PREPARED FOR:

MPO

2026 ROADWAY SAFETY AUDITS STUDY

June 30, 2026





CORRADINO LLC

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The Indianapolis Metropolitan Planning Organization (IMPO), along with its consultant team led by Corradino LLC (project team), developed 25 road safety audits (RSAs) for intersections identified on the IMPO's regional High Injury Network (HIN). The purpose of the RSAs was to:

- **Inform** by utilizing the IMPO's regional HIN, crash data, and traffic data to identify patterns and trends at selected intersections.
- **Convene** with representatives from Local Public Agencies & Law Enforcement to identify and build consensus around safety countermeasures.
- Create a **Plan** that outlines and categorizes safety countermeasures into near- and long-term recommendations.
- Provide cost estimates and schematics for recommended improvements to use in the pursuit of **Funding.**

The IMPO updated its regional HIN in January 2026 during the 2026 Safe Streets and Roads for All Safety Action Plan process. The HIN was used to conduct an initial screening of intersections for potential inclusion in the study. The final list of intersections was identified by hosting an RSA Survey where IMPO members could select either an intersection or a corridor on the HIN for study. Additionally, the IMPO requested that five of the RSA Sites have a bicycle and pedestrian safety focus, which would include Near Miss Analysis as part of the RSAs. Applicants could indicate whether the site they were submitting had a history of bicycle and pedestrian safety concerns. A copy of the RSA Survey template is available in Appendix A. **Figure 1** is a map of the final RSA sites evaluated, and **Table 1** lists all of the RSAs and those that were Bicycle/Pedestrian Focus Areas. An interactive map of the RSAs completed for the Safety Study is also available on the IMPO's website.

FIGURE 1: MAP OF RSA SITES

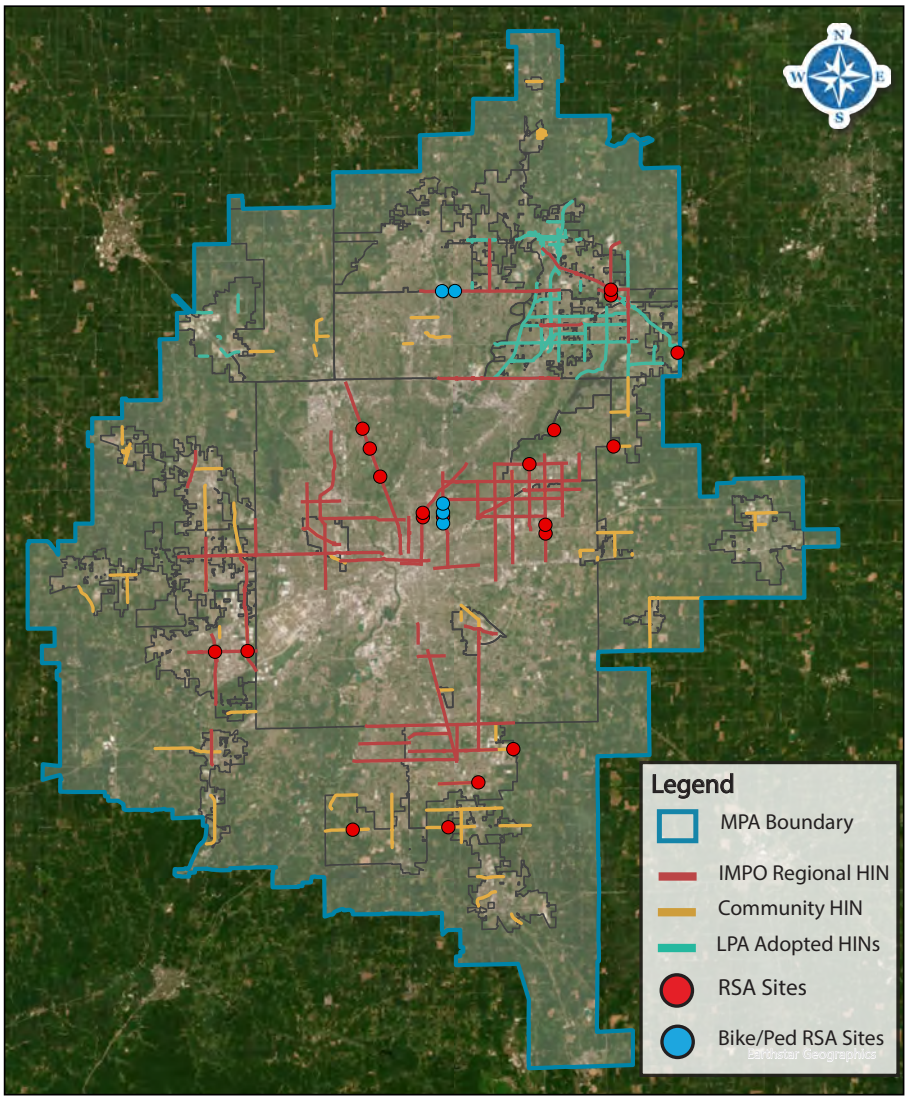


TABLE 1: LIST OF RSA SITES

LPA	INTERSECTION	BICYCLE/PEDESTRIAN FOCUSED AREA
Indianapolis	Michigan Road & 51st Street	
Indianapolis	Michigan Road & 62nd Street	
Indianapolis	Michigan Road & 71st Street/Westlane Road	
Indianapolis	Fall Creek Parkway & 30th Street	
Indianapolis	Fall Creek Parkway & 32nd Street	
Indianapolis	Post Road & 21st Street	
Indianapolis	Post Road & 25th Street	
Indianapolis	Keystone Avenue & 27th Street	Bicycle/Pedestrian Focused
Indianapolis	Keystone Avenue & 30th Street	
Indianapolis	Keystone Avenue & 32nd Street	Bicycle/Pedestrian Focused
Indianapolis	Keystone Avenue & 36th Street	Bicycle/Pedestrian Focused
Lawrence	56th Street & Franklin Road	
Lawrence	71st Street & Lee Road	
Hamilton County	Campus Parkway & Brookes School Road	
Hamilton County	146th Street & Lowe's Way	Bicycle/Pedestrian Focused
Hamilton County	146th Street & Carey Road	Bicycle/Pedestrian Focused
Fishers	Southeastern Parkway & Connecticut Avenue	
Noblesville	146th Street & Boden Road	
McCordsville	CR 600 N & CR 700 W	
Greenwood	Main Street & Five Points Road	
Greenwood	Whitestown Road & Emerson Avenue	
Johnson County	Whiteland Road & CR 75 W	
Johnson County	Whiteland Road & Smokey Row Road	
Plainfield	Quaker Boulevard & Stafford Road	
Plainfield	Ronald Reagan Parkway & Stafford Road	

Project Management & Coordination

The project team held a series of coordination meetings with the IMPO project manager to establish and monitor the project schedule, submit data requests, collaborate on strategies to identify RSA sites, and troubleshoot unforeseen schedule delays as necessary.

▸ RSA DEVELOPMENT PHASE 1 – DATA COLLECTION & ANALYSIS

Preliminary Findings Report

After RSA sites were identified along IMPO's regional HIN, the project team developed a Preliminary Findings Report summarizing the crash history and crash patterns at each RSA site. To complete this process, the project team:

- Received 2022-2024 crash data from the IMPO.
- Created a point shapefile and placed a point at the center of each study intersection and created a 250' buffer around each study intersection.
- Ran a "Select by Location" function to select all crashes within the buffered area and assigned each crash an attribute referencing each study intersection.
- Reviewed the police reports for each crash record within the buffered area.
- Moved crash records to reflect the location noted in the police report accurately.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a crash summary and crash diagram for each RSA site.
- Developed a crash cost (Icc) and crash frequency (Icf) using RoadHat 4.1 for each intersection.
- Installed traffic cameras at five RSA sites to monitor bicycle and pedestrian traffic to complete a Near-Miss Analysis.

Attached to each RSA report is a Preliminary Findings report that outlines the results of the Safety Analysis.

LPA Kickoff Meetings

While analyzing the crash data, the project team also hosted virtual kickoff meetings with each LPA that had one or more RSA sites under analysis. The purpose of the meetings was to:

- Share initial findings from analyzing the crash data.
- Discuss safety concerns observed by both the LPA staff and their local law enforcement.
- Ask if there are any existing planning efforts or future land development that may impact the operations of the RSA site.
- Request turning movement count data for the RSA sites (if available).
- Begin to brainstorm concepts for both near- and long-term improvements that would help guide the traffic analysis.

Meeting minutes from the kickoff meetings are also included in the attachments for each RSA report.

Turning Movement Count Data & Traffic Analysis

LPAs provided turning movement count data for 19 of the 25 RSA sites studied. The seven RSA sites without turning movement count data were manually counted by the project team during the AM and PM Peak periods and analyzed to determine the peak hours at each intersection. The traffic counts were then seasonally adjusted using INDOT's most recent 2025 Traffic Adjustment Factors to account for seasonal and day-of-week variations to normalize the data.

Traffic analysis best practices recommend designing infrastructure improvements in a way to accommodate potential traffic growth added to a roadway facility as forecast traffic patterns change. For the RSAs, Corradino utilized growth rates derived from the IMPO's Travel Demand Model and the design year 2050 to align with IMPO's current Metropolitan Transportation Plan (MTP). Before testing potential infrastructure improvements, Corradino developed a 2050 "No-Build" scenario. The "No-Build" scenario grows present-day traffic volumes out to 2050, assuming no changes are made to the current roadway design. This "No-Build" scenario becomes a baseline for testing potential infrastructure improvements and confirming if they will improve or maintain existing traffic capacity needed to help improve safety.

The peak-hour Level of Service (LOS) and average seconds delayed were developed for the existing conditions and the future "No-Build" scenario to analyze current traffic capacity and forecast changes that may inadvertently impact safety. Results for the existing conditions and future "No-Build" scenarios are attached to each RSA report.

▸ RSA DEVELOPMENT PHASE 2 – FIELD CHECK & CONSENSUS BUILDING

Field Check

The project team hosted field checks at all 25 RSA sites during Spring, 2026. Representatives from the LPA's and local law enforcement were invited to attend the field checks. At each field check, the project team and participants:

- Discussed the crash data analysis and summarized the Preliminary Findings Report.
- Observed traffic patterns in real time.
- Identified potential near-and long-term safety countermeasures.
- Built consensus on recommended improvements for each RSA site.
  - In the case that consensus could not be met during the field check, the project team hosted a follow-up virtual meeting with the LPA staff to finalize recommendations for the RSA.

Recommended improvements agreed upon during the field check or in subsequent meetings were used to develop cost estimates and schematics for each RSA report. Minutes from the field checks are also available in the attachments of each RSA report.

Draft & Finalize RSA Reports

The project team drafted RSA reports, similar in analytical level and format to the Abbreviated Engineering Review typically produced by the INDOT Office of Traffic Safety for RSA sites. The reports summarized the existing conditions and the recommended near- and long-term improvements. In certain cases, potential improvements identified for an RSA site were more systemic, such as reviewing a corridor rather than a single intersection. In these cases, future considerations were noted in the RSA report separate from the near- and long-term recommendations.

For intersections with long-term recommended improvements that alter how the current intersection operates, a benefit-cost analysis was conducted as part of the RoadHat 4.1 analysis and is attached to the RSA reports. The RSA reports were reviewed first by IMPO staff, then by the LPAs, before being finalized in this report.

PREPARED FOR:

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APPENDIX A:

RSA Survey



CORRADINO LLC

IMPO 2025 Safety Study - Call for RSA Application

Step 1: IMPO Safety Study Survey

1. Local Public Agency *

2. Point of Contact Name *

3. Point of Contact Email *

Step 2: Select Your Priority Locations

Place markers on the map for each category below:

- Intersection
- Corridor (From/To)

PREPARED FOR:

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APPENDIX B:

Indianapolis RSAs



CORRADINO LLC

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/25/2026
Des. No.:	n/a

Reviewer Information:		Agency/Firm Name:	Corradino LLC
Primary Author:	James Mark Rinehart	Agency:	Indianapolis Metropolitan Planning Organization
Phone Numbers:	(317) 488-2363	Email Address:	jrinehart@corradino.com

Purpose of Review:

Corradino LLC was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Michigan Rd.		District: Greenfield		City: Indianapolis			County: Marion
Lat & Long (BOP)	39.844498	-86.190361	Lat & Long (EOP):	39.844498	-86.190361	Inside Urban Area Boundary? (Yes) or No (circle)	
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit			

Location: The intersection of Michigan Road & 51st Street

Existing Conditions:

The Michigan Road & 51st Street/Grandview Drive intersection is a four-leg signalized intersection. Michigan Road has two NB and two SB through lanes at the intersection. It is the only signalized intersection along Michigan Road between 38th Street and I-465 without a left-turn lane. 51st Street, on the west leg of the intersection, has one through lane. Grandview Drive, on the east leg of the intersection, has two through lanes and a southbound left-turn lane.

The geometry of the intersection is unusual for a four-leg signalized intersection. Michigan Road travels southeast to northwest, but Grandview Drive also approaches the intersection at an angle from the northeast. The skewed angles at the intersection approaches raised concerns about site distance. However, very few reported crashes indicated site distance as a primary factor.

There is a sidewalk along the west side of Michigan Road that continues through the intersection. ADA ramps are located in the southwest and northwest corners of the intersection. Additionally, there are no pedestrian signals, push buttons, or painted crosswalks at the intersection.

IndyGo's Route 34 operates along Michigan Road at the intersection. Bus Stop 51034 is located in the northwest corner of the intersection. There is sidewalk access and a bench at the bus stop, but no 5'x8' boarding pad. Bus Stop 50928 is located in the northeast corner of the intersection. There is no boarding pad, bench, or sidewalk access to the bus stop.

Located in each quadrant of the intersection are:

- NW Quadrant: BP Gas Station.
- SW Quadrant: Single Family Residence.
- SE Quadrant: Single Family Residence.
- NE Quadrant: Vacant Land.

Corradino staff held a virtual meeting with Indianapolis DPW staff on February 19, 2026, to review data generated for the IMPO's Regional Safety Study update and to identify intersections within the City of Indianapolis for further study. The Michigan Road and 51st Street/Grandview Drive intersection was listed as one of the high-crash locations in Central Indiana and was prioritized by the Indianapolis DPW. Meeting minutes from the virtual meeting with Indianapolis DPW are available in **Attachment D**.

Corradino held a field check with the representatives from the IMPO, City of Indianapolis DPW, and Indianapolis DPW's Fatal Crash Review Team on April 28, 2026, to provide a recap of the discussion held during the virtual meeting, share test results for the near-term and long-term solutions, and build consensus around a series of countermeasures for Corradino to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Traffic Operations:

a) Mobility/Congestion Performance: According to 24-hour traffic count data collected on April 15, 2025, EB traffic entering the intersection was **1,019.** The WB traffic entering the intersection was **3,740** (91% of WB traffic turned left at the intersection)**.** The NB traffic entering the intersection was **14,337.** The SB traffic entering the intersection was **12,935.** Turning movement counts are available for review in **Attachment B**. A **1.5%** forecasted annual growth rate, derived from the IMPO's TDM, was used to develop a future no-build traffic scenario and to test long-term build alternatives at the intersection. The design year for the project is **2050.** Results from the traffic analysis are available in **Attachment C**.

	Eastbound		Westbound		Northbound		Southbound	
Alternative	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
AM Peak – 2026	**D**	**39.3**	**C**	**26.9**	**B**	**19.6**	**B**	**19.9**
PM Peak - 2026	**D**	**44.3**	**D**	**36.2**	**B**	**17.5**	**B**	**11.3**
AM Peak - 2050	**E**	**77.5**	**E**	**63.8**	**D**	**38.9**	**C**	**31.8**
PM Peak - 2050	**E**	**63.0**	**F**	**99.1**	**D**	**43.4**	**C**	**20.8**

b) Safety Performance / Crash Analysis: According to available crash data reported between January 1, 2022, and December 31, 2024, there were **38** crashes near the Michigan Road & 51st Street intersection. Of those crashes, **3** resulted in fatalities,**4** resulted in incapacitating injuries, and **5** resulted in non-incapacitating injuries. See attached Crash Summary and output from RoadHAT 4.1 in **Attachment A.**

It is important to note that 12 of the 38 reported crashes at the intersection **(32%)** were Left Turn crashes at the intersection. 11 of those 12 crashes were NB to WB left-turning vehicles crashing into SB vehicles. Additionally, five of those 11 NB Left Turn crashes resulted in injury or a fatality. Based on the 24-hour turning movement counts, 289 vehicles were recorded making the NB-to-WB left turn, accounting for 9% of the traffic moving through the intersection. This means the NB-to-WB left-turn movement accounts for 29% of reported crashes and 45% of reported injury-related crashes, but only moves 9% of vehicles at the intersection daily.

During the field check, it was observed that the NB-to-WB left-turn movement had a permissive-only signal phase and no designated left-turn lane. Attempting to cross over two lanes of traffic traveling SB at the intersection, and no left-turn lane appeared to be a correlating factor for the high rate of Left Turn crashes at the intersection. The Collision Diagram for the Crash Analysis is available in **Attachment A.**

RoadHAT 4.1 was used to develop crash cost (ICC) and crash frequency (ICF) scores for the Michigan Road & 61st Street Intersection. Results from the RoadHAT 4.1 analysis were: I_{CC} = **2.17**, I_{CF} = **1.22.** The RoadHAT 4.1 analysis results are available in **Attachment A.**

Alternatives & Recommendations

During the field check with representatives from Indianapolis DPW and the IMPO, crash data and traffic data were discussed while observing traffic patterns. Multiple maintenance-type improvements were identified in the field to address near-term safety needs at the intersection (modified signal timing, traffic signal backplates, striping, etc.), as well as some longer-term infrastructure improvements. Indianapolis DPW also mentioned during the field check that they will soon update the WB-to-SB left-turn signal to create a protected signal phase. Indianapolis DPW also mentioned they intend to install a temporary curb with flexible delineators on the north leg of the intersection to prohibit NB left turns out of the BP gas station.

In addition to the planned improvements, below are the discussed Near- and Long-Term recommended improvements for the Michigan Road & 61st Street intersection. Notes from the field check summarizing conversations with Indianapolis DPW and IMPO staff are available for review in **Attachment D.**

Near-Term

The list of near-term solutions discussed during the field check includes:

- Consider increasing "All-Red" clearance time.
- Update striping at the intersection, which would include stop bars, pedestrian crossings, lane striping, and centerline striping.
- Add back plates to the existing traffic signals.

Long-Term

- Widen Michigan Road at the intersection to accommodate new dedicated NB and SB left-turn lanes.
- Signal modification that would include updating all traffic signals with backplates and necessary wiring to include protected left-turn phases for the NB and SB left turns.
- Improve/add ADA ramps in all four corners of the intersection with pedestrian crossings, pedestrian signals, and push buttons.
- Add a sidewalk connection from the NE corner of the intersection to the NB IndyGo bus stop.
- Add 5' x 8' boarding pads at both NB and SB bus stops.

A schematic of the long-term improvement is available in **Attachment E.**

Future Consideration
Indianapolis DPW noted that this intersection may be studied further as part of a Michigan Road Corridor Study.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation

PE - $**10,000**
ROW - **$0**
Utility CN - **$0**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0**
CN (including 10% contingency) - **$37,000**

Near-Term Total - $47,000

Long-Term Recommendation

PE - **$156,720**
ROW - **$0**
Utility CN - **$50,000**
Railroad CN - **$0**
Construction Inspection/Testing - **$130,600**
CN (including 10% contingency) - **$1,306,000**

Long-Term Total - $1,643,320

Project Score: (for INDOT use)

Safety Program Score =

Miscellaneous Notes:

It was noted during a review of the crash data that there was a significant increase in crashes in 2024. It was suggested to review the 2025 data before submitting the recommended improvements for IMPO's annual Call for Projects to determine whether the increase in crashes continued.

Attachments:

Attachment A: Preliminary Findings Report

Attachment B: Traffic Counts

Attachment C: Traffic Analysis

Attachment D: Virtual Meeting Minutes & Field Check Minutes

Attachment E: Cost Estimates & Schematics

Attachment A
Preliminary Findings

PRELIMINARY FINDINGS

Safety Analysis at Michigan Rd. & 51st St. / Grandview Drive

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Michigan Road & 51st Street/Grandview Drive (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (Icc) and crash frequency (Icf) for the Study Area using RoadHat 4.1.

38 crashes were identified within the Study Area. 12 of the crashes were reported as injury-related crashes. Four of the 12 were Incapacitating crashes, five Non-Incapacitating crashes, and one Possible Injury crash. Additionally, three Fatal crashes were reported in the Study Area. The police reports all indicated that southbound vehicles involved in the three reported crashes were traveling at a high rate of speed before either losing control and running off the road or striking another vehicle.

Other notable results near the Study Area include:

- 32% of reported crashes were Left Turn crashes. Left Turn and Right Angle Crashes combined made up 37% of the reported crashes in the Study Area.
- 29% of reported crashes were Rear End crashes. Five of the reported Rear End crashes resulted in injury.
- 74% of reported crashes occurred during Off-Peak travel times. 8% of reported crashes occurred during the morning peak hours (6 am-9 am), and 18% during the evening peak hours (4 pm-7 pm).
- 79% of reported crashes occurred in daylight hours and 21% in dark (lighted) conditions.
- 16% of reported crashes occurred in wet roadway surface conditions. The remaining 84% of reported crashes occurred on dry roadways.
- 74% of reported crashes occurred when the weather conditions were clear. The remaining 26% of reported crashes occurred in either Cloudy or Rainy weather conditions.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

2022-2024 Crash Summary	
TOTAL CRASHES	38
TOTAL INJURIES	21
PROPERTY DAMAGE ONLY	23
POSSIBLE INJURY	1
REFUSED	2
NON-INCAPACITATING	5
INCAPACITATING	4
FATAL	3

Summary of Primary Factors per Manner of Collision

Primary Factors per Manner of Collision	Crashes	Percent
LEFT TURN	**12**	**32%**
FAILURE TO YIELD RIGHT OF WAY	11	
UNSAFE SPEED	1	
REAR END	**11**	**29%**
FOLLOWING TOO CLOSELY	10	
FAILURE TO YIELD RIGHT OF WAY	1	
SAME DIRECTION SIDESWIPE	**7**	**18%**
UNSAFE LANE MOVEMENT	3	
IMPROPER LANE USAGE	2	
FAILURE TO MAINTAIN LANE	1	
FAILURE TO YIELD RIGHT OF WAY	1	
HEAD ON BETWEEN TWO MOTOR VEHICLES	**3**	**8%**
IMPROPER TURNING	1	
FAILURE TO YIELD RIGHT OF WAY	1	
IMPROPER LANE USAGE	1	
RIGHT ANGLE	**2**	**5%**
FAILURE TO YIELD RIGHT OF WAY	2	
RAN OFF ROAD	**1**	**3%**
OVERCORRECTING/OVERSTEERING	1	
RIGHT TURN	**1**	**3%**
SPEED TOO FAST FOR WEATHER CONDITIONS	1	
OPPOSITE DIRECTION SIDESWIPE	**1**	**3%**
IMPROPER LANE USAGE	1	
Total Crashes	**38**	**100%**

Summary of Crashes per Time of Day

Time of Day	Crashes	Percent
Peak AM (6:00-9:00 AM)	3	8%
Peak PM (4:00-7:00 PM)	7	18%
Off Peak	28	74%
Total Crashes	**38**	**100%**

Summary of Crashes per Light Conditions		
Light Conditions	**Crashes**	**Percent**
DARK (LIGHTED)	8	21%
DAYLIGHT	30	79%
Total Crashes	**38**	**100%**

Summary of Roadway Surface Conditions			
Manner of Collision	**DRY**	**WET**	**Total Crashes**
LEFT TURN	11	1	12
REAR END	7	4	11
SAME DIRECTION SIDESWIPE	7		7
HEAD ON BETWEEN TWO MOTOR VEHICLES	3		3
RIGHT ANGLE	2		2
RIGHT TURN		1	1
OPPOSITE DIRECTION SIDESWIPE	1		1
RAN OFF ROAD	1		1
Total Crashes	**32**	**6**	**38**

Summary of Weather Conditions				
Manner of Collision	**CLEAR**	**RAIN**	**CLOUDY**	**Total Crashes**
LEFT TURN	10	1	1	12
REAR END	8	3		11
SAME DIRECTION SIDESWIPE	6		1	7
HEAD ON BETWEEN TWO MOTOR VEHICLES	2		1	3
RIGHT ANGLE	1		1	2
RIGHT TURN		1		1
OPPOSITE DIRECTION SIDESWIPE	1			1
RAN OFF ROAD			1	1
Total Crashes	**28**	**5**	**5**	**38**

DIAGRAM OF COLLISION REPORTS

Michigan Road & 51st Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis - DPW

INDOT District: Greenfield County: Marion City/Town: Indianapolis

Analyst: JMR QC: DC Date: 3/13/2026



YEAR	REPORTS
2022	6
2023	8
2024	24
Total	38

NOTES

1) Crashes with determinable location are shown in diagram. Crash total may not match ARIES database.

2) Crashes on diagram do not represent exact crash locations; they are approximated based on available information.

3) Diagram not to scale.

Object Symbols

- MOVING VEHICLE
- TURNING VEHICLE
- BACKING VEHICLE
- OUT OF CONTROL
- PARKED VEHICLE
- PEDESTRIAN
- BICYCLE
- A — ANIMAL
- D — DEBRIS IN ROADWAY
- DR — DRIVEWAY CRASH
- # — FATAL CRASH
- # — INJURY CRASH – INCAPACITATING
- # — INJURY CRASH – NONINCAPACITATING
- # — PDO CRASHES (IF > 1)
- SIGNALIZED INTERSECTION
- # — FIXED OBJECT (See table for # codes)

Collision Symbols

- REAR END
- HEAD ON
- OTHER
- SIDESWIPE – SAME
- SIDESWIPE – OPPOSITE
- RIGHT ANGLE
- LEFT/RIGHT TURN
- RAN OFF ROAD

Fixed Object Codes

01 – BRIDGE or OVERPASS
02 – BUILDING
03 – CULVERT or DITCH
04 – CURB
05 – GUARDRAIL or BARRIER
06 – EMBANKMENT
07 – FENCE
08 – TRAFFIC POLE
09 – UTILITY POLE
10 – SIGN
11 – TREE / SHRUB
12 – CONTRUCTION BARRIER
13 – CRASH ATTENUATOR
88 – OTHER
99 - UNKNOWN

Intersection Images

Michigan Road & 51st Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

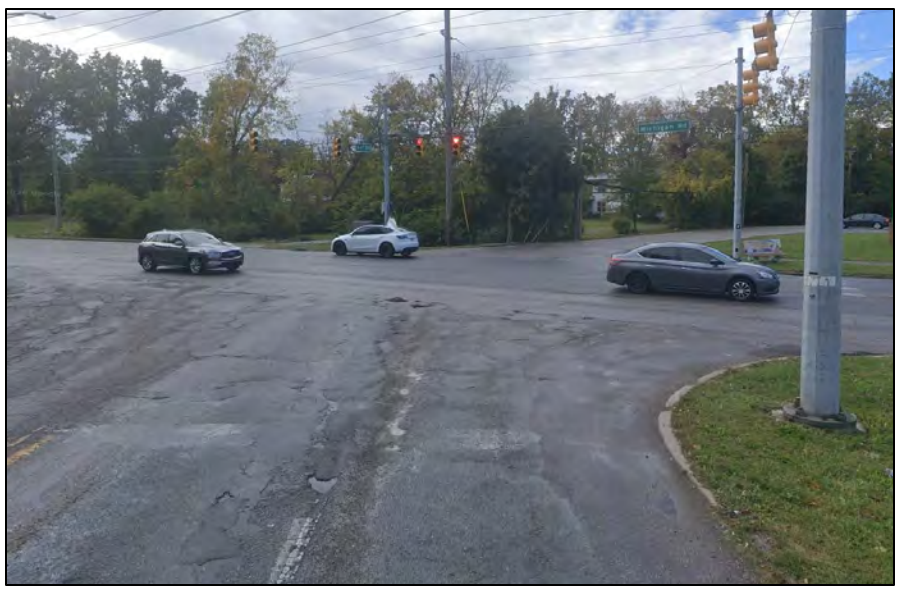
INDOT District: Greenfield County: Marion City/Town: Indianapolis



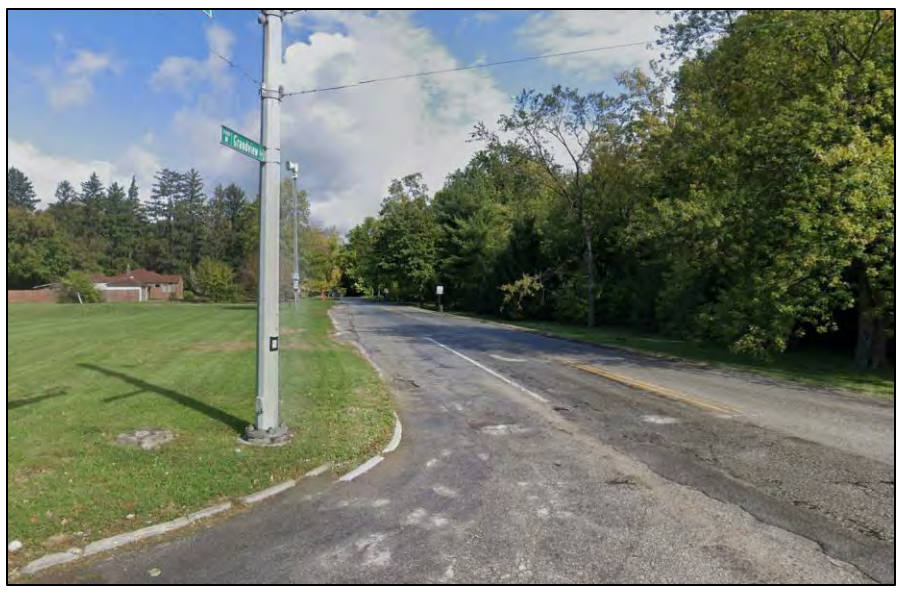
West Leg – Looking West



West Leg – Looking East



East Leg – Looking West



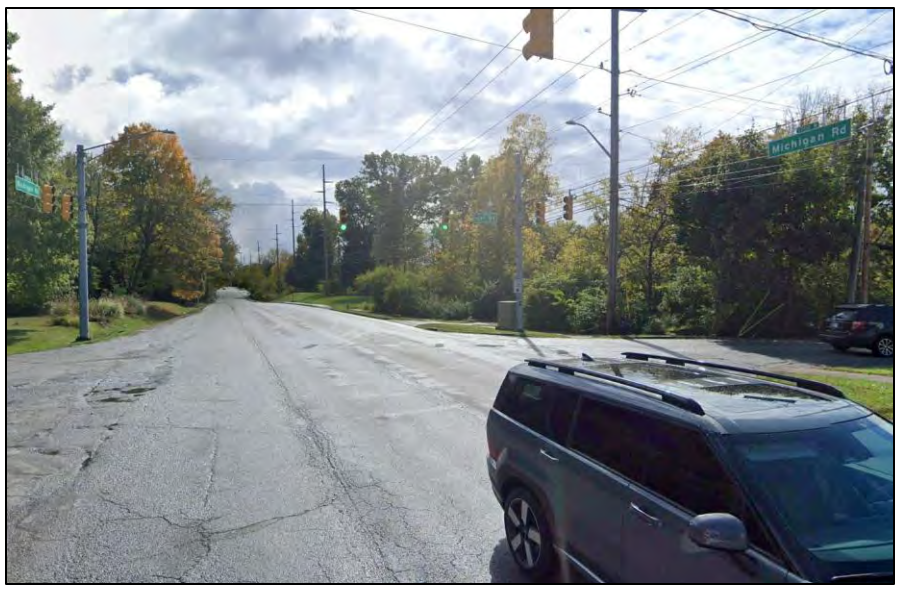
East Leg – Looking East



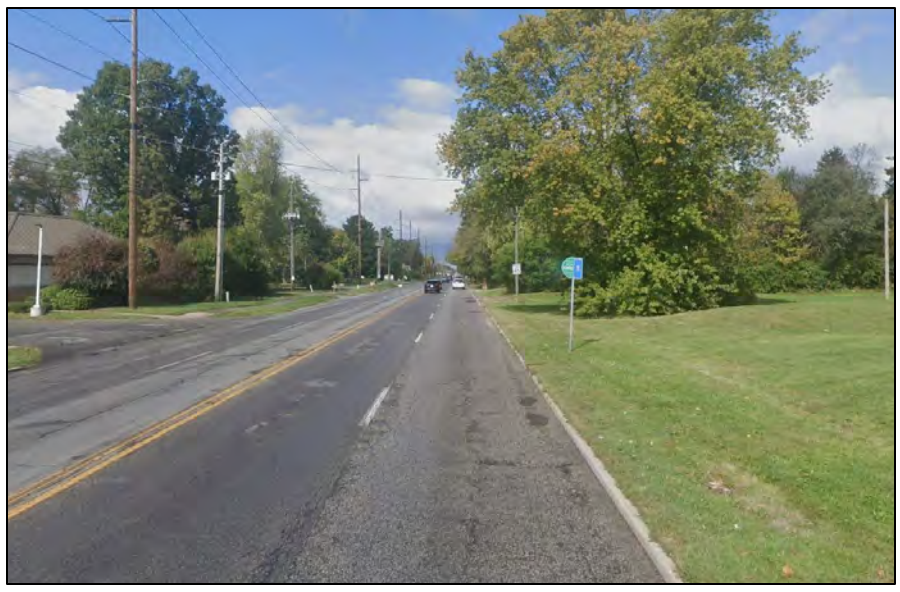
South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Imagery provided by Google Earth

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Page 1/2

Settings: Indiana local settings	Version: Version 4.1	
Location	Michigan Rd. & 51st Street	
GIS		
Post		
Analyst	JMR	
Date	4/3/2026	

INPUT	
Road Facility Type	City Arterial Intersection
Busiest Road AADT (veh/day)	27,272
Crossing Road AADT (veh/day)	4,759
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	7
Non-Incapacitating and Possible Injury Crashes	6
Property Damage Only Crashes	23
Route or Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.335
Non-Incapacitating and Possible Injury Crashes	0.87
Property Damage Only Crashes	4.50
All Crashes	5.71
Index of Crash Frequency	**1.22**
Index of Crash Cost	**2.17**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Page 2/2

Settings: Indiana local settings	Version: Version 4.1	
Location	Michigan Rd. & 51st Street	
GIS		
Post		
Analyst	JMR	
Date	4/3/2026	

Comments: Traffic Counts: MioVision Counts provided by Indianapolis DPW. Safety Data: ARIES provided by IMPO.

Attachment B
Traffic Counts

51st St & Michigan Rd - TMC

Tue Apr 15, 2025
Full Length (12 PM-12 PM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1289397, Location: 39.844551, -86.190305

Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US

Leg	EB 51st St						WB Grandview						NB Michigan						SB Michigan						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 12:00PM	2	3	5	0	**10**	0	31	2	1	0	**34**	0	4	124	36	0	**164**	0	0	148	2	0	**150**	0	**358**
12:15PM	6	1	4	0	**11**	0	45	4	1	0	**50**	0	3	117	31	0	**151**	0	0	163	5	0	**168**	0	**380**
12:30PM	4	3	6	0	**13**	0	39	6	2	0	**47**	0	7	147	50	0	**204**	0	0	153	0	0	**153**	0	**417**
12:45PM	5	0	7	0	**12**	0	39	2	3	0	**44**	0	5	137	49	0	**191**	0	3	142	6	0	**151**	0	**398**
Hourly Total	17	7	22	0	**46**	0	154	14	7	0	**175**	0	19	525	166	0	**710**	0	3	606	13	0	**622**	0	**1553**
1:00PM	7	1	5	0	**13**	0	35	1	2	0	**38**	0	8	124	40	0	**172**	0	3	133	5	0	**141**	0	**364**
1:15PM	3	2	5	0	**10**	0	27	5	2	0	**34**	0	4	157	40	0	**201**	0	2	169	6	0	**177**	0	**422**
1:30PM	4	4	10	0	**18**	0	39	0	2	0	**41**	0	1	136	52	0	**189**	0	0	169	2	0	**171**	0	**419**
1:45PM	11	1	3	0	**15**	0	37	6	1	0	**44**	0	1	92	28	0	**121**	0	2	149	7	0	**158**	0	**338**
Hourly Total	25	8	23	0	**56**	0	138	12	7	0	**157**	0	14	509	160	0	**683**	0	7	620	20	0	**647**	0	**1543**
2:00PM	7	1	6	0	**14**	0	46	4	0	0	**50**	0	9	190	56	0	**255**	0	0	150	4	0	**154**	0	**473**
2:15PM	7	4	4	0	**15**	0	50	7	1	0	**58**	0	1	155	48	0	**204**	0	0	148	4	0	**152**	0	**429**
2:30PM	5	4	3	0	**12**	0	40	5	1	0	**46**	0	3	150	68	0	**221**	0	1	207	11	0	**219**	0	**498**
2:45PM	6	5	7	0	**18**	0	48	2	0	0	**50**	0	1	162	67	0	**230**	0	2	213	5	0	**220**	0	**518**
Hourly Total	25	14	20	0	**59**	0	184	18	2	0	**204**	0	14	657	239	0	**910**	0	3	718	24	0	**745**	0	**1918**
3:00PM	1	8	4	0	**13**	0	63	5	1	0	**69**	0	1	150	75	0	**226**	0	1	180	3	0	**184**	0	**492**
3:15PM	6	5	4	0	**15**	0	50	7	0	0	**57**	0	5	180	83	0	**268**	0	0	200	5	0	**205**	0	**545**
3:30PM	5	2	7	0	**14**	0	59	8	1	0	**68**	0	8	214	96	0	**318**	0	1	215	6	0	**222**	0	**622**
3:45PM	7	3	7	0	**17**	0	70	7	0	0	**77**	0	9	202	97	0	**308**	0	0	234	11	0	**245**	0	**647**
Hourly Total	19	18	22	0	**59**	0	242	27	2	0	**271**	0	23	746	351	0	**1120**	0	2	829	25	0	**856**	0	**2306**
4:00PM	5	6	6	0	**17**	0	52	2	0	0	**54**	0	5	237	116	0	**358**	0	0	210	5	0	**215**	0	**644**
4:15PM	5	6	12	0	**23**	0	56	7	1	0	**64**	0	4	205	117	0	**326**	0	1	240	4	0	**245**	0	**658**
4:30PM	6	4	9	0	**19**	0	63	6	1	0	**70**	0	9	202	123	0	**334**	0	1	269	1	0	**271**	0	**694**
4:45PM	8	13	10	0	**31**	0	76	7	2	0	**85**	0	8	250	142	0	**400**	0	2	237	10	0	**249**	0	**765**
Hourly Total	24	29	37	0	**90**	0	247	22	4	0	**273**	0	26	894	498	0	**1418**	0	4	956	20	0	**980**	0	**2761**
5:00PM	7	9	11	0	**27**	0	66	10	1	0	**77**	0	7	244	125	0	**376**	0	1	240	10	0	**251**	0	**731**
5:15PM	2	9	9	0	**20**	0	71	8	3	0	**82**	0	11	276	144	0	**431**	0	0	260	14	0	**274**	0	**807**
5:30PM	8	8	10	0	**26**	0	61	5	1	0	**67**	0	5	248	120	0	**373**	0	2	251	7	0	**260**	0	**726**
5:45PM	5	6	10	0	**21**	0	69	1	1	0	**71**	0	3	189	101	0	**293**	0	2	246	7	0	**255**	0	**640**
Hourly Total	22	32	40	0	**94**	0	267	24	6	0	**297**	0	26	957	490	0	**1473**	0	5	997	38	0	**1040**	0	**2904**
6:00PM	2	4	5	0	**11**	0	66	6	0	0	**72**	0	2	169	73	0	**244**	0	1	197	2	0	**200**	0	**527**
6:15PM	4	3	6	0	**13**	0	46	7	1	0	**54**	0	6	152	76	0	**234**	0	0	215	6	0	**221**	0	**522**
6:30PM	4	3	12	0	**19**	0	51	6	2	0	**59**	0	4	168	80	0	**252**	0	0	159	1	0	**160**	1	**490**
6:45PM	7	5	6	0	**18**	0	36	10	0	0	**46**	0	6	117	40	0	**163**	0	0	157	5	0	**162**	0	**389**
Hourly Total	17	15	29	0	**61**	0	199	29	3	0	**231**	0	18	606	269	0	**893**	0	1	728	14	0	**743**	1	**1928**
7:00PM	7	3	3	0	**13**	0	33	3	1	0	**37**	0	5	126	51	0	**182**	0	1	158	4	0	**163**	0	**395**
7:15PM	5	6	2	0	**13**	0	39	3	0	0	**42**	0	6	146	55	0	**207**	0	1	161	3	0	**165**	0	**427**
7:30PM	3	0	4	0	**7**	0	35	10	3	0	**48**	0	3	117	40	0	**160**	0	0	142	3	0	**145**	0	**360**
7:45PM	3	2	1	0	**6**	0	36	5	0	0	**41**	0	1	130	56	0	**187**	0	1	115	6	0	**122**	0	**356**
Hourly Total	18	11	10	0	**39**	0	143	21	4	0	**168**	0	15	519	202	0	**736**	0	3	576	16	0	**595**	0	**1538**
8:00PM	0	1	4	0	**5**	0	34	8	0	0	**42**	0	3	119	43	0	**165**	0	0	129	2	0	**131**	0	**343**
8:15PM	3	1	7	0	**11**	0	34	4	2	0	**40**	0	3	126	41	0	**170**	0	2	106	2	0	**110**	0	**331**
8:30PM	3	4	2	0	**9**	0	18	4	0	0	**22**	0	2	84	30	0	**116**	0	1	99	1	0	**101**	0	**248**
8:45PM	0	5	8	0	**13**	0	28	6	0	0	**34**	0	4	98	21	0	**123**	0	1	123	4	0	**128**	0	**298**
Hourly Total	6	11	21	0	**38**	0	114	22	2	0	**138**	0	12	427	135	0	**574**	0	4	457	9	0	**470**	0	**1220**
9:00PM	3	0	4	0	**7**	0	31	6	3	0	**40**	0	4	82	23	0	**109**	0	0	109	5	0	**114**	0	**270**
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9:45PM	2	1	5	0	**8**	0	14	4	0	0	**18**	0	7	77	18	0	**102**	0	0	88	2	0	**90**	0	**218**
Hourly Total	14	3	18	0	**35**	0	84	11	7	0	**102**	0	21	329	97	0	**447**	0	1	389	11	0	**401**	0	**985**
10:00PM	0	0	3	0	**3**	0	11	0	0	0	**11**	0	4	67	15	0	**86**	0	0	74	5	0	**79**	0	**179**
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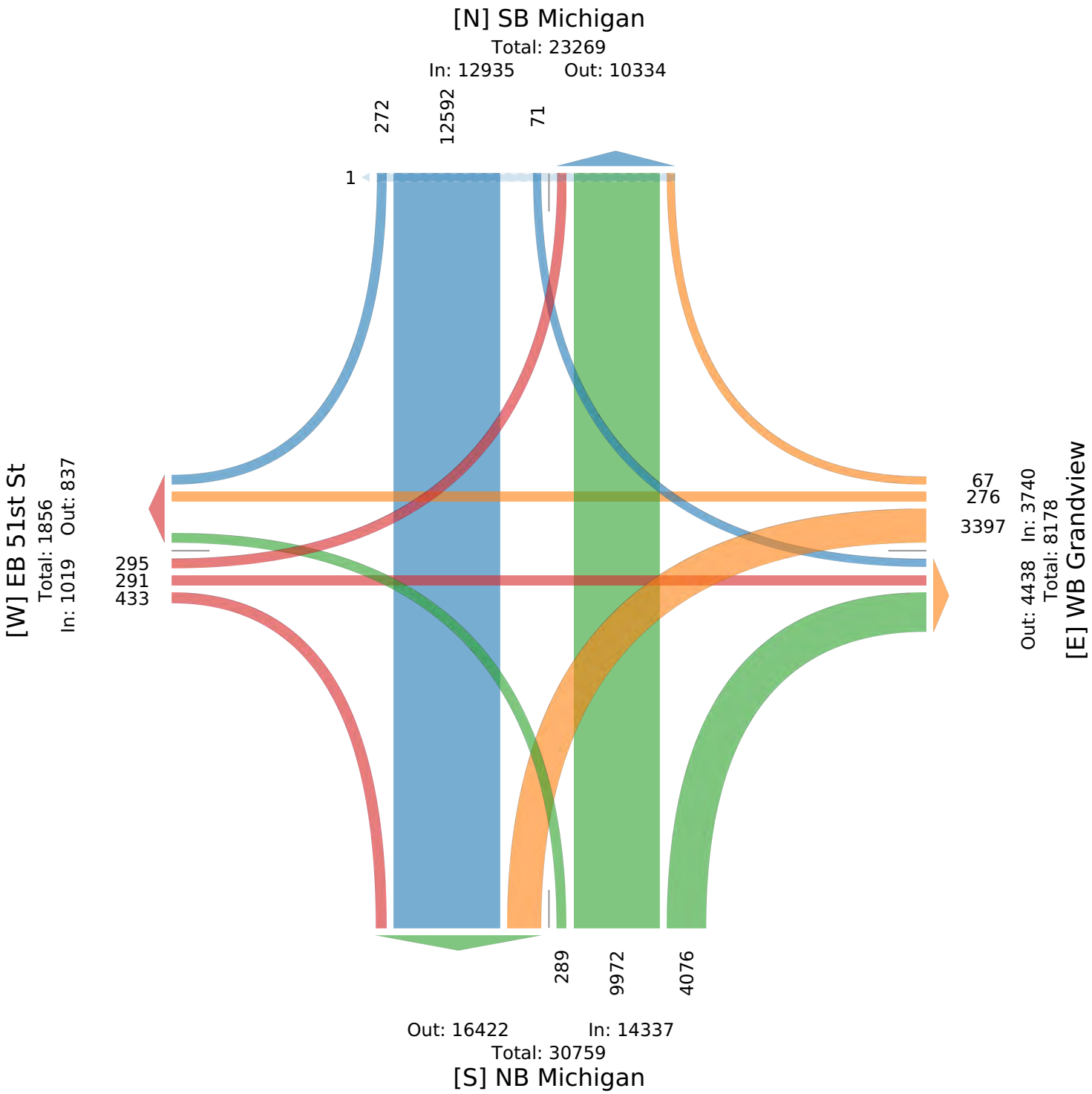
Leg	EB 51st St						WB Grandview						NB Michigan						SB Michigan						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
10:30PM	0	2	6	0	**8**	0	18	1	0	0	**19**	0	0	49	12	0	**61**	0	0	76	2	0	**78**	0	**166**
10:45PM	0	0	2	0	**2**	0	10	0	0	0	**10**	0	2	42	13	0	**57**	0	0	64	1	0	**65**	0	**134**
Hourly Total	1	5	12	0	**18**	0	56	1	1	0	**58**	0	10	220	58	0	**288**	0	1	294	9	0	**304**	0	**668**
11:00PM	0	0	2	0	**2**	0	8	1	0	0	**9**	0	2	46	7	0	**55**	0	0	60	0	0	**60**	0	**126**
11:15PM	1	0	4	0	**5**	0	7	2	0	0	**9**	0	2	54	15	0	**71**	0	0	46	1	0	**47**	0	**132**
11:30PM	0	0	3	0	**3**	0	9	3	0	0	**12**	0	0	31	11	0	**42**	0	2	38	0	0	**40**	0	**97**
11:45PM	0	1	2	0	**3**	0	2	1	0	0	**3**	0	1	33	9	0	**43**	0	0	38	0	0	**38**	0	**87**
Hourly Total	1	1	11	0	**13**	0	26	7	0	0	**33**	0	5	164	42	0	**211**	0	2	182	1	0	**185**	0	**442**
2025-04-16 12:00AM	0	0	2	0	**2**	0	2	0	0	0	**2**	0	0	32	4	0	**36**	0	0	20	0	0	**20**	0	**60**
12:15AM	0	0	1	0	**1**	0	3	0	0	0	**3**	0	4	26	5	0	**35**	0	0	29	2	0	**31**	0	**70**
12:30AM	0	1	0	0	**1**	0	2	0	0	0	**2**	0	0	22	4	0	**26**	0	1	26	0	0	**27**	0	**56**
12:45AM	0	0	1	0	**1**	0	4	0	0	0	**4**	0	1	20	1	0	**22**	0	1	15	0	0	**16**	0	**43**
Hourly Total	0	1	4	0	**5**	0	11	0	0	0	**11**	0	5	100	14	0	**119**	0	2	90	2	0	**94**	0	**229**
1:00AM	0	0	0	0	**0**	0	3	0	0	0	**3**	0	1	19	6	0	**26**	0	0	17	0	0	**17**	0	**46**
1:15AM	1	0	0	0	**1**	0	1	0	0	0	**1**	0	0	22	1	0	**23**	0	0	17	0	0	**17**	0	**42**
1:30AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	17	1	0	**18**	0	0	17	0	0	**17**	0	**35**
1:45AM	0	0	0	0	**0**	0	3	0	0	0	**3**	0	0	6	1	0	**7**	0	0	18	0	0	**18**	0	**28**
Hourly Total	1	0	0	0	**1**	0	7	0	0	0	**7**	0	1	64	9	0	**74**	0	0	69	0	0	**69**	0	**151**
2:00AM	0	0	1	0	**1**	0	4	0	0	0	**4**	0	0	14	2	0	**16**	0	0	6	0	0	**6**	0	**27**
2:15AM	0	1	2	0	**3**	0	1	1	0	0	**2**	0	0	13	2	0	**15**	0	0	9	0	0	**9**	0	**29**
2:30AM	0	0	0	0	**0**	0	0	1	0	0	**1**	0	0	12	2	0	**14**	0	0	9	1	0	**10**	0	**25**
2:45AM	0	0	1	0	**1**	0	1	0	0	0	**1**	0	0	6	1	0	**7**	0	0	12	0	0	**12**	0	**21**
Hourly Total	0	1	4	0	**5**	0	6	2	0	0	**8**	0	0	45	7	0	**52**	0	0	36	1	0	**37**	0	**102**
3:00AM	0	0	0	0	**0**	0	1	1	0	0	**2**	0	0	12	2	0	**14**	0	0	20	0	0	**20**	0	**36**
3:15AM	0	1	0	0	**1**	0	2	0	0	0	**2**	0	0	5	1	0	**6**	0	0	10	0	0	**10**	0	**19**
3:30AM	0	0	1	0	**1**	0	2	1	0	0	**3**	0	0	9	1	0	**10**	0	0	10	0	0	**10**	0	**24**
3:45AM	0	0	0	0	**0**	0	1	0	0	0	**1**	0	1	14	1	0	**16**	0	0	17	0	0	**17**	0	**34**
Hourly Total	0	1	1	0	**2**	0	6	2	0	0	**8**	0	1	40	5	0	**46**	0	0	57	0	0	**57**	0	**113**
4:00AM	0	0	2	0	**2**	0	1	0	0	0	**1**	0	1	13	1	0	**15**	0	2	13	0	0	**15**	0	**33**
4:15AM	1	0	2	0	**3**	0	3	0	0	0	**3**	0	1	11	5	0	**17**	0	0	23	0	0	**23**	0	**46**
4:30AM	0	0	1	0	**1**	0	8	0	0	0	**8**	0	2	26	7	0	**35**	0	0	20	1	0	**21**	0	**65**
4:45AM	0	1	0	0	**1**	0	5	0	0	0	**5**	0	2	25	4	0	**31**	0	0	31	0	0	**31**	0	**68**
Hourly Total	1	1	5	0	**7**	0	17	0	0	0	**17**	0	6	75	17	0	**98**	0	2	87	1	0	**90**	0	**212**
5:00AM	0	1	1	0	**2**	0	11	1	0	0	**12**	0	3	23	3	0	**29**	0	0	54	0	0	**54**	0	**97**
5:15AM	1	0	3	0	**4**	0	14	0	0	0	**14**	0	1	28	8	0	**37**	0	0	56	0	0	**56**	0	**111**
5:30AM	0	1	2	0	**3**	0	18	2	0	0	**20**	0	4	58	11	0	**73**	0	0	86	1	0	**87**	0	**183**
5:45AM	2	3	1	0	**6**	0	23	0	0	0	**23**	0	3	55	9	0	**67**	0	0	79	0	0	**79**	0	**175**
Hourly Total	3	5	7	0	**15**	0	66	3	0	0	**69**	0	11	164	31	0	**206**	0	0	275	1	0	**276**	0	**566**
6:00AM	2	1	3	0	**6**	0	18	3	0	0	**21**	0	2	55	19	0	**76**	0	1	79	1	0	**81**	0	**184**
6:15AM	3	2	2	0	**7**	0	32	0	0	0	**32**	0	1	85	30	0	**116**	0	0	131	1	0	**132**	0	**287**
6:30AM	2	1	6	0	**9**	0	56	1	0	0	**57**	0	0	86	56	0	**142**	0	1	175	2	0	**178**	0	**386**
6:45AM	6	5	7	0	**18**	0	51	2	1	0	**54**	0	2	97	59	0	**158**	0	1	177	2	0	**180**	0	**410**
Hourly Total	13	9	18	0	**40**	0	157	6	1	0	**164**	0	5	323	164	0	**492**	0	3	562	6	0	**571**	0	**1267**
7:00AM	3	3	7	0	**13**	0	74	5	0	0	**79**	0	0	115	51	0	**166**	0	1	210	4	0	**215**	0	**473**
7:15AM	18	14	11	0	**43**	0	75	4	1	0	**80**	0	3	149	79	0	**231**	0	1	267	5	0	**273**	0	**627**
7:30AM	8	16	9	0	**33**	0	110	1	2	0	**113**	0	3	205	95	0	**303**	0	0	298	6	0	**304**	0	**753**
7:45AM	6	9	12	0	**27**	0	110	6	0	0	**116**	0	1	175	93	0	**269**	0	1	354	2	0	**357**	0	**769**
Hourly Total	35	42	39	0	**116**	0	369	16	3	0	**388**	0	7	644	318	0	**969**	0	3	1129	17	0	**1149**	0	**2622**
8:00AM	0	7	1	0	**8**	0	84	3	0	0	**87**	0	4	194	87	0	**285**	0	2	276	1	0	**279**	0	**659**
8:15AM	4	5	6	0	**15**	0	99	4	1	0	**104**	0	1	154	82	0	**237**	0	1	264	4	0	**269**	0	**625**
8:30AM	2	12	8	0	**22**	0	78	1	3	0	**82**	0	3	137	68	0	**208**	0	2	252	3	0	**257**	0	**569**
8:45AM	6	6	11	0	**23**	0	74	0	1	0	**75**	0	1	147	57	0	**205**	0	1	224	1	0	**226**	0	**529**
Hourly Total	12	30	26	0	**68**	0	335	8	5	0	**348**	0	9	632	294	0	**935**	0	6	1016	9	0	**1031**	0	**2382**
9:00AM	4	9	7	0	**20**	0	70	5	0	0	**75**	0	4	123	34	0	**161**	0	2	202	4	0	**208**	0	**464**
9:15AM	7	0	12	0	**19**	0	63	8	1	0	**72**	0	3	119	50	0	**172**	0	2	174	7	0	**183**	0	**446**
9:30AM	4	3	5	0	**12**	0	49	1	4	0	**54**	0	7	123	38	0	**168**	0	2	172	3	0	**177**	0	**411**
9:45AM	2	2	6	0	**10**	0	54	3	0	0	**57**	0	3	124	46	0	**173**	0	2	170	3	0	**175**	0	**415**
Hourly Total	17	14	30	0	**61**	0	236	17	5	0	**258**	0	17	489	168	0	**674**	0	8	718	17	0	**743**	0	**1736**
10:00AM	0	2	2	0	**4**	0	57	3	1	0	**61**	0	2	88	28	0	**118**	0	1	167	3	0	**171**	0	**354**
10:15AM	1	4	4	0	**9**	0	43	3	2	0	**48**	0	2	102	43	0	**147**	0	2	142	2	0	**146**	0	**350**

Leg Direction	EB 51st St Eastbound						WB Grandview Westbound						NB Michigan Northbound						SB Michigan Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
10:30AM	2	9	5	0	**16**	0	37	2	0	0	**39**	0	7	121	40	0	**168**	0	3	159	1	0	**163**	0	**386**
10:45AM	6	7	5	0	**18**	0	49	2	2	0	**53**	0	6	117	47	0	**170**	0	1	137	1	0	**139**	0	**380**
Hourly Total	9	22	16	0	**47**	0	186	10	5	0	**201**	0	17	428	158	0	**603**	0	7	605	7	0	**619**	0	**1470**
11:00AM	5	4	3	0	**12**	0	33	1	0	0	**34**	0	3	94	31	0	**128**	0	2	147	1	0	**150**	0	**324**
11:15AM	5	4	3	0	**12**	0	30	1	2	0	**33**	0	2	111	54	0	**167**	0	0	118	4	0	**122**	0	**334**
11:30AM	1	1	4	0	**6**	0	45	2	0	0	**47**	0	1	109	53	0	**163**	0	2	175	2	0	**179**	0	**395**
11:45AM	4	2	8	0	**14**	0	39	0	1	0	**40**	0	1	101	46	0	**148**	0	0	156	4	0	**160**	0	**362**
Hourly Total	15	11	18	0	**44**	0	147	4	3	0	**154**	0	7	415	184	0	**606**	0	4	596	11	0	**611**	0	**1415**
Total	295	291	433	0	**1019**	0	3397	276	67	0	**3740**	0	289	9972	4076	0	**14337**	0	71	12592	272	0	**12935**	1	**32031**
% Approach	28.9%	28.6%	42.5%	0%	**-**	-	90.8%	7.4%	1.8%	0%	**-**	-	2.0%	69.6%	28.4%	0%	**-**	-	0.5%	97.3%	2.1%	0%	**-**	-	-
% Total	0.9%	0.9%	1.4%	0%	**3.2%**	-	10.6%	0.9%	0.2%	0%	**11.7%**	-	0.9%	31.1%	12.7%	0%	**44.8%**	-	0.2%	39.3%	0.8%	0%	**40.4%**	-	-
Lights	287	279	421	0	**987**	-	3361	271	62	0	**3694**	-	285	9755	4019	0	**14059**	-	67	12302	259	0	**12628**	-	31368
% Lights	97.3%	95.9%	97.2%	0%	**96.9%**	-	98.9%	98.2%	92.5%	0%	**98.8%**	-	98.6%	97.8%	98.6%	0%	**98.1%**	-	94.4%	97.7%	95.2%	0%	**97.6%**	-	97.9%
Articulated Trucks	0	0	1	0	**1**	-	1	0	1	0	**2**	-	0	32	2	0	**34**	-	0	37	0	0	**37**	-	74
% Articulated Trucks	0%	0%	0.2%	0%	**0.1%**	-	0%	0%	1.5%	0%	**0.1%**	-	0%	0.3%	0%	0%	**0.2%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.2%
Buses and Single-Unit Trucks	8	12	11	0	**31**	-	35	5	4	0	**44**	-	4	185	55	0	**244**	-	4	253	13	0	**270**	-	589
% Buses and Single-Unit Trucks	2.7%	4.1%	2.5%	0%	**3.0%**	-	1.0%	1.8%	6.0%	0%	**1.2%**	-	1.4%	1.9%	1.3%	0%	**1.7%**	-	5.6%	2.0%	4.8%	0%	**2.1%**	-	1.8%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 100%	-

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

51st St & Michigan Rd - TMC
Tue Apr 15, 2025
Full Length (12 PM-12 PM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1289397, Location: 39.844551, -86.190305

Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US



51st St & Michigan Rd - TMC

Tue Apr 15, 2025
Midday Peak (Apr 15 2025 12:45PM - 1:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1289397, Location: 39.844551, -86.190305

