.S. Census Bureau. This download or printed version may have missing information from the original table.

Census Tract 8523, Kane County, Illinois		
Label	Estimate	Margin of Error
▼ Total:	1,271	±204
▼ Car, truck, or van:	1,140	±185
Drove alone	1,107	±188
▼ Carpooled:	33	±32
In 2-person carpool	33	±32
In 3-person carpool	0	±11
In 4-person carpool	0	±11
In 5- or 6-person carpool	0	±11
In 7-or-more-person carpool	0	±11
▼ Public transportation (excluding taxicab):	44	±42
Bus	23	±36
Subway or elevated rail	0	±11
Long-distance train or commuter rail	21	±22
Light rail, streetcar or trolley (carro público in Puerto Rico)	0	±11
Ferryboat	0	±11
Taxicab	0	±11
Motorcycle	0	±11
Bicycle	10	±13
Walked	21	±15
Other means	0	±11
Worked from home	56	±53

Table Notes

MEANS OF TRANSPORTATION TO WORK

Survey/Program: American Community Survey

Universe: Workers 16 years and over

Year: 2019

Estimates: 5-Year

Table ID: B08301

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

2019 ACS data products include updates to several categories of the existing means of transportation question. For more information, see: Change to Means of Transportation.

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in these tables.

Workers include members of the Armed Forces and civilians who were at work last week.

The 2015-2019 American Community Survey (ACS) data generally reflect the September 2018 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas. In certain instances, the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineation lists due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Explanation of Symbols:

An "***" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.

An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.

An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.

An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.

An "***" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.

An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.

An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.

An "(X)" means that the estimate is not applicable or not available.

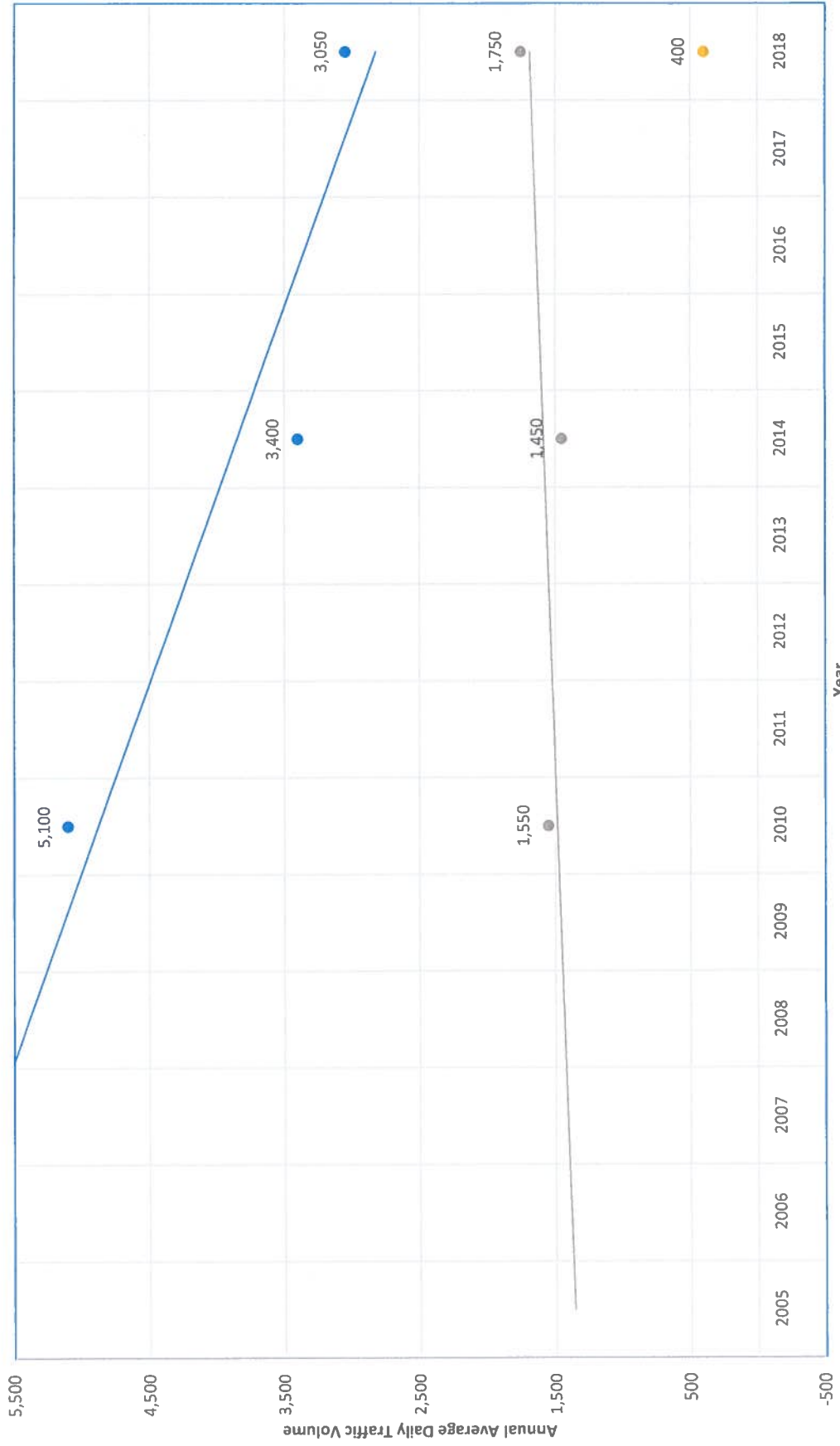
Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Appendix F