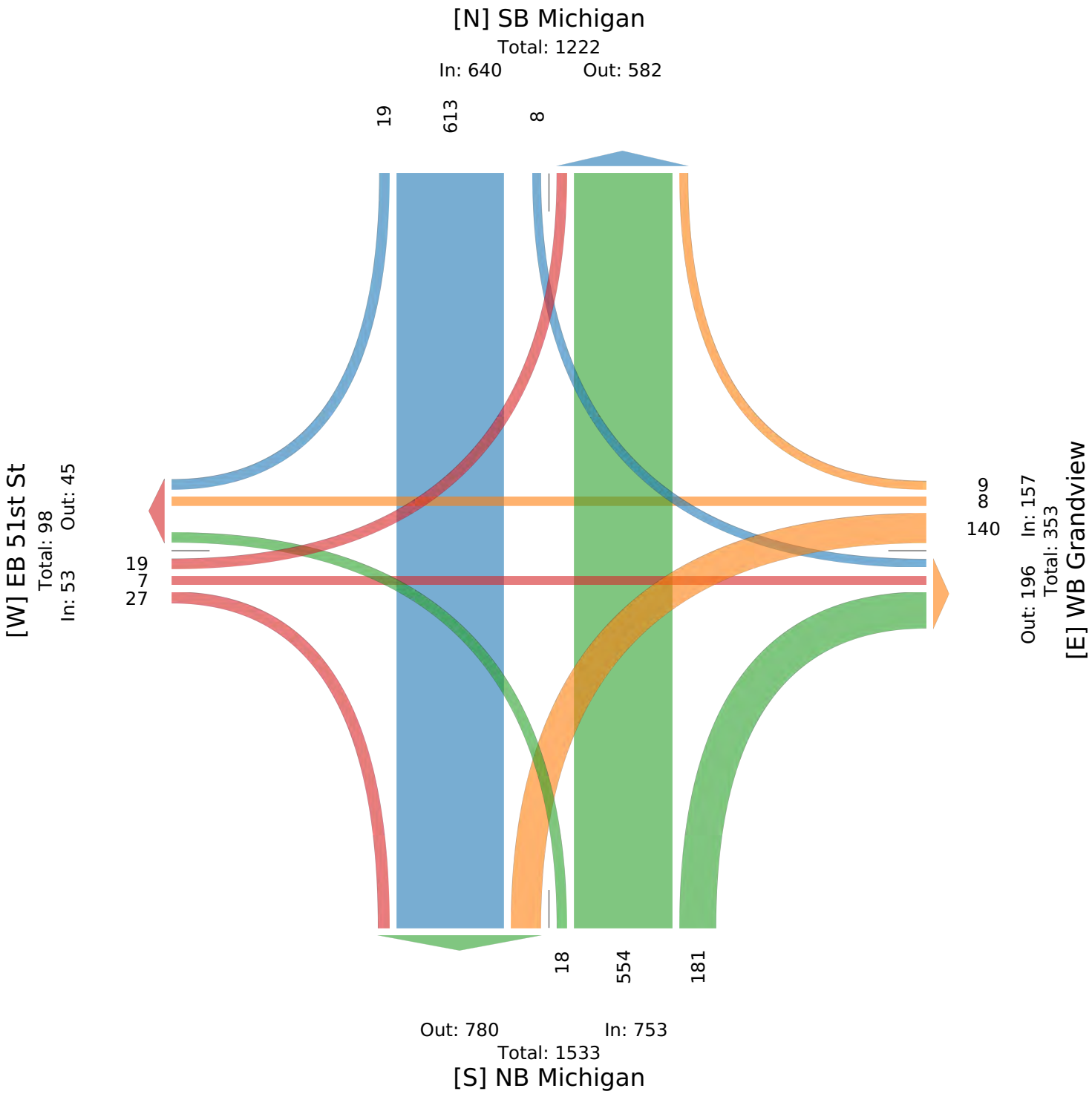
Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US

Leg Direction	EB 51st St Eastbound						WB Grandview Westbound						NB Michigan Northbound						SB Michigan Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 12:45PM	5	0	7	0	**12**	0	39	2	3	0	**44**	0	5	137	49	0	**191**	0	3	142	6	0	**151**	0	**398**
1:00PM	7	1	5	0	**13**	0	35	1	2	0	**38**	0	8	124	40	0	**172**	0	3	133	5	0	**141**	0	**364**
1:15PM	3	2	5	0	**10**	0	27	5	2	0	**34**	0	4	157	40	0	**201**	0	2	169	6	0	**177**	0	**422**
1:30PM	4	4	10	0	**18**	0	39	0	2	0	**41**	0	1	136	52	0	**189**	0	0	169	2	0	**171**	0	**419**
Total	19	7	27	0	**53**	0	140	8	9	0	**157**	0	18	554	181	0	**753**	0	8	613	19	0	**640**	0	**1603**
% Approach	35.8%	13.2%	50.9%	0%	**-**	-	89.2%	5.1%	5.7%	0%	**-**	-	2.4%	73.6%	24.0%	0%	**-**	-	1.3%	95.8%	3.0%	0%	**-**	-	-
% Total	1.2%	0.4%	1.7%	0%	**3.3%**	-	8.7%	0.5%	0.6%	0%	**9.8%**	-	1.1%	34.6%	11.3%	0%	**47.0%**	-	0.5%	38.2%	1.2%	0%	**39.9%**	-	-
PHF	0.679	0.438	0.675	-	**0.736**	-	0.897	0.400	0.750	-	**0.892**	-	0.563	0.882	0.870	-	**0.937**	-	0.667	0.907	0.792	-	**0.904**	-	0.950
Lights	19	7	27	0	**53**	-	138	8	9	0	**155**	-	18	531	178	0	**727**	-	8	592	18	0	**618**	-	1553
% Lights	100%	100%	100%	0%	**100%**	-	98.6%	100%	100%	0%	**98.7%**	-	100%	95.8%	98.3%	0%	**96.5%**	-	100%	96.6%	94.7%	0%	**96.6%**	-	96.9%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	2	0	0	**2**	-	4
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.4%	0%	0%	**0.3%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.2%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	2	0	0	0	**2**	-	0	21	3	0	**24**	-	0	19	1	0	**20**	-	46
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	1.4%	0%	0%	0%	**1.3%**	-	0%	3.8%	1.7%	0%	**3.2%**	-	0%	3.1%	5.3%	0%	**3.1%**	-	2.9%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

51st St & Michigan Rd - TMC
Tue Apr 15, 2025
Midday Peak (Apr 15 2025 12:45PM - 1:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1289397, Location: 39.844551, -86.190305

Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US



51st St & Michigan Rd - TMC

Tue Apr 15, 2025
PM Peak (Apr 15 2025 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1289397, Location: 39.844551, -86.190305

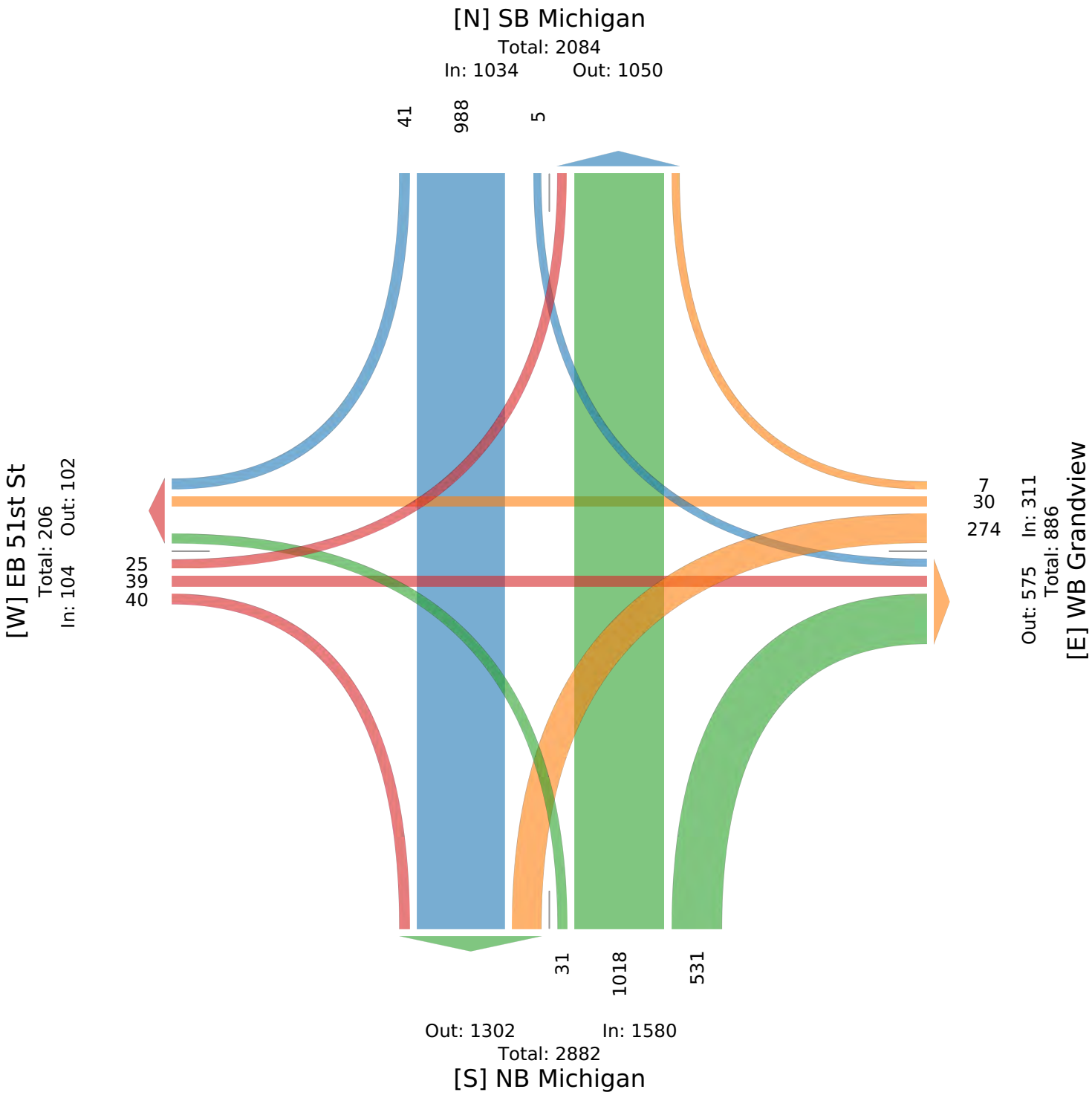
Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US

Leg Direction	EB 51st St Eastbound						WB Grandview Westbound						NB Michigan Northbound						SB Michigan Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 4:45PM	8	13	10	0	**31**	0	76	7	2	0	**85**	0	8	250	142	0	**400**	0	2	237	10	0	**249**	0	**765**
5:00PM	7	9	11	0	**27**	0	66	10	1	0	**77**	0	7	244	125	0	**376**	0	1	240	10	0	**251**	0	**731**
5:15PM	2	9	9	0	**20**	0	71	8	3	0	**82**	0	11	276	144	0	**431**	0	0	260	14	0	**274**	0	**807**
5:30PM	8	8	10	0	**26**	0	61	5	1	0	**67**	0	5	248	120	0	**373**	0	2	251	7	0	**260**	0	**726**
Total	25	39	40	0	**104**	0	274	30	7	0	**311**	0	31	1018	531	0	**1580**	0	5	988	41	0	**1034**	0	**3029**
% Approach	24.0%	37.5%	38.5%	0%	**-**	-	88.1%	9.6%	2.3%	0%	**-**	-	2.0%	64.4%	33.6%	0%	**-**	-	0.5%	95.6%	4.0%	0%	**-**	-	-
% Total	0.8%	1.3%	1.3%	0%	**3.4%**	-	9.0%	1.0%	0.2%	0%	**10.3%**	-	1.0%	33.6%	17.5%	0%	**52.2%**	-	0.2%	32.6%	1.4%	0%	**34.1%**	-	-
PHF	0.781	0.750	0.909	-	**0.839**	-	0.901	0.750	0.583	-	**0.915**	-	0.705	0.922	0.922	-	**0.916**	-	0.625	0.950	0.732	-	**0.943**	-	0.938
Lights	24	37	38	0	**99**	-	267	30	7	0	**304**	-	31	1011	529	0	**1571**	-	5	969	40	0	**1014**	-	2988
% Lights	96.0%	94.9%	95.0%	0%	**95.2%**	-	97.4%	100%	100%	0%	**97.7%**	-	100%	99.3%	99.6%	0%	**99.4%**	-	100%	98.1%	97.6%	0%	**98.1%**	-	98.6%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	3	0	0	**3**	-	5
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.2%	0%	0%	**0.1%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.2%
Buses and Single-Unit Trucks	1	2	2	0	**5**	-	7	0	0	0	**7**	-	0	5	2	0	**7**	-	0	16	1	0	**17**	-	36
% Buses and Single-Unit Trucks	4.0%	5.1%	5.0%	0%	**4.8%**	-	2.6%	0%	0%	0%	**2.3%**	-	0%	0.5%	0.4%	0%	**0.4%**	-	0%	1.6%	2.4%	0%	**1.6%**	-	1.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

51st St & Michigan Rd - TMC
Tue Apr 15, 2025
PM Peak (Apr 15 2025 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1289397, Location: 39.844551, -86.190305

Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US



51st St & Michigan Rd - TMC

Wed Apr 16, 2025
AM Peak (Apr 16 2025 7:15AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1289397, Location: 39.844551, -86.190305

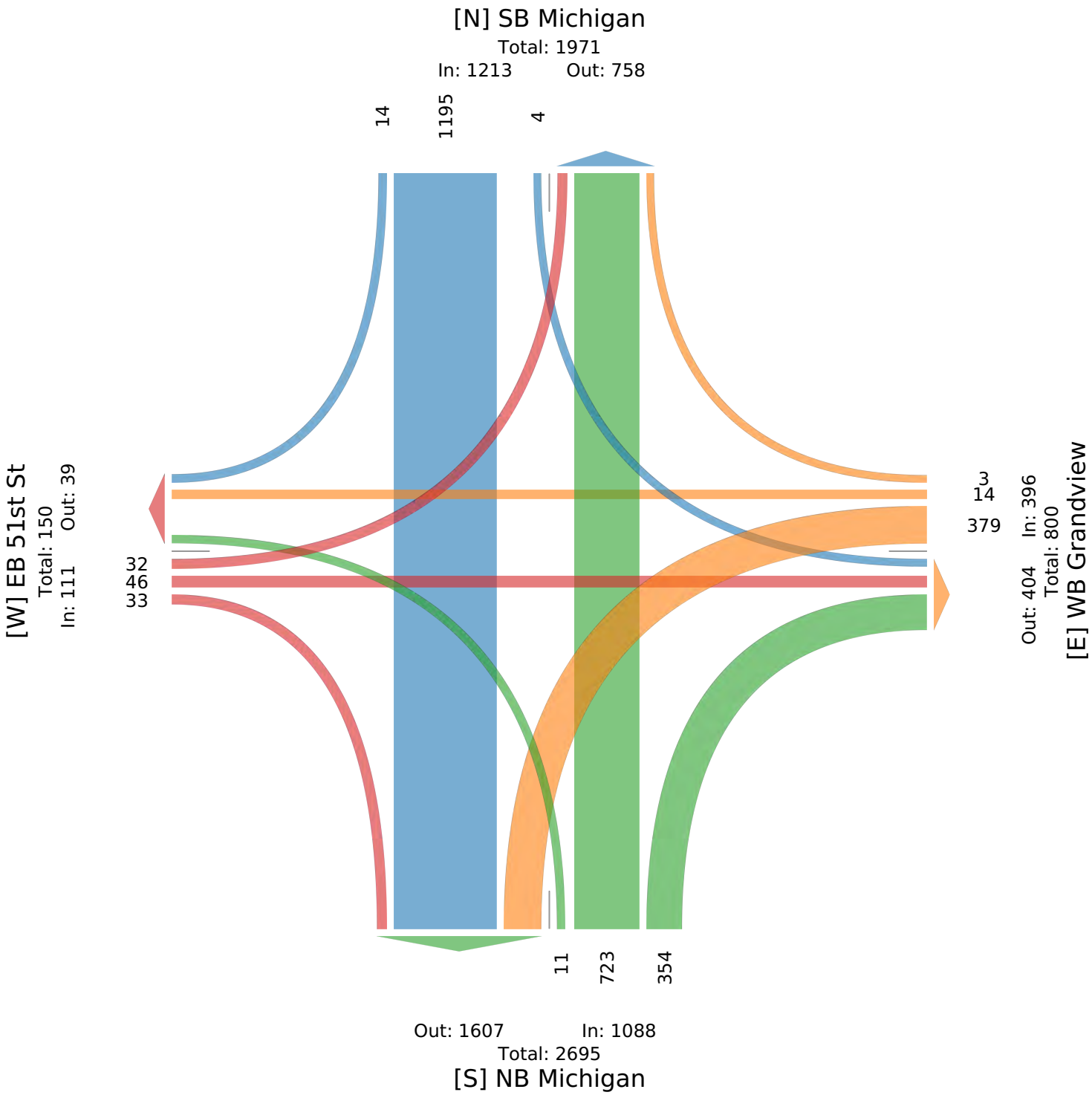
Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US

Leg Direction	EB 51st St Eastbound						WB Grandview Westbound						NB Michigan Northbound						SB Michigan Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-16 7:15AM	18	14	11	0	**43**	0	75	4	1	0	**80**	0	3	149	79	0	**231**	0	1	267	5	0	**273**	0	**627**
7:30AM	8	16	9	0	**33**	0	110	1	2	0	**113**	0	3	205	95	0	**303**	0	0	298	6	0	**304**	0	**753**
7:45AM	6	9	12	0	**27**	0	110	6	0	0	**116**	0	1	175	93	0	**269**	0	1	354	2	0	**357**	0	**769**
8:00AM	0	7	1	0	**8**	0	84	3	0	0	**87**	0	4	194	87	0	**285**	0	2	276	1	0	**279**	0	**659**
Total	32	46	33	0	**111**	0	379	14	3	0	**396**	0	11	723	354	0	**1088**	0	4	1195	14	0	**1213**	0	**2808**
% Approach	28.8%	41.4%	29.7%	0%	**-**	-	95.7%	3.5%	0.8%	0%	**-**	-	1.0%	66.5%	32.5%	0%	**-**	-	0.3%	98.5%	1.2%	0%	**-**	-	-
% Total	1.1%	1.6%	1.2%	0%	**4.0%**	-	13.5%	0.5%	0.1%	0%	**14.1%**	-	0.4%	25.7%	12.6%	0%	**38.7%**	-	0.1%	42.6%	0.5%	0%	**43.2%**	-	-
PHF	0.444	0.719	0.688	-	**0.645**	-	0.861	0.583	0.375	-	**0.853**	-	0.688	0.882	0.932	-	**0.898**	-	0.500	0.844	0.583	-	**0.849**	-	0.913
Lights	32	44	32	0	**108**	-	376	14	2	0	**392**	-	11	696	347	0	**1054**	-	4	1174	14	0	**1192**	-	2746
% Lights	100%	95.7%	97.0%	0%	**97.3%**	-	99.2%	100%	66.7%	0%	**99.0%**	-	100%	96.3%	98.0%	0%	**96.9%**	-	100%	98.2%	100%	0%	**98.3%**	-	97.8%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	3	0	0	**3**	-	0	1	0	0	**1**	-	4
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.4%	0%	0%	**0.3%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.1%
Buses and Single-Unit Trucks	0	2	1	0	**3**	-	3	0	1	0	**4**	-	0	24	7	0	**31**	-	0	20	0	0	**20**	-	58
% Buses and Single-Unit Trucks	0%	4.3%	3.0%	0%	**2.7%**	-	0.8%	0%	33.3%	0%	**1.0%**	-	0%	3.3%	2.0%	0%	**2.8%**	-	0%	1.7%	0%	0%	**1.6%**	-	2.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

51st St & Michigan Rd - TMC
Wed Apr 16, 2025
AM Peak (Apr 16 2025 7:15AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1289397, Location: 39.844551, -86.190305

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200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US

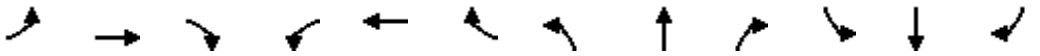


Attachment C
Traffic Analysis

Intersection	Type	MOE	Existing 2026									
			2026 AM Peak Hour					2026 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Michigan Rd & 51st St	Signal	*LOS*	D	C	B	B	**C**	D	D	B	B	**B**
		Delay (sec/veh)	39.3	26.9	19.6	19.9	**21.5**	44.3	36.2	17.5	11.3	**18.2**
		Queue Length 95th (ft)	119	286	295	367		112	236	423	221	
		v/c Ratio	0.49	0.64	0.65	0.67		0.49	0.65	0.75	0.46	
		LOS-F Movements	---	---	---	---		---	---	---	---	

Intersection	Type	MOE	No-Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Michigan Rd & 51st St	Signal	*LOS*	E	E	D	C	**D**	E	F	D	C	**D**
		Delay (sec/veh)	77.5	63.8	38.9	31.8	**40.9**	63.0	99.1	43.4	20.8	**42.1**
		Queue Length 95th (ft)	260	624	769	812		210	477	1003	377	
		v/c Ratio	0.82	0.95	0.93	0.86		0.74	1.06	1.02	0.77	
		LOS-F Movements	---	---	---	---		---	WBL	NBR	---	

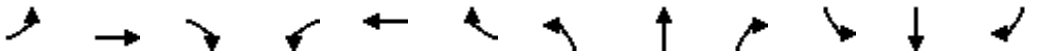
Intersection	Type	MOE	Build 2050									
			2026 AM Peak Hour					2026 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Michigan Rd & 51st St	Signal	*LOS*	F	E	D	D	**D**	E	E	E	C	**D**
		Delay (sec/veh)	92.1	59.3	37.9	44.8	**46.1**	78.3	71.8	55.1	21.3	**46.1**
		Queue Length 95th (ft)	569	669	445	576		361	556	1630	352	
		v/c Ratio	0.88	0.93	0.88	0.93		0.81	0.95	1.06	0.66	
		LOS-F Movements	EBL	---	---	SBL		---	---	NBR	---	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	42	30	346	13	3	10	659	323	4	1090	13
Future Volume (veh/h)	29	42	30	346	13	3	10	659	323	4	1090	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1841	1856	1885	1900	1411	1900	1841	1870	1900	1870	1900
Adj Flow Rate, veh/h	32	46	33	380	14	3	11	724	355	4	1198	14
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	4	3	1	0	33	0	4	2	0	2	0
Cap, veh/h	88	87	52	590	553	118	46	1128	547	41	1797	21
Arrive On Green	0.11	0.11	0.11	0.20	0.36	0.36	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	339	812	487	1795	1517	325	11	2208	1071	2	3516	41
Grp Volume(v), veh/h	111	0	0	380	0	17	599	0	491	637	0	579
Grp Sat Flow(s),veh/h/ln	1638	0	0	1795	0	1842	1808	0	1482	1864	0	1695
Q Serve(g_s), s	3.2	0.0	0.0	16.2	0.0	0.5	0.0	0.0	21.8	0.0	0.0	22.8
Cycle Q Clear(g_c), s	5.7	0.0	0.0	16.2	0.0	0.5	21.2	0.0	21.8	22.7	0.0	22.8
Prop In Lane	0.29		0.30	1.00		0.18	0.02		0.72	0.01		0.02
Lane Grp Cap(c), veh/h	226	0	0	590	0	671	964	0	757	993	0	866
V/C Ratio(X)	0.49	0.00	0.00	0.64	0.00	0.03	0.62	0.00	0.65	0.64	0.00	0.67
Avail Cap(c_a), veh/h	233	0	0	606	0	696	964	0	757	993	0	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.4	0.0	0.0	25.5	0.0	18.3	15.9	0.0	16.1	16.3	0.0	16.3
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.7	0.0	0.0	3.0	0.0	4.3	3.2	0.0	4.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	6.9	0.0	0.2	8.5	0.0	7.3	9.3	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.3	0.0	0.0	27.2	0.0	18.4	18.9	0.0	20.4	19.5	0.0	20.4
LnGrp LOS	D			C		B	B		C	B		C
Approach Vol, veh/h		111			397			1090			1216	
Approach Delay, s/veh		39.3			26.9			19.6			19.9	
Approach LOS		D			C			B			B	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		52.2		37.8		52.2	23.2	14.6				
Change Period (Y+Rc), s		6.2		5.0		6.2	5.0	5.0				
Max Green Setting (Gmax), s		44.8		34.0		44.8	19.0	10.0				
Max Q Clear Time (g_c+I1), s		23.8		2.5		24.8	18.2	7.7				
Green Ext Time (p_c), s		15.9		0.0		16.2	0.1	0.0				

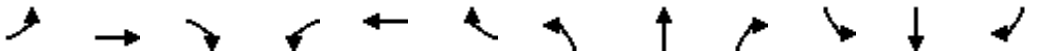
Intersection Summary												
HCM 7th Control Delay, s/veh			21.5									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	36	36	250	27	6	28	928	484	5	901	37
Future Volume (veh/h)	23	36	36	250	27	6	28	928	484	5	901	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1826	1856	1900	1900	1900	1885	1900	1900	1870	1870
Adj Flow Rate, veh/h	24	38	38	266	29	6	30	987	515	5	959	39
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	5	3	0	0	0	1	0	0	2	2
Cap, veh/h	70	72	60	410	406	84	60	1357	686	39	2110	85
Arrive On Green	0.10	0.10	0.10	0.12	0.27	0.27	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	262	742	616	1767	1527	316	36	2181	1102	4	3390	137
Grp Volume(v), veh/h	100	0	0	266	0	35	823	0	709	527	0	476
Grp Sat Flow(s),veh/h/ln	1620	0	0	1767	0	1843	1801	0	1517	1854	0	1677
Q Serve(g_s), s	2.8	0.0	0.0	11.8	0.0	1.4	2.9	0.0	33.2	0.0	0.0	15.0
Cycle Q Clear(g_c), s	5.8	0.0	0.0	11.8	0.0	1.4	29.7	0.0	33.2	14.8	0.0	15.0
Prop In Lane	0.24		0.38	1.00		0.17	0.04		0.73	0.01		0.08
Lane Grp Cap(c), veh/h	203	0	0	410	0	490	1158	0	944	1190	0	1044
V/C Ratio(X)	0.49	0.00	0.00	0.65	0.00	0.07	0.71	0.00	0.75	0.44	0.00	0.46
Avail Cap(c_a), veh/h	207	0	0	410	0	494	1158	0	944	1190	0	1044
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.3	0.0	0.0	34.5	0.0	27.5	12.7	0.0	13.4	9.9	0.0	10.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	2.8	0.0	0.0	3.7	0.0	5.5	1.2	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	6.1	0.0	0.6	11.3	0.0	10.7	5.5	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.3	0.0	0.0	37.3	0.0	27.5	16.4	0.0	18.9	11.1	0.0	11.4
LnGrp LOS	D			D		C	B		B	B		B
Approach Vol, veh/h		100			301			1532			1003	
Approach Delay, s/veh		44.3			36.2			17.5			11.3	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	2	4	6	7	8
Phs Duration (G+Y+Rc), s	68.4	31.6	68.4	16.8	14.8
Change Period (Y+Rc), s	6.2	5.0	6.2	5.0	5.0
Max Green Setting (Gmax), s	62.0	26.8	62.0	11.8	10.0
Max Q Clear Time (g_c+I1), s	35.2	3.4	17.0	13.8	7.8
Green Ext Time (p_c), s	24.3	0.0	24.9	0.0	0.0

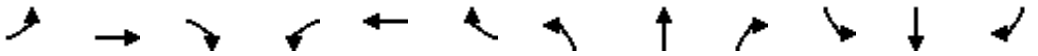
Intersection Summary	
HCM 7th Control Delay, s/veh	18.2
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	58	41	475	18	4	14	904	443	5	1495	18
Future Volume (veh/h)	40	58	41	475	18	4	14	904	443	5	1495	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1841	1856	1885	1900	1411	1900	1841	1870	1900	1870	1900
Adj Flow Rate, veh/h	44	64	45	522	20	4	15	993	487	5	1643	20
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	4	3	1	0	33	0	4	2	0	2	0
Cap, veh/h	74	69	44	547	551	110	35	1061	561	32	1924	23
Arrive On Green	0.09	0.09	0.09	0.22	0.36	0.36	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	389	754	476	1795	1537	307	9	1935	1022	3	3509	43
Grp Volume(v), veh/h	153	0	0	522	0	24	785	0	710	873	0	795
Grp Sat Flow(s),veh/h/ln	1620	0	0	1795	0	1845	1475	0	1491	1859	0	1694
Q Serve(g_s), s	9.3	0.0	0.0	27.0	0.0	1.0	14.6	0.0	49.3	0.0	0.0	47.9
Cycle Q Clear(g_c), s	11.0	0.0	0.0	27.0	0.0	1.0	62.5	0.0	49.3	47.5	0.0	47.9
Prop In Lane	0.29		0.29	1.00		0.17	0.02		0.69	0.01		0.03
Lane Grp Cap(c), veh/h	187	0	0	547	0	661	840	0	818	1050	0	929
V/C Ratio(X)	0.82	0.00	0.00	0.95	0.00	0.04	0.93	0.00	0.87	0.83	0.00	0.86
Avail Cap(c_a), veh/h	187	0	0	547	0	661	840	0	818	1050	0	929
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.6	0.0	0.0	38.5	0.0	25.0	23.3	0.0	23.4	23.0	0.0	23.1
Incr Delay (d2), s/veh	22.9	0.0	0.0	27.1	0.0	0.0	18.7	0.0	12.1	7.7	0.0	10.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	0.0	5.8	0.0	0.5	20.1	0.0	18.3	21.0	0.0	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	77.5	0.0	0.0	65.5	0.0	25.0	42.0	0.0	35.5	30.6	0.0	33.0
LnGrp LOS	E			E		C	D		D	C		C
Approach Vol, veh/h		153			546			1495			1668	
Approach Delay, s/veh		77.5			63.8			38.9			31.8	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	2	4	6	7	8
Phs Duration (G+Y+Rc), s	72.0	48.0	72.0	32.0	16.0
Change Period (Y+Rc), s	6.2	5.0	6.2	5.0	5.0
Max Green Setting (Gmax), s	65.8	43.0	65.8	27.0	11.0
Max Q Clear Time (g_c+I1), s	64.5	3.0	49.9	29.0	13.0
Green Ext Time (p_c), s	1.2	0.0	15.1	0.0	0.0

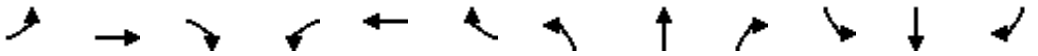
Intersection Summary	
HCM 7th Control Delay, s/veh	40.9
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	49	49	343	37	8	38	1273	664	7	1236	51
Future Volume (veh/h)	32	49	49	343	37	8	38	1273	664	7	1236	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1826	1856	1900	1900	1900	1885	1900	1900	1870	1870
Adj Flow Rate, veh/h	34	52	52	365	39	9	40	1354	706	7	1315	54
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	5	3	0	0	0	1	0	0	2	2
Cap, veh/h	68	63	55	345	367	85	60	1382	694	33	1885	88
Arrive On Green	0.09	0.09	0.09	0.11	0.25	0.25	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	304	694	604	1767	1493	345	39	2117	1063	0	2888	134
Grp Volume(v), veh/h	138	0	0	365	0	48	1087	0	1013	702	0	674
Grp Sat Flow(s),veh/h/ln	1602	0	0	1767	0	1838	1695	0	1524	1345	0	1678
Q Serve(g_s), s	7.3	0.0	0.0	12.0	0.0	2.2	42.5	0.0	71.8	0.0	0.0	25.6
Cycle Q Clear(g_c), s	9.4	0.0	0.0	12.0	0.0	2.2	68.2	0.0	71.8	71.8	0.0	25.6
Prop In Lane	0.25		0.38	1.00		0.19	0.04		0.70	0.01		0.08
Lane Grp Cap(c), veh/h	186	0	0	345	0	451	1140	0	995	911	0	1095
V/C Ratio(X)	0.74	0.00	0.00	1.06	0.00	0.11	0.95	0.00	1.02	0.77	0.00	0.62
Avail Cap(c_a), veh/h	186	0	0	345	0	451	1140	0	995	911	0	1095
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	0.0	0.0	43.5	0.0	32.2	17.7	0.0	19.1	21.4	0.0	11.1
Incr Delay (d2), s/veh	13.3	0.0	0.0	64.4	0.0	0.1	17.6	0.0	33.1	6.3	0.0	2.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	0.0	9.8	0.0	1.0	26.5	0.0	29.3	14.2	0.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.0	0.0	0.0	107.9	0.0	32.2	35.3	0.0	52.2	27.7	0.0	13.7
LnGrp LOS	E			F		C	D		F	C		B
Approach Vol, veh/h		138			413			2100			1376	
Approach Delay, s/veh		63.0			99.1			43.4			20.8	
Approach LOS		E			F			D			C	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		78.0		32.0		78.0	17.0	15.0				
Change Period (Y+Rc), s		6.2		5.0		6.2	5.0	5.0				
Max Green Setting (Gmax), s		71.8		27.0		71.8	12.0	10.0				
Max Q Clear Time (g_c+I1), s		73.8		4.2		73.8	14.0	11.4				
Green Ext Time (p_c), s		0.0		0.1		0.0	0.0	0.0				

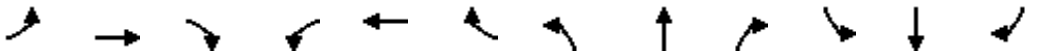
Intersection Summary												
HCM 7th Control Delay, s/veh			42.1									
HCM 7th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	58	41	475	18	4	14	904	443	5	1495	18
Future Volume (veh/h)	40	58	41	475	18	4	14	904	443	5	1495	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1841	1856	1885	1900	1411	1900	1841	1870	1900	1870	1900
Adj Flow Rate, veh/h	44	64	45	522	20	4	15	993	487	5	1643	20
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	4	3	1	0	33	0	4	2	0	2	0
Cap, veh/h	72	62	40	559	551	110	30	1156	554	12	1778	22
Arrive On Green	0.08	0.08	0.08	0.23	0.36	0.36	0.02	0.50	0.50	0.01	0.49	0.49
Sat Flow, veh/h	397	744	476	1795	1537	307	1810	2292	1099	1810	3596	44
Grp Volume(v), veh/h	153	0	0	522	0	24	15	752	728	5	811	852
Grp Sat Flow(s),veh/h/ln	1617	0	0	1795	0	1845	1810	1749	1643	1810	1777	1862
Q Serve(g_s), s	8.7	0.0	0.0	28.0	0.0	1.0	1.0	44.9	47.3	0.3	50.9	51.1
Cycle Q Clear(g_c), s	10.0	0.0	0.0	28.0	0.0	1.0	1.0	44.9	47.3	0.3	50.9	51.1
Prop In Lane	0.29		0.29	1.00		0.17	1.00		0.67	1.00		0.02
Lane Grp Cap(c), veh/h	173	0	0	559	0	661	30	882	829	12	879	921
V/C Ratio(X)	0.88	0.00	0.00	0.93	0.00	0.04	0.51	0.85	0.88	0.43	0.92	0.93
Avail Cap(c_a), veh/h	173	0	0	559	0	661	77	882	829	77	879	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	0.0	0.0	38.2	0.0	25.0	58.5	25.9	26.5	59.4	28.2	28.3
Incr Delay (d2), s/veh	36.6	0.0	0.0	22.7	0.0	0.0	12.7	10.2	12.7	23.4	16.6	16.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	0.0	18.0	0.0	0.5	0.5	19.6	19.9	0.2	23.9	25.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	92.1	0.0	0.0	60.9	0.0	25.0	71.2	36.1	39.2	82.8	44.8	44.5
LnGrp LOS	F			E		C	E	D	D	F	D	D
Approach Vol, veh/h		153			546			1495			1668	
Approach Delay, s/veh		92.1			59.3			37.9			44.8	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.3	66.7		48.0	6.5	65.5	33.0	15.0				
Change Period (Y+Rc), s	4.5	6.2		5.0	4.5	6.2	5.0	5.0				
Max Green Setting (Gmax), s	5.1	56.2		43.0	5.1	56.2	28.0	10.0				
Max Q Clear Time (g_c+I1), s	2.3	49.3		3.0	3.0	53.1	30.0	12.0				
Green Ext Time (p_c), s	0.0	6.6		0.0	0.0	3.0	0.0	0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			46.1									
HCM 7th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	49	49	343	37	8	38	1273	664	7	1236	51
Future Volume (veh/h)	32	49	49	343	37	8	38	1273	664	7	1236	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1826	1856	1900	1900	1900	1885	1900	1900	1870	1870
Adj Flow Rate, veh/h	34	52	52	365	39	9	40	1354	706	7	1315	54
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	5	3	0	0	0	1	0	0	2	2
Cap, veh/h	63	57	50	385	398	92	56	1395	668	16	1989	82
Arrive On Green	0.08	0.08	0.08	0.14	0.27	0.27	0.03	0.59	0.59	0.01	0.57	0.57
Sat Flow, veh/h	312	685	603	1767	1493	345	1810	2349	1125	1810	3479	143
Grp Volume(v), veh/h	138	0	0	365	0	48	40	1004	1056	7	671	698
Grp Sat Flow(s),veh/h/ln	1599	0	0	1767	0	1838	1810	1791	1683	1810	1777	1845
Q Serve(g_s), s	8.1	0.0	0.0	17.0	0.0	2.4	2.6	62.1	71.3	0.5	31.2	31.3
Cycle Q Clear(g_c), s	10.0	0.0	0.0	17.0	0.0	2.4	2.6	62.1	71.3	0.5	31.2	31.3
Prop In Lane	0.25		0.38	1.00		0.19	1.00		0.67	1.00		0.08
Lane Grp Cap(c), veh/h	171	0	0	385	0	490	56	1064	999	16	1016	1055
V/C Ratio(X)	0.81	0.00	0.00	0.95	0.00	0.10	0.72	0.94	1.06	0.45	0.66	0.66
Avail Cap(c_a), veh/h	171	0	0	385	0	490	107	1064	999	75	1016	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	0.0	0.0	44.7	0.0	33.1	57.6	22.5	24.4	59.2	17.7	17.7
Incr Delay (d2), s/veh	23.2	0.0	0.0	32.2	0.0	0.0	16.0	17.0	44.8	18.6	3.4	3.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	0.0	6.2	0.0	1.1	1.4	27.8	37.0	0.3	12.5	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	78.3	0.0	0.0	76.9	0.0	33.2	73.7	39.5	69.2	77.8	21.0	21.0
LnGrp LOS	E			E		C	E	D	F	E	C	C
Approach Vol, veh/h		138			413			2100			1376	
Approach Delay, s/veh		78.3			71.8			55.1			21.3	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.5	77.5		37.0	8.2	74.8	22.0	15.0				
Change Period (Y+Rc), s	4.5	6.2		5.0	4.5	6.2	5.0	5.0				
Max Green Setting (Gmax), s	5.0	67.3		32.0	7.1	65.2	17.0	10.0				
Max Q Clear Time (g_c+I1), s	2.5	73.3		4.4	4.6	33.3	19.0	12.0				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	26.2	0.0	0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			46.1									
HCM 7th LOS			D									

Intersection: 7: Michigan Rd & 51st St/Grandview Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	505	684	150	130	514	510	62	632	578
Average Queue (ft)	283	418	35	25	274	269	5	389	302
95th Queue (ft)	569	669	131	84	445	432	38	576	495
Link Distance (ft)	982	864			1758	1758		1318	1318
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		0							
Storage Bay Dist (ft)			50	50			50		
Storage Blk Time (%)		67	1	7	36		0	43	
Queuing Penalty (veh)		15	5	30	5		0	2	

Intersection: 7: Michigan Rd & 51st St/Grandview Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	340	596	150	149	1392	1384	78	393	348
Average Queue (ft)	182	328	65	47	938	901	7	233	167
95th Queue (ft)	361	556	168	116	1630	1607	40	352	287
Link Distance (ft)	982	864			1758	1758		1318	1318
Upstream Blk Time (%)					4	5			
Queuing Penalty (veh)					0	0			
Storage Bay Dist (ft)			50	50			50		
Storage Blk Time (%)		70	8	18	33		1	31	
Queuing Penalty (veh)		32	27	114	13		9	2	

Attachment D
Virtual Meeting Minutes & Field Check Minutes

CORRADINO LLC
200 S. Meridian St. Suite 330
Indianapolis, IN 46225

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

Field Check Notes for RSA at Michigan Road & 51st Street

Date:	5/28/2026
Des. No.:	n/a

Reviewer Information:	Agency/Firm Name: Corradino LLC
Primary Author: James Mark Rinehart	Agency: Indianapolis Metropolitan Planning Organization
Phone Numbers: (317) 488-2363	Email Address: jrinehart@corradino.com

Attendees:

- Jill Palmer, Indy DPW
- Jason Bowers, Indy DPW
- Jennifer Dunn, IMPO
- James Mark Rinehart, Corradino
- David Cleveland, Corradino

Purpose of Field Check:

The purpose of this field check was to review the crash history at the Michigan Road & 51st Street intersection, evaluate the current roadway conditions, observe traffic patterns, and collaborate with representatives from Local Public Agencies (LPA) and Law Enforcement to identify safety countermeasures. Participants in the field check were provided with a Preliminary Findings Report summarizing the crash history at the intersection, 24-hour traffic counts, existing traffic conditions, and a future no-build analysis during the field visit.

The goal of the field check was to identify near-term and long-term improvements and build consensus with the LPAs and Local Law Enforcement on the recommendations.

Recommendations from the field check will serve as the final recommendations for the RSA and will be included in IMPO's Safety Study.

Project Location:

Location: Intersection of Michigan Road & 51st St

INDOT District: Greenfield				City: Indianapolis	County: Marion
Lat & Long (BOP)	39.844510	-86.190325	Urban/Rural - **URBAN**	Functional Class of Major Roadway: Other Principal Arterial	
Traffic Control Type: Signalized				Posted Speed Limit: Michigan Rd – 45mph; 51st St. – 30mph	

Site Observations

- Corradino highlighted that there were 10 reported NB left-turn crashes at the intersection, including one fatal crash and one incapacitating injury crash, even though the number of NB left-turning vehicles counted in 24 hours was very low. In the field, no dedicated left-turn lane or left-turn phase was observed on any of the four intersection approaches.
    - Indianapolis DPW staff noted they have a permissive/protected left-turn phase planned for WB lefts at the intersection that will be coming online soon.
    - Indianapolis DPW staff also agreed that modifying the signal to accommodate left turns at the intersection should happen. Even though NB and SB left-turn traffic volumes are very low, addressing left-turn vehicles would provide a significant safety benefit. This is the only signalized intersection along the Michigan Road corridor without dedicated left-turn lanes.
    - One near-term idea shared was either adjusting the signal timing to delay SB traffic for a few seconds to allow for NB traffic to turn left (protected phase) to get ahead of the SB queue. A long-term idea is to widen the roadway slightly to add left-turn lanes for NB and SB traffic on Michigan Road.
    - Regardless of the signal timing changes, Indianapolis DPW suggested working with their traffic signals department to make sure the suggested adjustments could work.

- Indianapolis DPW noted that they are looking at preventing NB left-turning vehicles from coming out of the gas station, located in the NW corner of the intersection, by installing temporary curbs and delineators.
- Indianapolis DPW noted the crash data indicated a jump in crashes from eight to 24 between the years 2023 and 2024. They noted that this may have occurred because of traffic detours, but were not certain.
    - Corradino said they would look at the numbers to be sure the jump in crashes is correct.
    - Indianapolis DPW requests that 2025 data be reviewed as well to see if the upward trend in reported crashes continued. Corradino staff said they would look into this as well.
- Sidewalks were located along the west side of Michigan Road, but not the east side, where there is currently a bus stop.
    - Indianapolis DPW suggested adding pedestrian improvements at all four corners of the intersection with crosswalks, pedestrian signals, push buttons, and a sidewalk extending from the intersection to the bus stop. Adding a 5'x8' boarding pad at the bus stop would also be included.

Potential Alternatives Discussed

Near-Term

- Talk with the Indianapolis DPW traffic team about delaying SB traffic by a few seconds to accommodate NB left-turning vehicles.
- Update striping at the intersection, which would include stop bars, pedestrian crossings, lane striping, and centerline striping.
- Add back plates to the existing traffic signals.

Long-Term

- Signal modification that would include updating all signals with backplates and necessary wiring to include protected left-turn phases for the NB and SB left turns.
- Widen Michigan Road to accommodate new dedicated NB and SB left-turn lanes.
- Improve/add ADA ramps in all four corners of the intersection with pedestrian crossings, pedestrian signals, and push buttons.
- Add sidewalk connection from the NE corner of the intersection to the NB bus stop.
- Add boarding pads at both NB and SB bus stops. The boarding pad would be 5'x8'.

Future Consideration

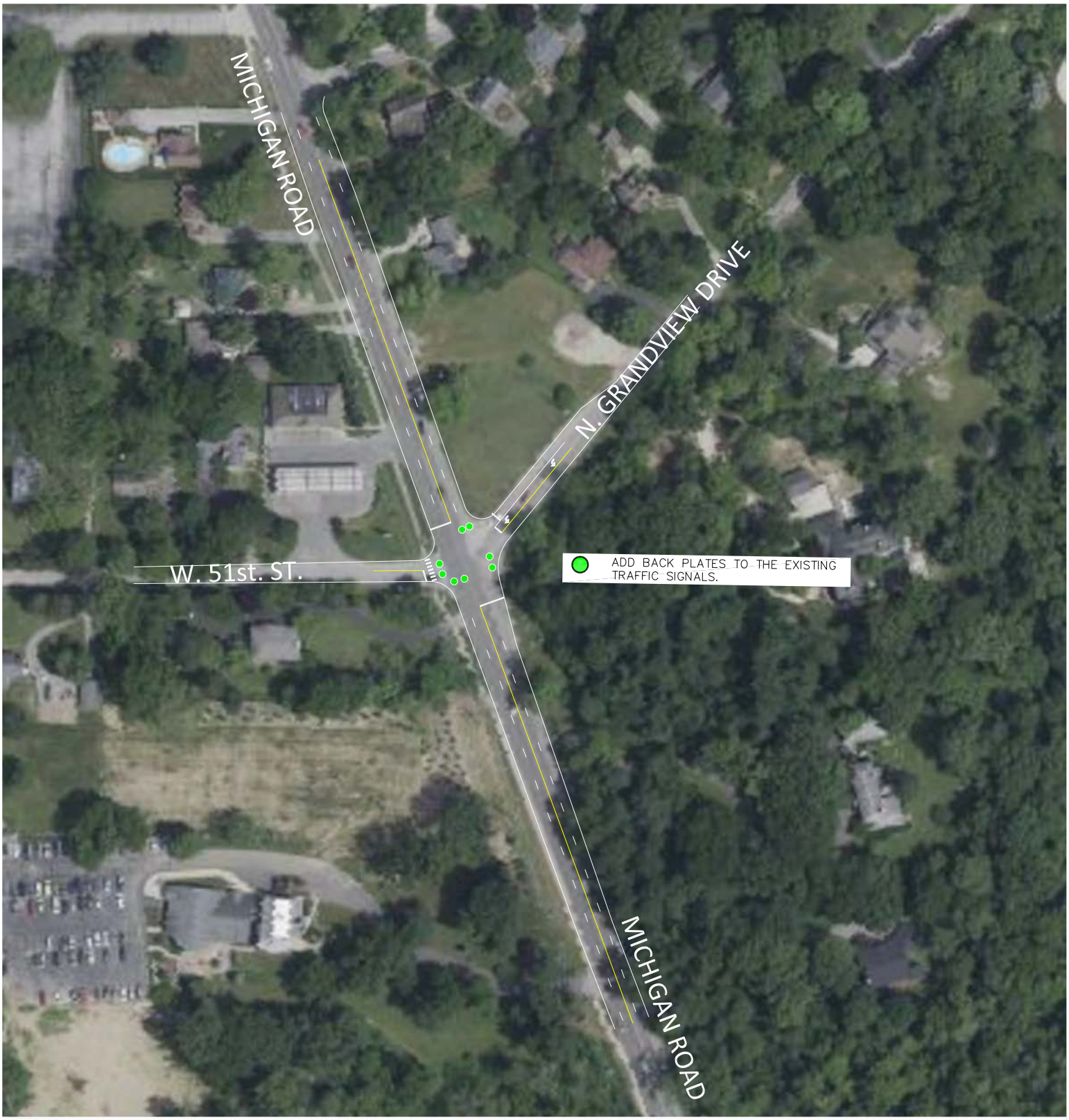
The Indianapolis DPW is considering a corridor study on Michigan Road that may recommend additional improvements at the intersection.

Consensus on Key Items for Alternatives

The Near- and Long-Term recommendations were agreed upon by Indianapolis DPW staff.

Attachment E
Cost Estimates & Schematics

Near-Term Improvements
Michigan Road and 51st. Street



PRELIMINARY COST ESTIMATE - NEAR TERM
Michigan Road & 51st Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 5,000.00	$ 5,000.00
2	801-06775	MAINTAINING TRAFFIC	1	LS	$ 2,600.00	$ 2,600.00
3	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	8	EACH	$ 1,750.00	$ 14,000.00
4	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	42	LFT	$ 15.00	$ 630.00
5	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	500	LFT	$ 2.50	$ 1,250.00
6	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	3,320	LFT	$ 1.25	$ 4,150.00
7	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	3,320	LFT	$ 1.25	$ 4,150.00
8	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	104	LFT	$ 14.00	$ 1,456.00
9	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	1	EACH	$ 250.00	$ 250.00
					TOTAL	$ 33,486.00

CONSTRUCTION TOTAL	**$34,000.00**
CONTINGENCY (10%)	**$3,000.00**
OVERALL PROJECT TOTAL	**$37,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases

Task No.	Task	Cost
1	Preliminary Engineering	$ 10,000
2	Right of Way	$ -
3	Utility CN	$ -
4	Railroad CN	$ -
5	Construction Inspection/Testing	$ -
	TOTAL	**$ 10,000**

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



Todd Johnson
Estimate Completed By

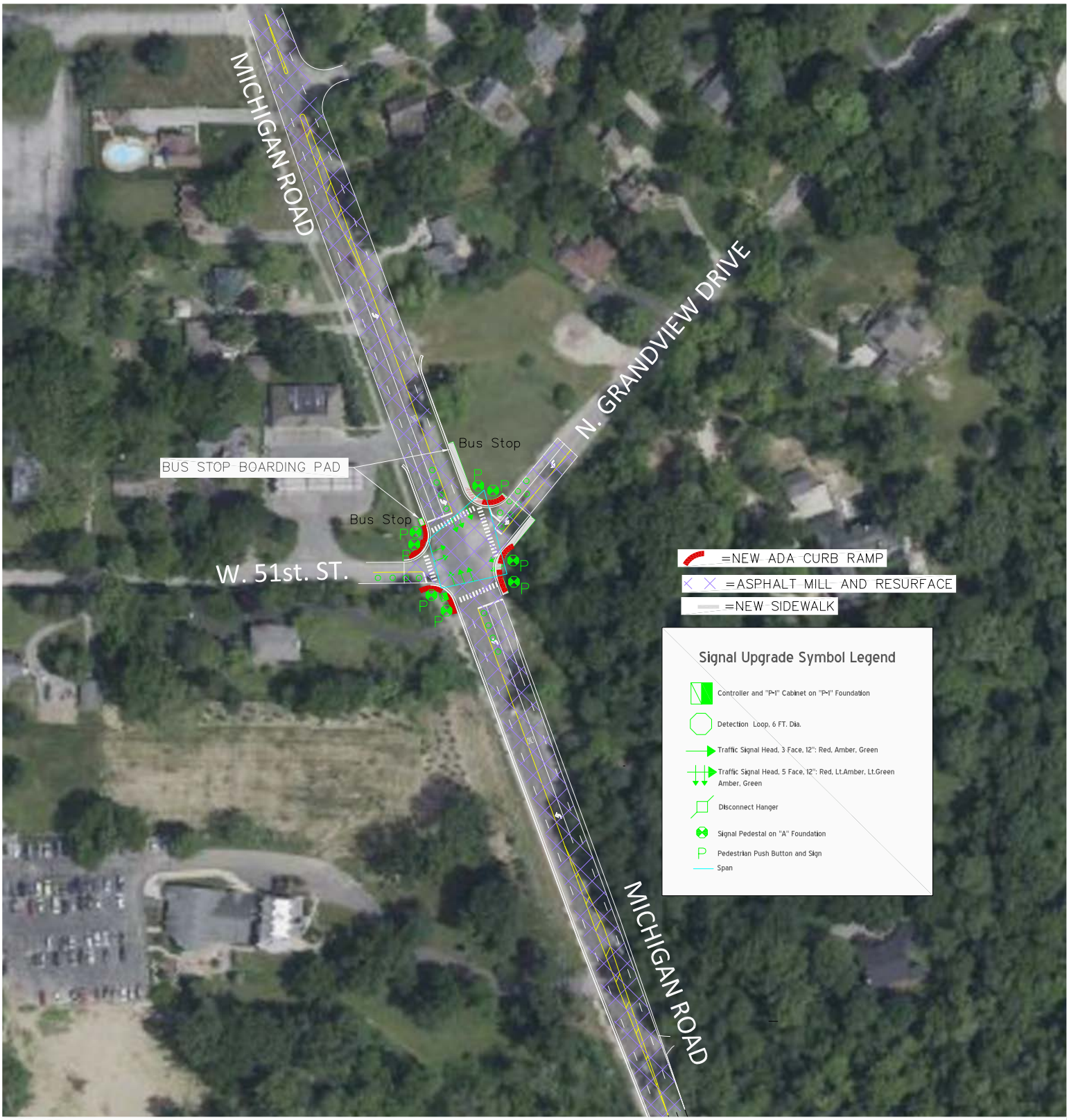
6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - NEAR TERM

Michigan Road & 51st Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	110-01001	MOBILIZATION AND DEMOBILIZATION	Assume $5,000
2	801-06775	MAINTAINING TRAFFIC	set to 10% of total cost
3	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	Number of signal heads requiring backplates - all are 3-section
4	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	Assume 6' wide and a 2' on/2' off spacing sequence
5	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	Assume project length is ISD for Stop Control (45 MPH = 500' on Michgan; 30 MPH = 330' on 51st)
6	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	
7	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	
8	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	
9	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	

Long-Term Improvements
Michigan Road & 51st. Street



PRELIMINARY COST ESTIMATE - LONG TERM
Michigan Road & 51st Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	105-06845	CONSTRUCTION ENGINEERING	1	LS	$ 15,000.00	$ 15,000.00
2	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 64,100.00	$ 64,100.00
3	201-52370	CLEARING RIGHT-OF-WAY	1	LS	$ 40,000.00	$ 40,000.00
4	202-02240	PAVEMENT REMOVAL	400	SYS	$ 70.00	$ 28,000.00
5	202-02279	CURB AND GUTTER, REMOVE	1,025	LFT	$ 60.00	$ 61,500.00
6	202-52710	SIDEWALK CONCRETE, REMOVE	300	SYS	$ 125.00	$ 37,500.00
7	202-91385	INLET, REMOVE	3	EACH	$ 2,000.00	$ 6,000.00
8	202-93995	SIGNAL POLE FOUNDATION, REMOVE	4	EACH	$ 1,400.00	$ 5,600.00
9	202-93999	SIGNAL POLE, REMOVE	4	EACH	$ 1,000.00	$ 4,000.00
10	203-02000	EXCAVATION, COMMON	375	CYS	$ 165.00	$ 61,875.00
11	205-12108	STORMWATER MANAGEMENT BUDGET	20,000	DOL	$ 1.00	$ 20,000.00
12	205-12616	STORMWATER MANAGEMENT IMPLEMENTATION	1	LS	$ 15,000.00	$ 15,000.00
13	205-12618	SWQCP PREPARATION	1	LS	$ 10,000.00	$ 10,000.00
14	207-08264	SUBGRADE TREATMENT, TYPE II	400	SYS	$ 60.00	$ 24,000.00
15	207-09935	SUBGRADE TREATMENT, TYPE IC	1,500	SYS	$ 45.00	$ 67,500.00
16	211-09265	STRUCTURE BACKFILL, TYPE 2	14	CYS	$ 150.00	$ 2,100.00
17	302-07455	DENSE GRADED SUBBASE	67	CYS	$ 160.00	$ 10,720.00
18	304-07494	WIDENING WITH HMA, TYPE C	445	TON	$ 175.00	$ 77,875.00
19	306-08034	MILLING, ASPHALT, 1 1/2 IN.	7,240	SYS	$ 5.00	$ 36,200.00
20	401-000008	QC/QA-HMA, 3, 58E, SURFACE, 9.5 mm	675	TON	$ 125.00	$ 84,375.00
21	601-02241	GUARDRAIL, REMOVE	75	LFT	$ 10.00	$ 750.00
22	601-94689	GUARDRAIL END TREATMENT, TYPE OS	1	EACH	$ 3,500.00	$ 3,500.00
23	601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN. SPACING	25	LFT	$ 100.00	$ 2,500.00
24	604-06070	SIDEWALK, CONCRETE	430	SYS	$ 240.00	$ 103,200.00
25	604-08086	CURB RAMP, CONCRETE	96	SYS	$ 280.00	$ 26,880.00
26	604-12083	DETECTABLE WARNING SURFACES	12	SYS	$ 325.00	$ 3,900.00
27	605-06140	CURB AND GUTTER, CONCRETE	1,205	LFT	$ 90.00	$ 108,450.00
28	610-08446	PCCP FOR APPROACHES, 6 IN.	250	SYS	$ 100.00	$ 25,000.00
29	610-09108	PCCP FOR APPROACHES, 9 IN.	150	SYS	$ 125.00	$ 18,750.00
30	611-06497	MAILBOX ASSEMBLY, SINGLE	7	EACH	$ 350.00	$ 2,450.00
31	621-06560	MULCHED SEEDING, TYPE U	2,500	SYS	$ 5.00	$ 12,500.00
32	715-05149	PIPE, TYPE 2, CIRCULAR, DIAMETER 12 IN.	30	LFT	$ 300.00	$ 9,000.00
33	720-45045	INLET, TYPE J10	3	EACH	$ 5,000.00	$ 15,000.00
34	720-45410	MANHOLE, TYPE C4	3	EACH	$ 5,500.00	$ 16,500.00
35	801-06775	MAINTAINING TRAFFIC	1	LS	$ 60,000.00	$ 60,000.00
36	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	15	SFT	$ 45.00	$ 675.00
37	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	14	SFT	$ 50.00	$ 700.00
38	805-01300	TRAFFIC SIGNAL EQUIPMENT, REMOVE	1	EACH	$ 12,000.00	$ 12,000.00
39	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	1	LS	$ 5,000.00	$ 5,000.00
40	805-01815	SIGNAL POLE FOUNDATION, 36 IN. X 144 IN.	4	EACH	$ 6,000.00	$ 24,000.00
41	805-01842	HANDHOLE, SIGNAL, TYPE 1	4	EACH	$ 2,500.00	$ 10,000.00
42	805-02087	TRANSPORTATION OF SALVAGEABLE SIGNAL EQUIPMENT	1	LS	$ 2,500.00	$ 2,500.00
43	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	8	EACH	$ 1,150.00	$ 9,200.00
44	805-02445	CONTROLLER AND CABINET, TYPE P1	1	EACH	$ 21,600.00	$ 21,600.00
45	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	8	EACH	$ 2,000.00	$ 16,000.00
46	805-08214	CONDUIT, PVC, 2 IN. SCHEDULE 40	200	LFT	$ 26.00	$ 5,200.00
47	805-11813	CONDUIT, PVC, 2 IN. SCHEDULE 80	300	LFT	$ 42.00	$ 12,600.00
48	805-11817	PEDESTRIAN PUSH BUTTON, APS	8	EACH	$ 1,600.00	$ 12,800.00
49	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	8	EACH	$ 1,100.00	$ 8,800.00
50	805-78000	DETECTION LOOP, 6 FT DIA	20	EACH	$ 1,300.00	$ 26,000.00
51	805-78205	TRAFFIC SIGNAL HEAD, NO. 3 SECTION, 12 IN.	10	EACH	$ 1,200.00	$ 12,000.00
52	805-78415	SPAN, CATENARY, AND TETHER	4	EACH	$ 4,500.00	$ 18,000.00
53	805-78420	DISCONNECT HANGER	4	EACH	$ 600.00	$ 2,400.00
54	805-78445	SIGNAL SERVICE	1	EACH	$ 2,800.00	$ 2,800.00
55	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	600	LFT	$ 4.30	$ 2,580.00
56	805-78490	SIGNAL CABLE, CONTROL, COPPER, 7C/14 GAUGE	300	LFT	$ 5.40	$ 1,620.00
57	805-78785	SIGNAL DETECTOR HOUSING	2	EACH	$ 2,540.00	$ 5,080.00
58	805-78925	CONTROLLER CABINET FOUNDATION, TYPE P1	1	EACH	$ 2,950.00	$ 2,950.00
59	805-81060	SIGNAL POLE, STEEL STRAIN, 36 FT	4	EACH	$ 12,000.00	$ 48,000.00
60	807-02783	LUMINAIRE, MAST ARM, 15 FT	2	EACH	$ 2,000.00	$ 4,000.00
61	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	290	LFT	$ 4.00	$ 1,160.00
62	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	520	LFT	$ 2.50	$ 1,300.00
63	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	3,730	LFT	$ 1.25	$ 4,662.50
64	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	2,780	LFT	$ 1.25	$ 3,475.00
65	808-75274	TRANSVERSE MARKING, THERMOPLASTIC, CROSSHATCH LINE, YELLOW, 8 IN.	100	LFT	$ 5.00	$ 500.00
66	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	105	LFT	$ 14.00	$ 1,470.00
67	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	6	EACH	$ 250.00	$ 1,500.00
68	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	2	EACH	$ 240.00	$ 480.00
					TOTAL	$ 1,186,600.00

CONSTRUCTION TOTAL	**$1,187,000.00**
CONTINGENCY (10%)	**$119,000.00**
OVERALL PROJECT TOTAL	**$1,306,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases

Task No.	Task	Cost
1	Preliminary Engineering	$ 156,720
2	Right of Way	$ -
3	Utility CN	$ 50,000
4	Railroad CN	$ -
5	Construction Inspection/Testing	$ 130,600
	TOTAL	$ 337,320

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature

Todd Johnson
Estimate Completed By

6/5/2026
Date



ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - LONG TERM

Michigan Road & 51st Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	105-06845	CONSTRUCTION ENGINEERING	
2	110-01001	MOBILIZATION AND DEMOBILIZATION	
3	201-52370	CLEARING RIGHT-OF-WAY	$10,000 per side of Michigan road north south of 51st or $40,000 total
4	202-02240	PAVEMENT REMOVAL	say 400 SYS
5	202-02279	CURB AND GUTTER, REMOVE	ne quad-240, nw quad 138, se quad 95 sw quad 552 for a total = 1025
6	202-52710	SIDEWALK CONCRETE, REMOVE	ne quad = 0, se quad = 0, nw quad = 10, sw quad = 290 say 300
7	202-91385	INLET, REMOVE	ne quad=1 nw quad=1, sw = 1, se = 0 total of 3
8	202-93995	SIGNAL POLE FOUNDATION, REMOVE	one in each quad total 4
9	202-93999	SIGNAL POLE, REMOVE	one in each quad total 4
10	203-02000	EXCAVATION, COMMON	dig out work for pavement widening 895 SYS * assume 15" =895*15/36=373 say 375 CYS
11	205-12108	STORMWATER MANAGEMENT BUDGET	5000 per quad for a total of 20,000
12	205-12616	STORMWATER MANAGEMENT IMPLEMENTATION	assume 15,000
13	205-12618	SWQCP PREPARATION	assume 10000
14	207-08264	SUBGRADE TREATMENT, TYPE II	used under drives total drive area is 400 sys
15	207-09935	SUBGRADE TREATMENT, TYPE IC	used under pavement widening and new curb. 895 sys + (1205 * 4.5' / 9=602) =1500 sys
16	211-09265	STRUCTURE BACKFILL, TYPE 2	assume at new pipes. Pipe length = 30 * 12 sft =360 CYFT / 27 = say 14 CYS
17	302-07455	DENSE GRADED SUBBASE	used under drives use a thickness of 6 inches. 400 sys * 6 / 36 = 67 CYS
18	304-07494	WIDENING WITH HMA, TYPE C	nw quad - 729, ne quad- 1564, sw quad - 3550, se quad - 1935, 270 =8048 / 9 = 895 SYS
19	306-08034	MILLING, ASPHALT, 1 1/2 IN.	area of existing pavement within project limits 65167 per cad = say 7240 sys
20	401-000008	QC/QA-HMA, 3, 58E, SURFACE, 9.5 mm	nw quad - 729, ne quad- 1564, sw quad - 3550, se quad - 1935, 270 =8048 / 9 = 895 SYS + 7240 sys =8135sys
21	601-02241	GUARDRAIL, REMOVE	
22	601-94689	GUARDRAIL END TREATMENT, TYPE OS	
23	601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN. SPACING	
24	604-06070	SIDEWALK, CONCRETE	ne = 638 se = 600 say 1238 / 9 = 140 SYS add sw quad say 290 SYS for total of 430 sys
25	604-08086	CURB RAMP, CONCRETE	Assume 12 sys per curb ramp
26	604-12083	DETECTABLE WARNING SURFACES	Assume 1.5 sys per surface
27	605-06140	CURB AND GUTTER, CONCRETE	ne quad - 218, nw quads 128, sw quad = 661 se quad = 78, 13, 104 = total 1202 say 1205
28	610-08446	PCCP FOR APPROACHES, 6 IN.	10 residential drives assume 25 sys each for a total of 250
29	610-09108	PCCP FOR APPROACHES, 9 IN.	three commercial drives assume 50 sys each = 150 sys
30	611-06497	MAILBOX ASSEMBLY, SINGLE	7 mail boxes on Michigan st.
31	621-06560	MULCHED SEEDING, TYPE U	say 2500 SYS
32	715-05149	PIPE, TYPE 2, CIRCULAR, DIAMETER 12 IN.	assume 10' per inlet for a total of 30 LFT
33	720-45045	INLET, TYPE J10	ne quad=1 nw quad=1, sw = 1, se = 0 total of 3
34	720-45410	MANHOLE, TYPE C4	assume 1 per inlet total of 3
35	801-06775	MAINTAINING TRAFFIC	
36	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	for overhead traffic signs on signal spans
37	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	for overhead street signs on signal spans
38	805-01300	TRAFFIC SIGNAL EQUIPMENT, REMOVE	to remove all replaced signal material at this signal
39	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	for any misc detector racks, etc. required in the new controller cabinet
40	805-01815	SIGNAL POLE FOUNDATION, 36 IN. X 144 IN.	
41	805-01842	HANDHOLE, SIGNAL, TYPE 1	assume one may be needed at the each quadrant
42	805-02087	TRANSPORTATION OF SALVAGEABLE SIGNAL EQUIPMENT	to transport salvageable items to DPW on S. West Street
43	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	add ped. Heads - 8 each
44	805-02445	CONTROLLER AND CABINET, TYPE P1	
45	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	two each quad total 8
46	805-08214	CONDUIT, PVC, 2 IN. SCHEDULE 40	
47	805-11813	CONDUIT, PVC, 2 IN. SCHEDULE 80	total 300 lft
48	805-11817	PEDESTRIAN PUSH BUTTON, APS	add each button total 8
49	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	two each quad total - 8
50	805-78000	DETECTION LOOP, 6 FT DIA	total 20
51	805-78205	TRAFFIC SIGNAL HEAD, NO. 3 SECTION, 12 IN.	replace the existing heads - use 12 each
52	805-78415	SPAN, CATENARY, AND TETHER	replace the span on each quad or 4 each
53	805-78420	DISCONNECT HANGER	replace hangers on each span of 4 each
54	805-78445	SIGNAL SERVICE	
55	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	from 3-Section Heads to disconnect hanger and from cabinet to ped heads and buttons
56	805-78490	SIGNAL CABLE, CONTROL, COPPER, 7C/14 GAUGE	from disconnect hanger to cabinet
57	805-78785	SIGNAL DETECTOR HOUSING	Two Total for new left turn lanes
58	805-78925	CONTROLLER CABINET FOUNDATION, TYPE P1	
59	805-81060	SIGNAL POLE, STEEL STRAIN, 36 FT	
60	807-02783	LUMINAIRE, MAST ARM, 15 FT	
61	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	
62	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	
63	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	
64	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	
65	808-75274	TRANSVERSE MARKING, THERMOPLASTIC, CROSSHATCH LINE, YELLOW, 8 IN.	
66	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	
67	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	
68	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	

Economic Evaluation - Form F5

Alternative: Michigan Road & 51st Street Long-Term Recommendation

INPUT Collapse

Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	7
Non-Incapacitating and Possible Injury Crashes	6
Property Damage Only Crashes	23
Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Present Year (yyyy)	2026
Implementation Year (yyyy)	2030
Inflation Rate (%)	2
Interest Rate (%)	4
Annual Traffic Growth Rate (%)	2
Total Traffic Growth Factor	1.43
Future Traffic Growth Period (years)	24

COUNTERMEASURES Collapse All

Countermeasure 1 Collapse [C] Copy

Description	
Crash Reduction Factors (%)	
Fatal and Incapacitating Injury Crashes	73
Non-Incapacitating and Possible Injury Crashes	73
Property Damage Only Crashes	73
Number of Target Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	7
Non-Incapacitating and Possible Injury Crashes	6
Property Damage Only Crashes	23
Countermeasure Service Life (years)	20
Countermeasure Capital Cost ($)	1,643,320
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0

[+] Add

Form 1 2 3 4 5 6 7 CDB Tool

Calculate Load Crashes

New Open

Save Save As

Reports Exit

Guidelines Help

Equations

General Improvements Table

Service Life Table

Crash Reduction Factors Table - Indiana

Crash Modification Factors Clearinghouse

Alternatives

Save Current Alternative

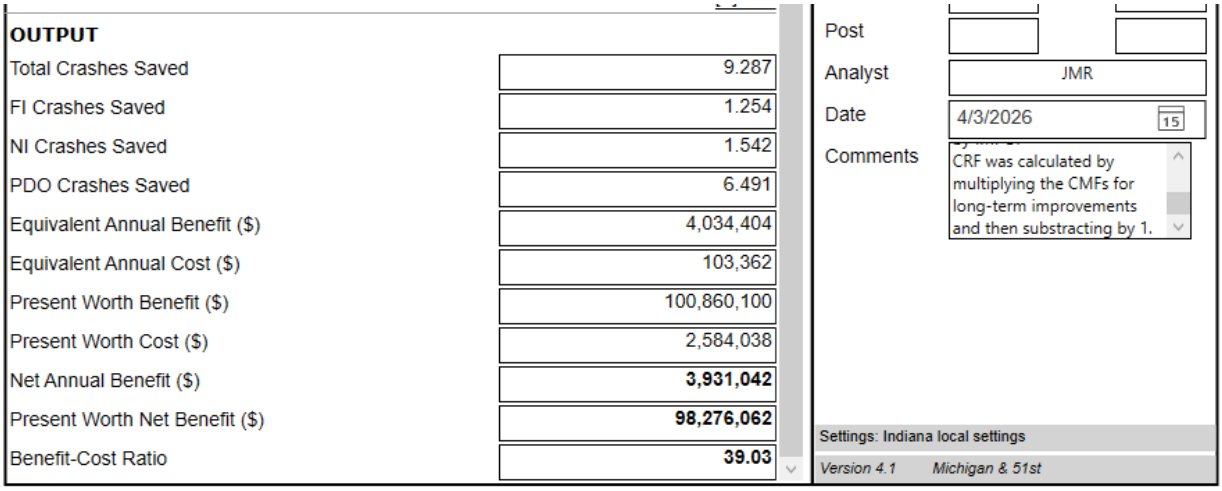
Read Alternative

Michigan Road & 51st Street Long-Term Rec

Notes:

The number of target crashes are those that can be specifically reduced by the countermeasure selected. The number of target crashes for each countermeasure should not exceed the number of crashes

Location	Michigan Rd. & 51st Street
GIS	
Post	
Analyst	JMR
Date	4/3/2026
Comments	CRF was calculated by multiplying the CMFs for long-term improvements and then substracting by 1.


OUTPUT
Total Crashes Saved 9.287
FI Crashes Saved 1.254
NI Crashes Saved 1.542
PDO Crashes Saved 6.491
Equivalent Annual Benefit ($) 4,034,404
Equivalent Annual Cost ($) 103,362
Present Worth Benefit ($) 100,860,100
Present Worth Cost ($) 2,584,038
Net Annual Benefit ($) 3,931,042
Present Worth Net Benefit ($) 98,276,062
Benefit-Cost Ratio 39.03
Post
Analyst JMR
Date 4/3/2026
Comments
CRF was calculated by multiplying the CMFs for long-term improvements and then substracting by 1.
Settings: Indiana local settings
Version 4.1 Michigan & 51st

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/25/2026
Des. No.:	n/a

Reviewer Information:		Agency/Firm Name:	Corradino LLC
Primary Author:	James Mark Rinehart	Agency:	Indianapolis Metropolitan Planning Organization
Phone Numbers:	(317) 488-2363	Email Address:	jrinehart@corradino.com

Purpose of Review:

Corradino LLC was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Michigan Rd.		District: Greenfield		City: Indianapolis			County: Marion
Lat & Long (BOP)	39.868088	-86.201753	Lat & Long (EOP):	39.868088	-86.201753	Inside Urban Area Boundary? Yes or No (circle)	
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit			
Location: The intersection of Michigan Road & 62nd Street							

Existing Conditions:

The Michigan Road & 62nd Street intersection is a four-leg signalized intersection. Michigan Road is a five-lane roadway at the intersection, with two NB and SB through lanes and one SB-to-EB and NB-to-WB left-turn lane. NB-to-WB left turns are protected/permissive and operate with a split phase. SB-to-EB left turns have a permissive-only signal phase.

The west leg of the intersection is 62nd Street. It is a three-lane roadway at the intersection, with a WB through lane, a shared EB through/NB left-turn lane, and an EB-to-SB right-turn lane. EB-to-NB left turns are protected/permissive and operate with a split phase. The east leg of the intersection is a parking lot access road for the Indianapolis Public Library – Michigan Road Branch. It has a single WB lane for left, through, and right movements and no protected signal phases for vehicles turning SB onto Michigan Road.

There is a sidewalk along both sides of Michigan Road that continues through the intersection. ADA ramps are located at all four corners of the intersection, though no ADA ramps are aligned for crossing over the south leg of the intersection. Additionally, there are pedestrian signals, push buttons, and painted "piano key" crosswalks to cross 62nd Street on the west side of the intersection and Michigan Road on the north side of the intersection. There is a marked crosswalk at the entrance to the Indianapolis Public Library's parking lot, but there are currently no push buttons or pedestrian signals for it. Due to the skew of the intersection and the slight negative offset of the WB and EB approaches, the length of the intersection is large, with approximately 160' between the NB and SB stop bars. This results in a pedestrian push button in the NE quadrant that is approximately 55' from the curb ramp at the library entrance approach to the intersection.

IndyGo's Route 34 operates along Michigan Road at the intersection. Bus Stop 51023 is located in the southwest corner of the intersection. There is sidewalk access at the bus stop, but no 5' x 8' boarding pad. Bus Stop 50937 is located in the northeast corner of the intersection. There is a boarding pad at the bus stop with a sidewalk connection to access the library.

Located in each quadrant of the intersection are:

- NW Quadrant: Indianapolis Family Church.
- SW Quadrant: Barry Lock & Unlock Services.
- SE Quadrant: Single Family Residence and Indianapolis Public Library – Michigan Road Branch.
- NE Quadrant: Indianapolis Public Library – Michigan Road Branch.

Corradino staff held a virtual meeting with Indianapolis DPW staff on February 19, 2026, to review data generated for the IMPO's Regional Safety Study update and to identify intersections within the City of Indianapolis for further study. The Michigan Road and 62nd Street intersection was listed as one of the most dangerous in Central Indiana and was prioritized by the Indianapolis DPW. Meeting minutes from the virtual meeting with Indianapolis DPW are available in **Attachment D**.

Corradino held a field check with the representatives from the IMPO, City of Indianapolis DPW, and a representative from IMPD on April 28,

2026, to provide a recap of the discussion held during the virtual meeting, share test results for the near-term and long-term solutions, and build consensus around a series of countermeasures for Corradino to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Traffic Operations:

a) Mobility/Congestion Performance: According to 24-hour traffic count data collected on March 3, 2026, EB traffic entering the intersection was **5,266.** The WB traffic entering the intersection was **452.** The NB traffic entering the intersection was **13,409.** The SB traffic entering the intersection was **14,824.** Turning movement counts are available for review in **Attachment B**. A **1.8%** forecasted annual growth rate, derived from the IMPO's TDM, was used to develop a future no-build traffic scenario and to test long-term build alternatives at the intersection. The design year for the project was **2050.** The traffic analysis is available in **Attachment C**.

	Eastbound		Westbound		Northbound		Southbound	
Alternative	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
AM Peak – 2026	**C**	**23.9**	**B**	**17.1**	**B**	**14.6**	**C**	**33.0**
PM Peak - 2026	**C**	**31.8**	**B**	**17.4**	**B**	**18.6**	**C**	**33.5**
AM Peak - 2050	**F**	**80.2**	**C**	**31.9**	**C**	**29.0**	**E**	**66.1**
PM Peak - 2050	**F**	**98.6**	**C**	**23.5**	**D**	**46.4**	**F**	**94.4**

b) Safety Performance / Crash Analysis: According to available crash data reported between January 1, 2022, and December 31, 2024, there were **52** crashes near the Michigan Road & 62nd Street intersection. Of those crashes, **2** resulted in fatalities, **3** resulted in incapacitating injuries, and **8** resulted in non-incapacitating injuries. See attached Crash Summary and output from RoadHAT 4.1 in **Attachment A.**

It is important to note that **58%** of reported crashes at the intersection occurred in dark (lighted) conditions between 8:00 pm & 4:00 am. Further review of the police reports revealed that five of the 12 injury-related crashes and both Fatal crashes occurred during this time. Additionally, nine of 12 reported Right Angle crashes occurred between 8:00 pm and 4:00 am. The police reports for all nine Right Angle crashes noted that the traffic signal in the Study Area had switched to a flashing beacon phase, with Michigan Road displaying a yellow flashing signal and 62nd Street displaying a red flashing signal. Another notable crash pattern was that **11** Left Turn crashes occurred in the NB direction at the intersection. Four of the 11 Left Turn crashes had reported injuries. The NB left-turn signal has a protected/permissive signal phase. The Collision Diagram for the Crash Analysis is available in **Attachment A.**

RoadHAT 4.1 was used to develop crash cost (ICC) and crash frequency (ICF) scores for the Michigan Road & 62nd Street Intersection. Results from the RoadHAT 4.1 analysis were: I_{CC} = **1.92**, I_{CF} = **1.86.** The RoadHAT 4.1 analysis results are available in **Attachment A.**

Alternatives & Recommendations

During the field check with representatives from Indianapolis DPW and the IMPO, crash data and traffic data were discussed while observing traffic patterns. Multiple maintenance-type improvements were identified in the field to help address near-term safety needs at the intersection (traffic signal back plates, striping, etc.) as well as some longer-term infrastructure improvements. Below are the discussed Near- and Long-Term recommended improvements for the Michigan Road & 62nd Street intersection. Notes from the field check summarizing conversations with Indianapolis DPW and IMPO staff are available for review in **Attachment D.**

Near-Term

The list of near-term solutions discussed during the field check includes:

- Adjust evening off-peak phasing to no longer set the signal in yellow-red flashing beacon mode (the EB and WB approaches are actuated, so rely on that actuation to only stop NB and SB traffic in the evening off-peak when called for).
- Update existing striping at the intersection (stop bars, existing pedestrian crosswalks, lane striping).
- Add backplates to NB traffic signal heads only.

Long-Term

- Complete the Near-Term recommendations noted above.
- Close the business access point along Michigan Road, in the SW corner, closest to the intersection, and replace it with a new curb and sidewalk.
- Add new ADA ramps for crossing in the SW & SE corners of the intersection.
- Add a new pedestrian crosswalk to connect new ADA ramps.
- Add new pedestrian signals with push buttons in the SW corner (2), SE corner (2), NW corner (1), and NE corner (1).

A schematic of the long-term improvement is available in **Attachment E.**

Future Consideration

Indianapolis DPW noted that this intersection may be studied further as part of a Michigan Road Corridor Study.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation

PE - **$10,000**
ROW - **$0**
Utility CN - **$0**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0**
CN (including 10% contingency) - **$39,000**

Near-Term Total - $49,000

Long-Term Recommendation

PE - **$50,000**
ROW - **$20,000**
Utility CN - **$5,000**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0**
CN (including 10% contingency) - **$176,000**

Long-Term Total - $251,000

Project Score: (for INDOT use)

Safety Program Score =

Miscellaneous Notes:

Attachments:

Attachment A: Preliminary Findings Report

Attachment B: Traffic Counts

Attachment C: Traffic Analysis

Attachment D: Virtual Meeting Minutes & Field Check Minutes

Attachment E: Cost Estimates & Schematics

Attachment A
Preliminary Findings

PRELIMINARY FINDINGS

Safety Analysis at Michigan Rd. & 62nd St.

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Michigan Road & 62nd Street (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (Icc) and crash frequency (Icf) for the Study Area using RoadHat 4.1.

52 crashes were identified within the Study Area. 12 of the 52 reported crashes were injury-related crashes. Three of the 12 injury-related crashes were Incapacitating crashes, either Non-Incapacitating crashes, and one Possible Injury crash. Six of the 12 injury-related crashes were Left-Turn crashes within the Study Area. Additionally, there were two reported fatalities in the Study Area. One of the Fatal crashes involved a vehicle traveling at a high rate of speed, lost control, and ran off the road. The other Fatal crash occurred when an eastbound vehicle on 62nd Street pulled out onto Michigan Road and was struck by a southbound vehicle. The police report noted the traffic signal in the Study Area was flashing yellow for Michigan Road and red for 62nd Street.

It is also important to note that 58% of crashes occurred in dark (lighted) conditions between 8:00 pm & 4:00 am. Reviewing the police reports further, it was discovered that five of the 12 injury-related crashes, and both Fatal crashes, occurred during this time. Additionally, nine of 12 reported Right Angle crashes occurred between 8:00 pm and 4:00 am. The police reports for all nine Right Angle crashes noted that the traffic signal in the Study Area had switched to a flashing beacon phase, with Michigan Road displaying a yellow flashing signal and 62nd Street displaying a red flashing signal.

Other notable results near the Study Area include:

- 33% of the reported crashes within the Study Area were Rear End crashes.
- 46% of the reported crashes were either Left Turn or Right Angle crashes.
- 81% of reported crashes occurred during Off-Peak travel times. 8% of reported crashes occurred during the morning peak hours (6 am-9 am), and 12% during the evening peak hours (4 pm-7 pm).
- 23% of reported crashes occurred in wet or snowy roadway surface conditions. The remaining 77% of reported crashes occurred on dry roadways.

- 79% of reported crashes occurred when the weather conditions were clear. The remaining 21% of reported crashes occurred in either Cloudy, Rainy, Sleet/Hail/Freezing Rain, or Snowy weather conditions.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

2022-2024 Crash Summary	
TOTAL CRASHES	52
TOTAL INJURIES	22
PROPERTY DAMAGE ONLY	38
POSSIBLE INJURY	1
NON-INCAPACITATING	8
INCAPACITATING	3
FATAL	2

Summary of Primary Factors per Manner of Collision		
Primary Factors per Manner of Collision	**Crashes**	**Percent**
REAR END	**17**	**33%**
FOLLOWING TOO CLOSELY	10	
FAILURE TO YIELD RIGHT OF WAY	2	
UNSAFE SPEED	2	
SPEED TOO FAST FOR WEATHER CONDITIONS	2	
UNSAFE LANE MOVEMENT	1	
LEFT TURN	**12**	**23%**
FAILURE TO YIELD RIGHT OF WAY	9	
DISREGARD SIGNAL/REG SIGN	1	
UNSAFE SPEED	1	
IMPROPER PASSING	1	
RIGHT ANGLE	**12**	**23%**
FAILURE TO YIELD RIGHT OF WAY	10	
OVERCORRECTING/OVERSTEERING	1	
IMPROPER PASSING	1	
RIGHT TURN	**4**	**8%**
FAILURE TO YIELD RIGHT OF WAY	2	
UNSAFE SPEED	1	
IMPROPER TURNING	1	
SAME DIRECTION SIDESWIPE	**4**	**8%**
IMPROPER LANE USAGE	1	
IMPROPER PASSING	1	
UNSAFE LANE MOVEMENT	1	
OTHER (VEHICLE) - EXPLAIN IN NARRATIVE	1	
RAN OFF ROAD	**2**	**4%**
DRIVER ILLNESS	1	
LEFT OF CENTER	1	
OPPOSITE DIRECTION SIDESWIPE	**1**	**2%**
FAILURE TO YIELD RIGHT OF WAY	1	
Total Crashes	**52**	**100%**

Summary of Crashes per Time of Day		
Time of Day	**Crashes**	**Percent**
Peak AM (6:00-9:00 AM)	4	8%
Peak PM (4:00-7:00 PM)	6	12%
Off Peak	42	81%
Total Crashes	**52**	**100%**

Summary of Crashes per Light Conditions		
Light Conditions	**Crashes**	**Percent**
DAWN/DUSK	1	2%
DARK (LIGHTED)	30	58%
DAYLIGHT	21	40%
Total Crashes	**52**	**100%**

Summary of Roadway Surface Conditions				
Manner of Collision	**DRY**	**SNOW/SLUSH**	**WET**	**Total Crashes**
REAR END	11	2	4	17
RIGHT ANGLE	8		4	12
LEFT TURN	11		1	12
RIGHT TURN	4			4
SAME DIRECTION SIDESWIPE	4			4
RAN OFF ROAD	1		1	2
OPPOSITE DIRECTION SIDESWIPE	1			1
Total Crashes	**40**	**2**	**10**	**52**

Summary of Weather Conditions						
Manner of Collision	**CLEAR**	**RAIN**	**CLOUDY**	**SNOW**	**SLEET/HAIL/ FREEZING RAIN**	**Total Crashes**
REAR END	12	4			1	17
RIGHT ANGLE	9	2		1		12
LEFT TURN	10	1	1			12
RIGHT TURN	4					4
SAME DIRECTION SIDESWIPE	4					4
RAN OFF ROAD	1	1				2
OPPOSITE DIRECTION SIDESWIPE	1					1
Total Crashes	**41**	**8**	**1**	**1**	**1**	**52**

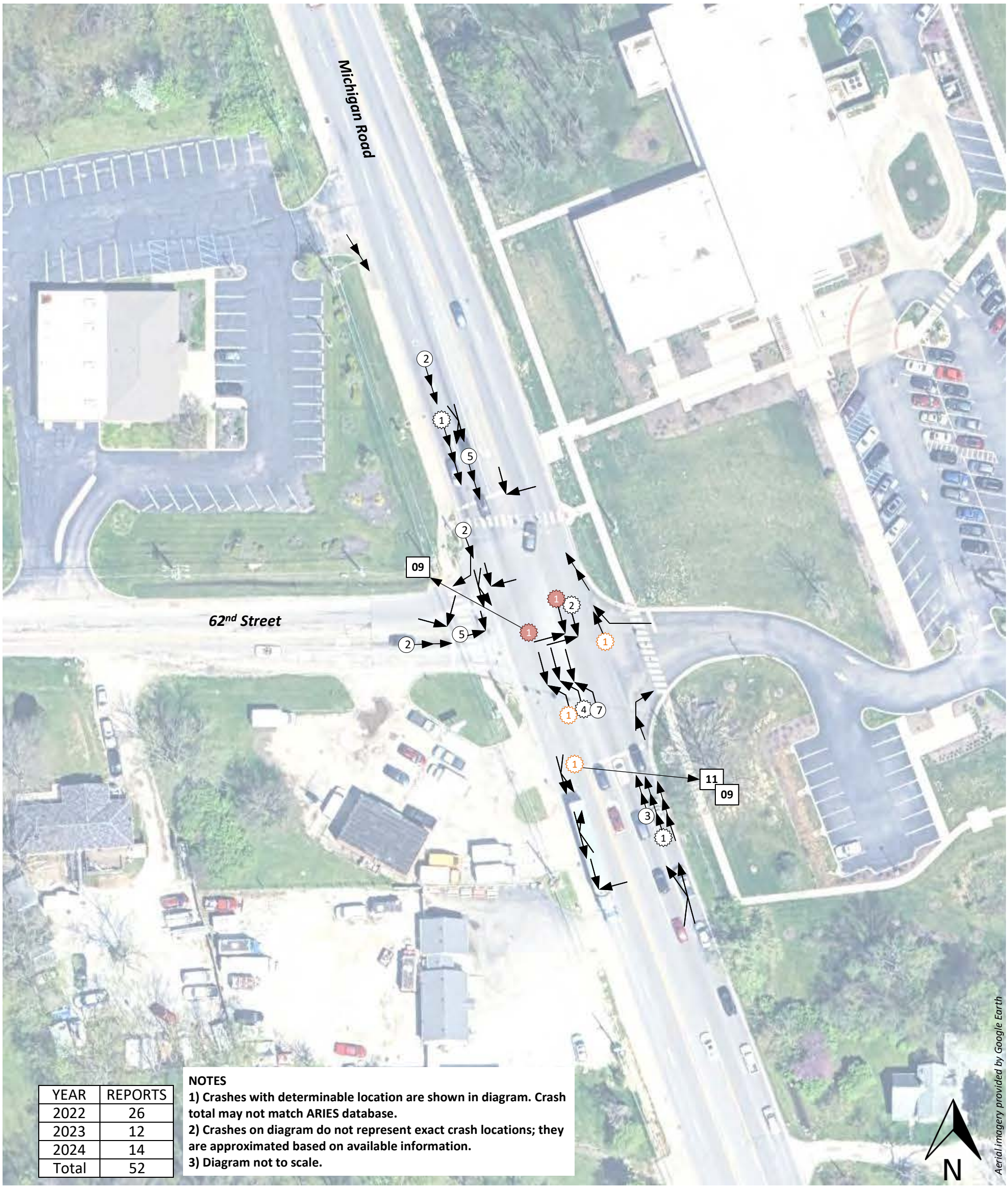
DIAGRAM OF COLLISION REPORTS

Michigan Road & 62nd Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis - DPW

INDOT District: Greenfield County: Marion City/Town: Indianapolis

Analyst: JMR QC: DC Date: 3/13/2026



YEAR	REPORTS
2022	26
2023	12
2024	14
Total	52

NOTES

1) Crashes with determinable location are shown in diagram. Crash total may not match ARIES database.

2) Crashes on diagram do not represent exact crash locations; they are approximated based on available information.

3) Diagram not to scale.

Object Symbols

MOVING VEHICLE

TURNING VEHICLE

BACKING VEHICLE

OUT OF CONTROL

PARKED VEHICLE

PEDESTRIAN

BICYCLE

A ANIMAL

D DEBRIS IN ROADWAY

DR DRIVEWAY CRASH

FATAL CRASH

INJURY CRASH – INCAPACITATING

INJURY CRASH – NONINCAPACITATING

PDO CRASHES (IF > 1)

SIGNALIZED INTERSECTION

FIXED OBJECT (See table for # codes)

Collision Symbols

REAR END

HEAD ON

OTHER

SIDESWIPE – SAME

SIDESWIPE – OPPOSITE

RIGHT ANGLE

LEFT/RIGHT TURN

RAN OFF ROAD

Fixed Object Codes

01 – BRIDGE or OVERPASS
02 – BUILDING
03 – CULVERT or DITCH
04 – CURB
05 – GUARDRAIL or BARRIER
06 – EMBANKMENT
07 – FENCE
08 – TRAFFIC POLE
09 – UTILITY POLE
10 – SIGN
11 – TREE / SHRUB
12 – CONTRUCTION BARRIER
13 – CRASH ATTENUATOR
88 – OTHER
99 - UNKNOWN

Intersection Images

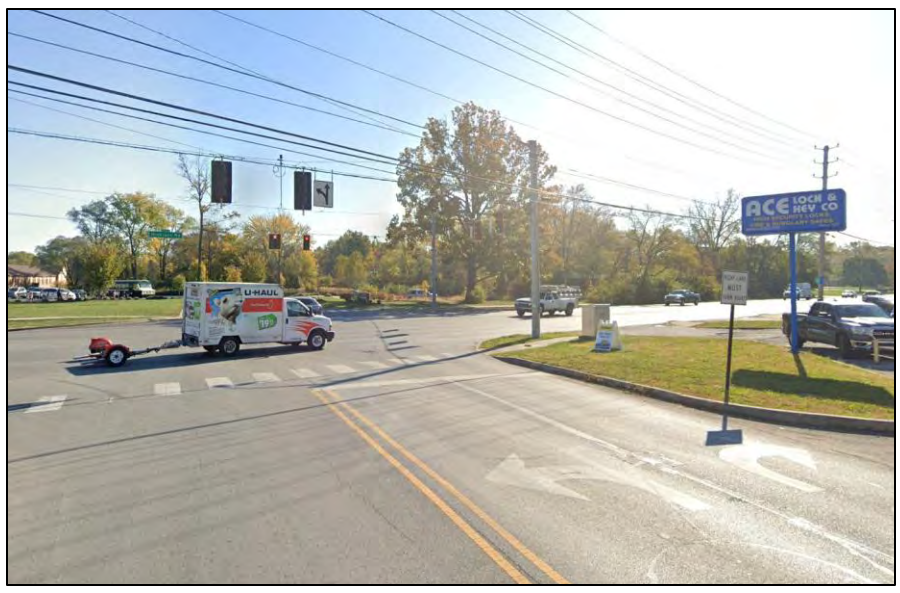
Michigan Road & 62nd Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

INDOT District: Greenfield County: Marion City/Town: Indianapolis



West Leg – Looking West



West Leg – Looking East



East Leg – Looking West



East Leg – Looking East



South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Imagery provided by Google Earth

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Michigan Road & 62nd Street	
GIS		
Post		
Analyst	JMR	
Date	4/3/2026	

INPUT	
Road Facility Type	City Arterial Intersection
Busiest Road AADT (veh/day)	28,233
Crossing Road AADT (veh/day)	5,718
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	5
Non-Incapacitating and Possible Injury Crashes	9
Property Damage Only Crashes	38
Route or Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.367
Non-Incapacitating and Possible Injury Crashes	0.99
Property Damage Only Crashes	5.07
All Crashes	6.43
Index of Crash Frequency	**1.86**
Index of Crash Cost	**1.92**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Michigan Road & 62nd Street	
GIS		
Post		
Analyst	JMR	
Date	3/10/2026	

Comments: Traffic Counts: MioVision Counts provided by Indianapolis DPW. Safety Data: ARIES provided by IMPO.

Attachment B
Traffic Counts

62nd St & Michigan Rd - TMC

Tue Mar 3, 2026
Full Length (4 PM-4 PM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1383432, Location: 39.868109, -86.201787

Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US

Leg	EB 62nd St						WB Library						NB Michigan Rd						SB Michigan						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2026-03-03 4:00PM	61	2	66	0	**129**	0	7	8	1	0	**16**	0	52	239	3	0	**294**	0	1	200	72	0	**273**	0	**712**
4:15PM	78	0	44	0	**122**	0	1	0	1	0	**2**	0	46	246	3	0	**295**	0	1	187	78	0	**266**	1	**685**
4:30PM	81	2	47	0	**130**	0	4	3	0	0	**7**	0	52	220	2	0	**274**	0	1	213	83	0	**297**	0	**708**
4:45PM	77	2	56	0	**135**	0	8	8	7	0	**23**	0	43	219	5	0	**267**	0	4	229	51	0	**284**	0	**709**
Hourly Total	297	6	213	0	**516**	0	20	19	9	0	**48**	0	193	924	13	0	**1130**	0	7	829	284	0	**1120**	1	**2814**
5:00PM	93	4	55	0	**152**	0	5	1	4	0	**10**	0	56	238	2	0	**296**	0	8	230	80	0	**318**	1	**776**
5:15PM	63	6	54	0	**123**	0	5	5	4	0	**14**	0	51	263	7	0	**321**	0	4	257	61	0	**322**	0	**780**
5:30PM	85	2	38	0	**125**	0	7	7	9	0	**23**	0	57	236	5	0	**298**	0	1	220	59	0	**280**	0	**726**
5:45PM	53	0	39	0	**92**	0	2	5	3	0	**10**	0	56	210	4	0	**270**	0	0	191	65	0	**256**	0	**628**
Hourly Total	294	12	186	0	**492**	0	19	18	20	0	**57**	0	220	947	18	0	**1185**	0	13	898	265	0	**1176**	1	**2910**
6:00PM	44	0	42	0	**86**	0	3	7	4	0	**14**	0	45	196	4	0	**245**	0	1	203	52	0	**256**	0	**601**
6:15PM	49	0	33	0	**82**	0	1	3	1	0	**5**	1	27	198	2	0	**227**	1	1	211	45	0	**257**	0	**571**
6:30PM	38	3	47	0	**88**	0	3	3	0	0	**6**	0	30	132	1	0	**163**	0	1	170	50	0	**221**	0	**478**
6:45PM	25	1	31	0	**57**	0	1	1	1	0	**3**	0	27	149	1	0	**177**	0	1	156	42	0	**199**	0	**436**
Hourly Total	156	4	153	0	**313**	0	8	14	6	0	**28**	1	129	675	8	0	**812**	1	4	740	189	0	**933**	0	**2086**
7:00PM	53	0	46	0	**99**	0	5	1	1	0	**7**	0	32	128	1	0	**161**	0	3	157	34	0	**194**	0	**461**
7:15PM	36	0	21	0	**57**	0	4	0	3	0	**7**	0	35	147	1	0	**183**	0	0	153	43	0	**196**	0	**443**
7:30PM	23	1	17	0	**41**	0	1	1	2	0	**4**	0	12	113	3	0	**128**	0	0	134	33	0	**167**	0	**340**
7:45PM	30	0	13	0	**43**	0	4	4	1	0	**9**	0	24	104	0	0	**128**	0	0	116	34	0	**150**	0	**330**
Hourly Total	142	1	97	0	**240**	0	14	6	7	0	**27**	0	103	492	5	0	**600**	0	3	560	144	0	**707**	0	**1574**
8:00PM	20	0	27	0	**47**	0	2	2	4	0	**8**	0	26	95	1	0	**122**	0	0	137	24	0	**161**	0	**338**
8:15PM	19	1	23	0	**43**	0	1	3	0	0	**4**	0	31	93	0	0	**124**	0	0	117	23	0	**140**	0	**311**
8:30PM	18	0	21	0	**39**	0	2	4	0	0	**6**	0	11	79	0	1	**91**	0	0	102	27	0	**129**	0	**265**
8:45PM	11	0	16	0	**27**	0	2	0	0	0	**2**	0	20	106	0	0	**126**	0	0	94	26	0	**120**	0	**275**
Hourly Total	68	1	87	0	**156**	0	7	9	4	0	**20**	0	88	373	1	1	**463**	0	0	450	100	0	**550**	0	**1189**
9:00PM	16	0	16	0	**32**	0	0	0	1	0	**1**	0	14	87	1	0	**102**	0	0	74	27	0	**101**	0	**236**
9:15PM	30	0	14	0	**44**	0	0	2	0	0	**2**	0	21	84	0	0	**105**	0	0	94	25	0	**119**	0	**270**
9:30PM	12	0	10	0	**22**	1	0	0	0	0	**0**	0	12	76	0	0	**88**	0	0	70	23	0	**93**	0	**203**
9:45PM	14	0	12	0	**26**	0	0	0	1	0	**1**	0	23	66	0	0	**89**	0	0	74	18	0	**92**	0	**208**
Hourly Total	72	0	52	0	**124**	1	0	2	2	0	**4**	0	70	313	1	0	**384**	0	0	312	93	0	**405**	0	**917**
10:00PM	17	1	17	0	**35**	0	0	0	0	0	**0**	0	21	67	0	0	**88**	0	0	79	12	0	**91**	0	**214**
10:15PM	15	0	14	0	**29**	0	0	1	0	0	**1**	0	13	60	0	0	**73**	0	0	71	16	0	**87**	0	**190**
10:30PM	15	0	4	0	**19**	0	0	0	0	0	**0**	0	9	50	0	0	**59**	0	0	53	14	0	**67**	0	**145**
10:45PM	8	0	16	0	**24**	0	0	0	0	0	**0**	0	9	45	0	0	**54**	0	0	42	6	0	**48**	0	**126**
Hourly Total	55	1	51	0	**107**	0	0	1	0	0	**1**	0	52	222	0	0	**274**	0	0	245	48	0	**293**	0	**675**
11:00PM	12	0	15	0	**27**	0	0	0	0	0	**0**	0	7	53	0	0	**60**	0	0	43	12	0	**55**	0	**142**
11:15PM	8	0	5	0	**13**	0	0	0	0	0	**0**	0	7	33	0	0	**40**	0	0	51	12	0	**63**	0	**116**
11:30PM	12	0	8	0	**20**	0	0	0	0	0	**0**	0	5	41	0	0	**46**	0	0	44	4	0	**48**	0	**114**
11:45PM	7	0	2	0	**9**	0	0	0	0	0	**0**	0	8	32	0	0	**40**	0	0	30	9	0	**39**	0	**88**
Hourly Total	39	0	30	0	**69**	0	0	0	0	0	**0**	0	27	159	0	0	**186**	0	0	168	37	0	**205**	0	**460**
2026-03-04 12:00AM	6	0	2	0	**8**	0	0	0	0	0	**0**	0	4	32	0	0	**36**	0	0	31	6	0	**37**	0	**81**
12:15AM	4	0	9	0	**13**	0	0	0	0	0	**0**	0	3	20	0	0	**23**	0	0	23	4	0	**27**	0	**63**
12:30AM	3	0	2	0	**5**	0	0	0	0	0	**0**	0	4	21	0	0	**25**	0	0	21	4	0	**25**	0	**55**
12:45AM	4	0	2	0	**6**	0	0	0	0	0	**0**	0	5	26	0	0	**31**	0	0	17	5	0	**22**	0	**59**
Hourly Total	17	0	15	0	**32**	0	0	0	0	0	**0**	0	16	99	0	0	**115**	0	0	92	19	0	**111**	0	**258**
1:00AM	2	0	0	0	**2**	1	0	0	0	0	**0**	0	4	10	0	0	**14**	0	0	22	4	0	**26**	0	**42**
1:15AM	5	0	0	0	**5**	0	0	0	0	0	**0**	0	3	16	0	0	**19**	0	0	17	1	0	**18**	0	**42**
1:30AM	2	0	2	0	**4**	0	0	0	0	0	**0**	0	4	16	0	0	**20**	0	0	14	5	0	**19**	0	**43**
1:45AM	2	0	3	0	**5**	0	0	0	0	0	**0**	0	1	15	0	0	**16**	0	0	11	2	0	**13**	0	**34**
Hourly Total	11	0	5	0	**16**	1	0	0	0	0	**0**	0	12	57	0	0	**69**	0	0	64	12	0	**76**	0	**161**
2:00AM	1	0	2	0	**3**	0	0	0	0	0	**0**	0	2	9	0	0	**11**	0	0	9	1	0	**10**	0	**24**
2:15AM	2	0	1	0	**3**	0	0	0	0	0	**0**	0	1	13	0	0	**14**	0	0	9	2	0	**11**	0	**28**
2:30AM	5	0	4	0	**9**	0	0	0	0	0	**0**	0	1	13	0	0	**14**	0	0	15	5	0	**20**	0	**43**
2:45AM	0	0	2	0	**2**	0	0	0	0	0	**0**	0	0	11	0	0	**11**	0	0	12	1	0	**13**	0	**26**
Hourly Total	8	0	9	0	**17**	0	0	0	0	0	**0**	0	4	46	0	0	**50**	0	0	45	9	0	**54**	0	**121**

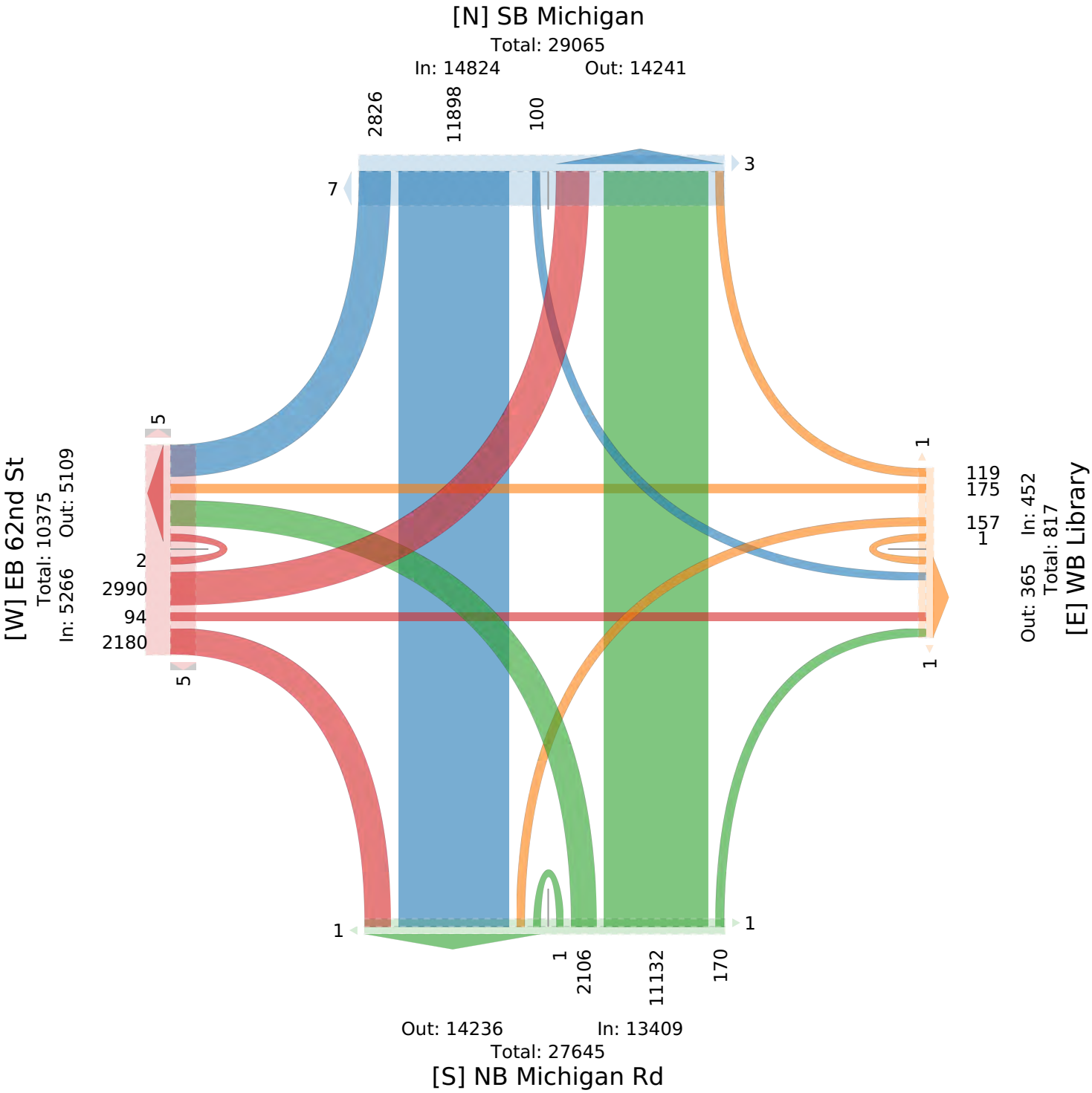
Leg	EB 62nd St						WB Library						NB Michigan Rd						SB Michigan						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
3:00AM	2	0	0	0	**2**	0	0	0	0	0	**0**	0	1	8	0	0	**9**	0	0	10	3	0	**13**	0	**24**
3:15AM	1	0	1	0	**2**	0	0	0	0	0	**0**	0	1	13	0	0	**14**	0	0	10	0	0	**10**	0	**26**
3:30AM	2	1	2	0	**5**	0	0	0	0	0	**0**	0	0	13	0	0	**13**	0	0	15	1	0	**16**	0	**34**
3:45AM	3	0	3	0	**6**	0	0	0	0	0	**0**	0	3	13	0	0	**16**	0	0	16	1	0	**17**	0	**39**
Hourly Total	8	1	6	0	**15**	0	0	0	0	0	**0**	0	5	47	0	0	**52**	0	0	51	5	0	**56**	0	**123**
4:00AM	1	0	1	0	**2**	0	0	0	0	0	**0**	0	2	22	0	0	**24**	0	0	17	1	0	**18**	0	**44**
4:15AM	3	5	7	0	**15**	0	0	0	0	0	**0**	0	2	15	0	0	**17**	0	0	18	5	0	**23**	0	**55**
4:30AM	6	0	5	0	**11**	0	0	1	0	0	**1**	0	3	27	1	0	**31**	0	0	30	2	0	**32**	0	**75**
4:45AM	6	0	6	0	**12**	0	0	0	0	0	**0**	0	15	24	0	0	**39**	0	0	25	8	0	**33**	0	**84**
Hourly Total	16	5	19	0	**40**	0	0	1	0	0	**1**	0	22	88	1	0	**111**	0	0	90	16	0	**106**	0	**258**
5:00AM	6	0	10	0	**16**	0	0	0	0	0	**0**	0	2	30	0	0	**32**	0	0	44	6	0	**50**	0	**98**
5:15AM	3	0	12	0	**15**	0	0	0	0	0	**0**	0	4	38	0	0	**42**	0	0	53	5	0	**58**	0	**115**
5:30AM	9	0	13	0	**22**	0	0	1	0	0	**1**	0	13	61	0	0	**74**	0	0	57	4	0	**61**	0	**158**
5:45AM	12	0	10	0	**22**	0	0	0	0	0	**0**	0	18	59	0	0	**77**	0	0	61	9	0	**70**	0	**169**
Hourly Total	30	0	45	0	**75**	0	0	1	0	0	**1**	0	37	188	0	0	**225**	0	0	215	24	0	**239**	0	**540**
6:00AM	10	0	8	0	**18**	0	0	2	0	0	**2**	0	11	56	1	0	**68**	0	0	71	15	0	**86**	0	**174**
6:15AM	19	0	15	0	**34**	0	0	0	0	0	**0**	0	19	80	0	0	**99**	0	0	126	13	0	**139**	0	**272**
6:30AM	25	0	29	0	**54**	0	0	0	0	0	**0**	0	37	84	0	0	**121**	0	0	149	19	0	**168**	0	**343**
6:45AM	42	0	22	1	**65**	0	2	1	0	0	**3**	0	37	73	0	0	**110**	0	0	145	26	0	**171**	0	**349**
Hourly Total	96	0	74	1	**171**	0	2	3	0	0	**5**	0	104	293	1	0	**398**	0	0	491	73	0	**564**	0	**1138**
7:00AM	52	0	39	0	**91**	0	0	2	0	0	**2**	0	29	110	0	0	**139**	0	0	177	20	0	**197**	0	**429**
7:15AM	57	0	63	0	**120**	0	2	3	0	0	**5**	0	37	167	2	0	**206**	0	0	224	21	0	**245**	0	**576**
7:30AM	71	0	77	0	**148**	0	3	2	1	0	**6**	0	43	225	2	0	**270**	0	0	293	37	0	**330**	0	**754**
7:45AM	69	1	41	0	**111**	0	0	4	0	0	**4**	0	60	273	0	0	**333**	0	0	222	30	0	**252**	0	**700**
Hourly Total	249	1	220	0	**470**	0	5	11	1	0	**17**	0	169	775	4	0	**948**	0	0	916	108	0	**1024**	0	**2459**
8:00AM	65	0	36	0	**101**	0	2	3	0	0	**5**	0	23	188	2	0	**213**	0	1	184	46	0	**231**	0	**550**
8:15AM	54	0	43	0	**97**	0	1	3	0	0	**4**	0	38	194	0	0	**232**	0	0	184	25	0	**209**	0	**542**
8:30AM	57	0	28	0	**85**	0	0	2	0	0	**2**	0	30	187	1	0	**218**	0	0	242	32	0	**274**	0	**579**
8:45AM	51	0	46	0	**97**	0	2	2	0	0	**4**	0	27	184	0	0	**211**	0	0	215	20	0	**235**	0	**547**
Hourly Total	227	0	153	0	**380**	0	5	10	0	0	**15**	0	118	753	3	0	**874**	0	1	825	123	0	**949**	0	**2218**
9:00AM	65	1	34	0	**100**	1	0	0	0	0	**0**	0	30	182	0	0	**212**	0	0	154	22	0	**176**	0	**488**
9:15AM	55	2	23	0	**80**	0	0	2	1	0	**3**	0	20	142	3	0	**165**	0	1	150	30	0	**181**	0	**429**
9:30AM	39	1	25	0	**65**	0	1	0	0	0	**1**	0	27	156	1	0	**184**	0	1	159	33	0	**193**	0	**443**
9:45AM	34	1	28	0	**63**	0	1	4	0	0	**5**	0	14	158	2	0	**174**	0	5	143	37	0	**185**	0	**427**
Hourly Total	193	5	110	0	**308**	1	2	6	1	0	**9**	0	91	638	6	0	**735**	0	7	606	122	0	**735**	0	**1787**
10:00AM	31	0	16	0	**47**	2	1	1	2	0	**4**	0	19	137	3	0	**159**	0	3	176	33	0	**212**	1	**422**
10:15AM	29	2	20	0	**51**	0	4	4	2	0	**10**	0	11	145	5	0	**161**	0	1	153	25	0	**179**	1	**401**
10:30AM	33	2	22	0	**57**	1	0	0	3	0	**3**	1	24	138	10	0	**172**	1	7	177	40	0	**224**	0	**456**
10:45AM	32	6	15	0	**53**	0	2	1	3	0	**6**	0	19	153	7	0	**179**	0	7	137	49	0	**193**	1	**431**
Hourly Total	125	10	73	0	**208**	3	7	6	10	0	**23**	1	73	573	25	0	**671**	1	18	643	147	0	**808**	3	**1710**
11:00AM	32	1	13	0	**46**	0	3	1	1	0	**5**	0	18	137	2	0	**157**	0	3	163	37	0	**203**	0	**411**
11:15AM	40	3	16	0	**59**	0	3	2	0	0	**5**	0	25	164	5	0	**194**	0	1	145	38	0	**184**	0	**442**
11:30AM	39	2	30	0	**71**	0	1	2	2	0	**5**	0	19	150	6	0	**175**	0	2	170	45	0	**217**	1	**468**
11:45AM	35	2	20	0	**57**	0	5	2	5	0	**12**	0	13	145	6	0	**164**	0	5	149	44	0	**198**	0	**431**
Hourly Total	146	8	79	0	**233**	0	12	7	8	0	**27**	0	75	596	19	0	**690**	0	11	627	164	0	**802**	1	**1752**
12:00PM	44	4	25	0	**73**	0	6	6	13	0	**25**	0	26	146	3	0	**175**	0	0	159	35	0	**194**	0	**467**
12:15PM	31	3	18	0	**52**	0	6	2	1	0	**9**	0	22	177	4	0	**203**	0	4	165	46	0	**215**	0	**479**
12:30PM	42	0	21	0	**63**	0	4	2	3	0	**9**	0	19	150	2	0	**171**	0	4	141	38	0	**183**	0	**426**
12:45PM	35	1	23	0	**59**	1	4	1	1	1	**7**	0	34	136	1	0	**171**	0	1	123	25	0	**149**	1	**386**
Hourly Total	152	8	87	0	**247**	1	20	11	18	1	**50**	0	101	609	10	0	**720**	0	9	588	144	0	**741**	1	**1758**
1:00PM	39	3	17	0	**59**	1	3	1	1	0	**5**	0	20	171	1	0	**192**	0	0	179	30	0	**209**	2	**465**
1:15PM	54	2	31	0	**87**	0	3	0	5	0	**8**	0	18	158	3	0	**179**	0	6	165	51	0	**222**	0	**496**
1:30PM	49	2	20	0	**71**	1	4	1	3	0	**8**	0	29	188	3	0	**220**	0	2	157	44	0	**203**	1	**502**
1:45PM	46	2	28	0	**76**	0	3	3	4	0	**10**	0	26	166	3	0	**195**	0	1	185	50	0	**236**	0	**517**
Hourly Total	188	9	96	0	**293**	2	13	5	13	0	**31**	0	93	683	10	0	**786**	0	9	686	175	0	**870**	3	**1980**
2:00PM	52	3	25	0	**80**	0	0	2	1	0	**3**	0	21	166	3	0	**190**	0	2	174	52	0	**228**	0	**501**
2:15PM	48	3	35	1	**87**	0	5	2	1	0	**8**	0	28	192	3	0	**223**	0	3	234	63	0	**300**	0	**618**
2:30PM	42	2	45	0	**89**	0	1	6	4	0	**11**	0	29	200	7	0	**236**	0	3	210	67	0	**280**	0	**616**
2:45PM	61	2	49	0	**112**	0	1	5	3	0	**9**	0	35	201	2	0	**238**	0	1	216	55	0	**272**	0	**631**
Hourly Total	203	10	154	1	**368**	0	7	15	9	0	**31**	0	113	759	15	0	**887**	0	9	834	237	0	**1080**	0	**2366**
3:00PM	47	2	41	0	**90**	1	3	5	2	0	**10**	0	47	171	4	0	**222**	0	3	204	71	0	**278**	0	**600**
3:15PM	49	5	31	0	**85**	0	6	7	4	0	**17**	0	64	233	10	0	**307**	0	2	246	69	0	**317**	0	**726**
3:30PM	49	2	48	0	**99**	0	5	10	2	0	**17**	0	36	201	9	0	**246**	0	2	233	67	0	**302**	0	**664**
3:45PM	53	3	46	0	**102**	0	2	8	3	0	**13**	0	44	218	7	0	**269**	0	2	240	81	0	**323**	0	**707**

Leg Direction	EB 62nd St Eastbound						WB Library Westbound						NB Michigan Rd Northbound						SB Michigan Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
Hourly Total	198	12	166	0	**376**	1	16	30	11	0	**57**	0	191	823	30	0	**1044**	0	9	923	288	0	**1220**	0	**2697**
Total	2990	94	2180	2	**5266**	10	157	175	119	1	**452**	2	2106	11132	170	1	**13409**	2	100	11898	2826	0	**14824**	10	**33951**
% Approach	56.8%	1.8%	41.4%	0%	**-**	-	34.7%	38.7%	26.3%	0.2%	**-**	-	15.7%	83.0%	1.3%	0%	**-**	-	0.7%	80.3%	19.1%	0%	**-**	-	**-**
% Total	8.8%	0.3%	6.4%	0%	**15.5%**	-	0.5%	0.5%	0.4%	0%	**1.3%**	-	6.2%	32.8%	0.5%	0%	**39.5%**	-	0.3%	35.0%	8.3%	0%	**43.7%**	-	**-**
Lights	2932	93	2132	2	**5159**	-	155	173	119	1	**448**	-	2066	10912	168	1	**13147**	-	100	11671	2769	0	**14540**	-	33294
% Lights	98.1%	98.9%	97.8%	100%	**98.0%**	-	98.7%	98.9%	100%	100%	**99.1%**	-	98.1%	98.0%	98.8%	100%	**98.0%**	-	100%	98.1%	98.0%	0%	**98.1%**	-	98.1%
Articulated Trucks	12	0	14	0	**26**	-	0	0	0	0	**0**	-	19	23	0	0	**42**	-	0	33	10	0	**43**	-	111
% Articulated Trucks	0.4%	0%	0.6%	0%	**0.5%**	-	0%	0%	0%	0%	**0%**	-	0.9%	0.2%	0%	0%	**0.3%**	-	0%	0.3%	0.4%	0%	**0.3%**	-	0.3%
Buses and Single-Unit Trucks	46	1	34	0	**81**	-	2	2	0	0	**4**	-	21	197	2	0	**220**	-	0	194	47	0	**241**	-	546
% Buses and Single-Unit Trucks	1.5%	1.1%	1.6%	0%	**1.5%**	-	1.3%	1.1%	0%	0%	**0.9%**	-	1.0%	1.8%	1.2%	0%	**1.6%**	-	0%	1.6%	1.7%	0%	**1.6%**	-	1.6%
Pedestrians	-	-	-	-	-	10	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	10	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-