Historical Traffic Volumes / Growth

St. Charles Historical Traffic Volumes (IDOT)

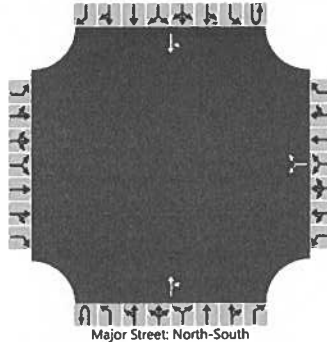


Appendix G
Total Capacity Analysis Worksheets

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	2nd Ave / Indiana Ave
Agency/Co.	BLA	Jurisdiction	
Date Performed	6/21/22	East/West Street	Indiana Ave
Analysis Year	2028	North/South Street	2nd Ave
Time Analyzed	Weekday AM- Total	Peak Hour Factor	0.83
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						17		2			20	3		2	12	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)							0									
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

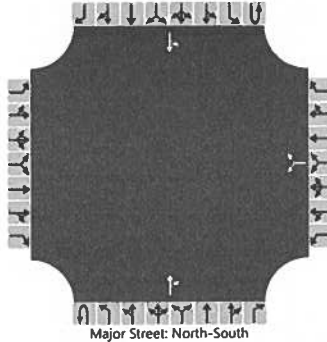
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						23								2		
Capacity, c (veh/h)						977								1599		
v/c Ratio						0.02								0.00		
95% Queue Length, Q ₉₅ (veh)						0.1								0.0		
Control Delay (s/veh)						8.8								7.3	0.0	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)					8.8								1.0			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	2nd Ave / Indiana Ave
Agency/Co.	BLA	Jurisdiction	
Date Performed	6/21/22	East/West Street	Indiana Ave
Analysis Year	2028	North/South Street	2nd Ave
Time Analyzed	Weekday PM- Total	Peak Hour Factor	0.71
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						10		0			23	0		0	36	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1	
Critical Headway (sec)						6.40		6.20							4.10	
Base Follow-Up Headway (sec)						3.5		3.3							2.2	
Follow-Up Headway (sec)						3.50		3.30							2.20	

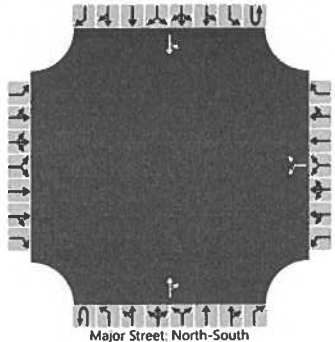
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						14									0	
Capacity, c (veh/h)						924									1593	
v/c Ratio						0.02									0.00	
95% Queue Length, Q ₉₅ (veh)						0.0									0.0	
Control Delay (s/veh)						9.0								7.3	0.0	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)					9.0								0.0			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	2nd Ave / Indiana Ave
Agency/Co.	BLA	Jurisdiction	
Date Performed	4/11/22	East/West Street	Indiana Ave
Analysis Year	2028	North/South Street	2nd Ave
Time Analyzed	Saturday MID- Total	Peak Hour Factor	0.73
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						17		2			40	7		0	28	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