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

62nd St & Michigan Rd - TMC
Tue Mar 3, 2026
Full Length (4 PM-4 PM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1383432, Location: 39.868109, -86.201787

Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US



62nd St & Michigan Rd - TMC

Tue Mar 3, 2026
PM Peak (Mar 03 2026 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1383432, Location: 39.868109, -86.201787

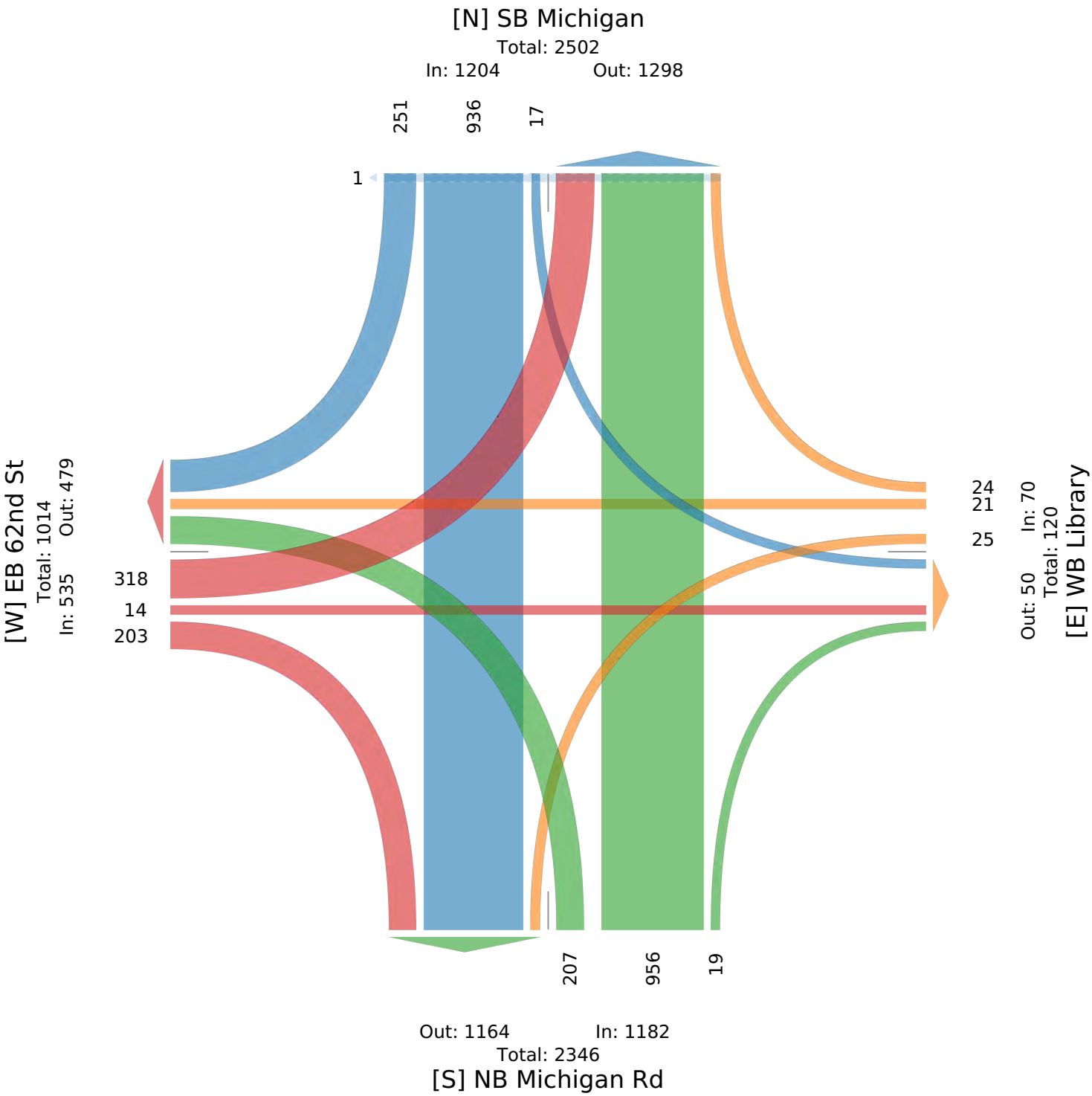
Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US

Leg Direction	EB 62nd St Eastbound						WB Library Westbound						NB Michigan Rd Northbound						SB Michigan Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2026-03-03 4:45PM	77	2	56	0	**135**	0	8	8	7	0	**23**	0	43	219	5	0	**267**	0	4	229	51	0	**284**	0	**709**
5:00PM	93	4	55	0	**152**	0	5	1	4	0	**10**	0	56	238	2	0	**296**	0	8	230	80	0	**318**	1	**776**
5:15PM	63	6	54	0	**123**	0	5	5	4	0	**14**	0	51	263	7	0	**321**	0	4	257	61	0	**322**	0	**780**
5:30PM	85	2	38	0	**125**	0	7	7	9	0	**23**	0	57	236	5	0	**298**	0	1	220	59	0	**280**	0	**726**
Total	318	14	203	0	**535**	0	25	21	24	0	**70**	0	207	956	19	0	**1182**	0	17	936	251	0	**1204**	1	**2991**
% Approach	59.4%	2.6%	37.9%	0%	**-**	-	35.7%	30.0%	34.3%	0%	**-**	-	17.5%	80.9%	1.6%	0%	**-**	-	1.4%	77.7%	20.8%	0%	**-**	-	-
% Total	10.6%	0.5%	6.8%	0%	**17.9%**	-	0.8%	0.7%	0.8%	0%	**2.3%**	-	6.9%	32.0%	0.6%	0%	**39.5%**	-	0.6%	31.3%	8.4%	0%	**40.3%**	-	-
PHF	0.855	0.583	0.906	-	**0.880**	-	0.781	0.656	0.667	-	**0.761**	-	0.908	0.909	0.679	-	**0.921**	-	0.531	0.911	0.784	-	**0.935**	-	0.959
Lights	314	14	199	0	**527**	-	24	21	24	0	**69**	-	202	951	18	0	**1171**	-	17	927	246	0	**1190**	-	2957
% Lights	98.7%	100%	98.0%	0%	**98.5%**	-	96.0%	100%	100%	0%	**98.6%**	-	97.6%	99.5%	94.7%	0%	**99.1%**	-	100%	99.0%	98.0%	0%	**98.8%**	-	98.9%
Articulated Trucks	1	0	2	0	**3**	-	0	0	0	0	**0**	-	2	0	0	0	**2**	-	0	0	0	0	**0**	-	5
% Articulated Trucks	0.3%	0%	1.0%	0%	**0.6%**	-	0%	0%	0%	0%	**0%**	-	1.0%	0%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.2%
Buses and Single-Unit Trucks	3	0	2	0	**5**	-	1	0	0	0	**1**	-	3	5	1	0	**9**	-	0	9	5	0	**14**	-	29
% Buses and Single-Unit Trucks	0.9%	0%	1.0%	0%	**0.9%**	-	4.0%	0%	0%	0%	**1.4%**	-	1.4%	0.5%	5.3%	0%	**0.8%**	-	0%	1.0%	2.0%	0%	**1.2%**	-	1.0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-

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

62nd St & Michigan Rd - TMC
Tue Mar 3, 2026
PM Peak (Mar 03 2026 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1383432, Location: 39.868109, -86.201787

Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US



62nd St & Michigan Rd - TMC

Wed Mar 4, 2026
AM Peak (Mar 04 2026 7:15AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1383432, Location: 39.868109, -86.201787

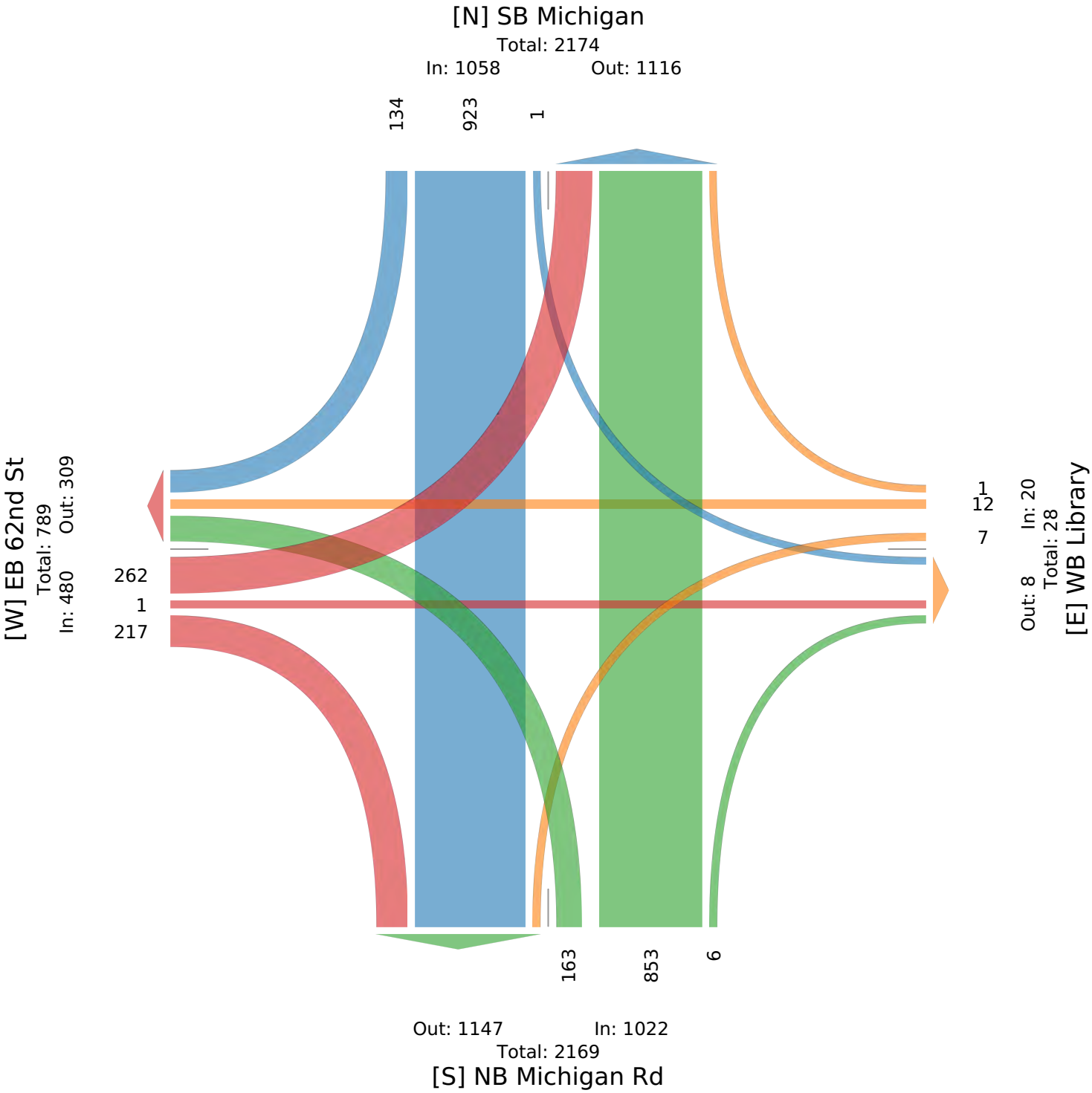
Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US

Leg Direction	EB 62nd St Eastbound						WB Library Westbound						NB Michigan Rd Northbound						SB Michigan Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2026-03-04 7:15AM	57	0	63	0	**120**	0	2	3	0	0	**5**	0	37	167	2	0	**206**	0	0	224	21	0	**245**	0	**576**
7:30AM	71	0	77	0	**148**	0	3	2	1	0	**6**	0	43	225	2	0	**270**	0	0	293	37	0	**330**	0	**754**
7:45AM	69	1	41	0	**111**	0	0	4	0	0	**4**	0	60	273	0	0	**333**	0	0	222	30	0	**252**	0	**700**
8:00AM	65	0	36	0	**101**	0	2	3	0	0	**5**	0	23	188	2	0	**213**	0	1	184	46	0	**231**	0	**550**
Total	262	1	217	0	**480**	0	7	12	1	0	**20**	0	163	853	6	0	**1022**	0	1	923	134	0	**1058**	0	**2580**
% Approach	54.6%	0.2%	45.2%	0%	**-**	-	35.0%	60.0%	5.0%	0%	**-**	-	15.9%	83.5%	0.6%	0%	**-**	-	0.1%	87.2%	12.7%	0%	**-**	-	-
% Total	10.2%	0%	8.4%	0%	**18.6%**	-	0.3%	0.5%	0%	0%	**0.8%**	-	6.3%	33.1%	0.2%	0%	**39.6%**	-	0%	35.8%	5.2%	0%	**41.0%**	-	-
PHF	0.923	0.250	0.705	-	**0.811**	-	0.583	0.750	0.250	-	**0.833**	-	0.679	0.781	0.750	-	**0.767**	-	0.250	0.788	0.728	-	**0.802**	-	0.855
Lights	260	1	215	0	**476**	-	6	11	1	0	**18**	-	163	825	5	0	**993**	-	1	909	132	0	**1042**	-	2529
% Lights	99.2%	100%	99.1%	0%	**99.2%**	-	85.7%	91.7%	100%	0%	**90.0%**	-	100%	96.7%	83.3%	0%	**97.2%**	-	100%	98.5%	98.5%	0%	**98.5%**	-	98.0%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	7	0	0	**7**	-	0	2	2	0	**4**	-	11
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.8%	0%	0%	**0.7%**	-	0%	0.2%	1.5%	0%	**0.4%**	-	0.4%
Buses and Single-Unit Trucks	2	0	2	0	**4**	-	1	1	0	0	**2**	-	0	21	1	0	**22**	-	0	12	0	0	**12**	-	40
% Buses and Single-Unit Trucks	0.8%	0%	0.9%	0%	**0.8%**	-	14.3%	8.3%	0%	0%	**10.0%**	-	0%	2.5%	16.7%	0%	**2.2%**	-	0%	1.3%	0%	0%	**1.1%**	-	1.6%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

62nd St & Michigan Rd - TMC
Wed Mar 4, 2026
AM Peak (Mar 04 2026 7:15AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1383432, Location: 39.868109, -86.201787

Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US



62nd St & Michigan Rd - TMC

Wed Mar 4, 2026
Midday Peak (Mar 04 2026 1PM - 2 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1383432, Location: 39.868109, -86.201787

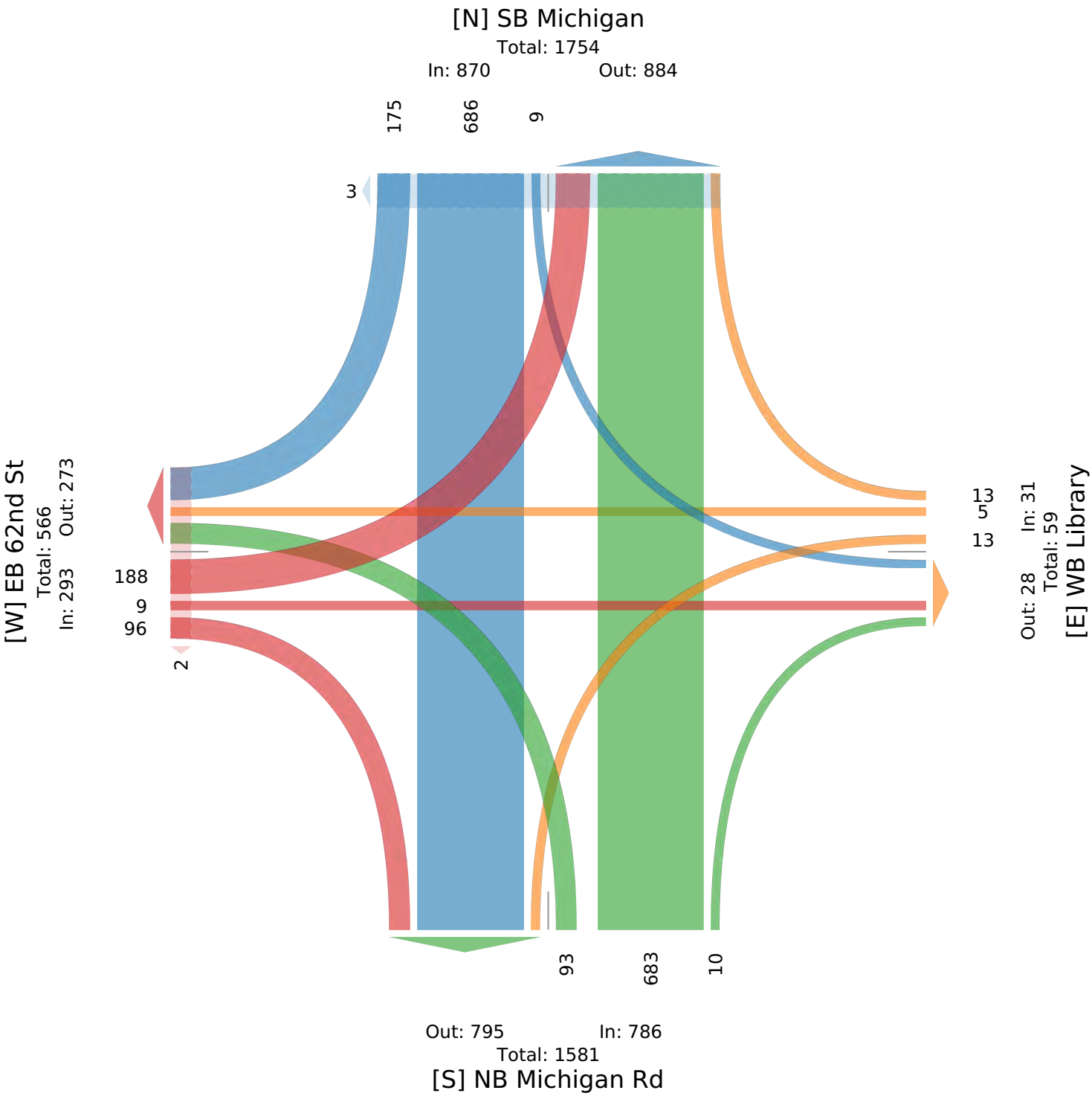
Provided by: City of Indianapolis
200 E Washington St, Suite 1401,
Indianapolis, IN, 46204, US

Leg Direction	EB 62nd St Eastbound						WB Library Westbound						NB Michigan Rd Northbound						SB Michigan Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2026-03-04 1:00PM	39	3	17	0	**59**	1	3	1	1	0	**5**	0	20	171	1	0	**192**	0	0	179	30	0	**209**	2	**465**
1:15PM	54	2	31	0	**87**	0	3	0	5	0	**8**	0	18	158	3	0	**179**	0	6	165	51	0	**222**	0	**496**
1:30PM	49	2	20	0	**71**	1	4	1	3	0	**8**	0	29	188	3	0	**220**	0	2	157	44	0	**203**	1	**502**
1:45PM	46	2	28	0	**76**	0	3	3	4	0	**10**	0	26	166	3	0	**195**	0	1	185	50	0	**236**	0	**517**
Total	188	9	96	0	**293**	2	13	5	13	0	**31**	0	93	683	10	0	**786**	0	9	686	175	0	**870**	3	**1980**
% Approach	64.2%	3.1%	32.8%	0%	**-**	-	41.9%	16.1%	41.9%	0%	**-**	-	11.8%	86.9%	1.3%	0%	**-**	-	1.0%	78.9%	20.1%	0%	**-**	-	-
% Total	9.5%	0.5%	4.8%	0%	**14.8%**	-	0.7%	0.3%	0.7%	0%	**1.6%**	-	4.7%	34.5%	0.5%	0%	**39.7%**	-	0.5%	34.6%	8.8%	0%	**43.9%**	-	-
PHF	0.870	0.750	0.774	-	**0.842**	-	0.813	0.417	0.650	-	**0.775**	-	0.802	0.908	0.833	-	**0.893**	-	0.375	0.927	0.858	-	**0.922**	-	0.957
Lights	183	9	94	0	**286**	-	13	5	13	0	**31**	-	91	665	10	0	**766**	-	9	669	173	0	**851**	-	1934
% Lights	97.3%	100%	97.9%	0%	**97.6%**	-	100%	100%	100%	0%	**100%**	-	97.8%	97.4%	100%	0%	**97.5%**	-	100%	97.5%	98.9%	0%	**97.8%**	-	97.7%
Articulated Trucks	4	0	1	0	**5**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	1	1	0	**2**	-	9
% Articulated Trucks	2.1%	0%	1.0%	0%	**1.7%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0%	0.1%	0.6%	0%	**0.2%**	-	0.5%
Buses and Single-Unit Trucks	1	0	1	0	**2**	-	0	0	0	0	**0**	-	2	16	0	0	**18**	-	0	16	1	0	**17**	-	37
% Buses and Single-Unit Trucks	0.5%	0%	1.0%	0%	**0.7%**	-	0%	0%	0%	0%	**0%**	-	2.2%	2.3%	0%	0%	**2.3%**	-	0%	2.3%	0.6%	0%	**2.0%**	-	1.9%
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-

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

62nd St & Michigan Rd - TMC
Wed Mar 4, 2026
Midday Peak (Mar 04 2026 1PM - 2 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)
All Movements
ID: 1383432, Location: 39.868109, -86.201787

Provided by: City of Indianapolis
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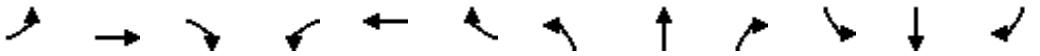


Attachment C
Traffic Analysis

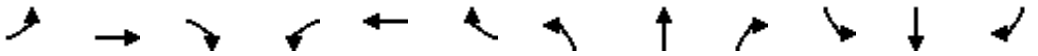
Intersection	Type	MOE	Existing 2026									
			2026 AM Peak Hour					2026 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Michigan Rd & 62nd St	Signal	*LOS*	C	B	B	C	**C**	C	B	B	C	**C**
		Delay (sec/veh)	23.9	17.1	14.6	33.0	**23.9**	31.8	17.4	18.6	33.5	**26.9**
		Queue Length 95th (ft)	182	21	225	443		290	52	255	530	
		v/c Ratio	0.78	0.05	0.64	0.87		0.82	0.15	0.77	0.84	
		LOS-F Movements	---	---	---	---		---	---	---	---	

Intersection	Type	MOE	No-Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Michigan Rd & 62nd St	Signal	*LOS*	**F**	C	C	E	**D**	**F**	C	D	**F**	**E**
		Delay (sec/veh)	80.2	31.9	29.0	66.1	**53.7**	98.6	23.5	46.4	94.4	**74.5**
		Queue Length 95th (ft)	535	44	374	818		563	81	385	799	
		v/c Ratio	1.14	0.09	1.03	1.04		1.22	0.33	1.29	1.13	
		LOS-F Movements	EBL	---	NBL	---		EBL/EBT	---	NBL	SBT	

Intersection	Type	MOE	Build 2050									
			2026 AM Peak Hour					2026 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Michigan Rd & 62nd St	Signal	*LOS*	**F**	C	D	E	**E**	**F**	C	D	**F**	**F**
		Delay (sec/veh)	100.2	33.6	38.6	66.1	**61.3**	114.4	29.5	49.9	116.1	**87.6**
		Queue Length 95th (ft)	1104	58	1222	879		1167	98	1280	1440	
		v/c Ratio	1.22	0.10	1.18	1.04		1.25	0.36	1.29	1.17	
		LOS-F Movements	EBT/L	---	NBL	---		EBT/L	---	NBL	SBT	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1	207	7	11	1	156	815	6	1	882	128
Future Volume (vph)	250	1	207	7	11	1	156	815	6	1	882	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	60		25	125		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.994			0.999			0.981	
Flt Protected		0.953			0.982		0.950			0.950		
Satd. Flow (prot)	0	1733	1546	0	1633	0	1745	3381	0	1745	3360	0
Flt Permitted		0.711			0.888		0.108			0.300		
Satd. Flow (perm)	0	1293	1546	0	1476	0	198	3381	0	551	3360	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			241		1			1			21	
Link Speed (mph)		40			30			45			45	
Link Distance (ft)		521			254			651			779	
Travel Time (s)		8.9			5.8			9.9			11.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	1%	0%	1%	14%	8%	0%	0%	3%	17%	0%	2%	1%
Adj. Flow (vph)	291	1	241	8	13	1	181	948	7	1	1026	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	292	241	0	22	0	181	955	0	1	1175	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			25			50			50	
Two way Left Turn Lane								Yes				
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1		1		1	2		1	2	
Detector Template												
Leading Detector (ft)		50	50		50		50	301		50	301	
Trailing Detector (ft)		0	0		0		0	0		0	0	
Detector 1 Position(ft)		0	0		0		0	0		0	0	
Detector 1 Size(ft)		50	50		50		50	50		50	50	
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		3.0	3.0		3.0		3.0	0.0		0.0	0.0	
Detector 2 Position(ft)								295			295	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	23.0	23.0	23.0	23.0		10.0	21.2		24.2	24.2	
Total Split (s)	13.0	23.0	23.0	23.0	23.0		12.0	32.0		32.0	32.0	
Total Split (%)	16.3%	28.8%	28.8%	28.8%	28.8%		15.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	8.0	18.0	18.0	18.0	18.0		7.0	25.8		25.8	25.8	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	4.7		4.7	4.7	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	6.2		6.2	6.2	
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	
Walk Time (s)		7.0	7.0	7.0	7.0					7.0	7.0	
Flash Don't Walk (s)		11.0	11.0	11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0					0	0	
Act Effct Green (s)		23.2	23.2		23.2		46.8	45.6		31.9	31.9	
Actuated g/C Ratio		0.29	0.29		0.29		0.59	0.57		0.40	0.40	
v/c Ratio		0.78	0.39		0.05		0.64	0.50		0.00	0.87	
Control Delay (s/veh)		40.0	4.5		17.1		25.0	12.6		18.0	33.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		40.0	4.5		17.1		25.0	12.6		18.0	33.0	
LOS		D	A		B		C	B		B	C	
Approach Delay (s/veh)		23.9			17.1			14.6			33.0	
Approach LOS		C			B			B			C	
Queue Length 50th (ft)		133	0		8		38	141		0	284	
Queue Length 95th (ft)		182	37		21		#134	225		3	#443	
Internal Link Dist (ft)		441			174			571			699	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		501	746		441		283	1927		219	1354	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.58	0.32		0.05		0.64	0.50		0.00	0.87	

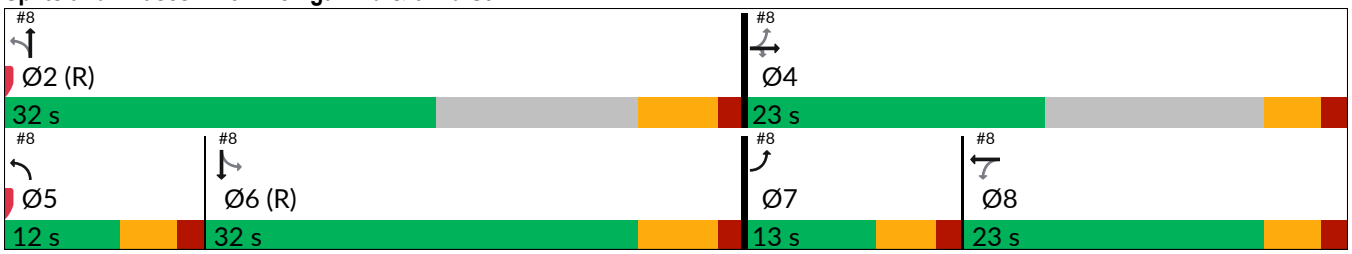
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay (s/veh): 23.9		Intersection LOS: C	
Intersection Capacity Utilization 71.2%		ICU Level of Service C	

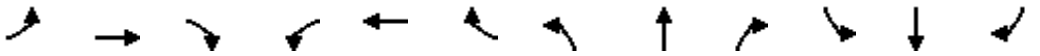
Analysis Period (min) 15

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

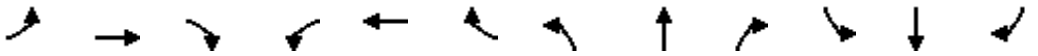
Queue shown is maximum after two cycles.

Splits and Phases: 8: Michigan Rd & 62nd St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	304	13	194	24	20	23	198	914	18	16	895	240
Future Volume (vph)	304	13	194	24	20	23	198	914	18	16	895	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	60		25	125		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.954			0.997			0.968	
Flt Protected		0.954			0.982		0.950			0.950		
Satd. Flow (prot)	0	1736	1531	0	1696	0	1711	3442	0	1745	3338	0
Flt Permitted		0.723			0.835		0.088			0.295		
Satd. Flow (perm)	0	1315	1531	0	1442	0	158	3442	0	542	3338	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			202		22			3			38	
Link Speed (mph)		40			30			45			45	
Link Distance (ft)		521			254			651			779	
Travel Time (s)		8.9			5.8			9.9			11.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	2%	4%	0%	0%	2%	1%	5%	0%	1%	2%
Adj. Flow (vph)	317	14	202	25	21	24	206	952	19	17	932	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	331	202	0	70	0	206	971	0	17	1182	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			25			50			50	
Two way Left Turn Lane								Yes				
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1		1		1	2		1	2	
Detector Template												
Leading Detector (ft)		50	50		50		50	301		50	301	
Trailing Detector (ft)		0	0		0		0	0		0	0	
Detector 1 Position(ft)		0	0		0		0	0		0	0	
Detector 1 Size(ft)		50	50		50		50	50		50	50	
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		3.0	3.0		3.0		3.0	0.0		0.0	0.0	
Detector 2 Position(ft)								295			295	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	20.0	20.0	20.0	20.0		10.0	21.2		24.2	24.2	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		18.0	42.0		42.0	42.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		18.0%	42.0%		42.0%	42.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		13.0	35.8		35.8	35.8	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	4.7		4.7	4.7	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	6.2		6.2	6.2	
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	
Walk Time (s)		7.0	7.0	7.0	7.0					7.0	7.0	
Flash Don't Walk (s)		8.0	8.0	8.0	8.0					11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0					0	0	
Act Effct Green (s)		30.9	30.9		30.9		59.1	57.9		41.7	41.7	
Actuated g/C Ratio		0.31	0.31		0.31		0.59	0.58		0.42	0.42	
v/c Ratio		0.82	0.33		0.15		0.77	0.49		0.08	0.84	
Control Delay (s/veh)		48.2	4.9		17.4		39.5	14.1		22.4	33.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		48.2	4.9		17.4		39.5	14.1		22.4	33.6	
LOS		D	A		B		D	B		C	C	
Approach Delay (s/veh)		31.8			17.4			18.6			33.5	
Approach LOS		C			B			B			C	
Queue Length 50th (ft)		184	0		21		80	195		7	371	
Queue Length 95th (ft)		290	48		52		#182	255		23	#530	
Internal Link Dist (ft)		441			174			571			699	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		460	667		460		295	1995		226	1414	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.72	0.30		0.15		0.70	0.49		0.08	0.84	

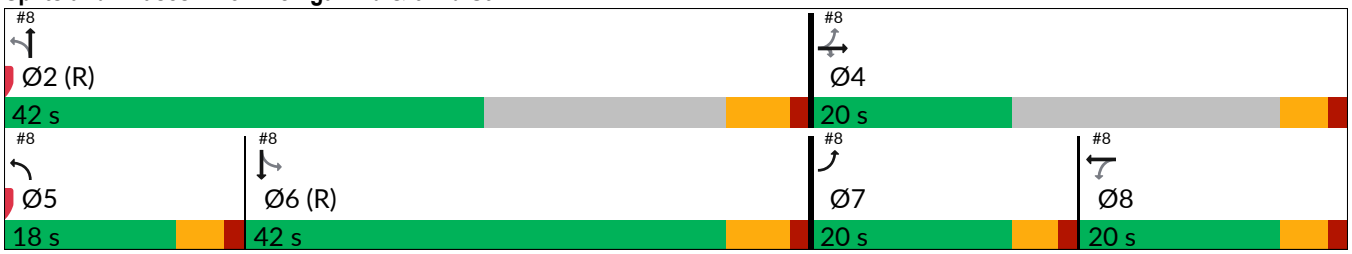
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay (s/veh): 26.9		Intersection LOS: C	
Intersection Capacity Utilization 81.1%		ICU Level of Service D	

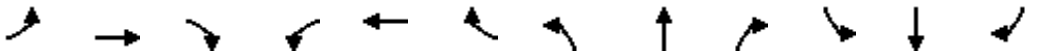
Analysis Period (min) 15

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

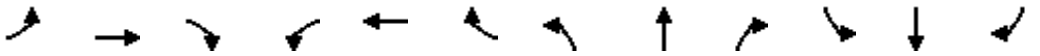
Queue shown is maximum after two cycles.

Splits and Phases: 8: Michigan Rd & 62nd St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	1	294	10	16	1	222	1158	9	1	1253	182
Future Volume (vph)	355	1	294	10	16	1	222	1158	9	1	1253	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	60		25	125		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.996			0.999			0.981	
Flt Protected		0.952			0.982		0.950			0.950		
Satd. Flow (prot)	0	1731	1546	0	1633	0	1745	3381	0	1745	3360	0
Flt Permitted		0.703			0.746		0.065			0.181		
Satd. Flow (perm)	0	1278	1546	0	1241	0	119	3381	0	332	3360	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216		1			1			18	
Link Speed (mph)		40			30			45			45	
Link Distance (ft)		521			254			651			779	
Travel Time (s)		8.9			5.8			9.9			11.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	1%	0%	1%	14%	8%	0%	0%	3%	17%	0%	2%	1%
Adj. Flow (vph)	413	1	342	12	19	1	258	1347	10	1	1457	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	414	342	0	32	0	258	1357	0	1	1669	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			25			50			50	
Two way Left Turn Lane								Yes				
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1		1		1	2		1	2	
Detector Template												
Leading Detector (ft)		50	50		50		50	301		50	301	
Trailing Detector (ft)		0	0		0		0	0		0	0	
Detector 1 Position(ft)		0	0		0		0	0		0	0	
Detector 1 Size(ft)		50	50		50		50	50		50	50	
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		3.0	3.0		3.0		3.0	0.0		0.0	0.0	
Detector 2 Position(ft)								295			295	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	23.0	23.0	23.0	23.0		10.0	21.2		24.2	24.2	
Total Split (s)	10.0	39.0	39.0	29.0	29.0		18.0	81.0		63.0	63.0	
Total Split (%)	8.3%	32.5%	32.5%	24.2%	24.2%		15.0%	67.5%		52.5%	52.5%	
Maximum Green (s)	5.0	34.0	34.0	24.0	24.0		13.0	74.8		56.8	56.8	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	4.7		4.7	4.7	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	6.2		6.2	6.2	
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	
Walk Time (s)		7.0	7.0	7.0	7.0					7.0	7.0	
Flash Don't Walk (s)		11.0	11.0	11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0					0	0	
Act Effct Green (s)		34.0	34.0		34.0		76.0	74.8		56.8	56.8	
Actuated g/C Ratio		0.28	0.28		0.28		0.63	0.62		0.47	0.47	
v/c Ratio		1.14	0.58		0.09		1.03	0.64		0.01	1.04	
Control Delay (s/veh)		132.0	17.4		31.9		97.5	16.0		17.0	66.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		132.0	17.4		31.9		97.5	16.0		17.0	66.1	
LOS		F	B		C		F	B		B	E	
Approach Delay (s/veh)		80.2			31.9			29.0			66.1	
Approach LOS		F			C			C			E	
Queue Length 50th (ft)		~375	79		19		~161	332		0	~745	
Queue Length 95th (ft)		#535	161		44		#307	374		4	#818	
Internal Link Dist (ft)		441			174			571			699	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		362	592		352		251	2107		157	1599	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.14	0.58		0.09		1.03	0.64		0.01	1.04	

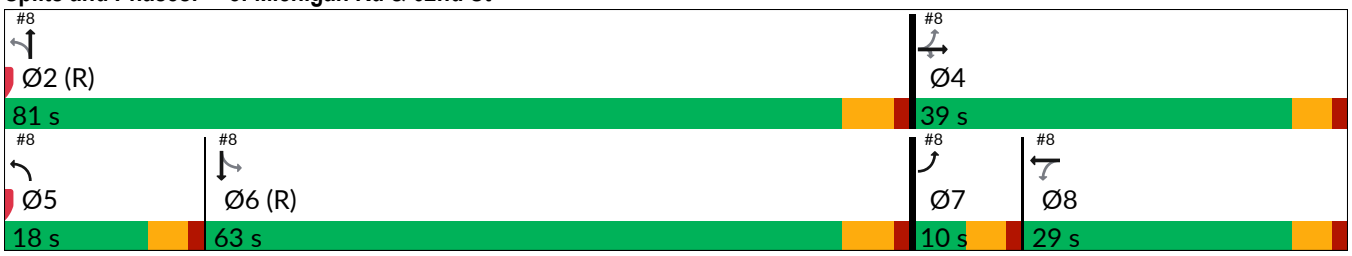
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay (s/veh): 53.7		Intersection LOS: D	
Intersection Capacity Utilization 92.6%		ICU Level of Service F	

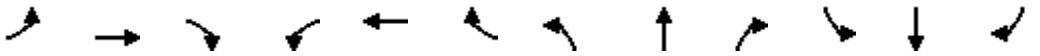
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

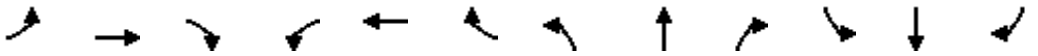
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Michigan Rd & 62nd St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	432	18	276	34	28	33	281	1299	26	23	1272	341
Future Volume (vph)	432	18	276	34	28	33	281	1299	26	23	1272	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	60		25	125		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.953			0.997			0.968	
Flt Protected		0.954			0.982		0.950			0.950		
Satd. Flow (prot)	0	1736	1531	0	1695	0	1711	3442	0	1745	3338	0
Flt Permitted		0.684			0.530		0.082			0.158		
Satd. Flow (perm)	0	1244	1531	0	915	0	148	3442	0	290	3338	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			201		24			3			43	
Link Speed (mph)		40			30			45			45	
Link Distance (ft)		521			254			651			779	
Travel Time (s)		8.9			5.8			9.9			11.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	2%	4%	0%	0%	2%	1%	5%	0%	1%	2%
Adj. Flow (vph)	450	19	288	35	29	34	293	1353	27	24	1325	355
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	469	288	0	98	0	293	1380	0	24	1680	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			25			50			50	
Two way Left Turn Lane								Yes				
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1		1		1	2		1	2	
Detector Template												
Leading Detector (ft)		50	50		50		50	301		50	301	
Trailing Detector (ft)		0	0		0		0	0		0	0	
Detector 1 Position(ft)		0	0		0		0	0		0	0	
Detector 1 Size(ft)		50	50		50		50	50		50	50	
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		3.0	3.0		3.0		3.0	0.0		0.0	0.0	
Detector 2 Position(ft)								295			295	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	20.0	20.0	20.0	20.0		10.0	21.2		24.2	24.2	
Total Split (s)	10.0	36.0	36.0	26.0	26.0		14.0	64.0		50.0	50.0	
Total Split (%)	10.0%	36.0%	36.0%	26.0%	26.0%		14.0%	64.0%		50.0%	50.0%	
Maximum Green (s)	5.0	31.0	31.0	21.0	21.0		9.0	57.8		43.8	43.8	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	4.7		4.7	4.7	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	6.2		6.2	6.2	
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	
Walk Time (s)		7.0	7.0	7.0	7.0					7.0	7.0	
Flash Don't Walk (s)		8.0	8.0	8.0	8.0					11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0					0	0	
Act Effct Green (s)		31.0	31.0		31.0		59.0	57.8		43.8	43.8	
Actuated g/C Ratio		0.31	0.31		0.31		0.59	0.58		0.44	0.44	
v/c Ratio		1.22	0.47		0.33		1.29	0.69		0.19	1.13	
Control Delay (s/veh)		152.1	11.6		23.5		184.1	17.2		22.0	95.5	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		152.1	11.6		23.5		184.1	17.2		22.0	95.5	
LOS		F	B		C		F	B		C	F	
Approach Delay (s/veh)		98.6			23.5			46.4			94.4	
Approach LOS		F			C			D			F	
Queue Length 50th (ft)		~368	41		35		~192	306		9	~656	
Queue Length 95th (ft)		#563	115		81		#362	385		29	#799	
Internal Link Dist (ft)		441			174			571			699	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		385	613		300		227	1990		127	1486	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.22	0.47		0.33		1.29	0.69		0.19	1.13	

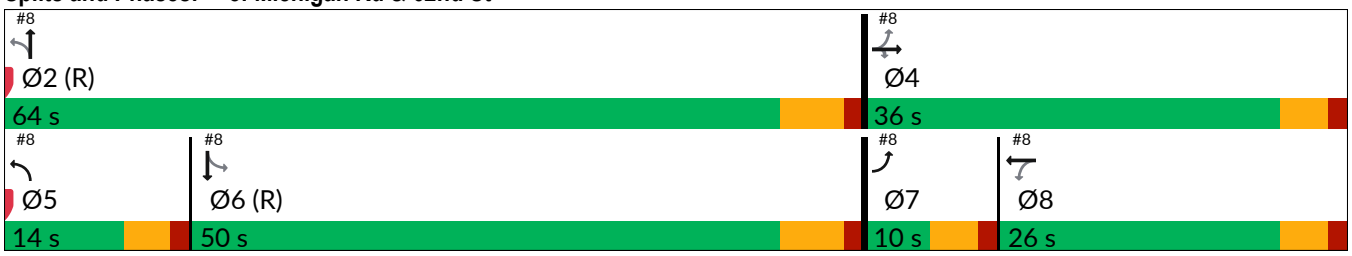
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.29			
Intersection Signal Delay (s/veh): 74.5		Intersection LOS: E	
Intersection Capacity Utilization 106.7%		ICU Level of Service G	

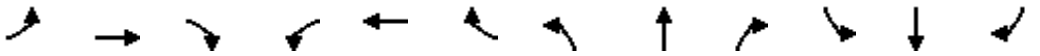
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

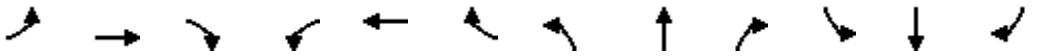
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Michigan Rd & 62nd St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	1	294	10	16	1	222	1158	9	1	1253	182
Future Volume (vph)	355	1	294	10	16	1	222	1158	9	1	1253	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		90	0		0	100		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		80	25		25	60		25	125		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.996			0.999			0.981	
Flt Protected		0.952			0.982		0.950			0.950		
Satd. Flow (prot)	0	1731	1546	0	1633	0	1745	3381	0	1745	3360	0
Flt Permitted		0.703			0.697		0.950			0.193		
Satd. Flow (perm)	0	1278	1546	0	1159	0	1745	3381	0	354	3360	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155		1			1			18	
Link Speed (mph)		40			30			45			45	
Link Distance (ft)		1059			515			1162			1329	
Travel Time (s)		18.1			11.7			17.6			20.1	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	1%	0%	1%	14%	8%	0%	0%	3%	17%	0%	2%	1%
Adj. Flow (vph)	413	1	342	12	19	1	258	1347	10	1	1457	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	414	342	0	32	0	258	1357	0	1	1669	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		-12			0			0			0	
Crosswalk Width(ft)		25			25			50			50	
Two way Left Turn Lane								Yes				
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1		1		1	2		1	2	
Detector Template												
Leading Detector (ft)		50	50		50		50	301		50	301	
Trailing Detector (ft)		0	0		0		0	0		0	0	
Detector 1 Position(ft)		0	0		0		0	0		0	0	
Detector 1 Size(ft)		50	50		50		50	50		50	50	
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		3.0	3.0		3.0		3.0	0.0		0.0	0.0	
Detector 2 Position(ft)								295			295	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		Prot	NA		Perm	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	7	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	23.0	23.0	23.0	23.0		10.0	21.2		24.2	24.2	
Total Split (s)	10.0	37.0	37.0	27.0	27.0		20.0	83.0		63.0	63.0	
Total Split (%)	8.3%	30.8%	30.8%	22.5%	22.5%		16.7%	69.2%		52.5%	52.5%	
Maximum Green (s)	5.0	32.0	32.0	22.0	22.0		15.0	76.8		56.8	56.8	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	4.7		4.7	4.7	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	6.2		6.2	6.2	
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	
Walk Time (s)		7.0	7.0	7.0	7.0					7.0	7.0	
Flash Don't Walk (s)		11.0	11.0	11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0					0	0	
Act Effct Green (s)		32.0	32.0		32.0		15.0	76.8		56.8	56.8	
Actuated g/C Ratio		0.27	0.27		0.27		0.13	0.64		0.47	0.47	
v/c Ratio		1.22	0.65		0.10		1.18	0.63		0.01	1.04	
Control Delay (s/veh)		160.3	27.4		33.6		164.9	14.6		17.0	66.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		160.3	27.4		33.6		164.9	14.6		17.0	66.1	
LOS		F	C		C		F	B		B	E	
Approach Delay (s/veh)		100.2			33.6			38.6			66.1	
Approach LOS		F			C			D			E	
Queue Length 50th (ft)		~393	129		19		~240	315		0	~745	
Queue Length 95th (ft)		#552	217		45		#384	355		4	#818	
Internal Link Dist (ft)		979			435			1082			1249	
Turn Bay Length (ft)			90				100			100		
Base Capacity (vph)		340	525		309		218	2164		167	1599	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.22	0.65		0.10		1.18	0.63		0.01	1.04	

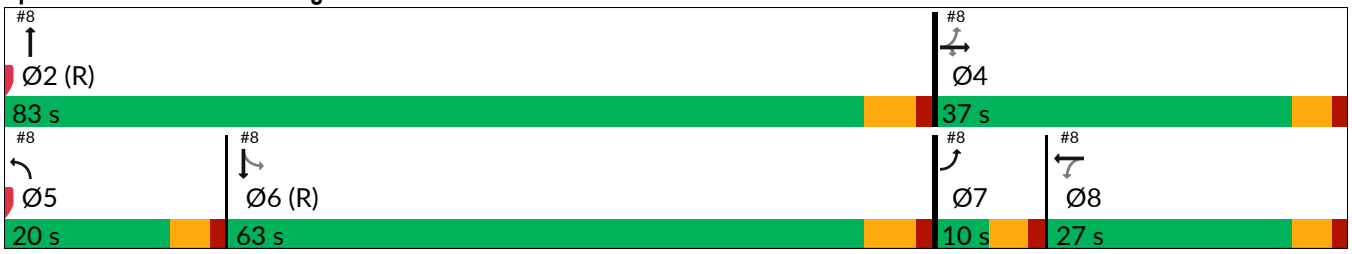
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of 1st Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.22			
Intersection Signal Delay (s/veh): 61.3		Intersection LOS: E	
Intersection Capacity Utilization 92.6%		ICU Level of Service F	

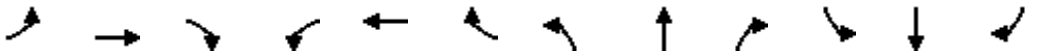
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

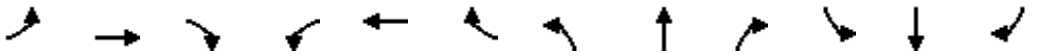
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Michigan Rd & 62nd St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	432	18	276	34	28	33	281	1299	26	23	1272	341
Future Volume (vph)	432	18	276	34	28	33	281	1299	26	23	1272	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		90	0		0	100		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		80	25		25	60		25	125		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.953			0.997			0.968	
Flt Protected		0.954			0.982		0.950			0.950		
Satd. Flow (prot)	0	1736	1531	0	1695	0	1711	3442	0	1745	3338	0
Flt Permitted		0.668			0.492		0.950			0.175		
Satd. Flow (perm)	0	1215	1531	0	849	0	1711	3442	0	321	3338	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123		21			3			35	
Link Speed (mph)		40			30			45			45	
Link Distance (ft)		1059			515			1162			1329	
Travel Time (s)		18.1			11.7			17.6			20.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	2%	4%	0%	0%	2%	1%	5%	0%	1%	2%
Adj. Flow (vph)	450	19	288	35	29	34	293	1353	27	24	1325	355
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	469	288	0	98	0	293	1380	0	24	1680	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		-12			0			0			0	
Crosswalk Width(ft)		25			25			50			50	
Two way Left Turn Lane								Yes				
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1		1		1	2		1	2	
Detector Template												
Leading Detector (ft)		50	50		50		50	301		50	301	
Trailing Detector (ft)		0	0		0		0	0		0	0	
Detector 1 Position(ft)		0	0		0		0	0		0	0	
Detector 1 Size(ft)		50	50		50		50	50		50	50	
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		3.0	3.0		3.0		3.0	0.0		0.0	0.0	
Detector 2 Position(ft)								295			295	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		Prot	NA		Perm	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	7	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	20.0	20.0	20.0	20.0		10.0	21.2		24.2	24.2	
Total Split (s)	10.0	42.0	42.0	32.0	32.0		21.0	78.0		57.0	57.0	
Total Split (%)	8.3%	35.0%	35.0%	26.7%	26.7%		17.5%	65.0%		47.5%	47.5%	
Maximum Green (s)	5.0	37.0	37.0	27.0	27.0		16.0	71.8		50.8	50.8	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	4.7		4.7	4.7	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	6.2		6.2	6.2	
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	
Walk Time (s)		7.0	7.0	7.0	7.0					7.0	7.0	
Flash Don't Walk (s)		8.0	8.0	8.0	8.0					11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0					0	0	
Act Effct Green (s)		37.0	37.0		37.0		16.0	71.8		50.8	50.8	
Actuated g/C Ratio		0.31	0.31		0.31		0.13	0.60		0.42	0.42	
v/c Ratio		1.25	0.52		0.36		1.29	0.67		0.18	1.17	
Control Delay (s/veh)		170.6	22.7		29.5		199.2	18.2		25.9	117.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		170.6	22.7		29.5		199.2	18.2		25.9	117.4	
LOS		F	C		C		F	B		C	F	
Approach Delay (s/veh)		114.4			29.5			49.9			116.1	
Approach LOS		F			C			D			F	
Queue Length 50th (ft)		~454	104		46		~293	357		11	~818	
Queue Length 95th (ft)		#662	194		97		#472	434		33	#961	
Internal Link Dist (ft)		979			435			1082			1249	
Turn Bay Length (ft)			90				100			100		
Base Capacity (vph)		374	557		276		228	2060		135	1433	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.25	0.52		0.36		1.29	0.67		0.18	1.17	

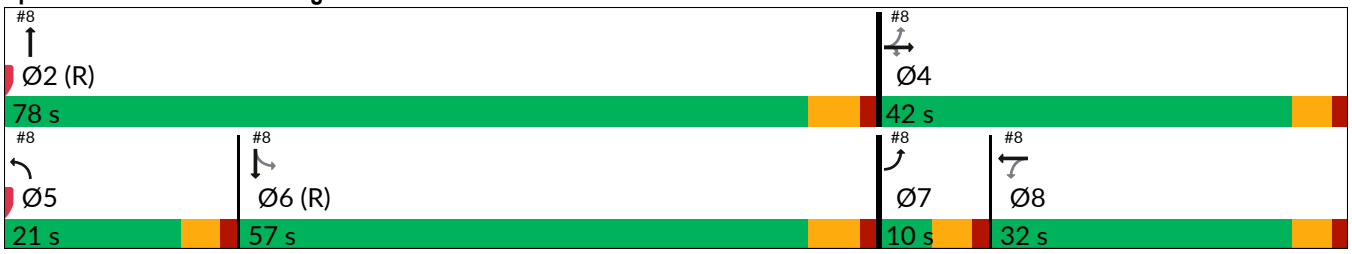
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.29			
Intersection Signal Delay (s/veh): 87.6		Intersection LOS: F	
Intersection Capacity Utilization 106.7%		ICU Level of Service G	

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Michigan Rd & 62nd St



Intersection: 8: Michigan Rd & 62nd St

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	964	170	81	160	1045	1013	15	822	763
Average Queue (ft)	649	157	20	158	759	691	1	499	430
95th Queue (ft)	1104	213	58	169	1222	1172	6	879	799
Link Distance (ft)	989		450		1081	1081		1235	1235
Upstream Blk Time (%)	17				14	7		0	0
Queuing Penalty (veh)	0				0	0		0	0
Storage Bay Dist (ft)		90		100			100		
Storage Blk Time (%)	67	14		86	5			47	
Queuing Penalty (veh)	197	51		497	11			0	

Intersection: 8: Michigan Rd & 62nd St

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	1036	170	114	160	1123	1121	190	1283	1282
Average Queue (ft)	969	151	51	159	1061	1035	30	1229	1227
95th Queue (ft)	1167	225	98	161	1239	1280	129	1421	1440
Link Distance (ft)	989		450		1081	1081		1235	1235
Upstream Blk Time (%)	65				74	37		64	64
Queuing Penalty (veh)	0				0	0		0	0
Storage Bay Dist (ft)		90		100			100		
Storage Blk Time (%)	70	8		90	15		0	55	
Queuing Penalty (veh)	194	37		583	41		0	13	

Attachment D
Virtual Meeting Minutes & Field Check Minutes

CORRADINO LLC
200 S. Meridian St. Suite 330
Indianapolis, IN 46225

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

Field Check Notes for RSA at Michigan Road & 62nd Street

Date:	5/28/2026
Des. No.:	n/a

Reviewer Information:	
Primary Author: James Mark Rinehart	Agency/Firm Name: Corradino LLC
Phone Numbers: (317) 488-2363	Agency: Indianapolis Metropolitan Planning Organization
	Email Address: jrinehart@corradino.com

Attendees:

- Jill Palmer, Indy DPW
- Jason Bowers, Indy DPW
- Jennifer Dunn, IMPO
- James Mark Rinehart, Corradino
- David Cleveland, Corradino

Purpose of Field Check:

The purpose of this field check was to review the crash history at the Michigan Road & 62nd Street intersection, evaluate the current roadway conditions, observe traffic patterns, and collaborate with representatives from Local Public Agencies (LPA) and Law Enforcement to identify safety countermeasures. Participants in the field check were provided with a Preliminary Findings Report summarizing the crash history at the intersection, 24-hour traffic counts, existing traffic conditions, and a future no-build analysis during the field visit.

The goal of the field check was to identify near-term and long-term improvements and build consensus with the LPAs and Local Law Enforcement on the recommendations.

Recommendations from the field check will serve as the final recommendations for the RSA and will be included in IMPO's Safety Study.

Project Location:

Location: Intersection of Michigan Road & 62nd Street

INDOT District: Greenfield				City: Indianapolis	County: Marion
Lat & Long (BOP)	39.868070	-86.201753	Urban/Rural - **URBAN**	Functional Class of Major Roadway: Other Principal Arterial	
Traffic Control Type: Signalized				Posted Speed Limit: Michigan Rd – 45mph; 62nd St. – 30mph	

Site Observations

- Corradino staff shared that nine of 12 right-angle crashes that occurred at the intersection were reported to have occurred at night. An initial reaction would be to provide street lights; however, a deeper read of the police report narratives reveals that the signal acts as a flashing red-yellow beacon in the evening, and the crashes are related to vehicles on the side street approach pulling out in front of the mainline approaching vehicles, incorrectly assuming they had a flashing red also. A more detailed breakdown of the police reports is provided in the RSA's Preliminary Findings Report, which was shared during the field check.
    - Indianapolis DPW staff noted they are moving away from having a flashing beacon phase for traffic signals and will add this to the list of locations they are updating.
    - Additionally, Indianapolis DPW said they would speak with DPW staff who oversee traffic signal operations to determine the best signal timing to have at the intersection (i.e., "rest on red," "timed changes," "actuated only")
- Corradino staff also noted the 12 NB left-turn crashes reported at the intersection. There is currently an NB left-turn lane at the intersection with a protected/permissive left-turn signal phase.
    - Indianapolis DPW believed this location could be a good candidate for making the NB left-turn a protected-only signal phase. Updating the signal heads could also be part of the improvement, which may require a signal modification project.
- It was observed during the field check that the business located in the southwest corner of the intersection had

three access points, and one of them was partially located within the turn radius for the intersection.

  - Indianapolis DPW believed it would be a good idea to close the business access closest to the intersection and add curb and sidewalk, since the business access was located there.

- It was observed during the field check that there were pedestrian crosswalks along both sides of Michigan Road and at the north leg of the intersection. However, pedestrian signals were only located at the crosswalk for crossing Michigan Road, and for the NB pedestrian crossing over 62nd Street on the west side of the intersection.
  - Indianapolis DPW suggested adding pedestrian signals on all four corners of the intersection and creating new ADA ramps and a crosswalk from the SW to SE corner of the intersection.

Potential Alternatives Discussed

Near-Term

- Modify signal timing at the intersection to no longer have the flashing beacon phase. (Confirm was the type of signal phasing to transition to with the Indianapolis DPW staff).
- Update existing striping at the intersection (stop bars, existing pedestrian crosswalks, lane striping).
- Add backplates to NB traffic signals only.
- Double-check existing pedestrian signals to make sure they are all functioning properly.

Long-Term

- Update existing striping at the intersection (stop bars, existing pedestrian crosswalks, lane striping).
- Close the business access point in the SW corner of the intersection, and replace it with a new curb and sidewalk.
- Add new ADA ramps for crossing in the SW & SE corners of the intersection.
- Add a new pedestrian crosswalk to connect new ADA ramps.
- Add new pedestrian signals with push buttons in the SW corner (2), SE corner (2), NW corner (1), and NE corner (1).

Future Consideration

Michigan Road is a priority corridor that the Indianapolis DPW intends to study in the future.

Consensus on Key Items for Alternatives

Consensus was met on all Near- and Long-Term recommendations.

Attachment E
Cost Estimates & Schematics

Near-Term Improvements
Michigan Road & 62nd Street



PRELIMINARY COST ESTIMATE - NEAR TERM
Michigan Road & 62nd Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 5,000.00	$ 5,000.00
2	801-06775	MAINTAINING TRAFFIC	1	LS	$ 2,700.00	$ 2,700.00
3	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	1	LS	$ 6,000.00	$ 6,000.00
4	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	2	EACH	$ 1,750.00	$ 3,500.00
5	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	225	LFT	$ 15.00	$ 3,375.00
6	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	500	LFT	$ 2.50	$ 1,250.00
7	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	3,040	LFT	$ 1.25	$ 3,800.00
8	808-75240	LINE, THERMOPLASTIC, BROKEN, YELLOW, 4 IN.	170	LFT	$ 2.50	$ 425.00
9	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	3,320	LFT	$ 1.25	$ 4,150.00
10	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	200	LFT	$ 14.00	$ 2,800.00
11	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	4	EACH	$ 250.00	$ 1,000.00
12	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	2	EACH	$ 240.00	$ 480.00
					TOTAL	$ 34,480.00

CONSTRUCTION TOTAL	**$35,000.00**
CONTINGENCY (10%)	**$4,000.00**
OVERALL PROJECT TOTAL	**$39,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases

Task No.	Task	Cost
1	Preliminary Engineering	$ 10,000
2	Right of Way	$ -
3	Utility CN	$ -
4	Railroad CN	$ -
5	Construction Inspection/Testing	$ -
	TOTAL	**$ 10,000**

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



Todd Johnson
Estimate Completed By

6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - NEAR TERM

Michigan Road & 62nd Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	110-01001	MOBILIZATION AND DEMOBILIZATION	
2	801-06775	MAINTAINING TRAFFIC	set to 10% of total cost
3	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	Assume needed for potential work on Ped Heads
4	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	Number of NB signal heads requiring backplates - 2 Each - one is a 3-section and one is a 5-section
5	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	Assume 6' wide and a 2' on/2' off spacing sequence
6	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	Assume project length is ISD for Stop Control (45 MPH = 500' on Michgan; 30 MPH = 330' on 51st)
7	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	
8	808-75240	LINE, THERMOPLASTIC, BROKEN, YELLOW, 4 IN.	
9	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	
10	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	
11	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	
12	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	

Long-Term Improvements
Michigan Road & 62nd. Street



PRELIMINARY COST ESTIMATE - LONG TERM
Michigan Road & 62nd Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	105-06845	CONSTRUCTION ENGINEERING	1	LS	$ 8,000.00	$ 8,000.00
2	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 7,200.00	$ 7,200.00
3	201-52370	CLEARING RIGHT-OF-WAY	1	LS	$ 2,000.00	$ 2,000.00
4	202-02240	PAVEMENT REMOVAL	125	SYS	$ 70.00	$ 8,750.00
5	202-02279	CURB AND GUTTER, REMOVE	40	LFT	$ 60.00	$ 2,400.00
6	202-52710	SIDEWALK CONCRETE, REMOVE	20	SYS	$ 125.00	$ 2,500.00
7	207-08264	SUBGRADE TREATMENT, TYPE II	55	SYS	$ 60.00	$ 3,300.00
8	506-06000	PAVEMENT RECONSTRUCTION ADJACENT TO CURB RAMPS	16	SYS	$ 35.00	$ 560.00
9	506-06001	PAVEMENT RECONSTRUCTION ADJACENT TO CURB	33	SYS	$ 35.00	$ 1,155.00
10	604-06070	SIDEWALK, CONCRETE	16	SYS	$ 240.00	$ 3,840.00
11	604-08086	CURB RAMP, CONCRETE	24	SYS	$ 280.00	$ 6,720.00
12	604-12083	DETECTABLE WARNING SURFACES	6	SYS	$ 325.00	$ 1,950.00
13	605-06140	CURB AND GUTTER, CONCRETE	110	LFT	$ 90.00	$ 9,900.00
14	621-06560	MULCHED SEEDING, TYPE U	75	SYS	$ 5.00	$ 375.00
15	621-06570	TOPSOIL	24	CYS	$ 75.00	$ 1,800.00
16	801-06775	MAINTAINING TRAFFIC	1	LS	$ 20,000.00	$ 20,000.00
17	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	1	LS	$ 5,000.00	$ 5,000.00
18	805-01842	HANDHOLE, SIGNAL, TYPE 1	4	EACH	$ 2,500.00	$ 10,000.00
19	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	2	EACH	$ 1,750.00	$ 3,500.00
20	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	6	EACH	$ 1,150.00	$ 6,900.00
21	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	4	EACH	$ 2,000.00	$ 8,000.00
22	805-11813	CONDUIT, PVC, 2 IN. SCHEDULE 80	300	LFT	$ 42.00	$ 12,600.00
23	805-11817	PEDESTRIAN PUSH BUTTON, APS	6	EACH	$ 1,600.00	$ 9,600.00
24	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	3	EACH	$ 1,100.00	$ 3,300.00
25	805-78412	SIGNAL POLE, PEDESTAL, 9 FT	1	EACH	$ 1,500.00	$ 1,500.00
26	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	360	LFT	$ 4.30	$ 1,548.00
27	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	324	LFT	$ 4.00	$ 1,296.00
28	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	500	LFT	$ 2.50	$ 1,250.00
29	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	3040	LFT	$ 1.25	$ 3,800.00
30	808-11482	LINE, THERMOPLASTIC, DOTTED, WHITE, 4 IN.	42	LFT	$ 3.00	$ 126.00
31	808-75240	LINE, THERMOPLASTIC, BROKEN, YELLOW, 4 IN.	170	LFT	$ 2.50	$ 425.00
32	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	3320	LFT	$ 1.25	$ 4,150.00
33	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	132	LFT	$ 14.00	$ 1,848.00
34	808-75300	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 6 IN.	640	LFT	$ 4.00	$ 2,560.00
35	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	4	EACH	$ 250.00	$ 1,000.00
36	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	2	EACH	$ 240.00	$ 480.00
					TOTAL	$ 159,333.00

CONSTRUCTION TOTAL	**$160,000.00**
CONTINGENCY (10%)	**$16,000.00**
OVERALL PROJECT TOTAL	**$176,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases		
Task No.	**Task**	**Cost**
1	Preliminary Engineering	**$ 50,000**
2	Right of Way	**$ 20,000**
3	Utility CN	**$ 5,000**
4	Railroad CN	**$ -**
5	Construction Inspection/Testing	**$ -**
	TOTAL	**$ 75,000**

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



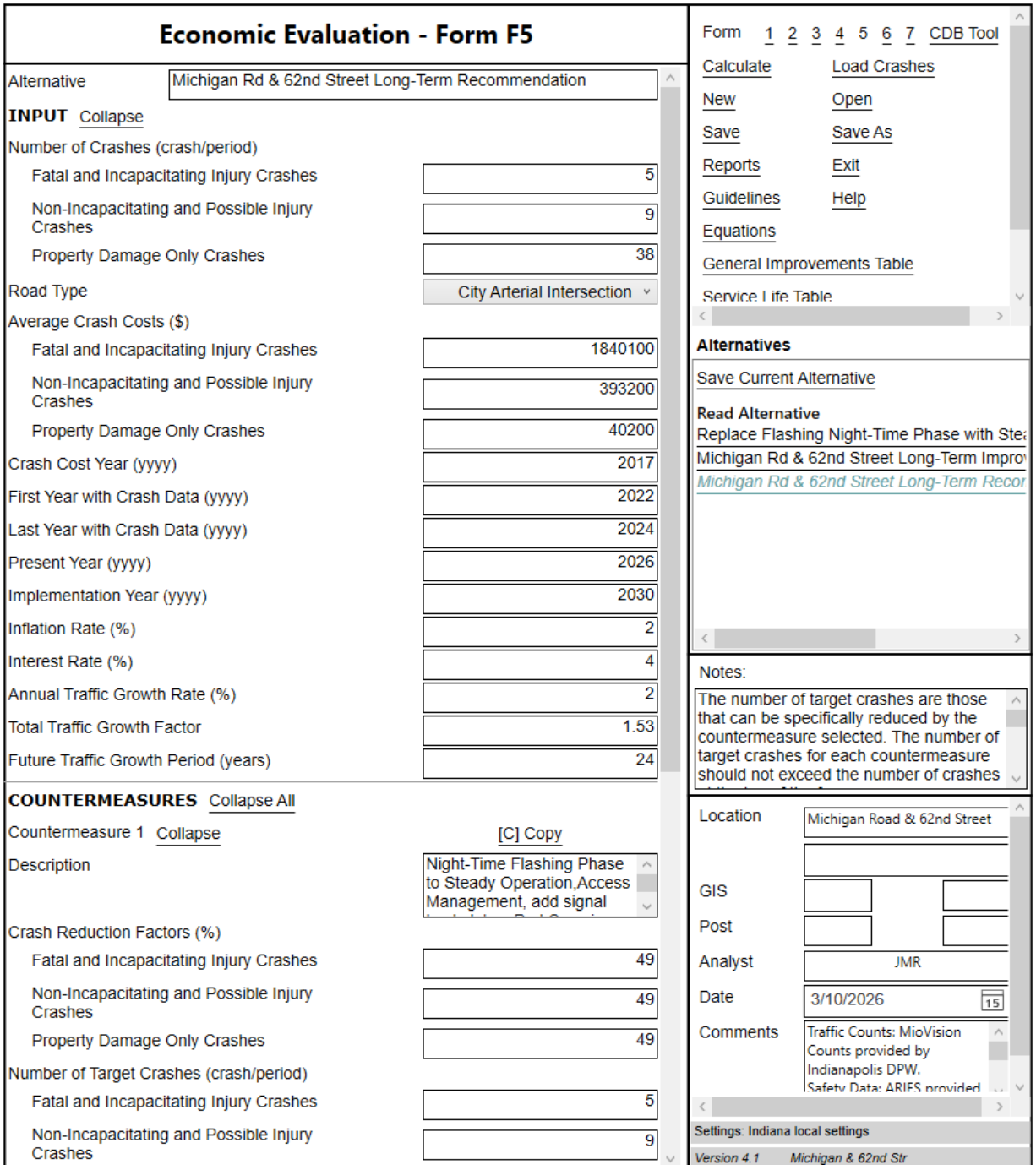
Todd Johnson
Estimate Completed By

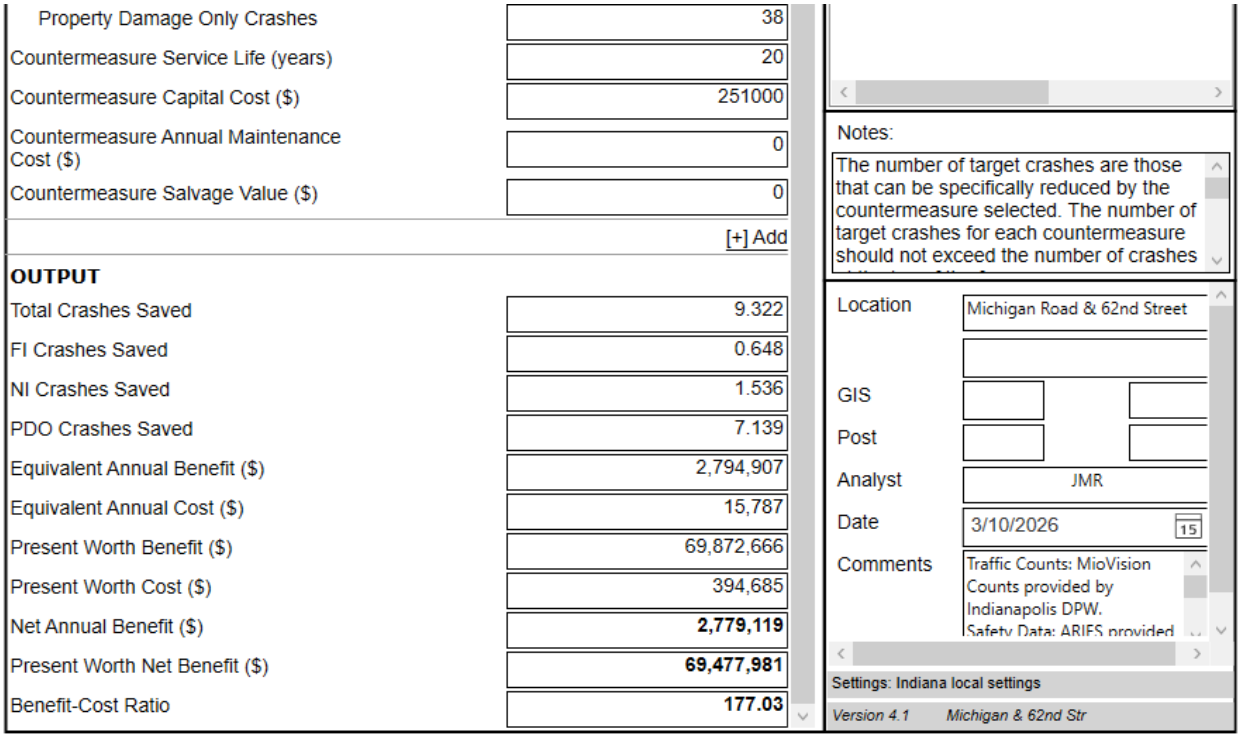
6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - LONG TERM

Michigan Road & 62nd Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	105-06845	CONSTRUCTION ENGINEERING	2000 per leg total of 8000
2	110-01001	MOBILIZATION AND DEMOBILIZATION	
3	201-52370	CLEARING RIGHT-OF-WAY	500 per quad total of 2000
4	202-02240	PAVEMENT REMOVAL	removed by cad 1125 SF / 9 = 125 SYS
5	202-02279	CURB AND GUTTER, REMOVE	remove 20 lft per ramp and there are 2 ramps for a total of 40
6	202-52710	SIDEWALK CONCRETE, REMOVE	assume remove 20 sys for sidewalk
7	207-08264	SUBGRADE TREATMENT, TYPE II	curb length 110 x 4.5 / 9 = 55
8	506-06000	PAVEMENT RECONSTRUCTION ADJACENT TO CURB RAMPS	35 x4 / 9 = 15
9	506-06001	PAVEMENT RECONSTRUCTION ADJACENT TO CURB	remove drive 75 ft x 4 width / 9 = 33
10	604-06070	SIDEWALK, CONCRETE	Assume 16sys to tie existing sidewalk to ramps
11	604-08086	CURB RAMP, CONCRETE	12 sys per ramp and there are 2 ramps for a total of 24
12	604-12083	DETECTABLE WARNING SURFACES	1.5 per ramp say 2 ramp for a total of 3 sys
13	605-06140	CURB AND GUTTER, CONCRETE	at drive and curb ramp construction=75, 35,=110
14	621-06560	MULCHED SEEDING, TYPE U	to seed area of removed drive by cad are is 649 SF say 75 SYS
15	621-06570	TOPSOIL	to fill area of removed drive by cad are is 649 SF assume 12 in depth = 24 CYS
16	801-06775	MAINTAINING TRAFFIC	set to x% of total cost
17	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	Assume needed for work on Ped Heads
18	805-01842	HANDHOLE, SIGNAL, TYPE 1	Assume 1 in each quadrant or 4 total
19	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	Number of NB signal heads requiring backplates - 2 Each - one is a 3-section and one is a 5-section
20	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	SW - 2; SE 2; NW -1; NE 1 for a total of 6 each
21	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	
22	805-11813	CONDUIT, PVC, 2 IN. SCHEDULE 80	100' e, w,s, legs from cabinet total of 300
23	805-11817	PEDESTRIAN PUSH BUTTON, APS	SW - 2; SE 2; NW -1; NE 1 for a total of 6 each
24	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	Assume 2 in the SE quad and 1 in the NE quad for 3 total
25	805-78412	SIGNAL POLE, PEDESTAL, 9 FT	Asssume 1 in the SW quad
26	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	120' e, w,s, legs from cabinet total of 360
27	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	Assume 6' wide and a 2' on/2' off spacing sequence
28	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	Assume project length is ISD for Stop Control (45 MPH = 500' on Michgan; 30 MPH = 330' on 51st)
29	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	
30	808-11482	LINE, THERMOPLASTIC, DOTTED, WHITE, 4 IN.	
31	808-75240	LINE, THERMOPLASTIC, BROKEN, YELLOW, 4 IN.	
32	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	
33	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	
34	808-75300	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 6 IN.	
35	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	
36	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	


Economic Evaluation - Form F5
Alternative
Michigan Rd & 62nd Street Long-Term Recommendation
INPUT Collapse
Number of Crashes (crash/period)
Fatal and Incapacitating Injury Crashes
5
Non-Incapacitating and Possible Injury Crashes
9
Property Damage Only Crashes
38
Road Type
City Arterial Intersection
Average Crash Costs ($)
Fatal and Incapacitating Injury Crashes
1840100
Non-Incapacitating and Possible Injury Crashes
393200
Property Damage Only Crashes
40200
Crash Cost Year (yyyy)
2017
First Year with Crash Data (yyyy)
2022
Last Year with Crash Data (yyyy)
2024
Present Year (yyyy)
2026
Implementation Year (yyyy)
2030
Inflation Rate (%)
2
Interest Rate (%)
4
Annual Traffic Growth Rate (%)
2
Total Traffic Growth Factor
1.53
Future Traffic Growth Period (years)
24
COUNTERMEASURES Collapse All
Countermeasure 1 Collapse
[C] Copy
Description
Night-Time Flashing Phase to Steady Operation,Access Management, add signal
Crash Reduction Factors (%)
Fatal and Incapacitating Injury Crashes
49
Non-Incapacitating and Possible Injury Crashes
49
Property Damage Only Crashes
49
Number of Target Crashes (crash/period)
Fatal and Incapacitating Injury Crashes
5
Non-Incapacitating and Possible Injury Crashes
9
Form 1 2 3 4 5 6 7 CDB Tool
Calculate
Load Crashes
New
Open
Save
Save As
Reports
Exit
Guidelines
Help
Equations
General Improvements Table
Service Life Table
Alternatives
Save Current Alternative
Read Alternative
Replace Flashing Night-Time Phase with Stea
Michigan Rd & 62nd Street Long-Term Impro
Michigan Rd & 62nd Street Long-Term Recor
Notes:
The number of target crashes are those that can be specifically reduced by the countermeasure selected. The number of target crashes for each countermeasure should not exceed the number of crashes
Location
Michigan Road & 62nd Street
GIS
Post
Analyst
JMR
Date
3/10/2026
Comments
Traffic Counts: MioVision Counts provided by Indianapolis DPW.
Safety Data: ARIES provided
Settings: Indiana local settings
Version 4.1
Michigan & 62nd Str


Property Damage Only Crashes 38
Countermeasure Service Life (years) 20
Countermeasure Capital Cost ($) 251000
Countermeasure Annual Maintenance Cost ($) 0
Countermeasure Salvage Value ($) 0
[+] Add
OUTPUT
Total Crashes Saved 9.322
FI Crashes Saved 0.648
NI Crashes Saved 1.536
PDO Crashes Saved 7.139
Equivalent Annual Benefit ($) 2,794,907
Equivalent Annual Cost ($) 15,787
Present Worth Benefit ($) 69,872,666
Present Worth Cost ($) 394,685
Net Annual Benefit ($) 2,779,119
Present Worth Net Benefit ($) 69,477,981
Benefit-Cost Ratio 177.03
Notes:
The number of target crashes are those that can be specifically reduced by the countermeasure selected. The number of target crashes for each countermeasure should not exceed the number of crashes
Location Michigan Road & 62nd Street
GIS
Post
Analyst JMR
Date 3/10/2026
Comments Traffic Counts: MioVision Counts provided by Indianapolis DPW.
Settings: Indiana local settings
Version 4.1 Michigan & 62nd Str

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/25/2026
Des. No.:	n/a

Reviewer Information:		Agency/Firm Name:	Corradino LLC
Primary Author:	James Mark Rinehart	Agency:	Indianapolis Metropolitan Planning Organization
Phone Numbers:	(317) 488-2363	Email Address:	jrinehart@corradino.com

Purpose of Review:

Corradino LLC was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Michigan Rd.		District: Greenfield		City: Indianapolis			County: Marion
Lat & Long (BOP)	39.884784	-86.209749	Lat & Long (EOP):	39.884784	-86.209749	Inside Urban Area Boundary: (Yes) or No (circle)	
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit			
Location: The intersection of Michigan Road & Westlane Road							

Existing Conditions:

The Michigan Road & 71st Street/Westlane Road intersection is a four-leg signalized intersection. Michigan Road is a five-lane roadway with two NB and SB through lanes at the intersection. There is a single NB-to-WB left turn lane and a single SB-to-EB left turn lane at the intersection. The traffic signal phasing for these two left-turn movements is set to protected-only.

71st Street is the west leg of the intersection, and Westlane Road is the east leg of the intersection. 71st Street/Westlane Road is a five-lane roadway at the intersection, with two EB and WB through lanes. There is a single EB-to-NB left turn lane and a single EB-to-SB left turn lane at the intersection. The traffic signal phasing for these two left-turn movements is set to protected-only.

There is a sidewalk along the west and east sides of Michigan Road that continues through the intersection. There is also a sidewalk on the south and north sides of 71st Street and on the north side of Westlane Road at the intersection. ADA ramps are located at all four corners of the intersection. Additionally, there are pedestrian signals with push buttons at all four corners of the intersection, and parallel striped crosswalks across all four legs.

IndyGo's Route 34 operates along Michigan Road and Westlane Road at the intersection. Bus Stop 50950 is located on the north side of Westlane Road, ~250' east of the intersection. There is sidewalk access, a bench, and a 5' x 8' boarding pad at the bus stop. Bus Stop 51010 is located on the south side of Westlane Road, ~550' east of the intersection. There is sidewalk access, a bench, and a 5' x 8' boarding pad at the bus stop. Bus Stop 51064 is located on the west side of Michigan Road, ~450' east of the intersection. There is sidewalk access, a bench, and a 5' x 8' boarding pad at the bus stop.

Located in each quadrant of the intersection are:

- NW Quadrant: Vacant Commercial Building (appears to be a former CVS Pharmacy).
- SW Quadrant: Taco Bell Fast Food Restaurant.
- SE Quadrant: Westlane Shopping Center.
- NE Quadrant: Shell Gas Station.

Corradino staff held a virtual meeting with Indianapolis DPW staff on February 19, 2026, to review data generated for the IMPO's Regional Safety Study update and to identify intersections within the City of Indianapolis for further study. The Michigan Road and 71st Street/Westlane Road intersection was listed as one of the high-crash locations in Central Indiana and was prioritized by the Indianapolis DPW. Meeting minutes from the virtual meeting with Indianapolis DPW are available in **Attachment D**.

Corradino held a field check with the representatives from the IMPO, City of Indianapolis DPW, and a representative from IMPD on April 28, 2026, to provide a recap of the discussion held during the virtual meeting, share test results for the near-term and long-term solutions, and build consensus around a series of countermeasures for Corradino to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Traffic Operations:

a) Mobility/Congestion Performance: According to 24-hour traffic count data collected on March 3, 2026, EB traffic entering the intersection was **8,439**. The WB traffic entering the intersection was **7,018**. The NB traffic entering the intersection was **12,896**. The SB traffic entering the intersection was **15,377**. Turning movement counts are available for review in **Attachment B**. A **1.2%** forecasted annual growth rate, derived from the IMPO's TDM, was used to develop a future no-build traffic scenario and to test long-term build alternatives at the intersection. The design year for the project was **2050.** Results from the traffic analysis are available in **Attachment C**.

	Eastbound		Westbound		Northbound		Southbound	
Alternative	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
AM Peak – 2026	**F**	**120.8**	**D**	**37.7**	**C**	**29.4**	**C**	**29.6**
PM Peak - 2026	**D**	**51.0**	**D**	**50.5**	**D**	**37.8**	**D**	**41.8**
AM Peak - 2050	**E**	**59.3**	**F**	**111.3**	**D**	**52.8**	**D**	**49.6**
PM Peak - 2050	**E**	**77.5**	**F**	**12.9**	**E**	**59.6**	**E**	**66.4**

b) Safety Performance / Crash Analysis: According to available crash data reported between January 1, 2022, and December 31, 2024, there were 66 crashes at the Michigan Road & 71st Street/Westlane Road intersection. Of those crashes, **1** resulted in fatality, **5** resulted in incapacitating injuries, and **5** resulted in non-incapacitating injuries. See attached Crash Summary and output from RoadHAT 4.1 in **Attachment A.**

The collision diagram for the Michigan Road & 71st Street intersection revealed a similar number of Rear End crashes at all four approaches, despite the NB and SB approaches moving, on average, ~40% more traffic than the EB & WB approaches. Additionally, there were multiple Right Angle crashes reported on the west leg of the intersection, where the roadway median does not extend far enough back to prohibit left turns out of the businesses in the southwest and northwest quadrants of the intersection. The collision diagram is available in **Attachment A**.

RoadHAT 4.1 was used to develop crash cost (ICC) and crash frequency (ICF) scores for the Michigan Road & 71st Street/Westlane Road Intersection. Results from the RoadHAT 4.1 analysis were: I_{CC} = **1.42**, I_{cf} = **1.22.** The RoadHAT 4.1 analysis results are available in **Attachment A.**

Alternatives & Recommendations

During the field check with representatives from Indianapolis DPW and the IMPO, crash and traffic data were discussed while observing traffic patterns. Multiple maintenance-type improvements were identified in the field to help address near-term safety needs at the intersection (traffic signal back plates, striping, tree removal, etc.) as well as some longer-term infrastructure improvements. Below are the discussed Near- and Long-Term recommended improvements for the Michigan Road & 71st Street intersection. Notes from the field check summarizing conversations with Indianapolis DPW and IMPO staff are available for review in **Attachment D.**

Near-Term

The list of near-term solutions discussed during the field check includes:

- Evaluate the current signal timing to potentially extend the "All-Red" clearance times.
- Install backplates on all existing traffic signals.
- Restripe stop bars and pedestrian crossings.
- Remove the existing tree located ~30' south of the intersection in the easement on the west side of Michigan Road.
- Replace the damaged guardrail located in the SE corner.

Long-Term

The list of Long-Term improvements, separate from the Near-Term improvements, would include:

- Reconstruct the SE corner of the intersection to have two ADA ramps.
- Extend the EB left-turn lane and curb median 70' west.
- Do a full signal modification at the intersection to upgrade to LED signal heads.
- Mill and resurface the intersection, plus 90' of each leg of the intersection.

A schematic of the long-term improvement is available in **Attachment E**.

Future Consideration

Indianapolis DPW noted that this intersection may be studied further as part of a Michigan Road Corridor Study.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation

PE – **$10,000**
ROW - **$0**
Utility CN - **$0**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0**
CN (including 10% Contingency) - **$40,000**

Near-Term Total - $50,000

Long-Term Recommendation

PE - **$50,000**
ROW - **$0**
Utility CN - **$5,000**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0** CN – (including 10% Contingency) – **$396,000**

Long-Term Total – $451,000

Project Score: (for INDOT use)

Safety Program Score =

Miscellaneous Notes:

Modifying the turn radii in the SW corner of the intersection was discussed during the field check. The current turn radius is 40', which is standard for an urban intersection. However, IDM Chapter 46-2.0 suggests a 50' turn radius to accommodate single-unit trucks (box delivery truck). Because there was evidence of curb damage and rutting in the SW corner of the intersection. Increasing the radius will require large utility relocation costs. There is an existing power pole at the SW corner of the intersection that appears to carry overhead electric transmission lines in both directions. Relocating this pole could cost between $200,000 and $400,000, in addition to the estimated long-term costs noted above. Because of the high cost of moving the utility pole and the lack of reported safety concerns with SB right-turn vehicles at the intersection, Corradino suggested not including an increase in the SB right-turn radius as part of the project.

Attachments:

Attachment A: Preliminary Findings Report

Attachment B: Traffic Counts

Attachment C: Traffic Analysis

Attachment D: Virtual Meeting Minutes & Field Check

Minutes **Attachment E:** Cost Estimates & Schematics

Attachment A
Preliminary Findings

PRELIMINARY FINDINGS

Safety Analysis at Michigan Rd. & 71st St. / Westlane Road

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Michigan Road & 71st Street/Westlane Road (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (Icc) and crash frequency (Icf) for the Study Area using RoadHat 4.1.

66 crashes were identified within the Study Area. 10 of the reported crashes were injury-related crashes. Five of the 10 were Incapacitating crashes, and five Non-Incapacitating crashes. One of the reported Incapacitating crashes involved a pedestrian being struck by a vehicle when crossing 71st Street in the crosswalk. Additionally, one Fatal crash was reported in the Study Area. The police report indicated it was a Rear End crash that occurred when a vehicle struck a stopped vehicle at a high rate of speed, lost control after the collision, and swerved off the road.

Other notable results near the Study Area include:

- 35% of the reported crashes within the Study Area were Rear End crashes.
- 18% of the reported crashes within the Study Area were Same Direction Sideswipe crashes.
- 17% of reported crashes within the Study Area were Right Turn crashes.
- Right Angle and Left Turn crashes, combined, made up 20% of the reported crashes within the Study Area.
- 58% of reported crashes occurred during Off-Peak travel times. 15% of reported crashes occurred during the morning peak hours (6 am-9 am), and 27% during the evening peak hours (4 pm-7 pm).
- 61% of reported crashes occurred in daylight hours and 29% in dark (lighted) conditions. The remaining 11% of crashes listed lighting conditions as "Dawn/Dusk" in the police report.
- 17% of reported crashes occurred in wet or icy roadway surface conditions. The remaining 83% of reported crashes occurred on dry roadways.
- 82% of reported crashes occurred when the weather conditions were clear. The remaining 18% of reported crashes occurred in either Cloudy, Rainy, or Snowy weather conditions.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

2022-2024 Crash Summary	
TOTAL CRASHES	66
TOTAL INJURIES	13
PROPERTY DAMAGE ONLY	54
REFUSED TREATMENT	1
NON-INCAPACITATING	5
INCAPACITATING	5
FATAL	1

Summary of Primary Factors per Manner of Collision		
Primary Factors per Manner of Collision	**Crashes**	**Percent**
REAR END	**23**	**35%**
FOLLOWING TOO CLOSELY	19	
UNSAFE SPEED	1	
<Null>	1	
OTHER (VEHICLE) - EXPLAIN IN NARRATIVE	1	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
SAME DIRECTION SIDESWIPE	**12**	**18%**
IMPROPER LANE USAGE	4	
FAILURE TO YIELD RIGHT OF WAY	2	
UNSAFE LANE MOVEMENT	2	
IMPROPER PASSING	2	
FAILURE TO MAINTAIN LANE	1	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
RIGHT TURN	**11**	**17%**
FAILURE TO YIELD RIGHT OF WAY	6	
IMPROPER TURNING	2	
FOLLOWING TOO CLOSELY	1	
UNSAFE SPEED	1	
IMPROPER LANE USAGE	1	
RIGHT ANGLE	**8**	**12%**
FAILURE TO YIELD RIGHT OF WAY	6	
DRIVER ILLNESS	1	
UNSAFE SPEED	1	
LEFT TURN	**5**	**8%**
DISREGARD SIGNAL/REG SIGN	2	
FAILURE TO YIELD RIGHT OF WAY	2	
UNSAFE LANE MOVEMENT	1	
BACKING CRASH	**3**	**5%**
UNSAFE BACKING	2	
IMPROPER LANE USAGE	1	
RAN OFF ROAD	**2**	**3%**
OVERCORRECTING/OVERSTEERING	1	
TIRE FAILURE OR DEFECTIVE	1	
OPPOSITE DIRECTION SIDESWIPE	**1**	**2%**
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
COLLISION WITH OBJECT IN ROAD	**1**	**2%**
PEDESTRIAN ACTION	1	
Total Crashes	**66**	**100%**

Summary of Crashes per Time of Day		
Time of Day	**Crashes**	**Percent**
Peak AM (6:00-9:00 AM)	10	15%
Peak PM (4:00-7:00 PM)	18	27%
Off Peak	38	58%
Total Crashes	**66**	**100%**

Summary of Crashes per Light Conditions		
Light Conditions	**Crashes**	**Percent**
DAWN/DUSK	7	11%
DARK (LIGHTED)	19	29%
DAYLIGHT	40	61%
Total Crashes	**66**	**100%**

Summary of Roadway Surface Conditions				
Manner of Collision	**DRY**	**ICE**	**WET**	**Total Crashes**
REAR END	20		3	23
SAME DIRECTION SIDESWIPE	11		1	12
RIGHT TURN	7	1	3	11
RIGHT ANGLE	6		2	8
LEFT TURN	5			5
BACKING CRASH	3			3
RAN OFF ROAD	1		1	2
COLLISION WITH OBJECT IN ROAD	1			1
OPPOSITE DIRECTION SIDESWIPE	1			1
Total Crashes	**55**	**1**	**10**	**66**

Summary of Weather Conditions						
Manner of Collision	**CLEAR**	**RAIN**	**CLOUDY**	**SNOW**	**BLOWING SAND/ SOIL/SNOW**	**Total Crashes**
REAR END	20		3			23
SAME DIRECTION SIDESWIPE	12					12
RIGHT TURN	8	2		1		11
RIGHT ANGLE	6	2				8
LEFT TURN	4		1			5
BACKING CRASH	2		1			3
RAN OFF ROAD	1	1				2
COLLISION WITH OBJECT IN ROAD	1					1
OPPOSITE DIRECTION SIDESWIPE					1	1
Total Crashes	**54**	**5**	**5**	**1**	**1**	**66**

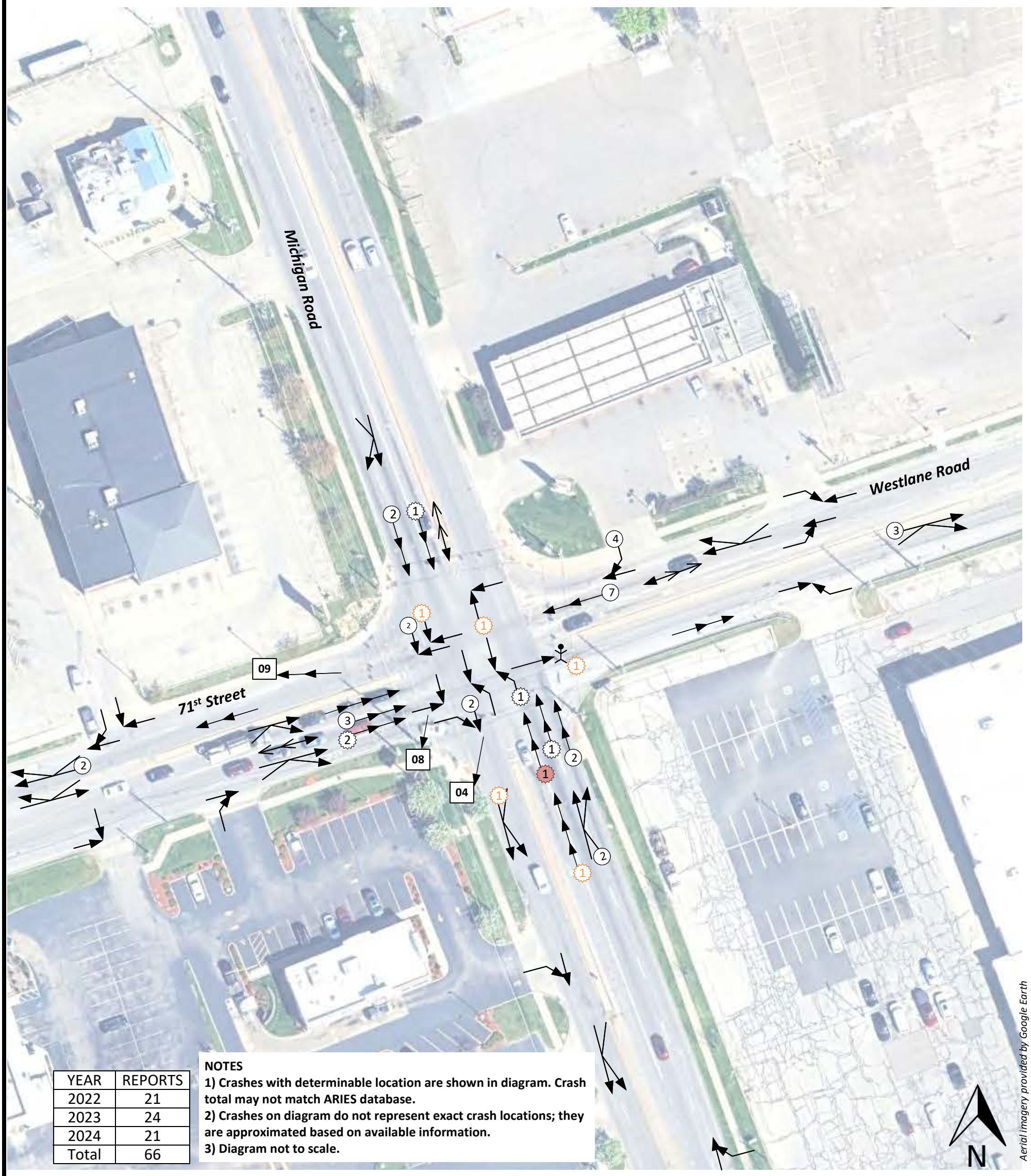
DIAGRAM OF COLLISION REPORTS

Michigan Road & Westlane Road

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis - DPW

INDOT District: Greenfield County: Marion City/Town: Indianapolis

Analyst: JMR QC: DC Date: 3/13/2026



YEAR	REPORTS
2022	21
2023	24
2024	21
Total	66

NOTES

1) Crashes with determinable location are shown in diagram. Crash total may not match ARIES database.

2) Crashes on diagram do not represent exact crash locations; they are approximated based on available information.

3) Diagram not to scale.

Aerial imagery provided by Google Earth

N

Object Symbols

- MOVING VEHICLE
- TURNING VEHICLE
- BACKING VEHICLE
- OUT OF CONTROL
- PARKED VEHICLE
- PEDESTRIAN
- BICYCLE
- A — ANIMAL
- D — DEBRIS IN ROADWAY
- DW — DRIVEWAY CRASH
- FATAL CRASH
- INJURY CRASH – INCAPACITATING
- INJURY CRASH – NONINCAPACITATING
- PDO CRASHES (IF > 1)
- SIGNALIZED INTERSECTION
- FIXED OBJECT (See table for # codes)

Collision Symbols

- REAR END
- HEAD ON
- OTHER
- SIDESWIPE – SAME
- SIDESWIPE – OPPOSITE
- RIGHT ANGLE
- LEFT/RIGHT TURN
- RAN OFF ROAD

Fixed Object Codes

01 – BRIDGE or OVERPASS
02 – BUILDING
03 – CULVERT or DITCH
04 – CURB
05 – GUARDRAIL or BARRIER
06 – EMBANKMENT
07 – FENCE
08 – TRAFFIC POLE
09 – UTILITY POLE
10 – SIGN
11 – TREE / SHRUB
12 – CONTRUCTION BARRIER
13 – CRASH ATTENUATOR
88 – OTHER
99 - UNKNOWN

Intersection Images

Michigan Road & 71st Street / Westlane Road

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

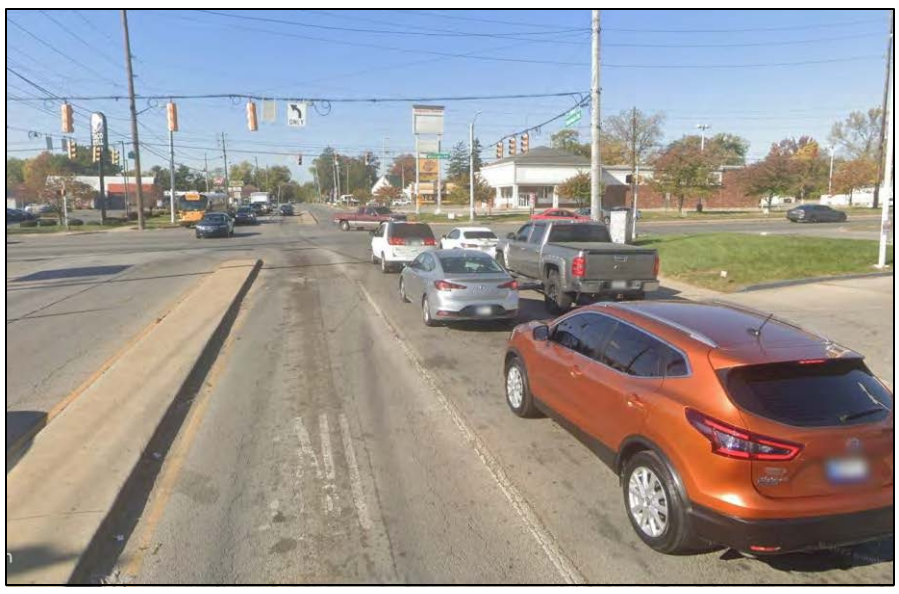
INDOT District: Greenfield County: Marion City/Town: Indianapolis



West Leg – Looking West



West Leg – Looking East



East Leg – Looking West



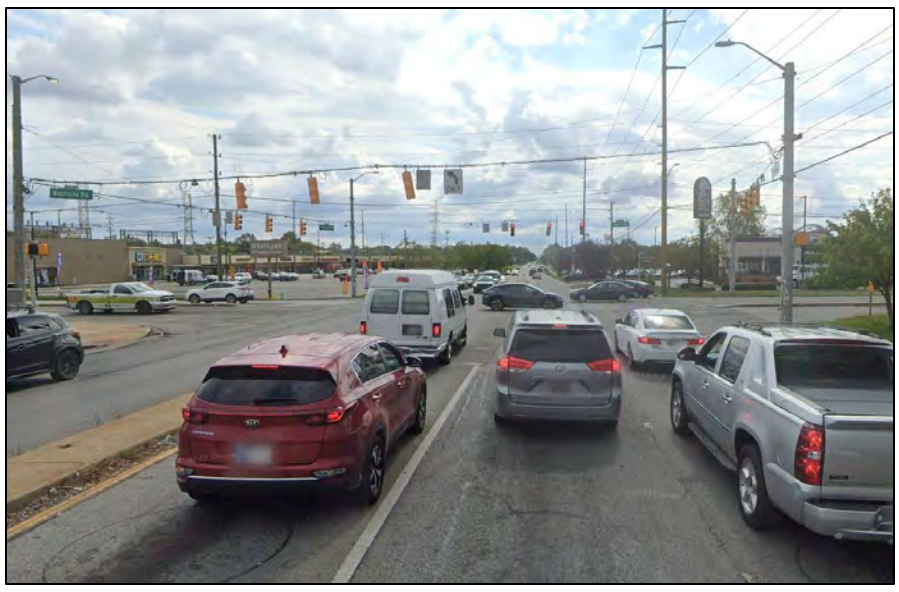
East Leg – Looking East



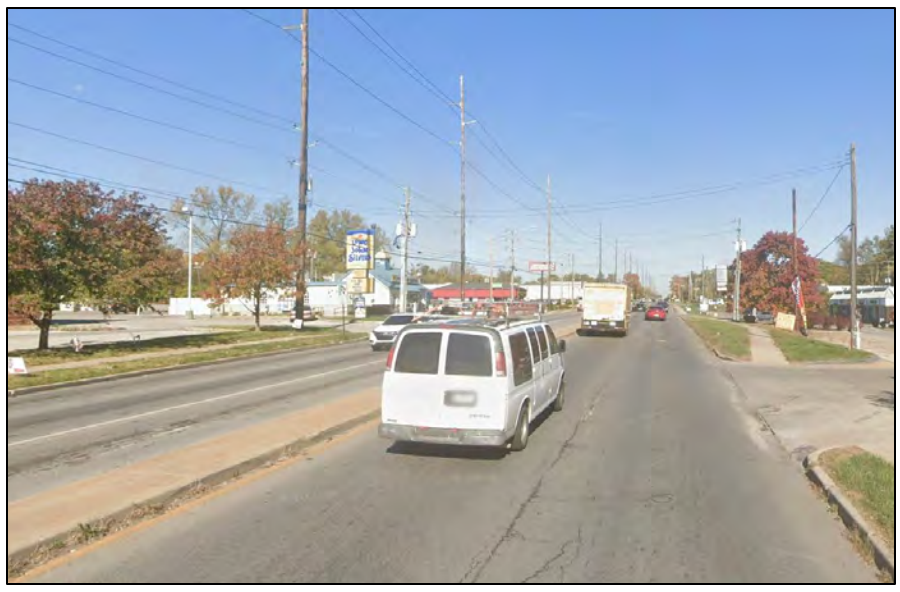
South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Imagery provided by Google Earth

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Michigan Road & 71st St / Westlane Rd	
GIS		
Post		
Analyst	JMR	
Date	3/10/2026	

INPUT	
Road Facility Type	City Arterial Intersection
Busiest Road AADT (veh/day)	28,273
Crossing Road AADT (veh/day)	15,457
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	6
Non-Incapacitating and Possible Injury Crashes	5
Property Damage Only Crashes	55
Route or Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.533
Non-Incapacitating and Possible Injury Crashes	1.68
Property Damage Only Crashes	8.46
All Crashes	10.67
Index of Crash Frequency	**1.22**
Index of Crash Cost	**1.42**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Michigan Road & 71st St / Westlane Rd	
GIS		
Post		
Analyst	JMR	
Date	3/10/2026	

Comments: Traffic Counts: MioVision Counts provided by Indianapolis DPW. Safety Data: ARIES provided by IMPO.

Attachment B
Traffic Counts

Michigan Rd & Westlane/71st St - TMC

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Tue Mar 3, 2026
Full Length (10 AM-10 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383428, Location: 39.884793, -86.209855

Leg	EB 71st St					WB Westlane					NB Michigan					SB Michigan					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2026-03-03 10:00AM	30	32	16	0	**78**	9	25	19	0	**53**	9	117	8	0	**134**	15	138	22	0	**175**	**440**
10:15AM	30	43	15	0	**88**	17	36	25	0	**78**	14	116	8	0	**138**	19	137	32	0	**188**	**492**
10:30AM	23	41	18	0	**82**	19	51	13	0	**83**	14	137	9	0	**160**	19	127	22	0	**168**	**493**
10:45AM	35	37	19	0	**91**	13	44	24	0	**81**	11	152	4	0	**167**	18	142	35	0	**195**	**534**
Hourly Total	118	153	68	0	**339**	58	156	81	0	**295**	48	522	29	0	**599**	71	544	111	0	**726**	**1959**
11:00AM	47	40	24	0	**111**	16	25	12	0	**53**	18	133	9	0	**160**	22	143	25	0	**190**	**514**
11:15AM	40	53	13	0	**106**	9	49	22	0	**80**	15	142	10	0	**167**	23	171	39	0	**233**	**586**
11:30AM	40	32	21	0	**93**	11	39	22	0	**72**	23	156	12	0	**191**	23	168	44	0	**235**	**591**
11:45AM	41	43	21	0	**105**	18	50	23	0	**91**	13	121	7	1	**142**	17	144	36	0	**197**	**535**
Hourly Total	168	168	79	0	**415**	54	163	79	0	**296**	69	552	38	1	**660**	85	626	144	0	**855**	**2226**
12:00PM	42	49	30	0	**121**	19	32	25	0	**76**	20	167	3	0	**190**	37	146	40	0	**223**	**610**
12:15PM	43	43	13	0	**99**	13	50	18	0	**81**	28	140	11	0	**179**	23	189	41	0	**253**	**612**
12:30PM	39	36	21	0	**96**	18	45	27	0	**90**	25	134	11	0	**170**	25	153	40	0	**218**	**574**
12:45PM	36	45	30	0	**111**	18	48	24	0	**90**	25	152	10	1	**188**	28	181	44	0	**253**	**642**
Hourly Total	160	173	94	0	**427**	68	175	94	0	**337**	98	593	35	1	**727**	113	669	165	0	**947**	**2438**
1:00PM	27	37	16	0	**80**	15	42	23	0	**80**	27	155	10	0	**192**	21	188	53	0	**262**	**614**
1:15PM	41	41	23	0	**105**	25	44	24	0	**93**	22	182	11	0	**215**	30	139	39	0	**208**	**621**
1:30PM	54	41	16	0	**111**	19	39	19	0	**77**	18	133	14	0	**165**	32	167	45	0	**244**	**597**
1:45PM	46	29	20	0	**95**	11	50	29	0	**90**	18	174	4	0	**196**	30	172	42	0	**244**	**625**
Hourly Total	168	148	75	0	**391**	70	175	95	0	**340**	85	644	39	0	**768**	113	666	179	0	**958**	**2457**
2:00PM	49	64	21	0	**134**	23	60	20	0	**103**	20	142	8	0	**170**	48	190	45	0	**283**	**690**
2:15PM	42	62	23	0	**127**	26	66	23	0	**115**	21	143	7	0	**171**	28	213	53	0	**294**	**707**
2:30PM	48	69	32	0	**149**	24	58	33	0	**115**	31	152	11	0	**194**	35	180	38	2	**255**	**713**
2:45PM	38	66	37	0	**141**	32	89	41	0	**162**	14	160	18	0	**192**	27	196	34	0	**257**	**752**
Hourly Total	177	261	113	0	**551**	105	273	117	0	**495**	86	597	44	0	**727**	138	779	170	2	**1089**	**2862**
3:00PM	63	88	37	0	**188**	19	55	28	0	**102**	32	201	11	0	**244**	33	199	47	1	**280**	**814**
3:15PM	52	80	40	0	**172**	26	74	30	1	**131**	30	238	12	0	**280**	35	218	42	0	**295**	**878**
3:30PM	53	92	42	0	**187**	27	84	40	0	**151**	22	220	11	0	**253**	41	183	48	1	**273**	**864**
3:45PM	57	96	37	0	**190**	25	88	33	0	**146**	37	242	12	0	**291**	30	201	53	0	**284**	**911**
Hourly Total	225	356	156	0	**737**	97	301	131	1	**530**	121	901	46	0	**1068**	139	801	190	2	**1132**	**3467**
4:00PM	65	110	30	0	**205**	19	91	36	0	**146**	32	222	14	0	**268**	32	213	49	0	**294**	**913**
4:15PM	66	119	32	0	**217**	18	83	32	0	**133**	25	235	14	0	**274**	34	222	48	0	**304**	**928**
4:30PM	64	100	33	0	**197**	23	98	29	0	**150**	28	232	14	1	**275**	39	209	48	0	**296**	**918**
4:45PM	53	98	46	0	**197**	18	102	32	0	**152**	29	205	12	0	**246**	36	208	46	0	**290**	**885**
Hourly Total	248	427	141	0	**816**	78	374	129	0	**581**	114	894	54	1	**1063**	141	852	191	0	**1184**	**3644**
5:00PM	60	117	23	0	**200**	30	103	27	0	**160**	50	245	13	0	**308**	40	225	46	0	**311**	**979**
5:15PM	59	115	35	0	**209**	35	103	29	0	**167**	32	239	10	0	**281**	35	242	43	0	**320**	**977**
5:30PM	50	116	22	0	**188**	27	104	36	0	**167**	40	245	13	0	**298**	39	220	44	0	**303**	**956**
5:45PM	59	102	17	0	**178**	23	79	29	0	**131**	28	220	16	0	**264**	47	204	54	0	**305**	**878**
Hourly Total	228	450	97	0	**775**	115	389	121	0	**625**	150	949	52	0	**1151**	161	891	187	0	**1239**	**3790**
6:00PM	32	75	21	1	**129**	26	71	42	0	**139**	24	201	15	1	**241**	38	203	57	0	**298**	**807**
6:15PM	49	59	27	0	**135**	17	67	36	0	**120**	19	182	10	0	**211**	31	208	41	1	**281**	**747**
6:30PM	36	62	14	0	**112**	22	51	30	0	**103**	22	136	17	0	**175**	34	189	44	1	**268**	**658**
6:45PM	38	67	18	0	**123**	25	54	20	0	**99**	22	117	11	1	**151**	31	155	40	1	**227**	**600**
Hourly Total	155	263	80	1	**499**	90	243	128	0	**461**	87	636	53	2	**778**	134	755	182	3	**1074**	**2812**
7:00PM	33	52	23	0	**108**	22	42	22	0	**86**	18	124	13	0	**155**	23	162	36	2	**223**	**572**
7:15PM	22	55	23	0	**100**	20	40	17	0	**77**	18	137	6	0	**161**	29	130	32	0	**191**	**529**
7:30PM	33	44	8	0	**85**	9	38	21	0	**68**	15	124	12	1	**152**	29	161	39	0	**229**	**534**
7:45PM	39	45	14	0	**98**	14	29	10	0	**53**	16	111	7	0	**134**	21	109	30	0	**160**	**445**
Hourly Total	127	196	68	0	**391**	65	149	70	0	**284**	67	496	38	1	**602**	102	562	137	2	**803**	**2080**
8:00PM	31	41	18	0	**90**	10	37	8	0	**55**	9	81	8	0	**98**	22	129	36	0	**187**	**430**
8:15PM	28	46	9	1	**84**	14	40	14	0	**68**	17	81	10	0	**108**	18	112	28	1	**159**	**419**
8:30PM	15	28	9	0	**52**	12	28	7	0	**47**	9	85	4	0	**98**	16	87	24	0	**127**	**324**

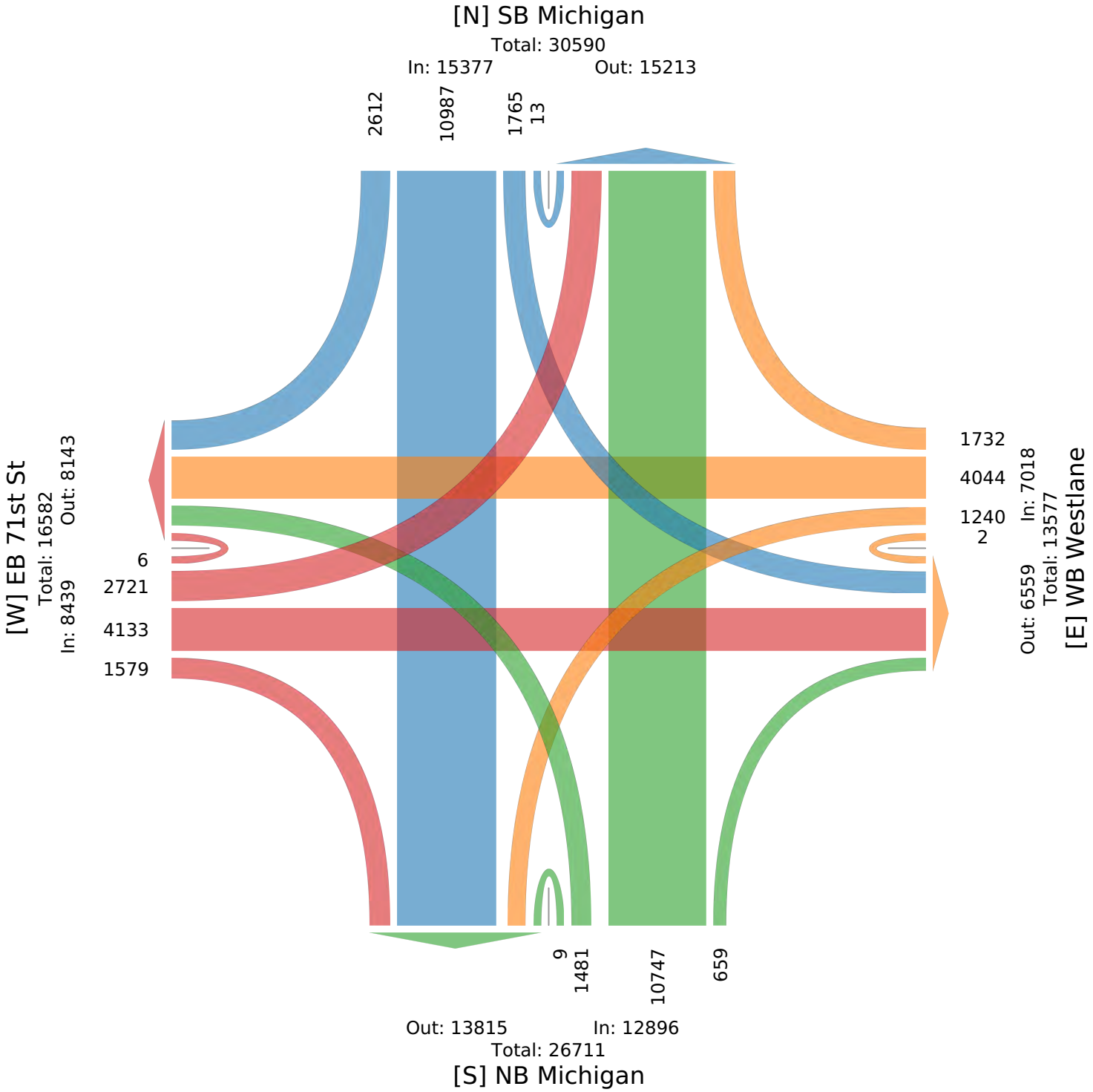
Leg	EB 71st St					WB Westlane					NB Michigan					SB Michigan					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
8:45PM	12	23	7	1	**43**	20	25	12	0	**57**	18	65	5	0	**88**	19	101	21	0	**141**	**329**
Hourly Total	86	138	43	2	**269**	56	130	41	0	**227**	53	312	27	0	**392**	75	429	109	1	**614**	**1502**
9:00PM	18	27	6	0	**51**	11	25	4	0	**40**	21	74	12	0	**107**	11	79	29	0	**119**	**317**
9:15PM	18	25	8	0	**51**	2	23	7	0	**32**	16	74	5	0	**95**	19	93	16	0	**128**	**306**
9:30PM	13	22	10	0	**45**	5	26	17	0	**48**	8	62	7	0	**77**	18	79	14	0	**111**	**281**
9:45PM	10	22	5	1	**38**	12	22	12	0	**46**	9	60	6	0	**75**	18	68	13	0	**99**	**258**
Hourly Total	59	96	29	1	**185**	30	96	40	0	**166**	54	270	30	0	**354**	66	319	72	0	**457**	**1162**
10:00PM	9	24	10	0	**43**	9	36	14	0	**59**	6	47	5	0	**58**	17	80	21	0	**118**	**278**
10:15PM	11	28	5	0	**44**	5	21	7	0	**33**	9	48	3	0	**60**	13	57	13	0	**83**	**220**
10:30PM	17	23	6	0	**46**	7	16	7	0	**30**	5	42	8	0	**55**	14	68	13	0	**95**	**226**
10:45PM	4	18	4	0	**26**	8	15	9	0	**32**	2	38	4	0	**44**	12	34	13	0	**59**	**161**
Hourly Total	41	93	25	0	**159**	29	88	37	0	**154**	22	175	20	0	**217**	56	239	60	0	**355**	**885**
11:00PM	7	22	2	0	**31**	7	15	7	0	**29**	12	37	4	0	**53**	11	39	10	0	**60**	**173**
11:15PM	9	11	11	0	**31**	8	20	5	0	**33**	4	24	4	0	**32**	9	43	5	0	**57**	**153**
11:30PM	9	32	5	0	**46**	9	7	3	0	**19**	3	28	6	0	**37**	12	39	9	0	**60**	**162**
11:45PM	7	11	11	0	**29**	3	8	3	0	**14**	3	24	0	0	**27**	6	29	6	0	**41**	**111**
Hourly Total	32	76	29	0	**137**	27	50	18	0	**95**	22	113	14	0	**149**	38	150	30	0	**218**	**599**
2026-03-04 12:00AM	2	23	4	0	**29**	2	10	4	0	**16**	3	15	1	0	**19**	8	26	6	0	**40**	**104**
12:15AM	5	11	10	0	**26**	2	10	2	0	**14**	0	17	3	0	**20**	6	12	5	0	**23**	**83**
12:30AM	5	11	3	1	**20**	4	8	3	0	**15**	1	10	2	0	**13**	8	16	4	0	**28**	**76**
12:45AM	2	8	2	0	**12**	3	4	5	0	**12**	1	18	0	0	**19**	2	16	2	0	**20**	**63**
Hourly Total	14	53	19	1	**87**	11	32	14	0	**57**	5	60	6	0	**71**	24	70	17	0	**111**	**326**
1:00AM	5	8	2	0	**15**	1	7	4	0	**12**	0	10	1	1	**12**	3	22	2	0	**27**	**66**
1:15AM	0	8	3	1	**12**	3	7	0	0	**10**	2	12	3	1	**18**	1	15	4	0	**20**	**60**
1:30AM	1	7	4	0	**12**	0	5	2	0	**7**	2	12	1	0	**15**	1	12	1	1	**15**	**49**
1:45AM	1	5	2	0	**8**	4	3	2	0	**9**	0	16	1	0	**17**	1	7	0	0	**8**	**42**
Hourly Total	7	28	11	1	**47**	8	22	8	0	**38**	4	50	6	2	**62**	6	56	7	1	**70**	**217**
2:00AM	4	5	1	0	**10**	0	4	0	0	**4**	3	5	1	0	**9**	4	6	3	0	**13**	**36**
2:15AM	3	4	0	0	**7**	4	3	1	0	**8**	0	10	1	0	**11**	3	7	1	0	**11**	**37**
2:30AM	2	3	3	0	**8**	2	3	1	0	**6**	1	7	2	0	**10**	2	14	0	0	**16**	**40**
2:45AM	3	5	1	0	**9**	3	1	1	0	**5**	3	8	0	0	**11**	2	11	2	0	**15**	**40**
Hourly Total	12	17	5	0	**34**	9	11	3	0	**23**	7	30	4	0	**41**	11	38	6	0	**55**	**153**
3:00AM	3	5	6	0	**14**	0	2	2	0	**4**	0	8	0	0	**8**	0	8	1	0	**9**	**35**
3:15AM	1	3	0	0	**4**	0	3	1	0	**4**	0	6	1	0	**7**	4	10	2	0	**16**	**31**
3:30AM	1	8	3	0	**12**	2	7	0	0	**9**	2	15	0	0	**17**	2	9	1	0	**12**	**50**
3:45AM	3	8	4	0	**15**	2	5	9	0	**16**	4	14	0	0	**18**	5	8	4	0	**17**	**66**
Hourly Total	8	24	13	0	**45**	4	17	12	0	**33**	6	43	1	0	**50**	11	35	8	0	**54**	**182**
4:00AM	4	6	1	0	**11**	1	9	4	0	**14**	1	19	0	0	**20**	5	17	1	0	**23**	**68**
4:15AM	2	3	3	0	**8**	3	10	5	0	**18**	1	13	1	0	**15**	0	15	5	0	**20**	**61**
4:30AM	8	8	2	0	**18**	1	13	7	0	**21**	4	22	1	0	**27**	2	20	3	0	**25**	**91**
4:45AM	7	5	5	0	**17**	5	11	7	0	**23**	3	28	1	0	**32**	6	20	11	0	**37**	**109**
Hourly Total	21	22	11	0	**54**	10	43	23	0	**76**	9	82	3	0	**94**	13	72	20	0	**105**	**329**
5:00AM	10	11	7	0	**28**	4	25	9	0	**38**	3	27	2	0	**32**	3	31	8	0	**42**	**140**
5:15AM	9	22	5	0	**36**	2	25	18	0	**45**	8	34	3	0	**45**	10	31	14	0	**55**	**181**
5:30AM	5	16	8	0	**29**	2	33	22	0	**57**	21	49	1	0	**71**	2	38	16	0	**56**	**213**
5:45AM	6	22	15	0	**43**	4	44	24	0	**72**	19	55	3	0	**77**	8	39	26	0	**73**	**265**
Hourly Total	30	71	35	0	**136**	12	127	73	0	**212**	51	165	9	0	**225**	23	139	64	0	**226**	**799**
6:00AM	14	23	15	0	**52**	2	54	14	0	**70**	11	63	5	0	**79**	13	53	14	0	**80**	**281**
6:15AM	14	23	19	0	**56**	8	39	13	0	**60**	12	98	5	0	**115**	12	77	31	0	**120**	**351**
6:30AM	25	32	15	0	**72**	14	53	24	0	**91**	26	129	5	0	**160**	7	96	42	0	**145**	**468**
6:45AM	32	49	15	0	**96**	8	62	21	0	**91**	35	138	1	0	**174**	8	83	46	0	**137**	**498**
Hourly Total	85	127	64	0	**276**	32	208	72	0	**312**	84	428	16	0	**528**	40	309	133	0	**482**	**1598**
7:00AM	29	55	21	0	**105**	12	68	18	0	**98**	17	108	8	0	**133**	11	118	43	0	**172**	**508**
7:15AM	44	60	33	0	**137**	17	82	35	0	**134**	21	147	7	0	**175**	14	197	32	0	**243**	**689**
7:30AM	55	79	31	0	**165**	15	106	33	0	**154**	23	209	9	0	**241**	17	212	48	0	**277**	**837**
7:45AM	56	80	29	0	**165**	31	96	45	0	**172**	32	262	6	0	**300**	20	201	33	0	**254**	**891**
Hourly Total	184	274	114	0	**572**	75	352	131	0	**558**	93	726	30	0	**849**	62	728	156	0	**946**	**2925**
8:00AM	52	83	25	0	**160**	19	71	29	0	**119**	27	204	7	0	**238**	17	151	26	0	**194**	**711**
8:15AM	53	75	38	0	**166**	18	65	27	0	**110**	25	214	12	0	**251**	18	132	44	0	**194**	**721**
8:30AM	42	70	20	0	**132**	21	68	25	1	**115**	16	210	8	0	**234**	23	195	43	1	**262**	**743**