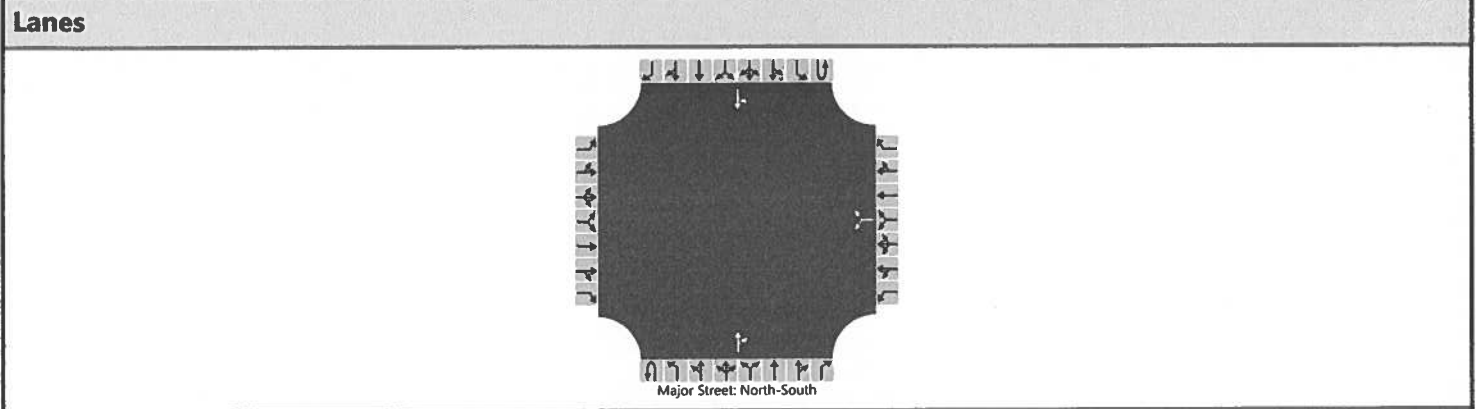
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						26								0		
Capacity, c (veh/h)						916								1551		
v/c Ratio						0.03								0.00		
95% Queue Length, Q ₉₅ (veh)						0.1								0.0		
Control Delay (s/veh)						9.0								7.3	0.0	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)					9.0								0.0			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	Riverside/2nd
Agency/Co.	BLA	Jurisdiction	
Date Performed	6/21/22	East/West Street	2nd Ave
Analysis Year	2028	North/South Street	Riverside Ave
Time Analyzed	Weekday AM- Total	Peak Hour Factor	0.83
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						20		11			69	22		3	60	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)							0									
Right Turn Channelized																
Median Type Storage					Undivided											

Critical and Follow-up Headways

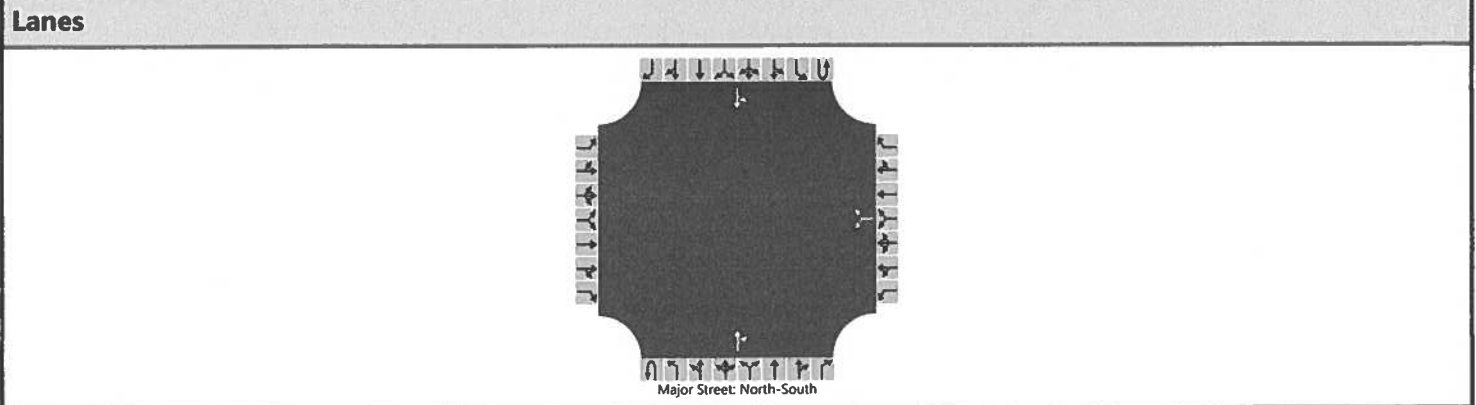
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						37								4		
Capacity, c (veh/h)						864								1493		
v/c Ratio						0.04								0.00		
95% Queue Length, Q ₉₅ (veh)						0.1								0.0		
Control Delay (s/veh)						9.4								7.4	0.0	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)						9.4								0.4		
Approach LOS						A								A		