Leg	EB 71st St					WB Westlane					NB Michigan					SB Michigan					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
8:45AM	63	71	27	0	**161**	14	69	34	0	**117**	15	212	10	0	**237**	22	159	28	1	**210**	**725**
Hourly Total	210	299	110	0	**619**	72	273	115	1	**461**	83	840	37	0	**960**	80	637	141	2	**860**	**2900**
9:00AM	53	79	25	0	**157**	10	51	26	0	**87**	13	180	13	0	**206**	15	163	26	0	**204**	**654**
9:15AM	41	65	16	0	**122**	16	44	27	0	**87**	23	160	8	1	**192**	17	158	40	0	**215**	**616**
9:30AM	33	43	26	0	**102**	20	59	20	0	**99**	12	163	4	0	**179**	16	147	28	0	**191**	**571**
9:45AM	31	33	33	0	**97**	19	43	27	0	**89**	15	166	3	0	**184**	15	153	39	0	**207**	**577**
Hourly Total	158	220	100	0	**478**	65	197	100	0	**362**	63	669	28	1	**761**	63	621	133	0	**817**	**2418**
Total	2721	4133	1579	6	**8439**	1240	4044	1732	2	**7018**	1481	10747	659	9	**12896**	1765	10987	2612	13	**15377**	**43730**
% Approach	32.2%	49.0%	18.7%	0.1%	**-**	17.7%	57.6%	24.7%	0%	**-**	11.5%	83.3%	5.1%	0.1%	**-**	11.5%	71.5%	17.0%	0.1%	**-**	-
% Total	6.2%	9.5%	3.6%	0%	**19.3%**	2.8%	9.2%	4.0%	0%	**16.0%**	3.4%	24.6%	1.5%	0%	**29.5%**	4.0%	25.1%	6.0%	0%	**35.2%**	-
Lights	2610	4068	1538	6	**8222**	1219	3967	1671	2	**6859**	1455	10601	650	9	**12715**	1708	10799	2536	13	**15056**	42852
% Lights	95.9%	98.4%	97.4%	100%	**97.4%**	98.3%	98.1%	96.5%	100%	**97.7%**	98.2%	98.6%	98.6%	100%	**98.6%**	96.8%	98.3%	97.1%	100%	**97.9%**	98.0%
Articulated Trucks	36	10	10	0	**56**	2	11	2	0	**15**	1	30	1	0	**32**	3	27	29	0	**59**	162
% Articulated Trucks	1.3%	0.2%	0.6%	0%	**0.7%**	0.2%	0.3%	0.1%	0%	**0.2%**	0.1%	0.3%	0.2%	0%	**0.2%**	0.2%	0.2%	1.1%	0%	**0.4%**	0.4%
Buses and Single-Unit Trucks	75	55	31	0	**161**	19	66	59	0	**144**	25	116	8	0	**149**	54	161	47	0	**262**	716
% Buses and Single-Unit Trucks	2.8%	1.3%	2.0%	0%	**1.9%**	1.5%	1.6%	3.4%	0%	**2.1%**	1.7%	1.1%	1.2%	0%	**1.2%**	3.1%	1.5%	1.8%	0%	**1.7%**	1.6%

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

Michigan Rd & Westlane/71st St - TMC
Tue Mar 3, 2026
Full Length (10 AM-10 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383428, Location: 39.884793, -86.209855

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



Michigan Rd & Westlane/71st St - TMC

Tue Mar 3, 2026
Midday Peak (Mar 03 2026 12:45PM - 1:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383428, Location: 39.884793, -86.209855

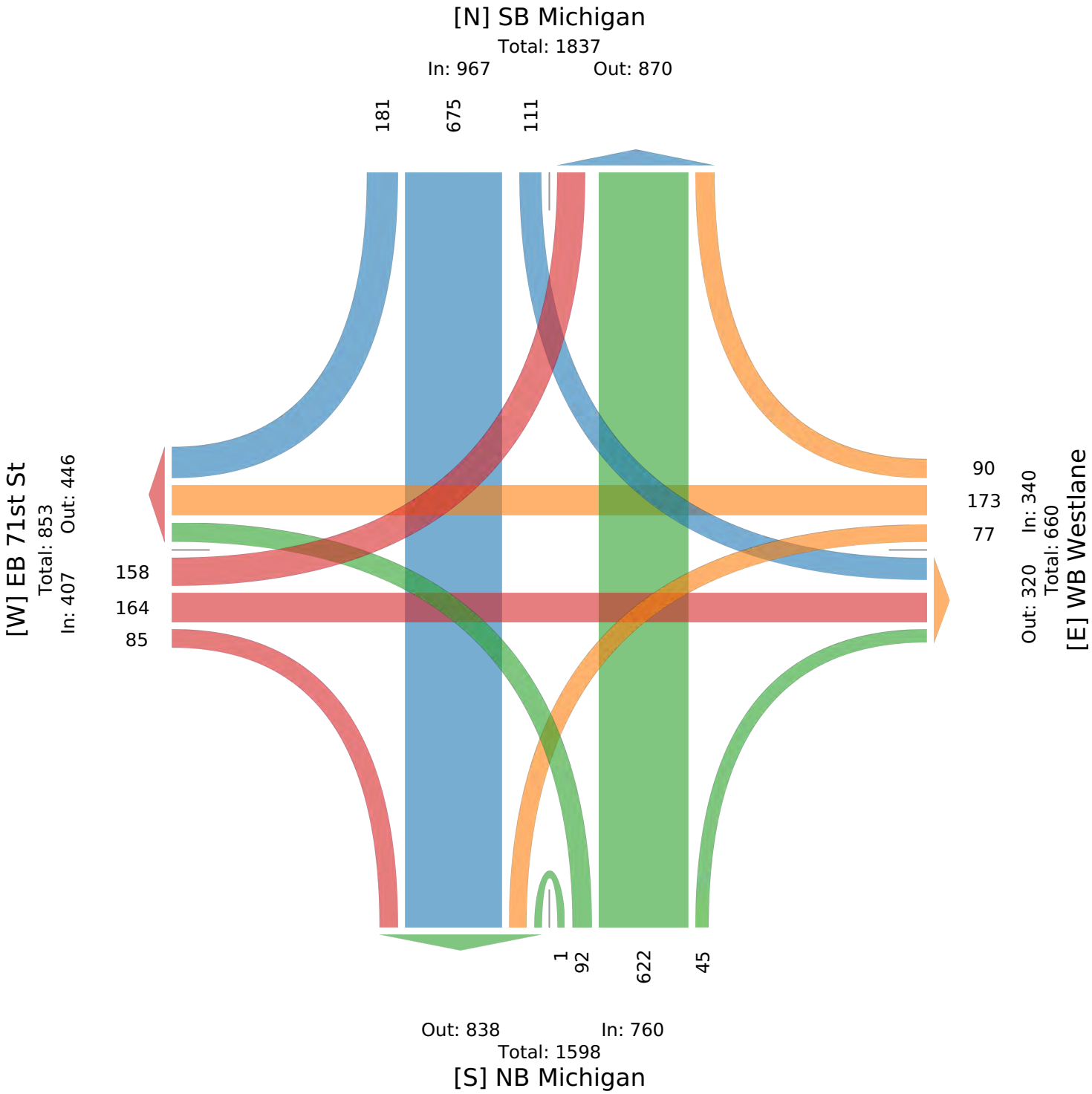
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 71st St Eastbound					WB Westlane Westbound					NB Michigan Northbound					SB Michigan Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-03-03 12:45PM	36	45	30	0	**111**	18	48	24	0	**90**	25	152	10	1	**188**	28	181	44	0	**253**	**642**
1:00PM	27	37	16	0	**80**	15	42	23	0	**80**	27	155	10	0	**192**	21	188	53	0	**262**	**614**
1:15PM	41	41	23	0	**105**	25	44	24	0	**93**	22	182	11	0	**215**	30	139	39	0	**208**	**621**
1:30PM	54	41	16	0	**111**	19	39	19	0	**77**	18	133	14	0	**165**	32	167	45	0	**244**	**597**
Total	158	164	85	0	**407**	77	173	90	0	**340**	92	622	45	1	**760**	111	675	181	0	**967**	**2474**
% Approach	38.8%	40.3%	20.9%	0%	**-**	22.6%	50.9%	26.5%	0%	**-**	12.1%	81.8%	5.9%	0.1%	**-**	11.5%	69.8%	18.7%	0%	**-**	-
% Total	6.4%	6.6%	3.4%	0%	**16.5%**	3.1%	7.0%	3.6%	0%	**13.7%**	3.7%	25.1%	1.8%	0%	**30.7%**	4.5%	27.3%	7.3%	0%	**39.1%**	-
PHF	0.731	0.911	0.708	-	**0.917**	0.770	0.901	0.938	-	**0.914**	0.852	0.854	0.804	0.250	**0.884**	0.867	0.898	0.854	-	**0.923**	0.963
Lights	148	160	82	0	**390**	74	162	85	0	**321**	92	613	44	1	**750**	108	658	173	0	**939**	2400
% Lights	93.7%	97.6%	96.5%	0%	**95.8%**	96.1%	93.6%	94.4%	0%	**94.4%**	100%	98.6%	97.8%	100%	**98.7%**	97.3%	97.5%	95.6%	0%	**97.1%**	97.0%
Articulated Trucks	1	0	1	0	**2**	0	2	0	0	**2**	0	2	0	0	**2**	0	2	3	0	**5**	11
% Articulated Trucks	0.6%	0%	1.2%	0%	**0.5%**	0%	1.2%	0%	0%	**0.6%**	0%	0.3%	0%	0%	**0.3%**	0%	0.3%	1.7%	0%	**0.5%**	0.4%
Buses and Single-Unit Trucks	9	4	2	0	**15**	3	9	5	0	**17**	0	7	1	0	**8**	3	15	5	0	**23**	63
% Buses and Single-Unit Trucks	5.7%	2.4%	2.4%	0%	**3.7%**	3.9%	5.2%	5.6%	0%	**5.0%**	0%	1.1%	2.2%	0%	**1.1%**	2.7%	2.2%	2.8%	0%	**2.4%**	2.5%

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

Michigan Rd & Westlane/71st St - TMC
Tue Mar 3, 2026
Midday Peak (Mar 03 2026 12:45PM - 1:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383428, Location: 39.884793, -86.209855

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



Michigan Rd & Westlane/71st St - TMC

Tue Mar 3, 2026
PM Peak (Mar 03 2026 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383428, Location: 39.884793, -86.209855

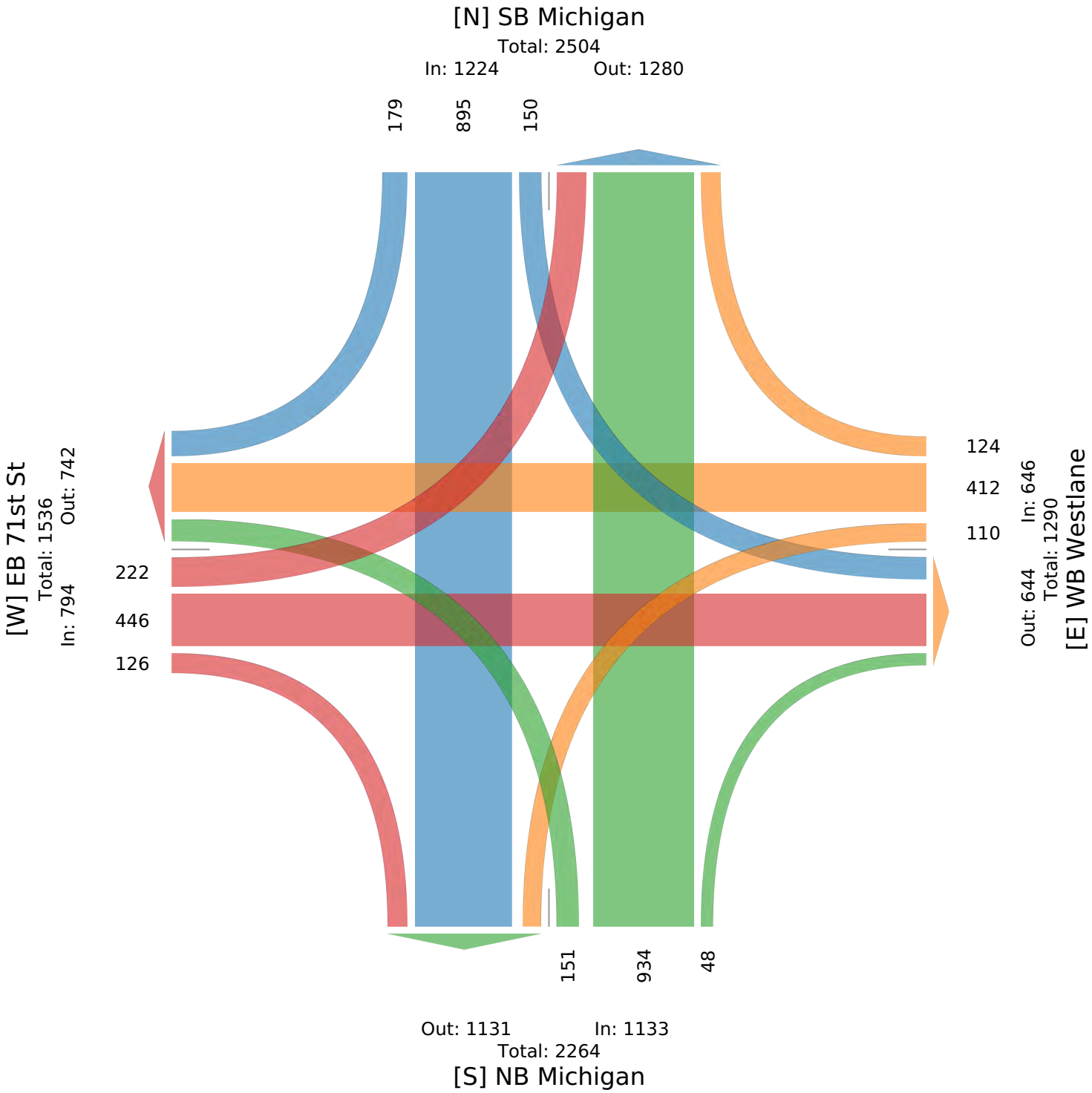
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 71st St Eastbound					WB Westlane Westbound					NB Michigan Northbound					SB Michigan Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-03-03 4:45PM	53	98	46	0	**197**	18	102	32	0	**152**	29	205	12	0	**246**	36	208	46	0	**290**	**885**
5:00PM	60	117	23	0	**200**	30	103	27	0	**160**	50	245	13	0	**308**	40	225	46	0	**311**	**979**
5:15PM	59	115	35	0	**209**	35	103	29	0	**167**	32	239	10	0	**281**	35	242	43	0	**320**	**977**
5:30PM	50	116	22	0	**188**	27	104	36	0	**167**	40	245	13	0	**298**	39	220	44	0	**303**	**956**
Total	222	446	126	0	**794**	110	412	124	0	**646**	151	934	48	0	**1133**	150	895	179	0	**1224**	**3797**
% Approach	28.0%	56.2%	15.9%	0%	-	17.0%	63.8%	19.2%	0%	-	13.3%	82.4%	4.2%	0%	-	12.3%	73.1%	14.6%	0%	-	-
% Total	5.8%	11.7%	3.3%	0%	**20.9%**	2.9%	10.9%	3.3%	0%	**17.0%**	4.0%	24.6%	1.3%	0%	**29.8%**	4.0%	23.6%	4.7%	0%	**32.2%**	-
PHF	0.925	0.953	0.685	-	**0.950**	0.786	0.990	0.861	-	**0.967**	0.755	0.953	0.923	-	**0.920**	0.938	0.925	0.973	-	**0.956**	0.970
Lights	220	443	124	0	**787**	109	404	119	0	**632**	149	932	48	0	**1129**	146	885	175	0	**1206**	3754
% Lights	99.1%	99.3%	98.4%	0%	**99.1%**	99.1%	98.1%	96.0%	0%	**97.8%**	98.7%	99.8%	100%	0%	**99.6%**	97.3%	98.9%	97.8%	0%	**98.5%**	98.9%
Articulated Trucks	1	0	0	0	**1**	0	0	0	0	**0**	0	1	0	0	**1**	0	0	2	0	**2**	4
% Articulated Trucks	0.5%	0%	0%	0%	**0.1%**	0%	0%	0%	0%	**0%**	0%	0.1%	0%	0%	**0.1%**	0%	0%	1.1%	0%	**0.2%**	0.1%
Buses and Single-Unit Trucks	1	3	2	0	**6**	1	8	5	0	**14**	2	1	0	0	**3**	4	10	2	0	**16**	39
% Buses and Single-Unit Trucks	0.5%	0.7%	1.6%	0%	**0.8%**	0.9%	1.9%	4.0%	0%	**2.2%**	1.3%	0.1%	0%	0%	**0.3%**	2.7%	1.1%	1.1%	0%	**1.3%**	1.0%

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

Michigan Rd & Westlane/71st St - TMC
Tue Mar 3, 2026
PM Peak (Mar 03 2026 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383428, Location: 39.884793, -86.209855

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



Michigan Rd & Westlane/71st St - TMC

Wed Mar 4, 2026
AM Peak (Mar 04 2026 7:30AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383428, Location: 39.884793, -86.209855

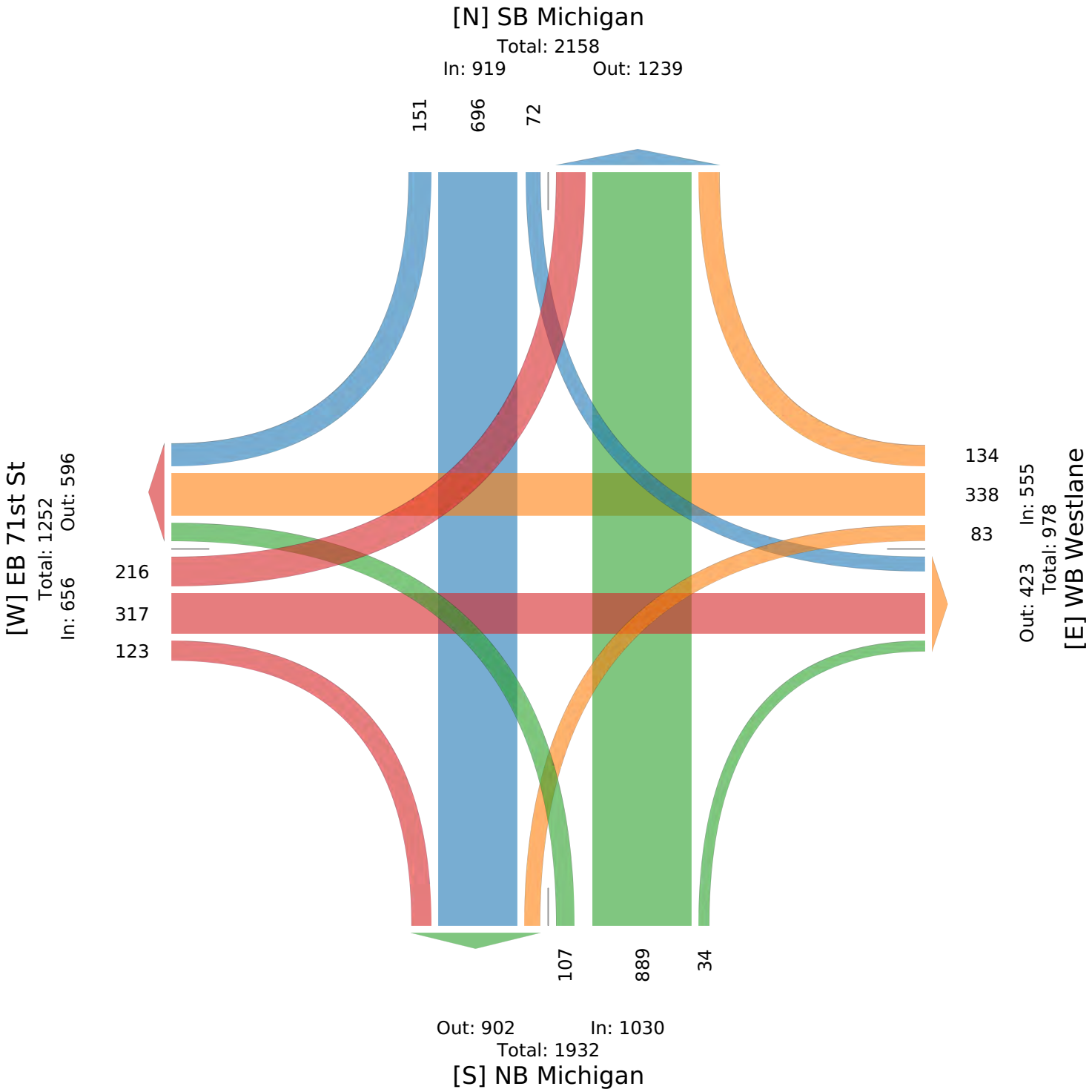
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 71st St Eastbound					WB Westlane Westbound					NB Michigan Northbound					SB Michigan Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-03-04 7:30AM	55	79	31	0	**165**	15	106	33	0	**154**	23	209	9	0	**241**	17	212	48	0	**277**	**837**
7:45AM	56	80	29	0	**165**	31	96	45	0	**172**	32	262	6	0	**300**	20	201	33	0	**254**	**891**
8:00AM	52	83	25	0	**160**	19	71	29	0	**119**	27	204	7	0	**238**	17	151	26	0	**194**	**711**
8:15AM	53	75	38	0	**166**	18	65	27	0	**110**	25	214	12	0	**251**	18	132	44	0	**194**	**721**
Total	216	317	123	0	**656**	83	338	134	0	**555**	107	889	34	0	**1030**	72	696	151	0	**919**	**3160**
% Approach	32.9%	48.3%	18.8%	0%	-	15.0%	60.9%	24.1%	0%	-	10.4%	86.3%	3.3%	0%	-	7.8%	75.7%	16.4%	0%	-	-
% Total	6.8%	10.0%	3.9%	0%	**20.8%**	2.6%	10.7%	4.2%	0%	**17.6%**	3.4%	28.1%	1.1%	0%	**32.6%**	2.3%	22.0%	4.8%	0%	**29.1%**	-
PHF	0.964	0.955	0.809	-	**0.988**	0.669	0.797	0.744	-	**0.807**	0.836	0.848	0.708	-	**0.858**	0.900	0.821	0.786	-	**0.829**	0.887
Lights	202	308	121	0	**631**	82	334	130	0	**546**	106	867	34	0	**1007**	68	683	142	0	**893**	3077
% Lights	93.5%	97.2%	98.4%	0%	**96.2%**	98.8%	98.8%	97.0%	0%	**98.4%**	99.1%	97.5%	100%	0%	**97.8%**	94.4%	98.1%	94.0%	0%	**97.2%**	97.4%
Articulated Trucks	1	1	0	0	**2**	0	1	0	0	**1**	0	6	0	0	**6**	1	1	2	0	**4**	13
% Articulated Trucks	0.5%	0.3%	0%	0%	**0.3%**	0%	0.3%	0%	0%	**0.2%**	0%	0.7%	0%	0%	**0.6%**	1.4%	0.1%	1.3%	0%	**0.4%**	0.4%
Buses and Single-Unit Trucks	13	8	2	0	**23**	1	3	4	0	**8**	1	16	0	0	**17**	3	12	7	0	**22**	70
% Buses and Single-Unit Trucks	6.0%	2.5%	1.6%	0%	**3.5%**	1.2%	0.9%	3.0%	0%	**1.4%**	0.9%	1.8%	0%	0%	**1.7%**	4.2%	1.7%	4.6%	0%	**2.4%**	2.2%

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

Michigan Rd & Westlane/71st St - TMC
Wed Mar 4, 2026
AM Peak (Mar 04 2026 7:30AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383428, Location: 39.884793, -86.209855

Provided by: City of Indianapolis
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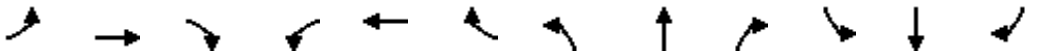


Attachment C
Traffic Analysis

Intersection	Type	MOE	Existing 2026									
			2026 AM Peak Hour					2026 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Michigan Rd & 71st St	Signal	*LOS*	F	D	C	C	**D**	D	D	D	D	**D**
		Delay (sec/veh)	120.8	37.7	29.4	29.6	**49.9**	51.0	50.5	37.8	41.8	**44.0**
		Queue Length 95th (ft)	313	151	361	321		291	218	375	480	
		v/c Ratio	1.53	0.78	0.79	0.79		0.94	0.81	0.83	0.83	
		LOS-F Movements	EBL	---	---	---		EBL	---	---	---	

Intersection	Type	MOE	No-Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Michigan Rd & 71st St	Signal	*LOS*	E	F	D	D	**E**	E	F	E	E	**E**
		Delay (sec/veh)	59.3	111.3	52.8	49.6	**63.5**	77.5	123.9	59.6	66.4	**76.5**
		Queue Length 95th (ft)	434	393	618	578		417	441	637	747	
		v/c Ratio	0.98	1.06	0.98	0.86		1.04	1.11	0.98	0.98	
		LOS-F Movements	EBL	WBT/R	NBL	SBL		EBL	WBL,WBT/R	NBL	SBL	

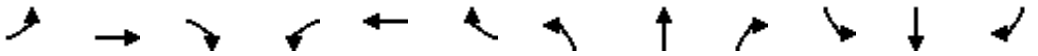
Intersection	Type	MOE	Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Michigan Rd & 71st St	Signal	*LOS*	E	F	D	D	**E**	F	F	D	E	**F**
		Delay (sec/veh)	55.6	223.7	42.1	43.7	**77.2**	80.6	242.5	49.2	61.6	**92.6**
		Queue Length 95th (ft)	351	679	478	430		631	1202	757	1152	
		v/c Ratio	0.91	1.40	0.84	0.81		0.96	1.46	0.87	0.96	
		LOS-F Movements	---	WBT/R	---	---		EBT/R	WBT/R	---	---	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	303	118	79	323	128	102	849	32	69	665	144
Future Volume (veh/h)	206	303	118	79	323	128	102	849	32	69	665	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1856	1870	1885	1885	1856	1885	1870	1900	1811	1870	1811
Adj Flow Rate, veh/h	231	340	133	89	363	144	115	954	36	78	747	162
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	6	3	2	1	1	3	1	2	0	6	2	6
Cap, veh/h	151	554	213	115	501	196	146	1365	52	99	1067	231
Arrive On Green	0.09	0.22	0.22	0.06	0.20	0.20	0.08	0.39	0.39	0.06	0.37	0.37
Sat Flow, veh/h	1725	2489	957	1795	2516	983	1795	3492	132	1725	2904	630
Grp Volume(v), veh/h	231	239	234	89	257	250	115	485	505	78	457	452
Grp Sat Flow(s),veh/h/ln	1725	1763	1683	1795	1791	1708	1795	1777	1847	1725	1777	1757
Q Serve(g_s), s	7.0	9.8	10.0	3.9	10.7	11.0	5.0	18.3	18.3	3.6	17.5	17.5
Cycle Q Clear(g_c), s	7.0	9.8	10.0	3.9	10.7	11.0	5.0	18.3	18.3	3.6	17.5	17.5
Prop In Lane	1.00		0.57	1.00		0.58	1.00		0.07	1.00		0.36
Lane Grp Cap(c), veh/h	151	392	375	115	356	340	146	695	722	99	653	646
V/C Ratio(X)	1.53	0.61	0.62	0.78	0.72	0.74	0.79	0.70	0.70	0.79	0.70	0.70
Avail Cap(c_a), veh/h	151	419	400	157	425	406	157	695	722	151	653	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	28.0	28.1	36.9	30.0	30.1	36.1	20.4	20.4	37.2	21.5	21.5
Incr Delay (d2), s/veh	269.3	2.3	2.7	15.2	4.7	5.6	21.9	5.8	5.6	14.1	6.2	6.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	4.1	4.1	2.1	4.8	4.8	3.0	7.8	8.1	1.8	7.6	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	305.8	30.3	30.8	52.1	34.7	35.7	58.0	26.2	26.0	51.3	27.7	27.8
LnGrp LOS	F	C	C	D	C	D	E	C	C	D	C	C
Approach Vol, veh/h		704			596			1105			987	
Approach Delay, s/veh		120.8			37.7			29.4			29.6	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	37.5	12.0	20.9	11.5	35.6	10.1	22.8
Change Period (Y+Rc), s	5.0	6.2	5.0	5.0	5.0	6.2	5.0	5.0
Max Green Setting (Gmax), s	7.0	25.8	7.0	19.0	7.0	25.8	7.0	19.0
Max Q Clear Time (g_c+I1), s	5.6	20.3	9.0	13.0	7.0	19.5	5.9	12.0
Green Ext Time (p_c), s	0.0	4.7	0.0	2.9	0.0	5.2	0.0	3.1

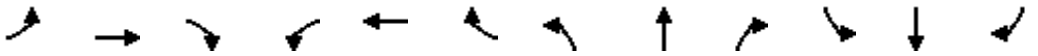
Intersection Summary	
HCM 7th Control Delay, s/veh	49.9
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	427	121	105	394	119	144	893	46	143	856	171
Future Volume (veh/h)	212	427	121	105	394	119	144	893	46	143	856	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1885	1870	1841	1885	1900	1900	1856	1885	1870
Adj Flow Rate, veh/h	219	440	125	108	406	123	148	921	47	147	882	176
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	1	2	4	1	0	0	3	1	2
Cap, veh/h	233	669	189	137	509	153	179	1289	66	177	1099	219
Arrive On Green	0.13	0.24	0.24	0.08	0.19	0.19	0.10	0.37	0.37	0.10	0.37	0.37
Sat Flow, veh/h	1795	2759	777	1795	2694	808	1795	3495	178	1767	2976	594
Grp Volume(v), veh/h	219	284	281	108	266	263	148	476	492	147	531	527
Grp Sat Flow(s),veh/h/ln	1795	1791	1745	1795	1777	1725	1795	1805	1868	1767	1791	1778
Q Serve(g_s), s	12.1	14.3	14.5	5.9	14.3	14.6	8.1	22.6	22.6	8.2	26.6	26.6
Cycle Q Clear(g_c), s	12.1	14.3	14.5	5.9	14.3	14.6	8.1	22.6	22.6	8.2	26.6	26.6
Prop In Lane	1.00		0.45	1.00		0.47	1.00		0.10	1.00		0.33
Lane Grp Cap(c), veh/h	233	435	423	137	336	326	179	666	689	177	662	657
V/C Ratio(X)	0.94	0.65	0.66	0.79	0.79	0.81	0.83	0.71	0.71	0.83	0.80	0.80
Avail Cap(c_a), veh/h	233	435	423	233	373	362	197	666	689	194	662	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	34.1	34.2	45.4	38.7	38.8	44.2	27.1	27.1	44.1	28.3	28.3
Incr Delay (d2), s/veh	42.1	3.5	3.8	9.6	10.2	11.5	22.7	6.5	6.2	23.4	9.9	10.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	6.4	6.4	2.9	7.0	7.0	4.6	10.2	10.5	4.6	12.3	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	85.2	37.6	38.0	55.0	48.9	50.3	66.9	33.5	33.3	67.6	38.2	38.3
LnGrp LOS	F	D	D	D	D	D	E	C	C	E	D	D
Approach Vol, veh/h		784			637			1116			1205	
Approach Delay, s/veh		51.0			50.5			37.8			41.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	43.1	18.0	23.9	15.0	43.1	12.6	29.3
Change Period (Y+Rc), s	5.0	6.2	5.0	5.0	5.0	6.2	5.0	5.0
Max Green Setting (Gmax), s	11.0	33.8	13.0	21.0	11.0	33.8	13.0	21.0
Max Q Clear Time (g_c+I1), s	10.2	24.6	14.1	16.6	10.1	28.6	7.9	16.5
Green Ext Time (p_c), s	0.0	7.6	0.0	2.3	0.0	4.7	0.1	2.5

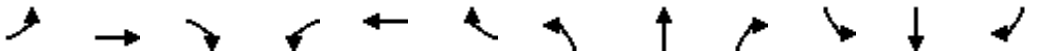
Intersection Summary	
HCM 7th Control Delay, s/veh	44.0
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	388	151	101	413	164	130	1086	41	88	851	184
Future Volume (veh/h)	263	388	151	101	413	164	130	1086	41	88	851	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1856	1870	1885	1885	1856	1885	1870	1900	1811	1870	1811
Adj Flow Rate, veh/h	296	436	170	113	464	184	146	1220	46	99	956	207
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	6	3	2	1	1	3	1	2	0	6	2	6
Cap, veh/h	302	678	262	139	439	173	150	1420	54	115	1133	245
Arrive On Green	0.17	0.27	0.27	0.08	0.17	0.17	0.08	0.41	0.41	0.07	0.39	0.39
Sat Flow, veh/h	1725	2485	960	1795	2510	988	1795	3492	132	1725	2906	628
Grp Volume(v), veh/h	296	308	298	113	330	318	146	620	646	99	584	579
Grp Sat Flow(s),veh/h/ln	1725	1763	1683	1795	1791	1707	1795	1777	1847	1725	1777	1757
Q Serve(g_s), s	20.5	18.5	18.8	7.4	21.0	21.0	9.7	38.2	38.3	6.8	35.8	36.0
Cycle Q Clear(g_c), s	20.5	18.5	18.8	7.4	21.0	21.0	9.7	38.2	38.3	6.8	35.8	36.0
Prop In Lane	1.00		0.57	1.00		0.58	1.00		0.07	1.00		0.36
Lane Grp Cap(c), veh/h	302	481	459	139	313	299	150	723	751	115	693	685
V/C Ratio(X)	0.98	0.64	0.65	0.82	1.05	1.06	0.98	0.86	0.86	0.86	0.84	0.84
Avail Cap(c_a), veh/h	302	481	459	165	313	299	150	723	751	115	693	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	38.4	38.6	54.5	49.5	49.5	54.9	32.5	32.5	55.4	33.3	33.3
Incr Delay (d2), s/veh	46.3	2.9	3.2	22.9	65.4	70.1	66.1	12.6	12.3	44.4	11.9	12.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	8.2	8.0	4.2	14.9	14.6	7.0	18.0	18.6	4.3	16.9	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	95.6	41.3	41.8	77.4	114.9	119.6	120.9	45.1	44.8	99.8	45.2	45.5
LnGrp LOS	F	D	D	E	F	F	F	D	D	F	D	D
Approach Vol, veh/h		902			761			1412			1262	
Approach Delay, s/veh		59.3			111.3			52.8			49.6	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	55.0	26.0	26.0	15.0	53.0	14.3	37.7
Change Period (Y+Rc), s	5.0	6.2	5.0	5.0	5.0	6.2	5.0	5.0
Max Green Setting (Gmax), s	8.0	48.8	21.0	21.0	10.0	46.8	11.0	31.0
Max Q Clear Time (g_c+I1), s	8.8	40.3	22.5	23.0	11.7	38.0	9.4	20.8
Green Ext Time (p_c), s	0.0	7.9	0.0	0.0	0.0	8.0	0.0	5.3

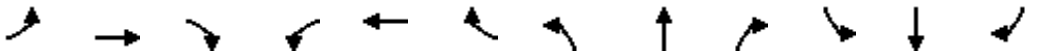
Intersection Summary	
HCM 7th Control Delay, s/veh	63.5
HCM 7th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	271	546	155	134	504	152	184	1142	59	183	1095	219
Future Volume (veh/h)	271	546	155	134	504	152	184	1142	59	183	1095	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1885	1870	1841	1885	1900	1900	1856	1885	1870
Adj Flow Rate, veh/h	279	563	160	138	520	157	190	1177	61	189	1129	226
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	1	2	4	1	0	0	3	1	2
Cap, veh/h	269	644	182	164	471	142	195	1315	68	215	1161	231
Arrive On Green	0.15	0.23	0.23	0.09	0.18	0.18	0.11	0.38	0.38	0.12	0.39	0.39
Sat Flow, veh/h	1795	2755	780	1795	2693	809	1795	3492	181	1767	2977	593
Grp Volume(v), veh/h	279	365	358	138	342	335	190	608	630	189	677	678
Grp Sat Flow(s),veh/h/ln	1795	1791	1745	1795	1777	1725	1795	1805	1867	1767	1791	1778
Q Serve(g_s), s	18.0	23.6	23.7	9.1	21.0	21.0	12.7	38.0	38.1	12.6	44.5	45.1
Cycle Q Clear(g_c), s	18.0	23.6	23.7	9.1	21.0	21.0	12.7	38.0	38.1	12.6	44.5	45.1
Prop In Lane	1.00		0.45	1.00		0.47	1.00		0.10	1.00		0.33
Lane Grp Cap(c), veh/h	269	418	408	164	311	302	195	680	703	215	698	694
V/C Ratio(X)	1.04	0.87	0.88	0.84	1.10	1.11	0.98	0.89	0.90	0.88	0.97	0.98
Avail Cap(c_a), veh/h	269	418	408	165	311	302	195	680	703	221	698	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.0	44.3	44.3	53.7	49.5	49.5	53.3	35.2	35.2	51.8	35.9	36.1
Incr Delay (d2), s/veh	64.5	18.0	19.0	30.4	80.9	84.3	57.6	16.7	16.3	30.1	27.3	29.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	12.3	12.1	5.4	16.1	15.9	8.7	19.0	19.6	7.2	23.6	24.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	115.5	62.3	63.3	84.1	130.4	133.8	111.0	51.8	51.5	81.9	63.2	65.2
LnGrp LOS	F	E	E	F	F	F	F	D	D	F	E	E
Approach Vol, veh/h		1002			815			1428			1544	
Approach Delay, s/veh		77.5			123.9			59.6			66.4	
Approach LOS		E			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.6	51.4	23.0	26.0	18.0	53.0	16.0	33.0
Change Period (Y+Rc), s	5.0	6.2	5.0	5.0	5.0	6.2	5.0	5.0
Max Green Setting (Gmax), s	15.0	44.8	18.0	21.0	13.0	46.8	11.0	28.0
Max Q Clear Time (g_c+I1), s	14.6	40.1	20.0	23.0	14.7	47.1	11.1	25.7
Green Ext Time (p_c), s	0.0	4.4	0.0	0.0	0.0	0.0	0.0	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	76.5
HCM 7th LOS	E



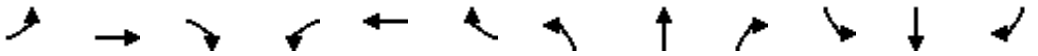
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	388	151	101	413	164	130	1086	41	88	851	184
Future Volume (veh/h)	263	388	151	101	413	164	130	1086	41	88	851	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1856	1870	1885	1885	1856	1885	1870	1900	1811	1870	1811
Adj Flow Rate, veh/h	296	436	170	113	464	184	146	1220	46	99	956	207
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	6	3	2	1	1	3	1	2	0	6	2	6
Cap, veh/h	325	606	234	140	335	132	174	1503	57	123	1176	254
Arrive On Green	0.19	0.24	0.24	0.08	0.13	0.13	0.10	0.43	0.43	0.07	0.40	0.40
Sat Flow, veh/h	1725	2485	960	1795	2510	988	1795	3492	132	1725	2906	628
Grp Volume(v), veh/h	296	308	298	113	330	318	146	620	646	99	584	579
Grp Sat Flow(s),veh/h/ln	1725	1763	1683	1795	1791	1707	1795	1777	1847	1725	1777	1757
Q Serve(g_s), s	20.2	19.2	19.5	7.4	16.0	16.0	9.6	36.7	36.7	6.8	35.0	35.1
Cycle Q Clear(g_c), s	20.2	19.2	19.5	7.4	16.0	16.0	9.6	36.7	36.7	6.8	35.0	35.1
Prop In Lane	1.00		0.57	1.00		0.58	1.00		0.07	1.00		0.36
Lane Grp Cap(c), veh/h	325	430	410	140	239	228	174	765	795	123	719	711
V/C Ratio(X)	0.91	0.72	0.73	0.81	1.38	1.40	0.84	0.81	0.81	0.81	0.81	0.81
Avail Cap(c_a), veh/h	374	430	410	224	239	228	239	765	795	187	719	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	41.6	41.7	54.4	52.0	52.0	53.2	29.9	29.9	54.9	31.7	31.7
Incr Delay (d2), s/veh	24.0	5.7	6.3	10.7	195.9	203.0	16.7	9.1	8.8	13.8	9.7	9.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	8.8	8.6	3.7	20.0	19.5	5.0	16.7	17.3	3.3	16.1	16.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	71.8	47.3	48.1	65.1	247.9	255.0	70.0	39.0	38.8	68.7	41.4	41.6
LnGrp LOS	E	D	D	E	F	F	E	D	D	E	D	D
Approach Vol, veh/h		902			761			1412			1262	
Approach Delay, s/veh		55.6			223.7			42.1			43.7	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	57.9	27.6	21.0	16.7	54.8	14.3	34.2
Change Period (Y+Rc), s	5.0	6.2	5.0	5.0	5.0	6.2	5.0	5.0
Max Green Setting (Gmax), s	13.0	43.8	26.0	16.0	16.0	40.8	15.0	27.0
Max Q Clear Time (g_c+I1), s	8.8	38.7	22.2	18.0	11.6	37.1	9.4	21.5
Green Ext Time (p_c), s	0.1	4.8	0.4	0.0	0.2	3.4	0.1	3.2

Intersection Summary	
HCM 7th Control Delay, s/veh	77.2
HCM 7th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	271	546	155	134	504	152	184	1142	59	183	1095	219
Future Volume (veh/h)	271	546	155	134	504	152	184	1142	59	183	1095	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1885	1870	1841	1885	1900	1900	1856	1885	1870
Adj Flow Rate, veh/h	279	563	160	138	520	157	190	1177	61	189	1129	226
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	2	1	2	4	1	0	0	3	1	2
Cap, veh/h	308	586	166	166	359	108	218	1381	72	217	1182	235
Arrive On Green	0.17	0.21	0.21	0.09	0.13	0.13	0.12	0.40	0.40	0.12	0.40	0.40
Sat Flow, veh/h	1795	2755	780	1795	2693	809	1795	3492	181	1767	2977	593
Grp Volume(v), veh/h	279	365	358	138	342	335	190	608	630	189	677	678
Grp Sat Flow(s),veh/h/ln	1795	1791	1745	1795	1777	1725	1795	1805	1867	1767	1791	1778
Q Serve(g_s), s	18.3	24.2	24.4	9.1	16.0	16.0	12.5	36.9	36.9	12.6	44.0	44.6
Cycle Q Clear(g_c), s	18.3	24.2	24.4	9.1	16.0	16.0	12.5	36.9	36.9	12.6	44.0	44.6
Prop In Lane	1.00		0.45	1.00		0.47	1.00		0.10	1.00		0.33
Lane Grp Cap(c), veh/h	308	381	371	166	237	230	218	714	739	217	711	706
V/C Ratio(X)	0.91	0.96	0.96	0.83	1.44	1.46	0.87	0.85	0.85	0.87	0.95	0.96
Avail Cap(c_a), veh/h	344	381	371	209	237	230	254	714	739	265	711	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	46.7	46.8	53.6	52.0	52.0	51.8	33.1	33.1	51.7	35.1	35.3
Incr Delay (d2), s/veh	25.0	35.6	37.3	20.0	222.4	227.5	23.7	12.2	12.0	22.0	23.9	25.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	14.3	14.1	4.9	21.6	21.3	6.9	17.6	18.2	6.8	22.7	23.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	73.8	82.3	84.1	73.6	274.4	279.5	75.5	45.3	45.0	73.7	59.0	60.8
LnGrp LOS	E	F	F	E	F	F	E	D	D	E	E	E
Approach Vol, veh/h		1002			815			1428			1544	
Approach Delay, s/veh		80.6			242.5			49.2			61.6	
Approach LOS		F			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.8	53.7	25.6	21.0	19.6	53.8	16.1	30.5
Change Period (Y+Rc), s	5.0	6.2	5.0	5.0	5.0	6.2	5.0	5.0
Max Green Setting (Gmax), s	18.0	41.8	23.0	16.0	17.0	42.8	14.0	25.0
Max Q Clear Time (g_c+I1), s	14.6	38.9	20.3	18.0	14.5	46.6	11.1	26.4
Green Ext Time (p_c), s	0.2	2.7	0.3	0.0	0.1	0.0	0.1	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	92.6
HCM 7th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Intersection: 9: Michigan Rd & 71st St/Westlane Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	250	419	321	350	642	610	300	524	455	332	460	472
Average Queue (ft)	203	196	172	147	365	360	149	321	263	104	293	271
95th Queue (ft)	282	351	261	356	679	664	306	478	412	252	430	414
Link Distance (ft)		964	964		1014	1014		951	951		940	940
Upstream Blk Time (%)					2	2						
Queuing Penalty (veh)					0	0						
Storage Bay Dist (ft)	150			250			200			250		
Storage Blk Time (%)	26	7		0	40		0	30			18	
Queuing Penalty (veh)	50	19		0	41		2	39			16	

Intersection: 9: Michigan Rd & 71st St/Westlane Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	250	593	544	350	1055	1057	300	749	699	350	983	982
Average Queue (ft)	219	346	310	285	977	972	234	458	393	288	892	881
95th Queue (ft)	297	631	557	488	1197	1202	369	757	683	454	1145	1152
Link Distance (ft)		964	964		1014	1014		951	951		940	940
Upstream Blk Time (%)		0	0		67	61		1	1		49	43
Queuing Penalty (veh)		0	0		0	0		0	0		0	0
Storage Bay Dist (ft)	150			250			200			250		
Storage Blk Time (%)	36	34		1	85		7	44		2	58	
Queuing Penalty (veh)	100	91		3	114		41	81		13	107	

Attachment D
Virtual Meeting Minutes & Field Check Minutes

CORRADINO LLC
200 S. Meridian St. Suite 330
Indianapolis, IN 46225

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

Field Check Notes for RSA at Michigan Road & 71st Street / Westlane Road

Date:	5/28/2026
Des. No.:	n/a

Reviewer Information:	
Primary Author: James Mark Rinehart	Agency/Firm Name: Corradino LLC
Phone Numbers: (317) 488-2363	Agency: Indianapolis Metropolitan Planning Organization
	Email Address: jrinehart@corradino.com

Attendees:

- Jill Palmer, Indy DPW
- Jason Bowers, Indy DPW
- Jennifer Dunn, IMPO
- James Mark Rinehart, Corradino
- David Cleveland, Corradino

Purpose of Field Check:

The purpose of this field check was to review the crash history at the Michigan Road & 71st Street / Westlane Road intersection, evaluate the current roadway conditions, observe traffic patterns, and collaborate with representatives from Local Public Agencies (LPA) and Law Enforcement to identify safety countermeasures. Participants in the field check were provided with a Preliminary Findings Report summarizing the crash history at the intersection, 24-hour traffic counts, existing traffic conditions, and a future no-build analysis during the field visit.

The goal of the field check was to identify near-term and long-term improvements and build consensus with the LPAs and Local Law Enforcement on the recommendations.

Recommendations from the field check will serve as the final recommendations for the RSA and will be included in IMPO's Safety Study.

Project Location:

Location: Intersection of Michigan Road & 71st Street / Westlane Road

INDOT District: Greenfield				City: Indianapolis	County: Marion
Lat & Long (BOP)	39.884780	-86.209819	Urban/Rural - **URBAN**	Functional Class of Major Roadway: Other Principal Arterial	
Traffic Control Type: Signalized				Posted Speed Limit: Michigan Rd – 45mph; 71st St. / Westlane Rd. – 40mph	

Site Observations

- It was observed in the field check packet that there were multiple reported WB left turns at the intersection. Indianapolis DPW found it interesting that the signal currently has a protected left-turn-only phase, even though it lasts only a few seconds. After observing the signal in the field, the green time for the WB left turn may be set to the minimum.
    - Suggestions were to look at the phasing plan and phase times for the intersection. There might be an opportunity to extend the all-clear red phase to help reduce red-light running.
- All traffic signals at the intersection were older and did not have LED signal heads, but were still operational.
    - Suggestions were to keep the signals but add backplates to the lights.
- Pedestrian signals and push buttons appeared to work in the SW, SE, and NE corners of the intersections, but not in the NW corner.
    - Indianapolis DPW suggested that they would put in a maintenance request.
- ADA ramps at the intersection appeared in decent condition, except for the ADA ramp in the SE corner. It may not comply with current ADA guidelines
    - Suggestions were to include an update to the ADA ramp to create two separate ramps for each crosswalk approach, similar to what was constructed on the other three corners of the intersection.

- A small tree was planted approximately 30’ south of the intersection and has not been pruned to maintain clear sight.
    - The suggestion was to remove the tree.
- It was observed that the pavement at the intersection was in poor condition, and the pavement markings for stop bars and pedestrian crossings needed to be updated.
    - The suggestion was to repave the intersection and about 90’ of each intersection approach.
- The crash data provided in the field check packet noted a couple of right-angle crashes on the west leg of the intersection, where vehicles attempted to cross over traffic from the business access drive located just west of the existing roadway median. While visiting the intersection, it was also observed that, during off-peak hours, EB left-turning vehicles were stacked further back than the provided queuing lane.
    - It was suggested as part of a long-term solution to extend the left turn lane further west, as well as extend the existing median for better access management on the west leg of the intersection.
- It was observed that a vehicle crash had damaged the guard rail located in the SE corner of the intersection.
    - It was suggested that fixing the guard rail could be part of a near-term solution.

Potential Alternatives Discussed

Near-Term

The list of near-term solutions discussed during the field check includes:

- Evaluate the current signal timing and clearance intervals to potentially recommend revisions.
- Install backplates on all existing traffic signals.
- Restripe stop bars and pedestrian crossings.
- Remove the existing tree located ~30’ south of the intersection in the easement on the west side of Michigan Road.
- Replace the damaged guardrail located in the SE corner.

Long-Term

The list of Long-Term improvements, separate from the Near-Term improvements, would include:

- Reconstruct the SE corner of the intersection to have two ADA ramps and DWS.
- Extend the EB left-turn lane and median 70’ west.
- Do a full signal modification at the intersection to upgrade to LED signal heads.
- Mill and resurface the intersection, plus 90’ of each leg of the intersection.
- Check the curb radius in the SW corner of the intersection, and modify the curb if needed.
    - If the curb radius needs to be modified, the ADA ramps and sidewalk in the SW corner would need to be updated as part of the infrastructure improvement.

Future Consideration

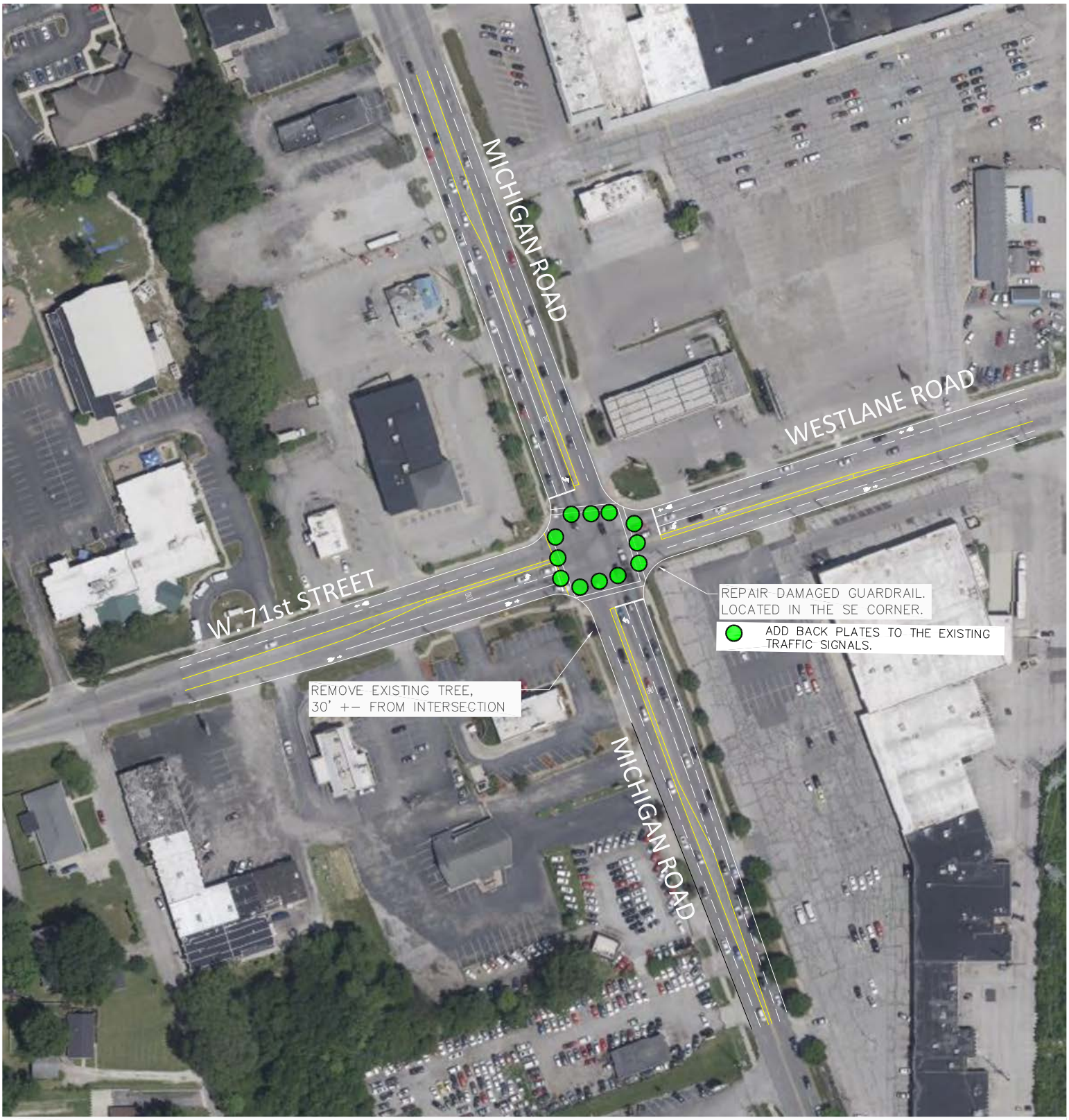
Indianapolis DPW noted that this intersection may be studied further as part of a Michigan Road Corridor Study.

Consensus on Key Items for Alternatives

Consensus was reached with Indianapolis DPW staff on the Near- and Long-Term alternatives.

Attachment E
Cost Estimates & Schematics

Near-Term Improvements
Michigan Road & 71st Street



PRELIMINARY COST ESTIMATE - NEAR TERM
Michigan Road & 71st Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 5,000.00	$ 5,000.00
2	201-02250	TREE, 10 IN., REMOVE	1	EACH	$ 1,000.00	$ 1,000.00
3	706-06344	RAILING, STEEL TYPE TS-1	15	LFT	$ 100.00	$ 1,500.00
4	801-06775	MAINTAINING TRAFFIC	1	LS	$ 3,000.00	$ 3,000.00
5	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	12	EACH	$ 1,750.00	$ 21,000.00
6	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	132	LFT	$ 14.00	$ 1,848.00
7	808-75300	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 6 IN.	640	LFT	$ 4.00	$ 2,560.00
					TOTAL	$ 35,908.00

CONSTRUCTION TOTAL	**$36,000.00**
CONTINGENCY (10%)	**$4,000.00**
OVERALL PROJECT TOTAL	**$40,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases

Task No.	Task	Cost
1	Preliminary Engineering	$ 10,000
2	Right of Way	$ -
3	Utility CN	$ -
4	Railroad CN	$ -
5	Construction Inspection/Testing (10%)	$ -
	TOTAL	**$ 10,000**

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature

GARY L. YELLIG REGISTERED No. 19700103 STATE OF INDIANA PROFESSIONAL ENGINEER

Todd Johnson
Estimate Completed By

6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - NEAR TERM

Michigan Road & 71st Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	110-01001	MOBILIZATION AND DEMOBILIZATION	
2	201-02250	TREE, 10 IN., REMOVE	assume this cost to remove the existing tree
3	706-06344	RAILING, STEEL TYPE TS-1	Existing guardrail appears to be old aluminium type - may need to repair the broken parts. This may be closest item
4	801-06775	MAINTAINING TRAFFIC	
5	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	3 signal heads on each span or 12 total - all are 3-section
6	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	
7	808-75300	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 6 IN.	

Long-Term Improvements
Michigan Road & 71st. Street



PRELIMINARY COST ESTIMATE - LONG TERM
Michigan Road & 71st Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	105-06845	CONSTRUCTION ENGINEERING	1	LS	$ 5,000.00	$ 5,000.00
2	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 16,900.00	$ 16,900.00
3	201-52370	CLEARING RIGHT-OF-WAY	1	LS	$ 3,000.00	$ 3,000.00
4	202-02240	PAVEMENT REMOVAL	32	SYS	$ 70.00	$ 2,240.00
5	202-02279	CURB AND GUTTER, REMOVE	40	LFT	$ 60.00	$ 2,400.00
6	202-52710	SIDEWALK CONCRETE, REMOVE	36	SYS	$ 125.00	$ 4,500.00
7	207-08264	SUBGRADE TREATMENT, TYPE II	20	SYS	$ 60.00	$ 1,200.00
8	306-08034	MILLING, ASPHALT, 1 1/2 IN.	4050	SYS	$ 6.00	$ 24,300.00
9	401-000008	QC/QA-HMA, 3, 58E, SURFACE, 9.5 mm	335	TON	$ 100.00	$ 33,500.00
10	604-06070	SIDEWALK, CONCRETE	12	SYS	$ 240.00	$ 2,880.00
11	604-08086	CURB RAMP, CONCRETE	24	SYS	$ 280.00	$ 6,720.00
12	604-12083	DETECTABLE WARNING SURFACES	3	SYS	$ 325.00	$ 975.00
13	605-06140	CURB AND GUTTER, CONCRETE	40	LFT	$ 90.00	$ 3,600.00
14	605-06255	CENTER CURB, CONCRETE, TYPE D	32	SYS	$ 510.00	$ 16,320.00
15	801-06775	MAINTAINING TRAFFIC	1	LS	$ 20,000.00	$ 20,000.00
16	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	40	SFT	$ 45.00	$ 1,800.00
17	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	12	SFT	$ 50.00	$ 600.00
18	805-01300	TRAFFIC SIGNAL EQUIPMENT, REMOVE	1	EACH	$ 12,000.00	$ 12,000.00
19	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	1	LS	$ 5,000.00	$ 5,000.00
20	805-01842	HANDHOLE, SIGNAL, TYPE 1	1	EACH	$ 2,500.00	$ 2,500.00
21	805-02087	TRANSPORTATION OF SALVAGEABLE SIGNAL EQUIPMENT	1	LS	$ 2,500.00	$ 2,500.00
22	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	8	EACH	$ 1,150.00	$ 9,200.00
23	805-02445	CONTROLLER AND CABINET, TYPE P1	1	EACH	$ 21,600.00	$ 21,600.00
24	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	4	EACH	$ 2,000.00	$ 8,000.00
25	805-11813	CONDUIT, PVC, 2 IN. SCHEDULE 80	100	LFT	$ 42.00	$ 4,200.00
26	805-11817	PEDESTRIAN PUSH BUTTON, APS	8	EACH	$ 1,600.00	$ 12,800.00
27	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	4	EACH	$ 1,100.00	$ 4,400.00
28	805-78205	TRAFFIC SIGNAL HEAD, NO. 3 SECTION, 12 IN.	12	EACH	$ 1,200.00	$ 14,400.00
29	805-78412	SIGNAL POLE, PEDESTAL, 9 FT	5	EACH	$ 1,500.00	$ 7,500.00
30	805-78415	SPAN, CATENARY, AND TETHER	4	EACH	$ 4,500.00	$ 18,000.00
31	805-78420	DISCONNECT HANGER	4	EACH	$ 600.00	$ 2,400.00
32	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	400	LFT	$ 4.30	$ 1,720.00
33	805-78490	SIGNAL CABLE, CONTROL, COPPER, 7C/14 GAUGE	400	LFT	$ 5.40	$ 2,160.00
34	805-78925	CONTROLLER CABINET FOUNDATION, TYPE P1	1	EACH	$ 2,950.00	$ 2,950.00
35	805-78000	DETECTION LOOP, 6 FT DIA	48	EACH	$ 1,300.00	$ 62,400.00
36	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	640	LFT	$ 4.00	$ 2,560.00
37	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	880	LFT	$ 2.50	$ 2,200.00
38	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	3320	LFT	$ 1.25	$ 4,150.00
39	808-11482	LINE, THERMOPLASTIC, DOTTED, WHITE, 4 IN.	24	LFT	$ 3.00	$ 72.00
40	808-12013	PAVEMENT MESSAGE MARKING, THERMOPLASTIC , SHARED LANE	8	EACH	$ 355.00	$ 2,840.00
41	808-75240	LINE, THERMOPLASTIC, BROKEN, YELLOW, 4 IN.	60	LFT	$ 2.50	$ 150.00
42	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	3320	LFT	$ 1.25	$ 4,150.00
43	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	132	LFT	$ 14.00	$ 1,848.00
44	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	4	EACH	$ 250.00	$ 1,000.00
45	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	4	EACH	$ 240.00	$ 960.00
					TOTAL	$ 359,595.00

CONSTRUCTION TOTAL	**$360,000.00**
CONTINGENCY (10%)	**$36,000.00**
OVERALL PROJECT TOTAL	**$396,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases

Task No.	Task	Cost
1	Preliminary Engineering	$ 50,000
2	Right of Way	$ -
3	Utility CN	$ 5,000
4	Railroad CN	$ -
5	Construction Inspection/Testing	$ -
	TOTAL	$ 55,000

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



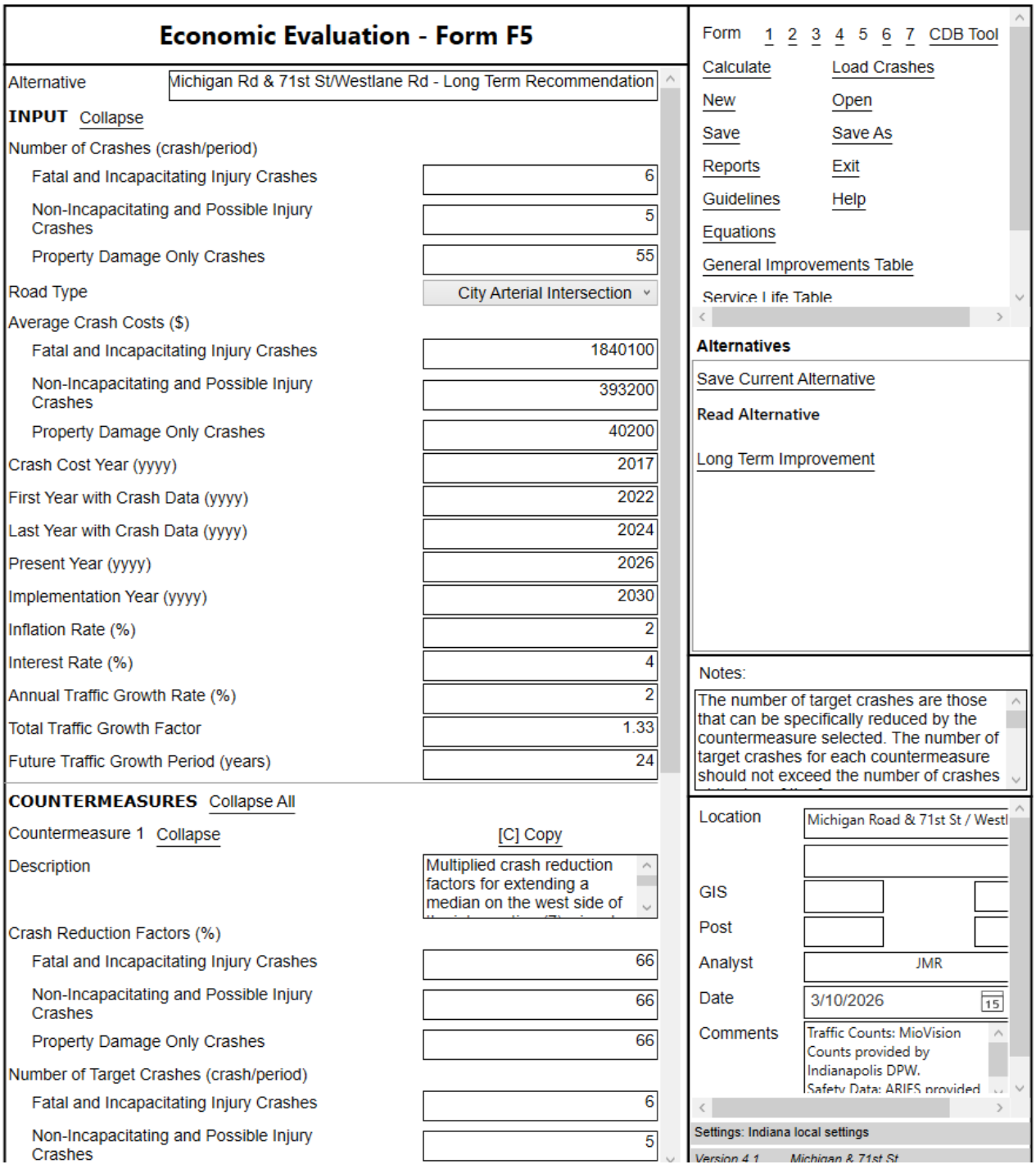
Todd Johnson
Estimate Completed By

6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - LONG TERM

Michigan Road & 71st Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	105-06845	CONSTRUCTION ENGINEERING	
2	110-01001	MOBILIZATION AND DEMOBILIZATION	
3	201-52370	CLEARING RIGHT-OF-WAY	
4	202-02240	PAVEMENT REMOVAL	
5	202-02279	CURB AND GUTTER, REMOVE	
6	202-52710	SIDEWALK CONCRETE, REMOVE	
7	207-08264	SUBGRADE TREATMENT, TYPE II	used under new curbs and the new center curb median
8	306-08034	MILLING, ASPHALT, 1 1/2 IN.	this is for resurfacing in the intersection area and 90' on each leg
9	401-000008	QC/QA-HMA, 3, 58E, SURFACE, 9.5 mm	this is for resurfacing in the intersection area and 90' on each leg
10	604-06070	SIDEWALK, CONCRETE	this is for base reconstruction at each ramp. Assume 18' length per ramp and a 4' width
11	604-08086	CURB RAMP, CONCRETE	
12	604-12083	DETECTABLE WARNING SURFACES	Assume 12 sys per curb ramp
13	605-06140	CURB AND GUTTER, CONCRETE	Assume 1.5 sys per surface
14	605-06255	CENTER CURB, CONCRETE, TYPE D	for the west leg (EB left turn lane extension) 70' long by 4' wide = say 32 SYS
15	801-06775	MAINTAINING TRAFFIC	
16	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	for overhead traffic signs on signal spans
17	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	for overhead street signs on signal spans
18	805-01300	TRAFFIC SIGNAL EQUIPMENT, REMOVE	to remove all replaced signal material at this signal
19	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	for any misc detector racks, etc. required in the new controller cabinet
20	805-01842	HANDHOLE, SIGNAL, TYPE 1	assume one may be needed at the SE quadrant
21	805-02087	TRANSPORTATION OF SALVAGEABLE SIGNAL EQUIPMENT	to transport salvageable items to DPW on S. West Street
22	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	replaces all existing ped. Heads - 8 each
23	805-02445	CONTROLLER AND CABINET, TYPE P1	one each to replace the existing one in the NE quad
24	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	use 4 each for the 4 - 5' pedestals
25	805-11813	CONDUIT, PVC, 2 IN. SCHEDULE 80	
26	805-11817	PEDESTRIAN PUSH BUTTON, APS	replace each button or 8 each
27	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	assume one each in each of four quads to ensure button is close to ramp
28	805-78205	TRAFFIC SIGNAL HEAD, NO. 3 SECTION, 12 IN.	replace the existing heads - use 12 each
29	805-78412	SIGNAL POLE, PEDESTAL, 9 FT	
30	805-78415	SPAN, CATENARY, AND TETHER	replace the span on each quad or 4 each
31	805-78420	DISCONNECT HANGER	replace hangers on each span of 4 each
32	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	from 3-Section Heads to disconnect hanger and from cabinet to ped heads and buttons
33	805-78490	SIGNAL CABLE, CONTROL, COPPER, 7C/14 GAUGE	from disconnect hanger to cabinet
34	805-78925	CONTROLLER CABINET FOUNDATION, TYPE P1	one each to replace the existing one in the NE quad
35	805-78000	DETECTION LOOP, 6 FT DIA	replace existing ones: 12 on north leg; 12 on south; 12 on west; and 12 on east or 48 each
36	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	Assume marking covers only the overlay portion of 90' on each leg
37	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	See note above
38	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	See note above
39	808-11482	LINE, THERMOPLASTIC, DOTTED, WHITE, 4 IN.	See note above
40	808-12013	PAVEMENT MESSAGE MARKING, THERMOPLASTIC , SHARED LANE	See note above
41	808-75240	LINE, THERMOPLASTIC, BROKEN, YELLOW, 4 IN.	See note above
42	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	See note above
43	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	See note above
44	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	See note above
45	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	See note above



Economic Evaluation - Form F5

Alternative: Michigan Rd & 71st St/Westlane Rd - Long Term Recommendation

INPUT Collapse

Number of Crashes (crash/period)

Fatal and Incapacitating Injury Crashes	6
Non-Incapacitating and Possible Injury Crashes	5
Property Damage Only Crashes	55
Road Type	City Arterial Intersection

Average Crash Costs ($)

Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Present Year (yyyy)	2026
Implementation Year (yyyy)	2030
Inflation Rate (%)	2
Interest Rate (%)	4
Annual Traffic Growth Rate (%)	2
Total Traffic Growth Factor	1.33
Future Traffic Growth Period (years)	24

COUNTERMEASURES Collapse All

Countermeasure 1 Collapse [C] Copy

Description: Multiplied crash reduction factors for extending a median on the west side of

Crash Reduction Factors (%)

Fatal and Incapacitating Injury Crashes	66
Non-Incapacitating and Possible Injury Crashes	66
Property Damage Only Crashes	66

Number of Target Crashes (crash/period)

Fatal and Incapacitating Injury Crashes	6
Non-Incapacitating and Possible Injury Crashes	5

Form 1 2 3 4 5 6 7 CDB Tool

Calculate Load Crashes

New Open

Save Save As

Reports Exit

Guidelines Help

Equations

General Improvements Table

Service Life Table

Alternatives

Save Current Alternative

Read Alternative

Long Term Improvement

Notes:

The number of target crashes are those that can be specifically reduced by the countermeasure selected. The number of target crashes for each countermeasure should not exceed the number of crashes

Location: Michigan Road & 71st St / Westl

GIS

Post

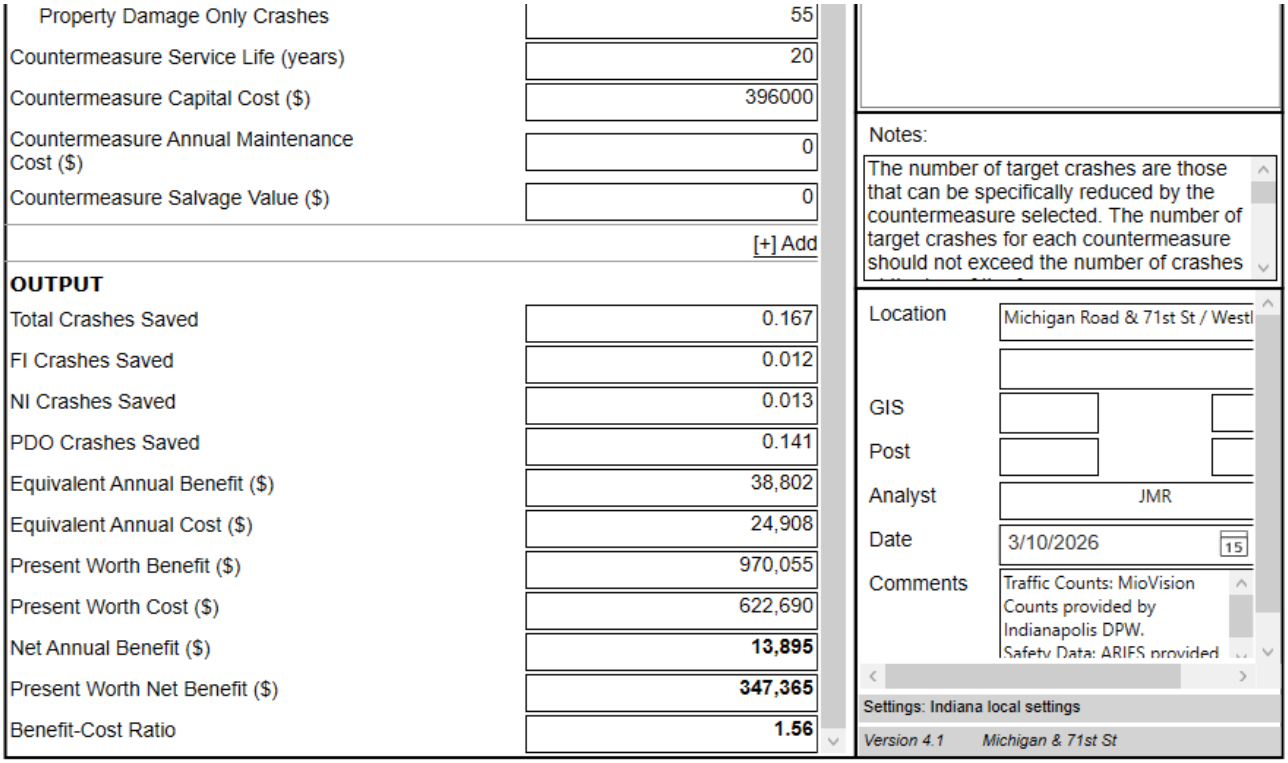
Analyst: JMR

Date: 3/10/2026

Comments: Traffic Counts: MioVision Counts provided by Indianapolis DPW. Safety Data: ARIES provided

Settings: Indiana local settings

Version 4.1 Michigan & 71st St


Property Damage Only Crashes
55
Countermeasure Service Life (years)
20
Countermeasure Capital Cost ($)
396000
Countermeasure Annual Maintenance Cost ($)
0
Countermeasure Salvage Value ($)
0
[+] Add
OUTPUT
Total Crashes Saved
0.167
FI Crashes Saved
0.012
NI Crashes Saved
0.013
PDO Crashes Saved
0.141
Equivalent Annual Benefit ($)
38,802
Equivalent Annual Cost ($)
24,908
Present Worth Benefit ($)
970,055
Present Worth Cost ($)
622,690
Net Annual Benefit ($)
13,895
Present Worth Net Benefit ($)
347,365
Benefit-Cost Ratio
1.56
Notes:
The number of target crashes are those that can be specifically reduced by the countermeasure selected. The number of target crashes for each countermeasure should not exceed the number of crashes
Location
Michigan Road & 71st St / Westl
GIS
Post
Analyst
JMR
Date
3/10/2026
Comments
Traffic Counts: MioVision Counts provided by Indianapolis DPW.
Safety Data: ARIES provided
Settings: Indiana local settings
Version 4.1
Michigan & 71st St

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/25/2026
Des. No.:	n/a

Reviewer Information:		Agency/Firm Name: Corradino LLC	
Primary Author:	James Mark Rinehart	Agency:	Indianapolis Metropolitan Planning Organization
Phone Numbers:	(317) 488-2363	Email Address:	jrinehart@corradino.com

Purpose of Review:

Corradino LLC was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Fall Creek Pkwy		District: Greenfield		City: Indianapolis		County: Marion	
Lat & Long (BOP)	39.81038	-86.143649	Lat & Long (EOP):	39.81038	-86.143649	Inside Urban Area Boundary: Yes (circled) or No	
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit			
Location: The intersection of Fall Creek Parkway & 30th Street							

Existing Conditions:

The Fall Creek Parkway & 30th Street intersection is a four-leg, signalized intersection. Fall Creek Parkway is a 5-lane roadway at the intersection. There are two NB and two SB lanes along Fall Creek Parkway. The center lane is a reversible travel lane that operates in the SB direction during peak AM hours and in the NB direction during peak PM hours. Signage is placed at the intersection prohibiting left turns from Fall Creek Parkway onto 30th Street. The speed limit along Fall Creek Parkway at the intersection is 40 MPH.

30th Street is a five-lane roadway with four through lanes in the EB and WB directions, as well as an EB-to-NB and a WB-to-SB left-turn lane. The traffic signal phasing for EB traffic is permissive. WB traffic has a permissive/protected phase for WB-to-SB left-turning vehicles. Additionally, the WB approach to the intersection is a bridge spanning Fall Creek. A guardrail was installed on both sides of 30th Street from the bridge deck to the corner of the intersection with Fall Creek Parkway. The posted speed limit on 30th Street at the intersection is 35 MPH.

There is a sidewalk located along both sides of 30th Street and on the northwest, southwest, and southeast sides of Fall Creek Parkway at the intersection. The sidewalk in the southeast corner of the intersection spans ~40' to connect to a staircase for accessing the Fall Creek Trail and the Fall Creek & 30th Street Park, and then transitions to a stone pedestrian path from the staircase to a parking lot at Fall Creek & 30th Street Park.

There are pedestrian signals located at the intersection that are timed with the traffic signals. There are no pedestrian push buttons or crosswalks at the intersection. There were ADA ramps at all four corners of the intersection, but none appeared to meet the current ADA design standards noted in Chapter 51 of the Indiana Design Manual or PROWAG.

Additionally, IndyGo's Route 30 operates along 30th Street at the intersection. Bus Stop 10430 is located in the southwest corner of the intersection. A Simme-Seat bench was installed at the bus stop.

Located in each quadrant of the intersection are:

- NW Quadrant: Empty lot.
- SW Quadrant: Stetson Senior Apartments
- SE Quadrant: Fall Creek & 30th Park, and the Fall Creek Trail.
- NE Quadrant: Preserved land around the Fall Creek Trail.

Corradino staff held a virtual meeting with Indianapolis DPW staff on February 19, 2026, to review data generated for the IMPO's Regional Safety Study update and to identify intersections within the City of Indianapolis for further study. The Fall Creek Parkway & 30th Street intersection was listed as one of the high-crash locations in Central Indiana and was prioritized by the Indianapolis DPW. Meeting minutes from the virtual meeting with Indianapolis DPW are available in **Attachment D**.

Corradino held a field check with the representatives from the IMPO, City of Indianapolis DPW, and IMPD on April 29, 2026, to provide a recap of the discussion held during the virtual meeting, share test results for the near-term and long-term solutions, and build consensus around a series of countermeasures for Corradino to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Traffic Operations:

a) Mobility/Congestion Performance: According to 12-hour traffic count data collected on April 15, 2025, EB traffic entering the intersection was **4,031.** The WB traffic entering the intersection was **5,066.** The NB traffic entering the intersection was **13,443.** The SB traffic entering the intersection was **13,754.** Turning movement counts are available for review in **Attachment B**. A **3.1%** forecasted annual growth rate derived from the IMPO's TDM was used to develop a future no-build traffic scenario and to test long-term build alternatives at the intersection. The design year for the project was **2050.** Results from the traffic analysis are available in **Attachment C**.

Corradino's team acknowledged that the forecasted annual growth rate of 3.1% appeared to be higher than expected for a developed urban environment. Indianapolis DPW agreed but noted they were more focused on existing traffic operations at the Fall Creek Parkway & 30th Street intersection. If a roadway reconstruction project along Fall Creek Parkway were identified as part of a future corridor study, Indianapolis DPW said it would further evaluate the forecasted annual growth rate.

	Eastbound		Westbound		Northbound		Southbound	
Alternative	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
AM Peak – 2026	**E**	**77.4**	**D**	**43.1**	**B**	**14.1**	**C**	**21.1**
PM Peak - 2026	**E**	**77.5**	**D**	**48.3**	**B**	**13.7**	**B**	**12.3**
AM Peak - 2050	**F**	**153.0**	**F**	**94.7**	**C**	**34.2**	**F**	**178.3**
PM Peak - 2050	**F**	**85.2**	**E**	**56.0**	**F**	**112.5**	**F**	**102.0**

b) Safety Performance / Crash Analysis: According to available crash data reported between January 1, 2022, and December 31, 2024, there were **57** crashes near the Fall Creek Parkway & 30th Street intersection. Of those crashes, **1** resulted in fatality, **7** resulted in incapacitating injuries, and **8** resulted in non-incapacitating injuries. See attached Crash Summary and output from RoadHAT 4.1 in **Attachment A.**

It is important to note that 30 of the 57 crashes reported at the intersection (57%) were either Right Angle (42%) or Left Turn (11%) crashes, and 12 of the 16 fatal or injury-related crashes reported were Right Angle or Left Turn crashes at the intersection. Additionally, 22 of the 30 reported Right Angle or Left Turn crashes at the intersection involved a WB vehicle. The collision diagram for the Fall Creek Parkway & 0th Street intersection is available in **Attachment A.**

During the field check, it was observed that WB traffic had an obstructed view of oncoming traffic. The obstructions were caused in part by overgrown vegetation in the NE and SE quadrants of the intersection, and also by the railing alongside the bridge over Fall Creek on the east leg of the intersection. The overgrown vegetation was discussed with Indianapolis DPW staff as an issue to be addressed through strategic pruning of volunteer trees and shrubs. Other factors discussed during the field check included the bridge over Fall Creek on the east leg of the intersection, which could limit sightlines, but it is not necessarily something that can be addressed without a future bridge reconstruction project.

RoadHAT 4.1 was used to develop crash cost (ICC) and crash frequency (ICF) scores for the Fall Creek Parkway & 30th Street Intersection. Results from the RoadHAT 4.1 analysis were: I_{CC} = **2.39**, I_{CF} = **1.57.** The RoadHAT 4.1 analysis results are available in **Attachment A.**

Alternatives & Recommendations

During the field check with representatives from Indianapolis DPW and the IMPO, crash data and traffic data were discussed while observing traffic patterns. Multiple maintenance-type improvements were identified in the field to address near-term safety needs at the intersection (striping, strategic tree pruning, maintenance of existing signals, replacement of the existing guardrail near the bridge over Fall Creek, etc.), as well as some longer-term infrastructure improvements. Below are the discussed Near- and Long-Term recommended improvements for the Fall Creek Parkway & 30th Street intersection. Notes from the field check summarizing conversations with Indianapolis DPW and IMPO staff are available for review in **Attachment D.**

Near-Term

Near-term solutions will include:

- Clear volunteer shrubs and trees in the SE and NE quadrants of the intersection.
- Strategic pruning of planted trees in the SE and NE quadrants of the intersection.
- Strategic pruning of the heritage tree in the NW quadrant of the intersection.
- Update striping and road markings at the intersection.
- Replace the existing pedestrian signals.
- Replace the guard rail in the NE and SE corners of the intersection.

Long-Term

Long-Term solutions will include:

- Clear volunteer shrubs and trees in the SE and NE quadrants of the intersection.
- Strategic pruning of planted trees in the SE and NE quadrants of the intersection.
- Strategic pruning of the heritage tree in the NW quadrant of the intersection.
- Update striping and road markings at the intersection
- Replace the guard rail in the NE and SE corners of the intersection.
- Complete a signal modernization project that would include new signal heads with back plates, steel cantilever poles, new pedestrian signals and push buttons, and a new cabinet.
- Add protected left-turn phases for the EB and WB left-turning movements at the intersection as part of the signal modernization project.
- Reconstruct ADA ramps in all four corners of the intersection with crosswalks.

A schematic of the long-term improvements is available in **Attachment E**.

Future Consideration

Indianapolis DPW noted they intend to study Fall Creek Parkway in the future to determine the feasibility of removing the reversible center travel lane. The improvements recommended as part of this RSA would be factored into that project.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation

PE - **$10,000**
ROW - **$0**
Utility CN - **$5,000**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0**
CN (including 10% contingency)- **$67,000**

Near-Term Total - $82,000

Long-Term Recommendation

PE - **$60,000**
ROW - **$0**
Utility CN - **$10,000**
Railroad CN - $**0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0** CN (including 10% contingency) - **$499,000**

Long-Term Total – $569,000

Project Score: (for INDOT use)
Safety Program Score =
Miscellaneous Notes:
Attachments:
Attachment A: Preliminary Findings Report **Attachment B:** Traffic Counts **Attachment C:** Traffic Analysis **Attachment D:** Virtual Meeting Minutes & Field Check Minutes **Attachment E:** Cost Estimates & Schematics

Attachment A
Preliminary Findings

PRELIMINARY FINDINGS

Safety Analysis at Fall Creek Parkway & 30th St.

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Fall Creek Parkway & 30th Street (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (Icc) and crash frequency (Icf) for the Study Area using RoadHat 4.1.

57 crashes were identified within the Study Area. 15 crashes were reported as injury-related crashes. Eight of the 15 resulted in Non-Incapacitating injuries, and seven resulted in Incapacitating injuries. 11 of the 15 reported injury-related crashes were either Left-Turn or Right Angle crashes. Additionally, one Fatal crash was reported in the Study Area. The Fatal crash occurred when a westbound vehicle turning did not yield to a southbound vehicle on Fall Creek Parkway, struck two vehicles before driving over a curb, and collided with an Apartment building in the southwest quadrant of the intersection. The fatality of the reported crash was a person located in the apartment building.

Other notable results near the Study Area include:

- 42% of the reported crashes at the intersection were Right Angle crashes. The majority of the right-angle crashes' reported primary factor was disregarding the traffic signal.
    - One of the reported Left Turn crashes was a turning vehicle hitting a pedestrian.
    - One of the reported Right Angle crashes was a vehicle pulling striking a bicyclist.
- 67% of reported crashes occurred during Off-Peak travel times. 14% of reported crashes occurred during the morning peak hours (6am-9am), and 19% during the evening peak hours (4pm-7pm).
- 65% of reported crashes occurred in daylight hours and 30% in dark (lighted) conditions. The remaining 5% of crashes listed lighting conditions as "Dawn/Dusk" in the police report.
- 18% of reported crashes occurred in wet roadway surface conditions. The remaining 82% of reported crashes occurred on dry roadways.
- 72% of reported crashes occurred when the weather conditions were clear. The remaining 28% of reported crashes occurred in either Cloudy, Fog, Rain, or Snowy weather conditions.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

2022-2024 Crash Summary	
TOTAL CRASHES	57
TOTAL INJURIES	26
PROPERTY DAMAGE ONLY	39
POSSIBLE INJURY	2
NON-INCAPACITATING	8
INCAPACITATING	7
FATAL	1

Summary of Primary Factors per Manner of Collision		
Primary Factors per Manner of Collision	**Crashes**	**Percent**
RIGHT ANGLE	**24**	**42%**
DISREGARD SIGNAL/REG SIGN	14	
FAILURE TO YIELD RIGHT OF WAY	7	
UNSAFE SPEED	1	
TRAFFIC CONTROL INOPERATIVE/MISSING/OBSC	1	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
REAR END	**18**	**32%**
FOLLOWING TOO CLOSELY	16	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	2	
LEFT TURN	**6**	**11%**
FAILURE TO YIELD RIGHT OF WAY	3	
FAILURE TO MAINTAIN LANE	1	
PEDESTRIAN ACTION	1	
IMPROPER TURNING	1	
SAME DIRECTION SIDESWIPE	**5**	**9%**
UNSAFE LANE MOVEMENT	2	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	2	
FAILURE TO YIELD RIGHT OF WAY	1	
RIGHT TURN	**2**	**4%**
IMPROPER TURNING	1	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
OPPOSITE DIRECTION SIDESWIPE	**1**	**1%**
LEFT OF CENTER	1	
RAN OFF ROAD	**1**	**1%**
RAN OFF ROAD RIGHT	1	
Total Crashes	**57**	**100%**

Summary of Crashes per Time of Day		
Time of Day	**Crashes**	**Percent**
Peak AM (6:00-9:00 AM)	8	14%
Peak PM (4:00-7:00 PM)	11	19%
Off Peak	38	67%
Total Crashes	**57**	**100%**

Summary of Crashes per Light Conditions		
Light Conditions	**Crashes**	**Percent**
DAWN/DUSK	3	5%
DARK (LIGHTED)	17	30%
DAYLIGHT	37	65%
Total Crashes	**57**	**100%**

Summary of Roadway Surface Conditions			
Manner of Collision	**DRY**	**WET**	**Total Crashes**
RIGHT ANGLE	21	3	24
REAR END	11	7	18
LEFT TURN	6		6
SAME DIRECTION SIDESWIPE	5		5
RIGHT TURN	2		2
RAN OFF ROAD	1		1
OPPOSITE DIRECTION SIDESWIPE	1		1
Total Crashes	**47**	**10**	**57**

Summary of Weather Conditions						
Manner of Collision	**CLEAR**	**RAIN**	**CLOUDY**	**SNOW**	**FOG/SMOKE/SMOG**	**Total Crashes**
RIGHT ANGLE	18	2	4			24
REAR END	9	5	2	1	1	18
LEFT TURN	5		1			6
SAME DIRECTION SIDESWIPE	5					5
RIGHT TURN	2					2
RAN OFF ROAD	1					1
OPPOSITE DIRECTION SIDESWIPE	1					1
Total Crashes	**41**	**7**	**7**	**1**	**1**	**57**

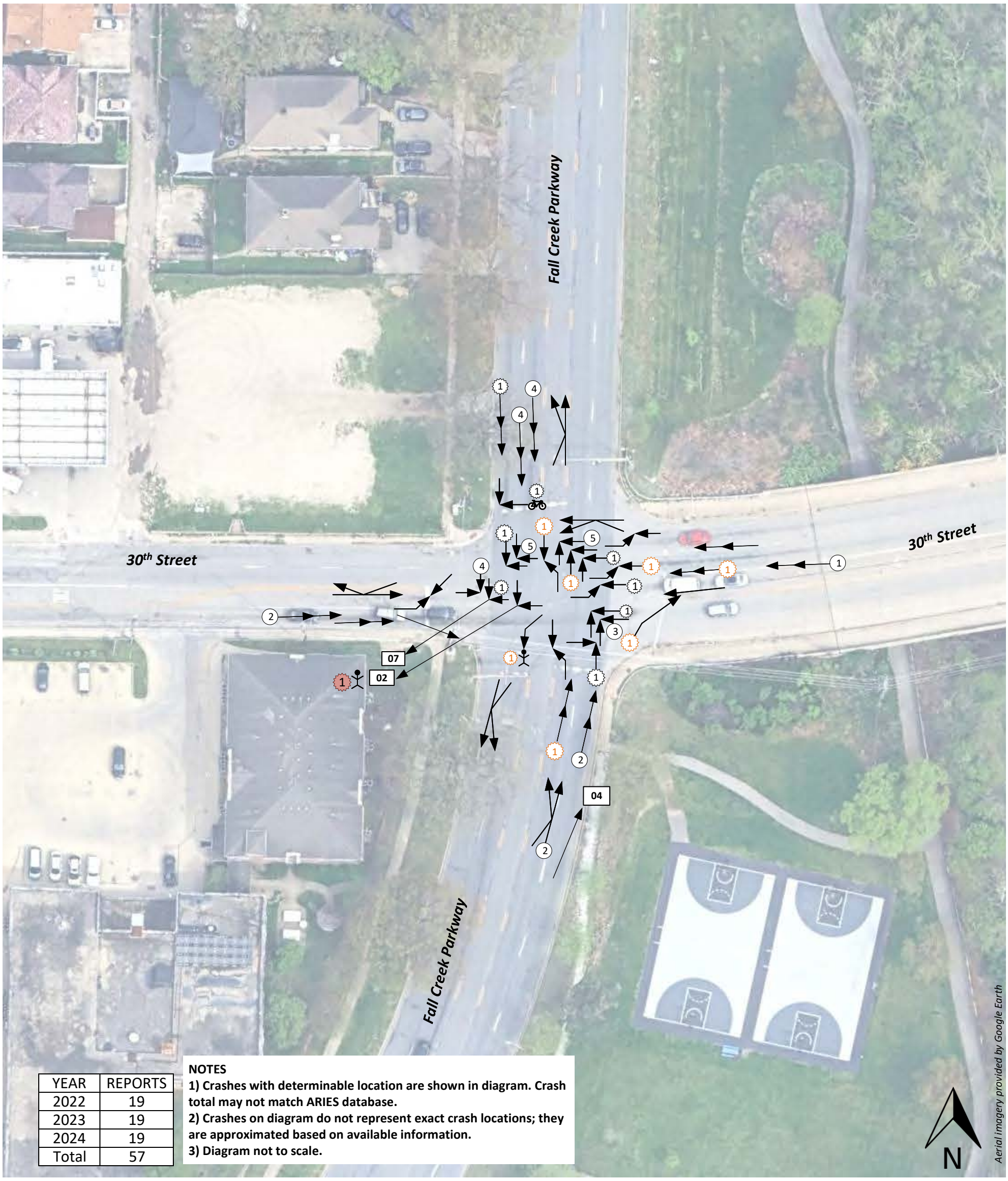
DIAGRAM OF COLLISION REPORTS

Fall Creek Parkway & 30th Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis - DPW

INDOT District: Greenfield County: Marion City/Town: Indianapolis

Analyst: JMR QC: DC Date: 3/10/2026



YEAR	REPORTS
2022	19
2023	19
2024	19
Total	57

NOTES

1) Crashes with determinable location are shown in diagram. Crash total may not match ARIES database.

2) Crashes on diagram do not represent exact crash locations; they are approximated based on available information.

3) Diagram not to scale.

Object Symbols

- MOVING VEHICLE
- TURNING VEHICLE
- BACKING VEHICLE
- OUT OF CONTROL
- PARKED VEHICLE
- PEDESTRIAN
- BICYCLE
- ANIMAL
- DEBRIS IN ROADWAY
- DRIVEWAY CRASH
- FATAL CRASH
- INJURY CRASH – INCAPACITATING
- INJURY CRASH – NONINCAPACITATING
- PDO CRASHES (IF > 1)
- SIGNALIZED INTERSECTION
- FIXED OBJECT (See table for # codes)

Collision Symbols

- REAR END
- HEAD ON
- OTHER
- SIDESWIPE – SAME
- SIDESWIPE – OPPOSITE
- RIGHT ANGLE
- LEFT/RIGHT TURN
- RAN OFF ROAD

Fixed Object Codes

01 – BRIDGE or OVERPASS
02 – BUILDING
03 – CULVERT or DITCH
04 – CURB
05 – GUARDRAIL or BARRIER
06 – EMBANKMENT
07 – FENCE
08 – TRAFFIC POLE
09 – UTILITY POLE
10 – SIGN
11 – TREE / SHRUB
12 – CONTRUCTION BARRIER
13 – CRASH ATTENUATOR
88 – OTHER
99 - UNKNOWN

Intersection Images

Fall Creek Parkway & 30th Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

INDOT District: Greenfield County: Marion City/Town: Indianapolis



West Leg – Looking West



West Leg – Looking East



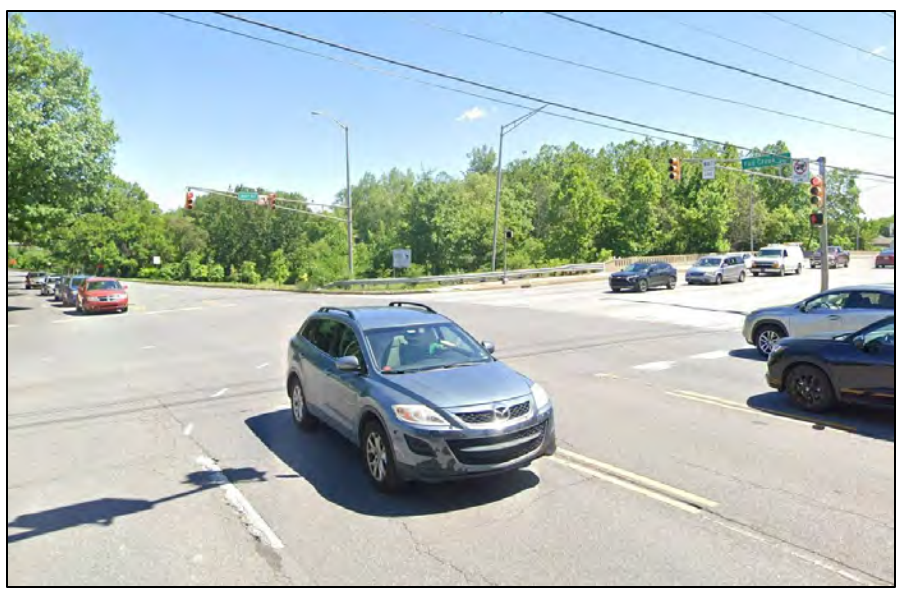
East Leg – Looking West



East Leg – Looking East



South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Imagery provided by Google Earth

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Fall Creek Pkwy & E 30th Street	
GIS		
Post		
Analyst	JMR	
Date	4/3/2026	

INPUT	
Road Facility Type	City Arterial Intersection
Busiest Road AADT (veh/day)	27,197
Crossing Road AADT (veh/day)	9,097
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	8
Non-Incapacitating and Possible Injury Crashes	10
Property Damage Only Crashes	39
Route or Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.426
Non-Incapacitating and Possible Injury Crashes	1.23
Property Damage Only Crashes	6.26
All Crashes	7.91
Index of Crash Frequency	**1.57**
Index of Crash Cost	**2.39**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Fall Creek Pkwy & E 30th Street	
GIS		
Post		
Analyst	JMR	
Date	4/3/2026	

Comments: Traffic Counts: MioVision Traffic Counts provided by Indianapolis DPW. Safety Data: ARIES provided by IMPO.

Attachment B
Traffic Counts

04 - Fall Creek Pkwy & 30th St - TMC

Wed Oct 23, 2024
Full Length (6:30 AM-6:30 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1239593, Location: 39.810378, -86.143647

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

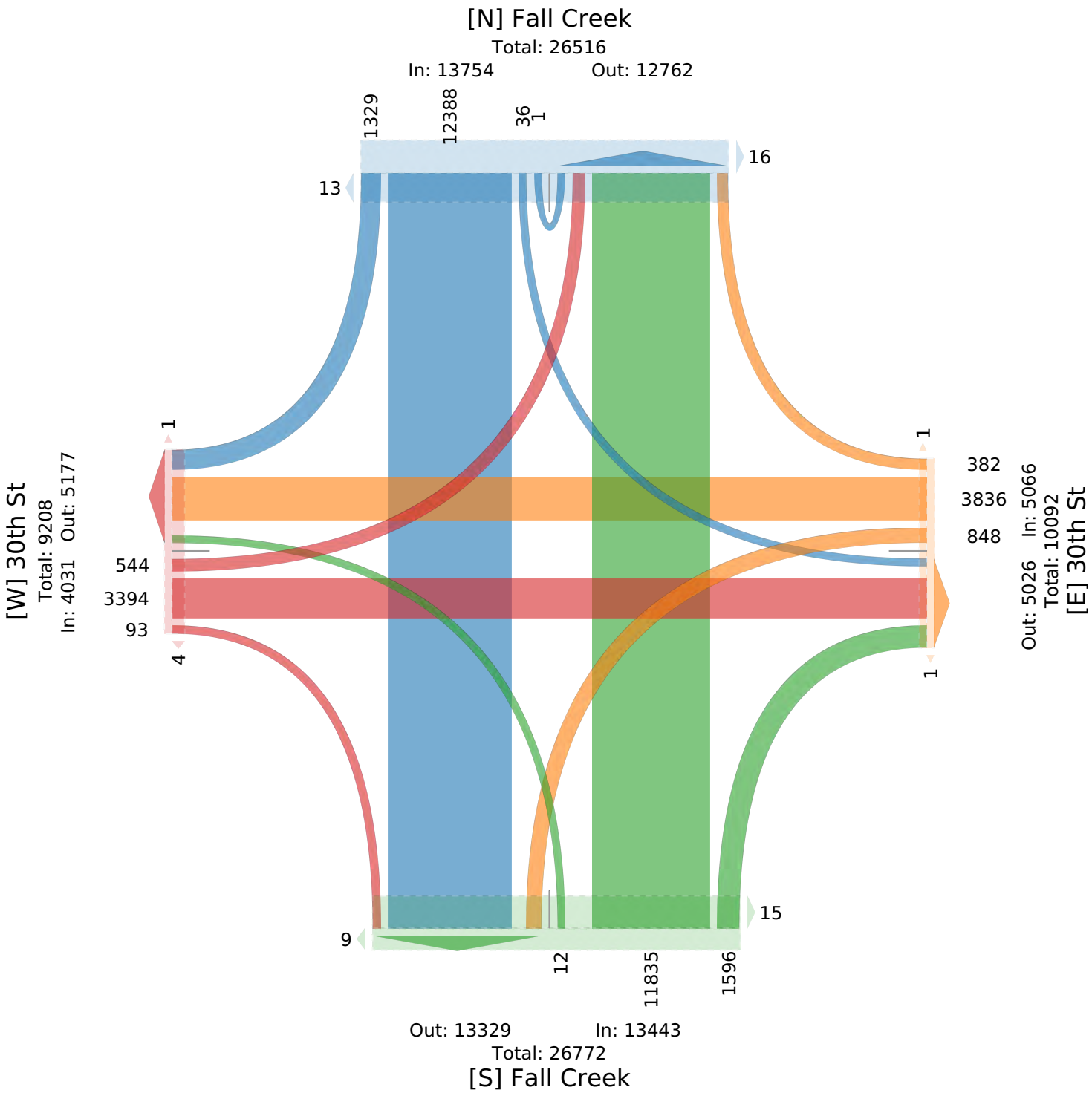
Leg	30th St						30th St						Fall Creek						Fall Creek						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2024-10-23 6:30AM	4	54	1	0	**59**	0	22	48	4	0	**74**	0	0	80	12	0	**92**	0	1	293	8	0	**302**	0	**527**
6:45AM	1	47	1	0	**49**	0	13	53	7	0	**73**	0	0	107	15	0	**122**	0	1	375	15	0	**391**	0	**635**
Hourly Total	5	101	2	0	**108**	0	35	101	11	0	**147**	0	0	187	27	0	**214**	0	2	668	23	0	**693**	0	**1162**
7:00AM	11	45	2	0	**58**	0	18	89	2	0	**109**	0	0	119	8	0	**127**	1	1	370	16	0	**387**	0	**681**
7:15AM	11	66	4	0	**81**	0	27	118	8	0	**153**	0	0	204	20	0	**224**	0	0	488	27	0	**515**	1	**973**
7:30AM	5	63	6	0	**74**	0	38	149	9	0	**196**	0	0	236	17	0	**253**	0	0	551	34	0	**585**	0	**1108**
7:45AM	25	73	6	0	**104**	0	32	149	10	0	**191**	0	1	212	18	0	**231**	0	1	585	31	0	**617**	0	**1143**
Hourly Total	52	247	18	0	**317**	0	115	505	29	0	**649**	0	1	771	63	0	**835**	1	2	1994	108	0	**2104**	1	**3905**
8:00AM	6	69	4	0	**79**	0	29	89	7	0	**125**	0	0	210	26	0	**236**	1	0	556	33	0	**589**	0	**1029**
8:15AM	14	83	6	0	**103**	0	28	103	12	0	**143**	0	0	192	17	0	**209**	0	2	500	40	0	**542**	0	**997**
8:30AM	9	65	5	0	**79**	0	19	122	9	0	**150**	0	2	222	31	0	**255**	0	0	510	58	0	**568**	0	**1052**
8:45AM	9	75	3	0	**87**	0	21	130	6	0	**157**	0	1	163	24	0	**188**	1	3	475	36	0	**514**	0	**946**
Hourly Total	38	292	18	0	**348**	0	97	444	34	0	**575**	0	3	787	98	0	**888**	2	5	2041	167	0	**2213**	0	**4024**
9:00AM	11	71	2	0	**84**	0	19	107	7	0	**133**	0	0	176	40	0	**216**	0	1	315	34	0	**350**	2	**783**
9:15AM	10	58	1	0	**69**	0	22	68	7	0	**97**	0	0	148	27	0	**175**	0	1	340	26	0	**367**	1	**708**
9:30AM	14	69	1	0	**84**	0	19	54	4	0	**77**	0	0	144	34	0	**178**	0	0	266	35	0	**301**	3	**640**
9:45AM	10	66	0	0	**76**	0	6	77	3	0	**86**	0	0	151	29	0	**180**	0	0	230	31	0	**261**	0	**603**
Hourly Total	45	264	4	0	**313**	0	66	306	21	0	**393**	0	0	619	130	0	**749**	0	2	1151	126	0	**1279**	6	**2734**
10:00AM	4	58	2	0	**64**	0	7	52	1	0	**60**	0	0	143	16	0	**159**	0	0	197	27	0	**224**	0	**507**
10:15AM	9	43	2	0	**54**	0	14	52	3	0	**69**	0	0	156	25	0	**181**	0	1	198	23	0	**222**	1	**526**
10:30AM	4	53	1	0	**58**	0	14	52	3	0	**69**	0	0	155	20	0	**175**	0	2	177	22	0	**201**	2	**503**
10:45AM	9	56	1	0	**66**	0	14	50	3	0	**67**	0	0	178	24	0	**202**	0	0	166	23	0	**189**	3	**524**
Hourly Total	26	210	6	0	**242**	0	49	206	10	0	**265**	0	0	632	85	0	**717**	0	3	738	95	0	**836**	6	**2060**
11:00AM	12	69	1	0	**82**	0	9	50	5	0	**64**	0	0	169	20	0	**189**	0	0	155	19	0	**174**	1	**509**
11:15AM	10	58	0	0	**68**	0	15	56	7	0	**78**	0	1	166	27	0	**194**	0	1	164	25	0	**190**	0	**530**
11:30AM	9	59	2	0	**70**	0	14	50	6	0	**70**	0	0	187	24	0	**211**	0	0	159	28	0	**187**	0	**538**
11:45AM	10	70	1	0	**81**	0	17	54	5	0	**76**	0	1	209	25	0	**235**	1	0	200	31	0	**231**	2	**623**
Hourly Total	41	256	4	0	**301**	0	55	210	23	0	**288**	0	2	731	96	0	**829**	1	1	678	103	0	**782**	3	**2200**
12:00PM	9	88	2	0	**99**	0	12	64	8	0	**84**	0	0	179	19	0	**198**	0	0	169	17	0	**186**	0	**567**
12:15PM	7	73	1	0	**81**	0	20	48	2	0	**70**	0	0	209	23	0	**232**	1	2	188	18	0	**208**	1	**591**
12:30PM	5	70	1	0	**76**	0	13	49	6	0	**68**	0	0	203	22	0	**225**	0	1	168	17	0	**186**	0	**555**
12:45PM	10	83	2	0	**95**	0	12	52	13	0	**77**	0	0	206	39	0	**245**	0	1	182	19	1	**203**	1	**620**
Hourly Total	31	314	6	0	**351**	0	57	213	29	0	**299**	0	0	797	103	0	**900**	1	4	707	71	1	**783**	2	**2333**
1:00PM	12	80	0	0	**92**	0	13	56	8	0	**77**	0	0	196	27	0	**223**	0	0	179	19	0	**198**	1	**590**
1:15PM	14	69	1	0	**84**	0	19	56	9	0	**84**	0	0	200	38	0	**238**	0	1	181	18	0	**200**	1	**606**
1:30PM	12	76	3	0	**91**	0	16	55	2	0	**73**	0	0	221	23	0	**244**	1	0	159	21	0	**180**	0	**588**
1:45PM	12	56	3	0	**71**	0	21	58	5	0	**84**	0	0	227	43	0	**270**	0	0	170	18	0	**188**	0	**613**
Hourly Total	50	281	7	0	**338**	0	69	225	24	0	**318**	0	0	844	131	0	**975**	1	1	689	76	0	**766**	2	**2397**
2:00PM	15	75	2	0	**92**	1	21	41	9	0	**71**	0	0	196	38	0	**234**	1	0	172	20	0	**192**	0	**589**
2:15PM	21	75	2	0	**98**	0	21	72	5	0	**98**	0	1	253	29	0	**283**	2	1	189	16	0	**206**	0	**685**
2:30PM	16	86	1	0	**103**	0	15	76	13	0	**104**	0	0	265	34	0	**299**	0	0	183	23	0	**206**	0	**712**
2:45PM	15	89	1	0	**105**	0	16	71	5	0	**92**	0	0	270	38	0	**308**	3	0	188	18	0	**206**	1	**711**
Hourly Total	67	325	6	0	**398**	1	73	260	32	0	**365**	0	1	984	139	0	**1124**	6	1	732	77	0	**810**	1	**2697**
3:00PM	16	77	0	0	**93**	0	18	80	8	0	**106**	0	0	319	43	0	**362**	4	1	192	20	0	**213**	0	**774**
3:15PM	11	90	1	0	**102**	0	23	81	10	0	**114**	0	1	368	41	0	**410**	0	0	192	26	0	**218**	0	**844**
3:30PM	14	101	2	0	**117**	0	17	76	9	0	**102**	0	1	355	39	0	**395**	0	1	192	31	0	**224**	0	**838**
3:45PM	13	94	1	0	**108**	0	14	87	18	0	**119**	0	1	365	48	0	**414**	1	0	224	30	0	**254**	0	**895**
Hourly Total	54	362	4	0	**420**	0	72	324	45	0	**441**	0	3	1407	171	0	**1581**	5	2	800	107	0	**909**	0	**3351**
4:00PM	18	59	2	0	**79**	0	15	82	12	0	**109**	0	0	460	55	0	**515**	0	1	194	25	0	**220**	0	**923**
4:15PM	13	81	2	0	**96**	0	22	102	11	0	**135**	0	0	423	46	0	**469**	1	1	209	35	0	**245**	0	**945**
4:30PM	12	76	0	0	**88**	0	15	85	16	0	**116**	0	0	458	47	0	**505**	0	0	221	45	0	**266**	1	**975**
4:45PM	18	74	1	0	**93**	0	17	128	10	0	**155**	0	0	406	58	0	**464**	0	0	230	32	0	**262**	1	**974**
Hourly Total	61	290	5	0	**356**	0	69	397	49	0	**515**	0	0	1747	206	0	**1953**	1	2	854	137	0	**993**	2	**3817**
5:00PM	19	78	1	0	**98**	0	19	92	9	0	**120**	0	0	436	56	0	**492**	2	1	231	50	0	**282**	2	**992**
5:15PM	11	69	5	0	**85**	0	19	131	13	0	**163**	0	1	429	69	0	**499**	1	2	233	39	0	**274**	0	**1021**
5:30PM	12	80	2	0	**94**	3	14	155	14	0	**183**	1	1	393	56	0	**450**	1	3	243	55	0	**301**	1	**1028**
5:45PM	8	68	2	0	**78**	1	11	97	7	0	**115**	0	0	383	71	0	**454**	0	3	229	33	0	**265**	0	**912**
Hourly Total	50	295	10	0	**355**	4	63	475	43	0	**581**	1	2	1641	252	0	**1895**	4	9	936	177	0	**1122**	3	**3953**
6:00PM	12	93	1	0	**106**	0	13	85	15	0	**113**	1	0	368	48	0	**416**	2	2	195	33	0	**230**	2	**865**

Leg	30th St						30th St						Fall Creek						Fall Creek						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
6:15PM	12	64	2	0	**78**	0	15	85	17	0	**117**	0	0	320	47	0	**367**	0	0	205	29	0	**234**	1	**796**
Hourly Total	24	157	3	0	**184**	0	28	170	32	0	**230**	1	0	688	95	0	**783**	2	2	400	62	0	**464**	3	**1661**
Total	544	3394	93	0	**4031**	5	848	3836	382	0	**5066**	2	12	11835	1596	0	**13443**	24	36	12388	1329	1	**13754**	29	**36294**
% Approach	13.5%	84.2%	2.3%	0%	**-**	-	16.7%	75.7%	7.5%	0%	**-**	-	0.1%	88.0%	11.9%	0%	**-**	-	0.3%	90.1%	9.7%	0%	**-**	-	**-**
% Total	1.5%	9.4%	0.3%	0%	**11.1%**	-	2.3%	10.6%	1.1%	0%	**14.0%**	-	0%	32.6%	4.4%	0%	**37.0%**	-	0.1%	34.1%	3.7%	0%	**37.9%**	-	**-**
Lights	525	3209	89	0	**3823**	-	822	3670	365	0	**4857**	-	12	11556	1520	0	**13088**	-	33	12129	1302	1	**13465**	-	35233
% Lights	96.5%	94.5%	95.7%	0%	**94.8%**	-	96.9%	95.7%	95.5%	0%	**95.9%**	-	100%	97.6%	95.2%	0%	**97.4%**	-	91.7%	97.9%	98.0%	100%	**97.9%**	-	97.1%
Articulated Trucks	2	12	0	0	**14**	-	1	14	2	0	**17**	-	0	11	13	0	**24**	-	0	6	1	0	**7**	-	62
% Articulated Trucks	0.4%	0.4%	0%	0%	**0.3%**	-	0.1%	0.4%	0.5%	0%	**0.3%**	-	0%	0.1%	0.8%	0%	**0.2%**	-	0%	0%	0.1%	0%	**0.1%**	-	0.2%
Buses and Single-Unit Trucks	17	173	4	0	**194**	-	25	152	15	0	**192**	-	0	268	63	0	**331**	-	3	253	26	0	**282**	-	999
% Buses and Single-Unit Trucks	3.1%	5.1%	4.3%	0%	**4.8%**	-	2.9%	4.0%	3.9%	0%	**3.8%**	-	0%	2.3%	3.9%	0%	**2.5%**	-	8.3%	2.0%	2.0%	0%	**2.1%**	-	2.8%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	20	-	-	-	-	-	27	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	50.0%	-	-	-	-	-	83.3%	-	-	-	-	-	93.1%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	50.0%	-	-	-	-	-	16.7%	-	-	-	-	-	6.9%	-

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

04 - Fall Creek Pkwy & 30th St - TMC
Wed Oct 23, 2024
Full Length (6:30 AM-6:30 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1239593, Location: 39.810378, -86.143647

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



04 - Fall Creek Pkwy & 30th St - TMC

Wed Oct 23, 2024
AM Peak (7:30 AM - 8:30 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1239593, Location: 39.810378, -86.143647