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	Riverside/2nd
Agency/Co.	BLA	Jurisdiction	
Date Performed	6/21/22	East/West Street	2nd Ave
Analysis Year	2028	North/South Street	Riverside Ave
Time Analyzed	Weekday PM- Total	Peak Hour Factor	0.83
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						21		25			118	20		3	80	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)							0									
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

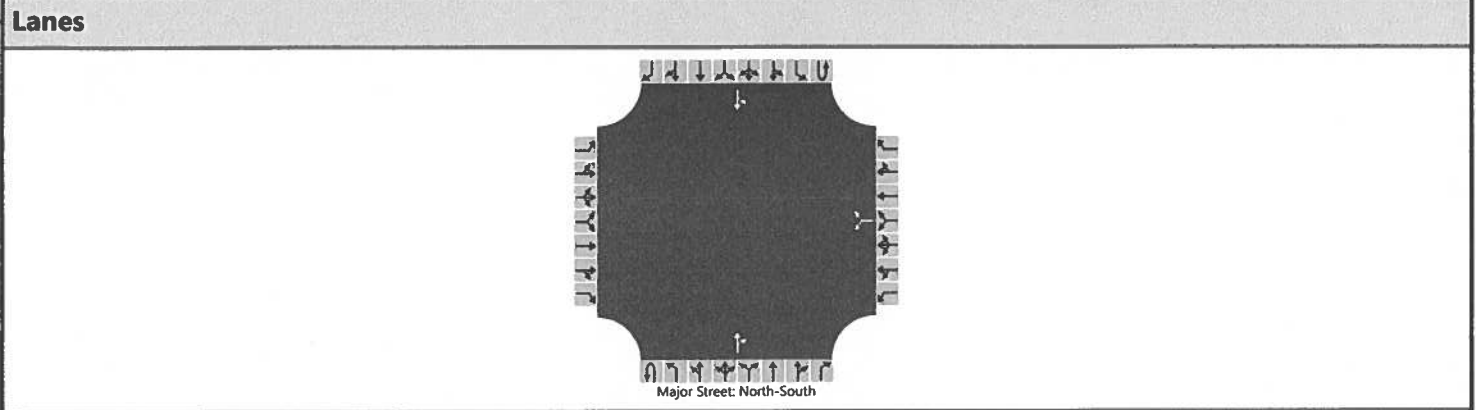
Base Critical Headway (sec)						7.1		6.2							4.1	
Critical Headway (sec)						6.40		6.20							4.10	
Base Follow-Up Headway (sec)						3.5		3.3							2.2	
Follow-Up Headway (sec)						3.50		3.30							2.20	

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						55								4		
Capacity, c (veh/h)						814								1424		
v/c Ratio						0.07								0.00		
95% Queue Length, Q ₉₅ (veh)						0.2								0.0		
Control Delay (s/veh)						9.7								7.5	0.0	
Level of Service (LOS)						A								A	A	
Approach Delay (s/veh)					9.7								0.3			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	LMM	Intersection	Riverside/2nd
Agency/Co.	BLA	Jurisdiction	
Date Performed	6/21/22	East/West Street	2nd Ave
Analysis Year	2028	North/South Street	Riverside Ave
Time Analyzed	Saturday MID - Total	Peak Hour Factor	0.80
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description			



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR			LT	
Volume (veh/h)						29		18			164	41		8	94	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)					7.1		6.2									4.1		
Critical Headway (sec)					6.40		6.20									4.10		
Base Follow-Up Headway (sec)					3.5		3.3									2.2		
Follow-Up Headway (sec)					3.50		3.30									2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					59								10					
Capacity, c (veh/h)					690								1320					
v/c Ratio					0.09								0.01					
95% Queue Length, Q ₉₅ (veh)					0.3								0.0					
Control Delay (s/veh)					10.7								7.7	0.1				
Level of Service (LOS)					B								A	A				
Approach Delay (s/veh)					10.7									0.7				
Approach LOS					B									A				