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

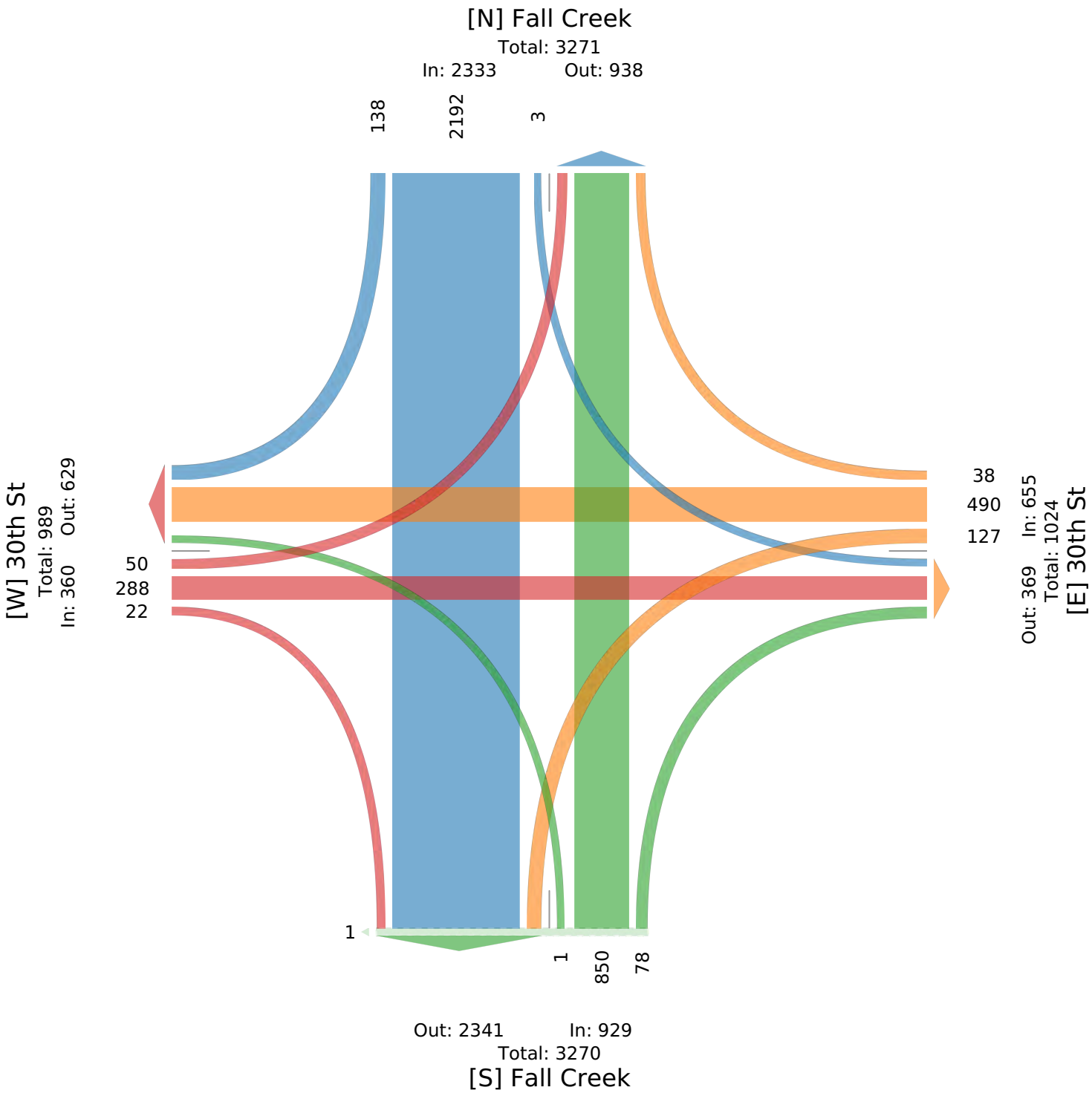
Leg / Direction	30th St Eastbound						30th St Westbound						Fall Creek Northbound						Fall Creek Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2024-10-23 7:30AM	5	63	6	0	**74**	0	38	149	9	0	**196**	0	0	236	17	0	**253**	0	0	551	34	0	**585**	0	**1108**
7:45AM	25	73	6	0	**104**	0	32	149	10	0	**191**	0	1	212	18	0	**231**	0	1	585	31	0	**617**	0	**1143**
8:00AM	6	69	4	0	**79**	0	29	89	7	0	**125**	0	0	210	26	0	**236**	1	0	556	33	0	**589**	0	**1029**
8:15AM	14	83	6	0	**103**	0	28	103	12	0	**143**	0	0	192	17	0	**209**	0	2	500	40	0	**542**	0	**997**
Total	50	288	22	0	**360**	0	127	490	38	0	**655**	0	1	850	78	0	**929**	1	3	2192	138	0	**2333**	0	**4277**
% Approach	13.9%	80.0%	6.1%	0%	**-**	-	19.4%	74.8%	5.8%	0%	**-**	-	0.1%	91.5%	8.4%	0%	**-**	-	0.1%	94.0%	5.9%	0%	**-**	-	-
% Total	1.2%	6.7%	0.5%	0%	**8.4%**	-	3.0%	11.5%	0.9%	0%	**15.3%**	-	0%	19.9%	1.8%	0%	**21.7%**	-	0.1%	51.3%	3.2%	0%	**54.5%**	-	-
PHF	0.500	0.867	0.917	-	**0.865**	-	0.836	0.822	0.792	-	**0.835**	-	0.250	0.900	0.750	-	**0.918**	-	0.375	0.937	0.863	-	**0.945**	-	0.935
Lights	50	275	21	0	**346**	-	125	465	36	0	**626**	-	1	827	69	0	**897**	-	3	2171	134	0	**2308**	-	4177
% Lights	100%	95.5%	95.5%	0%	**96.1%**	-	98.4%	94.9%	94.7%	0%	**95.6%**	-	100%	97.3%	88.5%	0%	**96.6%**	-	100%	99.0%	97.1%	0%	**98.9%**	-	97.7%
Articulated Trucks	0	0	0	0	**0**	-	0	4	0	0	**4**	-	0	2	0	0	**2**	-	0	1	0	0	**1**	-	7
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.8%	0%	0%	**0.6%**	-	0%	0.2%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.2%
Buses and Single-Unit Trucks	0	13	1	0	**14**	-	2	21	2	0	**25**	-	0	21	9	0	**30**	-	0	20	4	0	**24**	-	93
% Buses and Single-Unit Trucks	0%	4.5%	4.5%	0%	**3.9%**	-	1.6%	4.3%	5.3%	0%	**3.8%**	-	0%	2.5%	11.5%	0%	**3.2%**	-	0%	0.9%	2.9%	0%	**1.0%**	-	2.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-

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

04 - Fall Creek Pkwy & 30th St - TMC

Wed Oct 23, 2024
AM Peak (7:30 AM - 8:30 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1239593, Location: 39.810378, -86.143647

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



04 - Fall Creek Pkwy & 30th St - TMC

Wed Oct 23, 2024
Midday Peak (12:45 PM - 1:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1239593, Location: 39.810378, -86.143647

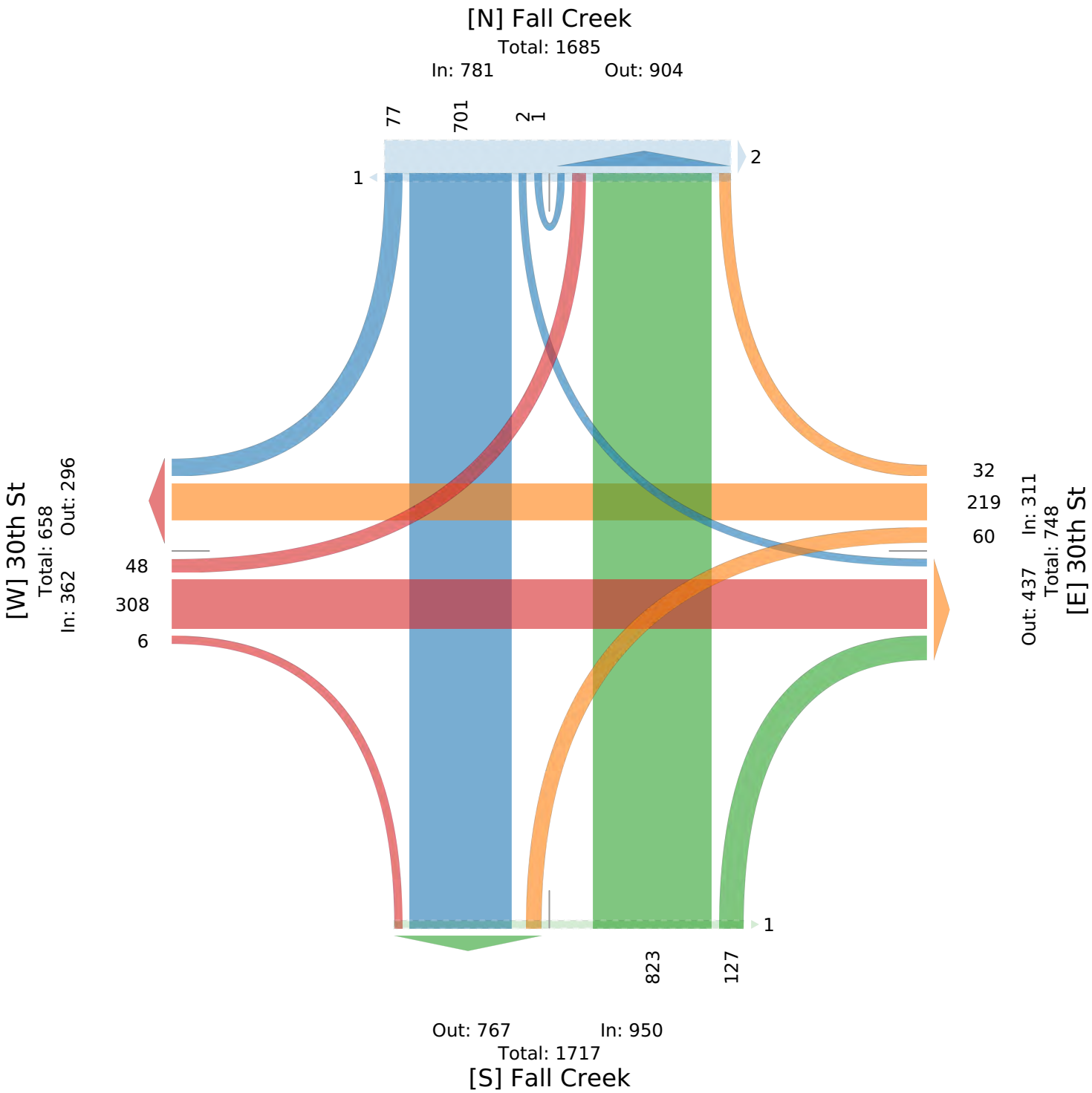
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	30th St						30th St						Fall Creek						Fall Creek						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2024-10-23 12:45PM	10	83	2	0	**95**	0	12	52	13	0	**77**	0	0	206	39	0	**245**	0	1	182	19	1	**203**	1	**620**
1:00PM	12	80	0	0	**92**	0	13	56	8	0	**77**	0	0	196	27	0	**223**	0	0	179	19	0	**198**	1	**590**
1:15PM	14	69	1	0	**84**	0	19	56	9	0	**84**	0	0	200	38	0	**238**	0	1	181	18	0	**200**	1	**606**
1:30PM	12	76	3	0	**91**	0	16	55	2	0	**73**	0	0	221	23	0	**244**	1	0	159	21	0	**180**	0	**588**
Total	48	308	6	0	**362**	0	60	219	32	0	**311**	0	0	823	127	0	**950**	1	2	701	77	1	**781**	3	**2404**
% Approach	13.3%	85.1%	1.7%	0%	**-**	-	19.3%	70.4%	10.3%	0%	**-**	-	0%	86.6%	13.4%	0%	**-**	-	0.3%	89.8%	9.9%	0.1%	**-**	-	**-**
% Total	2.0%	12.8%	0.2%	0%	**15.1%**	-	2.5%	9.1%	1.3%	0%	**12.9%**	-	0%	34.2%	5.3%	0%	**39.5%**	-	0.1%	29.2%	3.2%	0%	**32.5%**	-	**-**
PHF	0.857	0.928	0.500	-	**0.953**	-	0.789	0.978	0.615	-	**0.926**	-	-	0.931	0.814	-	**0.969**	-	0.500	0.963	0.917	0.250	**0.962**	-	0.969
Lights	47	288	6	0	**341**	-	58	209	32	0	**299**	-	0	799	118	0	**917**	-	2	671	74	1	**748**	-	2305
% Lights	97.9%	93.5%	100%	0%	**94.2%**	-	96.7%	95.4%	100%	0%	**96.1%**	-	0%	97.1%	92.9%	0%	**96.5%**	-	100%	95.7%	96.1%	100%	**95.8%**	-	95.9%
Articulated Trucks	0	1	0	0	**1**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	2
% Articulated Trucks	0%	0.3%	0%	0%	**0.3%**	-	0%	0.5%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	1	19	0	0	**20**	-	2	9	0	0	**11**	-	0	24	9	0	**33**	-	0	30	3	0	**33**	-	97
% Buses and Single-Unit Trucks	2.1%	6.2%	0%	0%	**5.5%**	-	3.3%	4.1%	0%	0%	**3.5%**	-	0%	2.9%	7.1%	0%	**3.5%**	-	0%	4.3%	3.9%	0%	**4.2%**	-	4.0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	3	
% 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

04 - Fall Creek Pkwy & 30th St - TMC
Wed Oct 23, 2024
Midday Peak (12:45 PM - 1:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1239593, Location: 39.810378, -86.143647

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



04 - Fall Creek Pkwy & 30th St - TMC

Wed Oct 23, 2024
PM Peak (4:45 PM - 5:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1239593, Location: 39.810378, -86.143647

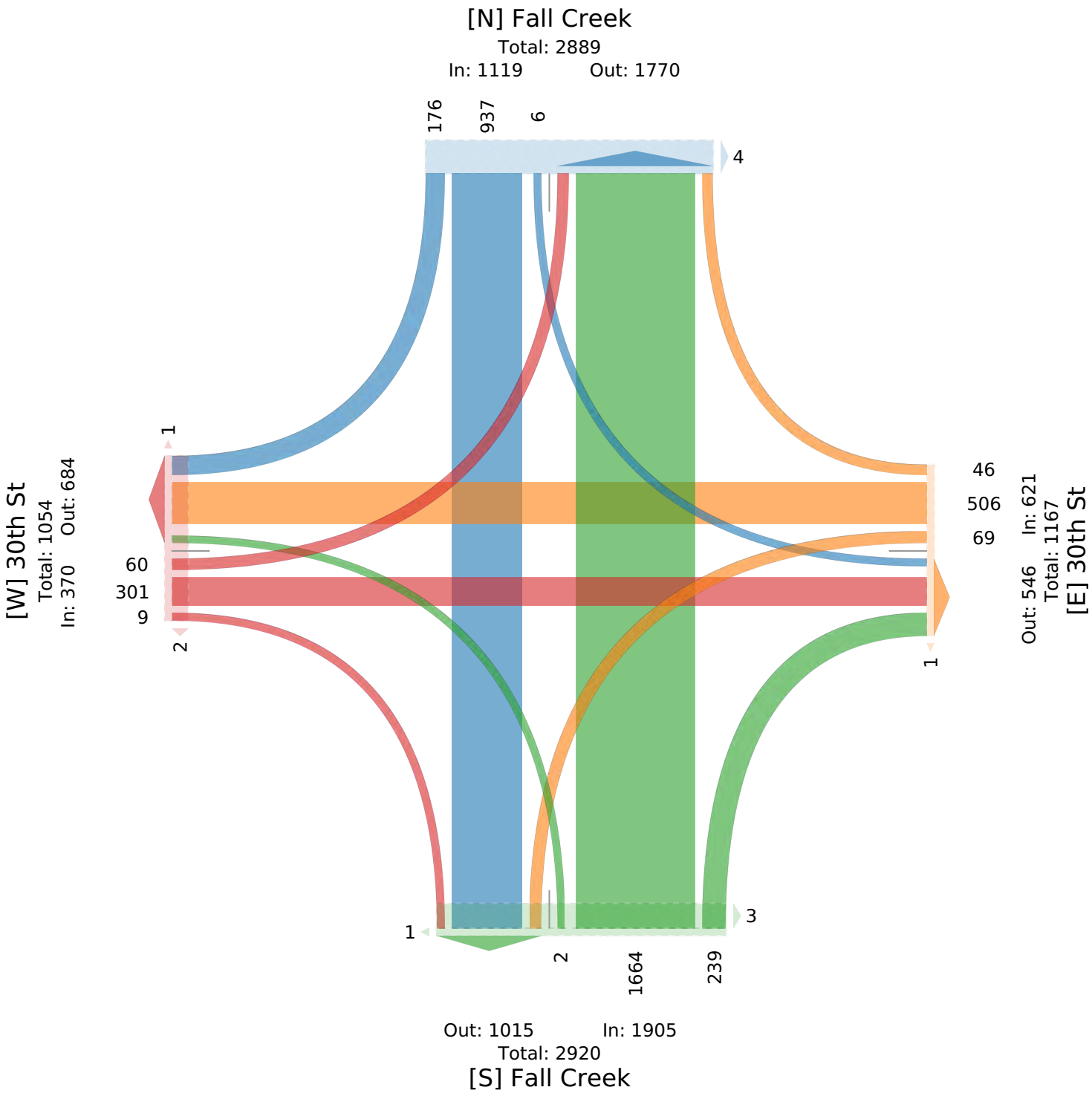
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	30th St Eastbound						30th St Westbound						Fall Creek Northbound						Fall Creek Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2024-10-23 4:45PM	18	74	1	0	**93**	0	17	128	10	0	**155**	0	0	406	58	0	**464**	0	0	230	32	0	**262**	1	**974**
5:00PM	19	78	1	0	**98**	0	19	92	9	0	**120**	0	0	436	56	0	**492**	2	1	231	50	0	**282**	2	**992**
5:15PM	11	69	5	0	**85**	0	19	131	13	0	**163**	0	1	429	69	0	**499**	1	2	233	39	0	**274**	0	**1021**
5:30PM	12	80	2	0	**94**	3	14	155	14	0	**183**	1	1	393	56	0	**450**	1	3	243	55	0	**301**	1	**1028**
Total	60	301	9	0	**370**	3	69	506	46	0	**621**	1	2	1664	239	0	**1905**	4	6	937	176	0	**1119**	4	**4015**
% Approach	16.2%	81.4%	2.4%	0%	**-**	-	11.1%	81.5%	7.4%	0%	**-**	-	0.1%	87.3%	12.5%	0%	**-**	-	0.5%	83.7%	15.7%	0%	**-**	-	-
% Total	1.5%	7.5%	0.2%	0%	**9.2%**	-	1.7%	12.6%	1.1%	0%	**15.5%**	-	0%	41.4%	6.0%	0%	**47.4%**	-	0.1%	23.3%	4.4%	0%	**27.9%**	-	-
PHF	0.789	0.941	0.450	-	**0.944**	-	0.908	0.816	0.821	-	**0.848**	-	0.500	0.954	0.866	-	**0.954**	-	0.500	0.964	0.800	-	**0.929**	-	0.976
Lights	60	291	9	0	**360**	-	68	490	44	0	**602**	-	2	1623	232	0	**1857**	-	6	918	174	0	**1098**	-	3917
% Lights	100%	96.7%	100%	0%	**97.3%**	-	98.6%	96.8%	95.7%	0%	**96.9%**	-	100%	97.5%	97.1%	0%	**97.5%**	-	100%	98.0%	98.9%	0%	**98.1%**	-	97.6%
Articulated Trucks	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	2	1	0	**3**	-	0	0	0	0	**0**	-	4
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.2%	0%	0%	**0.2%**	-	0%	0.1%	0.4%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	0	10	0	0	**10**	-	1	15	2	0	**18**	-	0	39	6	0	**45**	-	0	19	2	0	**21**	-	94
% Buses and Single-Unit Trucks	0%	3.3%	0%	0%	**2.7%**	-	1.4%	3.0%	4.3%	0%	**2.9%**	-	0%	2.3%	2.5%	0%	**2.4%**	-	0%	2.0%	1.1%	0%	**1.9%**	-	2.3%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	75.0%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	25.0%	-	-	-	-	-	0%	-

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

04 - Fall Creek Pkwy & 30th St - TMC
Wed Oct 23, 2024
PM Peak (4:45 PM - 5:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1239593, Location: 39.810378, -86.143647

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

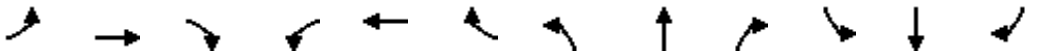


Attachment C
Traffic Analysis

Intersection	Type	MOE	Existing 2026									
			2026 AM Peak Hour					2026 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Fall Creek Pkwy & 30th St	Signal	*LOS*	E	D	B	C	**C**	E	D	B	B	**C**
		Delay (sec/veh)	77.4	43.1	14.1	21.1	**27.7**	77.5	48.3	13.7	12.3	**24.6**
		Queue Length 95th (ft)	447	244	316	690		424	268	380	310	
		v/c Ratio	0.92	0.64	0.41	0.71		0.92	0.60	0.53	0.45	
		LOS-F Movements	EBT/R	---	---	---		EBT/R	---	---	---	

Intersection	Type	MOE	No-Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Fall Creek Pkwy & 30th St	Signal	*LOS*	F	F	C	F	F	F	E	F	F	F
		Delay (sec/veh)	153.0	94.7	34.2	178.3	**132.0**	85.2	56.0	112.5	102.0	**98.3**
		Queue Length 95th (ft)	870	490	809	1841		740	473	1305	1220	
		v/c Ratio	1.20	1.46	0.85	1.35		0.98	1.02	1.21	1.15	
		LOS-F Movements	EBL,EBT/R	WBL	---	SBT/R		EBL,EBT/R	WBL	NBT/R	SBT/R	

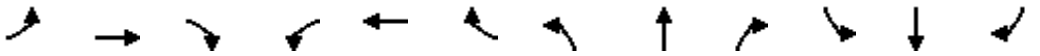
Intersection	Type	MOE	Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Fall Creek Pkwy & 30th St	Signal	*LOS*	F	F	D	F	F	F	F	F	F	F
		Delay (sec/veh)	165.2	143.0	39.2	193.8	**150.0**	132.2	130.7	100.6	94.4	**106.5**
		Queue Length 95th (ft)	1053	1255	1063	1464		1072	1176	1181	1624	
		v/c Ratio	1.22	1.57	0.88	1.38		1.11	1.25	1.17	1.13	
		LOS-F Movements	EBL,EBT/R	WBL,WBT/R	---	SBT/R		EBL,EBT/R	WBL,WBT/R	NBT/R	SBT/R	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	262	20	116	446	35	1	773	71	3	1994	126
Future Volume (veh/h)	45	262	20	116	446	35	1	773	71	3	1994	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1826	1870	1826	1826	1900	1856	1722	1900	1885	1856
Adj Flow Rate, veh/h	48	279	21	123	474	37	1	822	76	3	2121	134
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	5	5	2	5	5	0	3	12	0	1	3
Cap, veh/h	194	302	23	192	917	71	26	2005	185	27	3016	189
Arrive On Green	0.18	0.18	0.18	0.07	0.28	0.28	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	902	1677	126	1781	3261	254	0	3192	295	1	4803	301
Grp Volume(v), veh/h	48	0	300	123	251	260	477	0	422	830	688	739
Grp Sat Flow(s),veh/h/ln	902	0	1803	1781	1735	1780	1851	0	1635	1883	1561	1661
Q Serve(g_s), s	6.6	0.0	22.9	7.6	17.1	17.2	0.0	0.0	18.1	0.0	41.1	41.8
Cycle Q Clear(g_c), s	9.7	0.0	22.9	7.6	17.1	17.2	18.0	0.0	18.1	41.0	41.1	41.8
Prop In Lane	1.00		0.07	1.00		0.14	0.00		0.18	0.00		0.18
Lane Grp Cap(c), veh/h	194	0	325	192	488	501	1189	0	1027	1208	981	1043
V/C Ratio(X)	0.25	0.00	0.92	0.64	0.52	0.52	0.40	0.00	0.41	0.69	0.70	0.71
Avail Cap(c_a), veh/h	217	0	371	279	488	501	1189	0	1027	1208	981	1043
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	0.0	56.4	43.3	42.3	42.3	13.0	0.0	13.0	17.3	17.3	17.4
Incr Delay (d2), s/veh	0.2	0.0	24.9	1.3	0.4	0.4	1.0	0.0	1.2	3.2	4.2	4.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	12.6	3.4	7.4	7.6	7.5	0.0	6.7	17.6	14.8	16.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.6	0.0	81.3	44.6	42.7	42.8	14.0	0.0	14.3	20.5	21.5	21.5
LnGrp LOS	D		F	D	D	D	B		B	C	C	C
Approach Vol, veh/h		348			634			899			2258	
Approach Delay, s/veh		77.4			43.1			14.1			21.1	
Approach LOS		E			D			B			C	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		94.4		45.6		94.4	14.1	31.4				
Change Period (Y+Rc), s		6.5		6.2		6.5	4.5	6.2				
Max Green Setting (Gmax), s		77.5		28.8		77.5	16.5	28.8				
Max Q Clear Time (g_c+I1), s		20.1		19.2		43.8	9.6	24.9				
Green Ext Time (p_c), s		18.6		0.8		31.5	0.0	0.3				

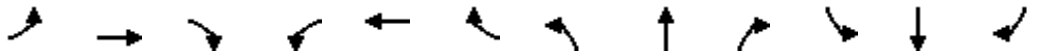
Intersection Summary												
HCM 7th Control Delay, s/veh			27.7									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	274	8	63	460	42	2	1514	217	5	852	160
Future Volume (veh/h)	55	274	8	63	460	42	2	1514	217	5	852	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1885	1856	1841	1900	1870	1856	1900	1870	1885
Adj Flow Rate, veh/h	56	280	8	64	469	43	2	1545	221	5	869	163
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	3	0	1	3	4	0	2	3	0	2	1
Cap, veh/h	154	306	9	141	790	72	26	2923	417	29	1937	362
Arrive On Green	0.17	0.17	0.17	0.04	0.24	0.24	0.67	0.67	0.67	0.67	0.67	0.67
Sat Flow, veh/h	900	1794	51	1795	3265	298	1	4380	624	4	2903	542
Grp Volume(v), veh/h	56	0	288	64	252	260	659	547	562	555	0	482
Grp Sat Flow(s),veh/h/ln	900	0	1845	1795	1763	1800	1868	1549	1589	1846	0	1603
Q Serve(g_s), s	8.2	0.0	21.5	4.0	17.7	17.9	0.0	25.4	25.5	0.0	0.0	20.0
Cycle Q Clear(g_c), s	16.1	0.0	21.5	4.0	17.7	17.9	25.4	25.4	25.5	19.7	0.0	20.0
Prop In Lane	1.00		0.03	1.00		0.17	0.00		0.39	0.01		0.34
Lane Grp Cap(c), veh/h	154	0	314	141	427	436	1273	1034	1060	1258	0	1070
V/C Ratio(X)	0.36	0.00	0.92	0.45	0.59	0.60	0.52	0.53	0.53	0.44	0.00	0.45
Avail Cap(c_a), veh/h	177	0	361	174	427	436	1273	1034	1060	1258	0	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.6	0.0	57.1	45.8	46.9	47.0	12.0	12.0	12.0	11.0	0.0	11.1
Incr Delay (d2), s/veh	0.5	0.0	24.0	0.8	1.5	1.6	1.5	1.9	1.9	1.1	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	12.0	1.8	7.9	8.2	10.3	8.6	8.9	8.0	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.1	0.0	81.1	46.6	48.5	48.6	13.5	13.9	13.9	12.1	0.0	12.5
LnGrp LOS	E		F	D	D	D	B	B	B	B		B
Approach Vol, veh/h		344			576			1768			1037	
Approach Delay, s/veh		77.5			48.3			13.7			12.3	
Approach LOS		E			D			B			B	

Timer - Assigned Phs	2	4	6	7	8
Phs Duration (G+Y+Rc), s	99.9	40.1	99.9	10.0	30.1
Change Period (Y+Rc), s	6.5	6.2	6.5	4.5	6.2
Max Green Setting (Gmax), s	87.3	27.4	87.3	8.1	27.4
Max Q Clear Time (g_c+I1), s	27.5	19.9	22.0	6.0	23.5
Green Ext Time (p_c), s	44.8	0.8	22.8	0.0	0.3

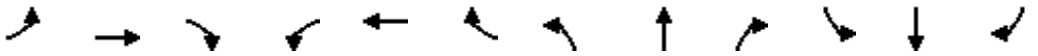
Intersection Summary	
HCM 7th Control Delay, s/veh	24.6
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	457	35	202	777	61	2	1347	124	5	3474	220
Future Volume (veh/h)	78	457	35	202	777	61	2	1347	124	5	3474	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1826	1870	1826	1826	1900	1856	1722	1900	1885	1856
Adj Flow Rate, veh/h	83	486	37	215	827	65	2	1433	132	5	3696	234
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	5	5	2	5	5	0	3	12	0	1	3
Cap, veh/h	114	404	31	147	1066	84	26	1700	164	27	2795	173
Arrive On Green	0.24	0.24	0.24	0.05	0.33	0.33	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	633	1675	128	1781	3258	256	0	2921	282	2	4801	297
Grp Volume(v), veh/h	83	0	523	215	440	452	801	0	766	1437	1190	1308
Grp Sat Flow(s),veh/h/ln	633	0	1803	1781	1735	1780	1565	0	1638	1877	1561	1662
Q Serve(g_s), s	13.8	0.0	33.8	7.5	32.0	32.0	0.0	0.0	51.4	21.4	81.5	81.5
Cycle Q Clear(g_c), s	33.8	0.0	33.8	7.5	32.0	32.0	81.5	0.0	51.4	81.5	81.5	81.5
Prop In Lane	1.00		0.07	1.00		0.14	0.00		0.17	0.00		0.18
Lane Grp Cap(c), veh/h	114	0	435	147	567	582	937	0	953	1119	909	968
V/C Ratio(X)	0.73	0.00	1.20	1.46	0.78	0.78	0.85	0.00	0.80	1.28	1.31	1.35
Avail Cap(c_a), veh/h	114	0	435	147	567	582	937	0	953	1119	909	968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.8	0.0	53.1	44.3	42.5	42.5	28.3	0.0	23.0	30.1	29.3	29.3
Incr Delay (d2), s/veh	18.7	0.0	110.9	242.2	6.1	5.9	9.8	0.0	7.1	135.1	147.2	165.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	28.5	11.4	14.6	14.9	24.0	0.0	20.4	77.5	65.2	74.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	83.6	0.0	164.0	286.5	48.6	48.4	38.1	0.0	30.1	165.1	176.4	194.4
LnGrp LOS	F		F	F	D	D	D		C	F	F	F
Approach Vol, veh/h		606			1107			1567			3935	
Approach Delay, s/veh		153.0			94.7			34.2			178.3	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	2	4	6	7	8
Phs Duration (G+Y+Rc), s	88.0	52.0	88.0	12.0	40.0
Change Period (Y+Rc), s	6.5	6.2	6.5	4.5	6.2
Max Green Setting (Gmax), s	81.5	45.8	81.5	7.5	33.8
Max Q Clear Time (g_c+I1), s	83.5	34.0	83.5	9.5	35.8
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.0

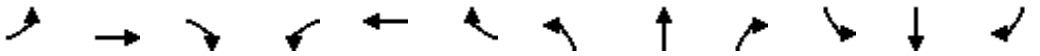
Intersection Summary	
HCM 7th Control Delay, s/veh	132.0
HCM 7th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	477	14	110	802	73	3	2638	378	9	1485	279
Future Volume (veh/h)	96	477	14	110	802	73	3	2638	378	9	1485	279
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1885	1856	1841	1900	1870	1856	1900	1870	1885
Adj Flow Rate, veh/h	98	487	14	112	818	74	3	2692	386	9	1515	285
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	3	0	1	3	4	0	2	3	0	2	1
Cap, veh/h	125	497	14	110	1104	100	26	2338	320	26	1340	263
Arrive On Green	0.28	0.28	0.28	0.03	0.34	0.34	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	633	1794	52	1795	3268	296	0	4091	560	0	2345	461
Grp Volume(v), veh/h	98	0	501	112	441	451	973	1004	1103	808	0	1001
Grp Sat Flow(s),veh/h/ln	633	0	1845	1795	1763	1801	1501	1549	1600	1188	0	1618
Q Serve(g_s), s	16.3	0.0	37.7	4.0	30.9	31.0	0.0	80.0	80.0	0.0	0.0	80.0
Cycle Q Clear(g_c), s	38.8	0.0	37.7	4.0	30.9	31.0	80.0	80.0	80.0	80.0	0.0	80.0
Prop In Lane	1.00		0.03	1.00		0.16	0.00		0.35	0.01		0.28
Lane Grp Cap(c), veh/h	125	0	511	110	596	609	884	885	914	705	0	924
V/C Ratio(X)	0.78	0.00	0.98	1.02	0.74	0.74	1.10	1.13	1.21	1.15	0.00	1.08
Avail Cap(c_a), veh/h	125	0	511	110	596	609	884	885	914	705	0	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.8	0.0	50.2	50.0	40.9	40.9	35.2	30.0	30.0	41.4	0.0	30.0
Incr Delay (d2), s/veh	24.6	0.0	34.3	91.6	4.4	4.3	62.0	74.5	103.4	82.0	0.0	54.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	22.1	4.7	14.0	14.3	43.0	45.8	54.7	38.7	0.0	42.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	88.4	0.0	84.6	141.6	45.3	45.2	97.2	104.5	133.4	123.4	0.0	84.7
LnGrp LOS	F		F	F	D	D	F	F	F	F		F
Approach Vol, veh/h		599			1004			3081			1809	
Approach Delay, s/veh		85.2			56.0			112.5			102.0	
Approach LOS		F			E			F			F	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		86.5		53.5		86.5	8.5	45.0				
Change Period (Y+Rc), s		6.5		6.2		6.5	4.5	6.2				
Max Green Setting (Gmax), s		80.0		47.3		80.0	4.0	38.8				
Max Q Clear Time (g_c+I1), s		82.0		33.0		82.0	6.0	40.8				
Green Ext Time (p_c), s		0.0		1.9		0.0	0.0	0.0				

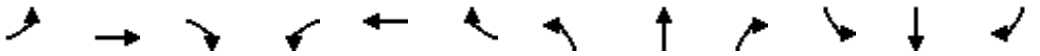
Intersection Summary												
HCM 7th Control Delay, s/veh			98.3									
HCM 7th LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	457	35	202	777	61	2	1347	124	5	3474	220
Future Volume (veh/h)	78	457	35	202	777	61	2	1347	124	5	3474	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1826	1870	1826	1826	1900	1856	1722	1900	1885	1856
Adj Flow Rate, veh/h	83	486	37	215	827	65	2	1433	132	5	3696	234
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	5	5	2	5	5	0	3	12	0	1	3
Cap, veh/h	100	400	30	137	847	67	24	1660	161	25	2737	170
Arrive On Green	0.06	0.24	0.24	0.08	0.26	0.26	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1810	1675	128	1781	3258	256	0	2912	282	2	4801	297
Grp Volume(v), veh/h	83	0	523	215	440	452	800	0	767	1437	1190	1308
Grp Sat Flow(s),veh/h/ln	1810	0	1803	1781	1735	1779	1556	0	1638	1877	1561	1662
Q Serve(g_s), s	6.8	0.0	35.8	11.5	37.8	37.8	0.0	0.0	56.8	23.3	85.5	85.5
Cycle Q Clear(g_c), s	6.8	0.0	35.8	11.5	37.8	37.8	85.5	0.0	56.8	85.5	85.5	85.5
Prop In Lane	1.00		0.07	1.00		0.14	0.00		0.17	0.00		0.18
Lane Grp Cap(c), veh/h	100	0	430	137	451	463	911	0	934	1094	890	947
V/C Ratio(X)	0.83	0.00	1.22	1.57	0.98	0.98	0.88	0.00	0.82	1.31	1.34	1.38
Avail Cap(c_a), veh/h	100	0	430	137	451	463	911	0	934	1094	890	947
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.1	0.0	57.1	69.3	55.0	55.0	32.3	0.0	26.1	33.1	32.2	32.3
Incr Delay (d2), s/veh	41.4	0.0	116.6	290.6	35.9	35.5	11.7	0.0	8.1	147.8	159.5	177.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	30.1	16.3	20.9	21.3	27.1	0.0	23.1	83.0	69.5	78.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	111.6	0.0	173.7	359.8	91.0	90.5	44.0	0.0	34.1	180.8	191.7	210.1
LnGrp LOS	F		F	F	F	F	D		C	F	F	F
Approach Vol, veh/h		606			1107			1567			3935	
Approach Delay, s/veh		165.2			143.0			39.2			193.8	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	92.0	12.8	45.2	92.0	16.0	42.0
Change Period (Y+Rc), s	6.5	4.5	6.2	6.5	4.5	6.2
Max Green Setting (Gmax), s	85.5	8.3	39.0	85.5	11.5	35.8
Max Q Clear Time (g_c+I1), s	87.5	8.8	39.8	87.5	13.5	37.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	150.0
HCM 7th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	477	14	110	802	73	3	2638	378	9	1485	279
Future Volume (veh/h)	96	477	14	110	802	73	3	2638	378	9	1485	279
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1885	1856	1841	1900	1870	1856	1900	1870	1885
Adj Flow Rate, veh/h	98	487	14	112	818	74	3	2692	386	9	1515	285
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	3	0	1	3	4	0	2	3	0	2	1
Cap, veh/h	105	440	13	90	776	70	24	2408	330	24	1373	270
Arrive On Green	0.06	0.25	0.25	0.05	0.24	0.24	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	1810	1794	52	1795	3268	296	0	4082	559	0	2326	458
Grp Volume(v), veh/h	98	0	501	112	441	451	969	1006	1106	802	0	1007
Grp Sat Flow(s),veh/h/ln	1810	0	1845	1795	1763	1801	1491	1549	1600	1166	0	1618
Q Serve(g_s), s	8.1	0.0	36.8	7.5	35.6	35.6	0.0	88.5	88.5	0.0	0.0	88.5
Cycle Q Clear(g_c), s	8.1	0.0	36.8	7.5	35.6	35.6	88.5	88.5	88.5	88.5	0.0	88.5
Prop In Lane	1.00		0.03	1.00		0.16	0.00		0.35	0.01		0.28
Lane Grp Cap(c), veh/h	105	0	453	90	418	427	904	914	944	712	0	955
V/C Ratio(X)	0.93	0.00	1.11	1.25	1.05	1.05	1.07	1.10	1.17	1.13	0.00	1.05
Avail Cap(c_a), veh/h	105	0	453	90	418	427	904	914	944	712	0	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.4	0.0	56.6	71.3	57.2	57.2	37.1	30.8	30.8	44.4	0.0	30.8
Incr Delay (d2), s/veh	66.8	0.0	74.6	175.6	59.1	58.7	51.2	61.4	88.3	74.1	0.0	44.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	26.4	7.8	22.6	23.0	43.7	46.2	54.8	39.5	0.0	43.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	137.2	0.0	131.2	246.8	116.3	115.9	88.3	92.2	119.1	118.5	0.0	75.3
LnGrp LOS	F		F	F	F	F	F	F	F	F		F
Approach Vol, veh/h		599			1004			3081			1809	
Approach Delay, s/veh		132.2			130.7			100.6			94.4	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+Rc), s	95.0	13.2	41.8		95.0	12.0	43.0					
Change Period (Y+Rc), s	6.5	4.5	6.2		6.5	4.5	6.2					
Max Green Setting (Gmax), s	88.5	8.7	35.6		88.5	7.5	36.8					
Max Q Clear Time (g_c+I1), s	90.5	10.1	37.6		90.5	9.5	38.8					
Green Ext Time (p_c), s	0.0	0.0	0.0		0.0	0.0	0.0					

Intersection Summary												
HCM 7th Control Delay, s/veh		106.5										
HCM 7th LOS		F										

Intersection: 10: Fall Creek Pkwy & 30th St

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	TR	LT	TR	LT	T	TR
Maximum Queue (ft)	140	1045	350	1079	1072	980	964	1361	1368	1363
Average Queue (ft)	82	1011	346	945	913	562	499	1334	1330	1315
95th Queue (ft)	154	1053	380	1255	1253	1063	1045	1384	1405	1464
Link Distance (ft)		989		1028	1028	1017	1017	1264	1264	1264
Upstream Blk Time (%)		84		53	29	15	14	56	57	55
Queuing Penalty (veh)		0		0	0	0	0	580	583	568
Storage Bay Dist (ft)	90		250							
Storage Blk Time (%)	17	75	94	28						
Queuing Penalty (veh)	85	58	364	56						

Intersection: 10: Fall Creek Pkwy & 30th St

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	LT	T	TR	LT	TR
Maximum Queue (ft)	140	1046	350	1007	978	1056	1059	1065	1362	1363
Average Queue (ft)	100	1013	303	793	750	1022	1010	996	1231	1227
95th Queue (ft)	168	1072	440	1176	1150	1088	1129	1181	1624	1616
Link Distance (ft)		998		1020	1020	1016	1016	1016	1263	1263
Upstream Blk Time (%)		83		21	18	28	39	41	64	64
Queuing Penalty (veh)		0		0	0	0	0	0	495	495
Storage Bay Dist (ft)	90		250							
Storage Blk Time (%)	34	71	44	65						
Queuing Penalty (veh)	168	68	178	72						

Attachment D
Virtual Meeting Minutes & Field Check Minutes

CORRADINO LLC
200 S. Meridian St. Suite 330
Indianapolis, IN 46225

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

Field Check Notes for RSA at Fall Creek Parkway & 30th Street

Date:	5/21/2026
Des. No.:	n/a

Reviewer Information:	Agency/Firm Name: Corradino LLC
Primary Author: James Mark Rinehart	Agency: Indianapolis Metropolitan Planning Organization
Phone Numbers: (317) 488-2363	Email Address: jrinehart@corradino.com

Attendees:

- Jill Palmer, Indy DPW
- Jason Bowers, Indy DPW
- Detective Snow, IMPD
- Jennifer Dunn, IMPO
- James Mark Rinehart, Corradino
- David Cleveland, Corradino

Purpose of Field Check:

The purpose of this field check was to review the crash history at the Fall Creek Parkway & 30th Street intersection, evaluate the current roadway conditions, observe traffic patterns, and collaborate with representatives from Local Public Agencies (LPA) and Law Enforcement to identify safety countermeasures. Participants in the field check were provided with a Preliminary Findings Report summarizing the crash history at the intersection, 24-hour traffic counts, existing traffic conditions, and a future no-build analysis during the field visit.

The goal of the field check was to identify near-term and long-term improvements and build consensus with the LPAs and Local Law Enforcement on the recommendations.

Recommendations from the field check will serve as the final recommendations for the RSA and will be included in IMPO's Safety Study.

Project Location:

Location: Intersection of Fall Creek Parkway & 30th Street

INDOT District: Greenfield				City: Indianapolis	County: Marion
Lat & Long (BOP)	39.810369	-86.143634	Urban/Rural - **URBAN**	Functional Class of Major Roadway: Other Principal Arterial	
Traffic Control Type: Signalized				Posted Speed Limit: Fall Creek – 35mph; 30th St. – 30mph	

Site Observations

- Corradino noted at the beginning of the field check that right-angle crashes were the most common manner of collision at the intersection, and noted that, typically, rear-end and sideswipe crashes are more likely to be the higher crash types at urban intersections. Corradino also noted that the right-angle crashes appeared to be more prevalent with WB traffic crossing over Fall Creek Parkway, with 17 of the 24 reported right-angle crashes involving a WB vehicle colliding with a NB or SB vehicle. Additionally, 11 of the 17 reported right-angle crashes involved a WB and a NB vehicle.
    - It was noticed that sight lines between approaching WB and SB vehicles and between approaching WB and NB vehicles are challenged by vegetation in the northeast and southeast quadrants of the intersection, respectively. The northeast quadrant contains some planted trees associated with the greenway. The southeast quadrant appears to be primarily overgrown vegetation. The bridge parapet wall contributes to sightline challenges, but the parapets are necessary to prevent motorists from driving off the edge of the bridge.
    - Indianapolis DPW agreed that strategic pruning of healthy trees near the bridge and clearing volunteer trees would help with sight distance at the intersection. Indianapolis DPW also said the bridge is a historic bridge and shouldn't be modified.
    - On the WB approach to the intersection, there is a crest vertical curve across the bridge and a small horizontal curve on the east side of the bridge, both of which hinder the view of the subject intersection. Indianapolis DPW staff also suggested adding an "intersection ahead" warning sign, with a solar-powered

flashing beacon, immediately east of the bridge to alert WB motorists. The beacon would flash continuously and not be connected to the signal operation.

  - Additionally, Indianapolis DPW suggested evaluating if protected left-only signal phases could be added for the EB and WB left-turns. However, because there isn't currently an EB left-turn phase, adding protected lefts would require a signal modernization project. This option was then eliminated from further consideration by the group.
  - It was also observed that the traffic signals for both eastbound and westbound traffic are mounted on both free-standing aluminum poles and aluminum mast arms. Indianapolis DPW agreed that mounting the traffic signal at two locations in the intersection could be confusing for drivers and noted that they are no longer purchasing aluminum mast arms. A long-term improvement could be a signal modernization with new steel poles that can hold all of the signal heads.

- While observing SB traffic, north of the intersection, it was noticed that multiple tree canopies stretch over the roadway and may cause some issues with sight visibility of the signal heads at the intersection.
  - Indianapolis DPW noted the mature trees along Fall Creek Parkway are heritage trees, and they would prefer not to cut them down. However, Indianapolis DPW agreed that strategic, healthy pruning of the trees could help with sight visibility.
- It was observed in the field that the pedestrian crossings and ramps are not currently compliant with ADA guidelines. There were no pedestrian push buttons to call for the pedestrian signals, but the pedestrian signals were coordinated with the traffic signal timings.
  - Indianapolis DPW agreed that updating the pedestrian infrastructure at the intersection should be a part of a long-term project. They also said they would double-check the current pedestrian signal to ensure it is operating properly in the near term.
- It was observed that the guard rail located in the NE corner was not compliant with current standards and needs to have the end treatments updated.
  - Indianapolis DPW said they could replace the guard rail in the near term.

Potential Alternatives Discussed

Near-Term

- Clear volunteer shrubs and trees in the SE and NE quadrants of the intersection.
- Strategic pruning of planted trees in the SE and NE quadrants of the intersection.
- Strategic pruning of the heritage tree in the NW quadrant of the intersection.
- Update striping and road markings at the intersection.
- Maintenance of the existing pedestrian signal.
- Replace the guard rail in the NE corner of the intersection.

Long-Term

- Complete the Near-Term improvements
- Complete a signal modernization project at the intersection that would include new signal heads with back plates, Steel cantilever poles, new pedestrian signals and push buttons, and a new cabinet.
- Evaluate adding protected left-turn phases for the EB and WB left-turning movements at the intersection. If feasible, update striping and signal heads to accommodate the protected left signal phase as part of the signal modernization project.
- Reconstruct ADA ramps in all four corners of the intersection with crosswalks.

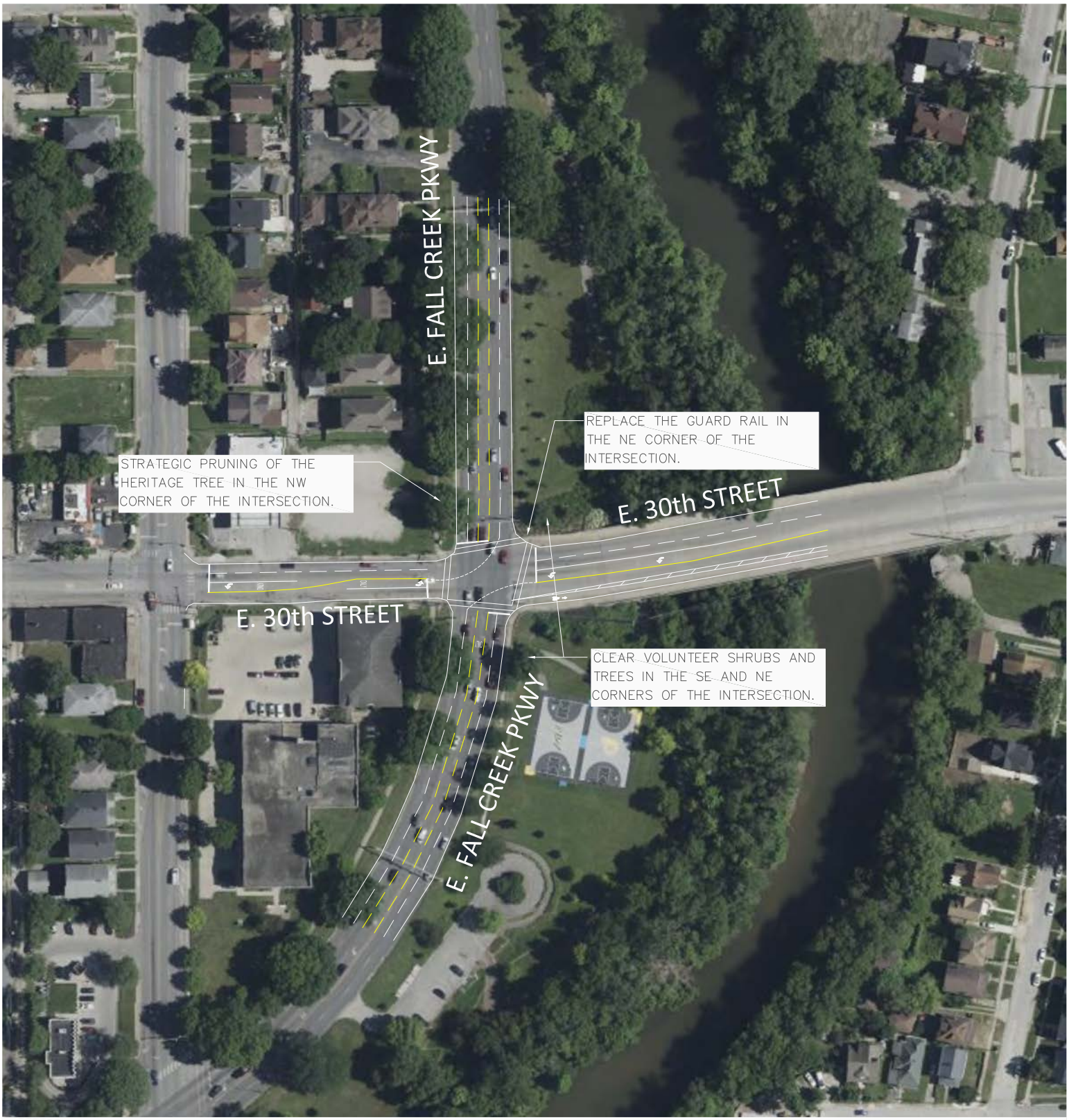
Future Consideration

Indianapolis DPW noted they intend to study the Fall Creek Parkway in the future to remove the reversible center travel lane. The improvement recommended as part of this RSA would be factored into that project.

Consensus on Key Items for Alternatives
Indianapolis DPW agreed to the identified Near-and Long-Term improvements to be used as the recommendations for the RSA.

Attachment E
Cost Estimates & Schematics

Near-Term Improvements
Fall Creek Parkway & 30th. Street



PRELIMINARY COST ESTIMATE - NEAR TERM
Fall Creek Parkway & 30th Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 5,000.00	$ 5,000.00
2	201-52370	CLEARING RIGHT-OF-WAY	1	LS	$ 10,000.00	$ 10,000.00
3	601-06037	GUARDRAIL END TREATMENT, TYPE I	1	EACH	$ 1,600.00	$ 1,600.00
4	601-12281	GUARDRAIL, MGS W-BEAM, 6 FT 3 IN. SPACING	20	LFT	$ 21.00	$ 420.00
5	601-12286	GUARDRAIL, MGS W-BEAM, SHOP CURVED, 6 FT 3 IN. SPACING	25	LFT	$ 27.50	$ 687.50
6	601-12291	GUARDRAIL TRANSITION, MGS WITH CURB	1	EACH	$ 3,100.00	$ 3,100.00
7	801-06775	MAINTAINING TRAFFIC	1	LS	$ 5,000.00	$ 5,000.00
8	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	1	LS	$ 6,000.00	$ 6,000.00
9	808-10031	LINE, MULTI-COMPONENT, BROKEN, WHITE, 4 IN.	530	LFT	$ 2.50	$ 1,325.00
10	808-10033	LINE, MULTI-COMPONENT, SOLID, WHITE, 4 IN.	1,170	LFT	$ 1.25	$ 1,462.50
11	808-10034	LINE, MULTI-COMPONENT, SOLID, YELLOW, 4 IN.	1,180	LFT	$ 14.00	$ 16,520.00
12	808-10036	LINE, MULTI-COMPONENT, BROKEN, YELLOW, 4 IN.	780	LFT	$ 2.50	$ 1,950.00
13	808-10047	TRANSVERSE MARKING, MULTI-COMPONENT, CROSSHATCH LINE, WHITE, 12 IN.	60	LFT	$ 7.50	$ 450.00
14	808-10051	TRANSVERSE MARKING, MULTI-COMPONENT, STOP LINE, WHITE, 24 IN.	155	LFT	$ 14.00	$ 2,170.00
15	808-10052	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, ONLY	3	EACH	$ 240.00	$ 720.00
16	808-10077	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, LANE INDICATION ARROW	4	EACH	$ 250.00	$ 1,000.00
17	808-10192	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, BIKE SYMBOL	1	EACH	$ 320.00	$ 320.00
18	808-11481	LINE, MULTI-COMPONENT, DOTTED, WHITE, 4 IN.	190	LFT	$ 3.00	$ 570.00
19	808-11727	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, SHARED LANE	1	EACH	$ 355.00	$ 355.00
20	808-75300	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 6 IN.	575	LFT	$ 4.00	$ 2,300.00
					TOTAL	$ 60,950.00

CONSTRUCTION TOTAL	**$61,000.00**
CONTINGENCY (10%)	**$6,000.00**
OVERALL PROJECT TOTAL	**$67,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases

Task No.	Task	Cost
1	Preliminary Engineering	$ 10,000
2	Right of Way	$ -
3	Utility CN	$ 5,000
4	Railroad CN	$ -
5	Construction Inspection/Testing	$ -
	TOTAL	$ 15,000

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



Todd Johnson
Estimate Completed By

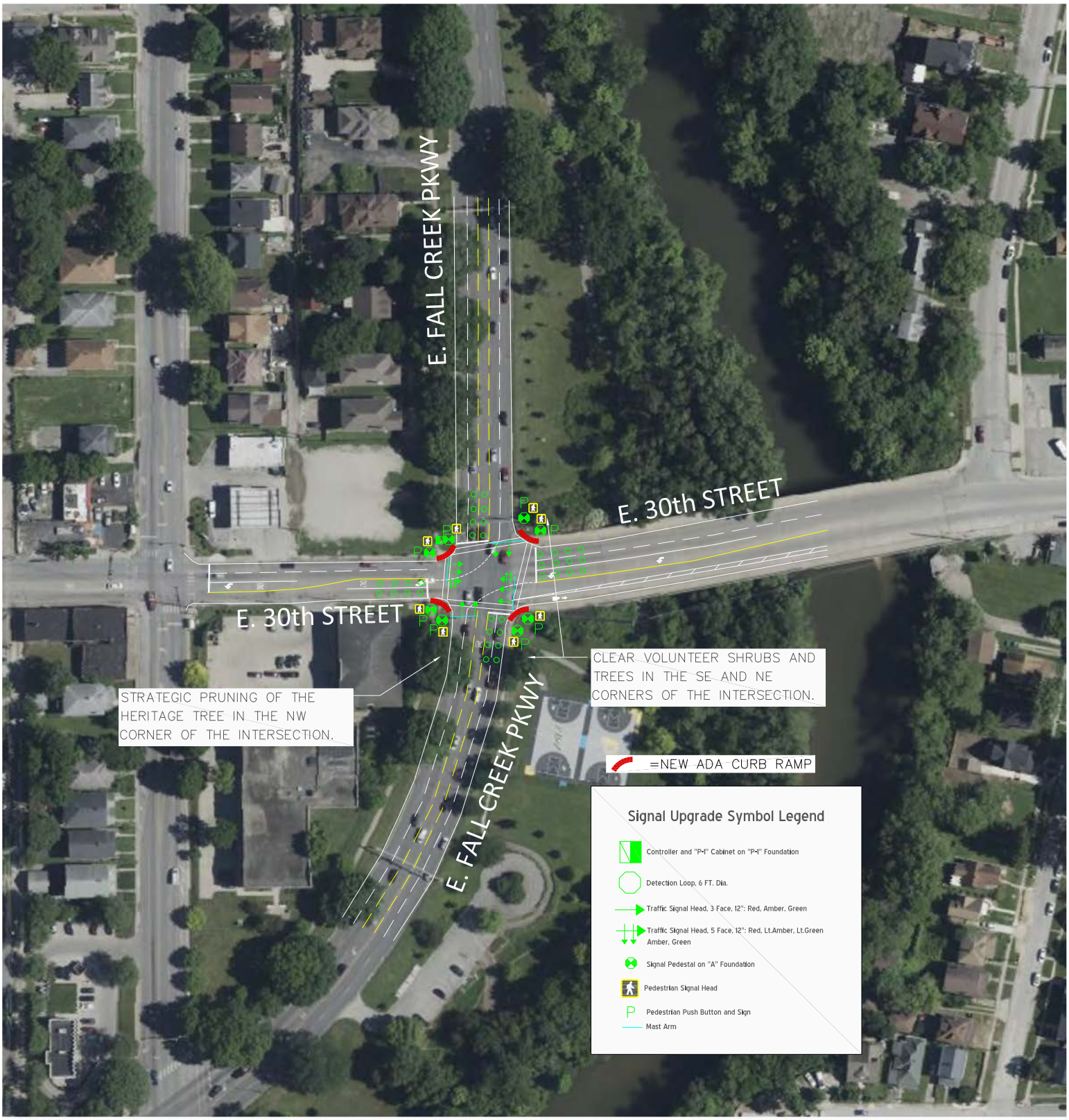
6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - NEAR TERM

Fall Creek Parkway & 30th Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	110-01001	MOBILIZATION AND DEMOBILIZATION	
2	201-52370	CLEARING RIGHT-OF-WAY	assume this cost to remove trees/brush and to prune trees
3	601-06037	GUARDRAIL END TREATMENT, TYPE I	Use this to replace existing end treatment
4	601-12281	GUARDRAIL, MGS W-BEAM, 6 FT 3 IN. SPACING	replaces existing guardrail
5	601-12286	GUARDRAIL, MGS W-BEAM, SHOP CURVED, 6 FT 3 IN. SPACING	for portion of guardrail that is curved at intersection fillet
6	601-12291	GUARDRAIL TRANSITION, MGS WITH CURB	guardrail connection to bridge railing
7	801-06775	MAINTAINING TRAFFIC	
8	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	for any replacement/repair/routine maintenance of Ped Heads
9	808-10031	LINE, MULTI-COMPONENT, BROKEN, WHITE, 4 IN.	lane lines
10	808-10033	LINE, MULTI-COMPONENT, SOLID, WHITE, 4 IN.	lane lines at turn lanes (no edge lines)
11	808-10034	LINE, MULTI-COMPONENT, SOLID, YELLOW, 4 IN.	double yellow centerline on 30th
12	808-10036	LINE, MULTI-COMPONENT, BROKEN, YELLOW, 4 IN.	for reversible lane on Fall Creek Pkwy
13	808-10047	TRANSVERSE MARKING, MULTI-COMPONENT, CROSSHATCH LINE, WHITE, 12 IN.	used between bike lane and travel lane on 30th
14	808-10051	TRANSVERSE MARKING, MULTI-COMPONENT, STOP LINE, WHITE, 24 IN.	at all four legs and at east leg of College Ave
15	808-10052	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, ONLY	on left turn lanes on 30th
16	808-10077	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, LANE INDICATION ARROW	on left turn lanes on 30th
17	808-10192	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, BIKE SYMBOL	for bike lane on 30th north of Fall Creek Pkwy
18	808-11481	LINE, MULTI-COMPONENT, DOTTED, WHITE, 4 IN.	lines through intersection
19	808-11727	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, SHARED LANE	for Shared lane on WB 30th east of Fall Creek Pkwy
20	808-75300	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 6 IN.	assume on each of the four legs of the intersection

Long-Term Improvements
Fall Creek Parkway & 30th. Street



PRELIMINARY COST ESTIMATE - LONG TERM
Fall Creek Parkway & 30th Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	105-06845	CONSTRUCTION ENGINEERING	1	LS	$ 8,000.00	$ 8,000.00
2	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 22,800.00	$ 22,800.00
3	201-52370	CLEARING RIGHT-OF-WAY	1	LS	$ 12,000.00	$ 12,000.00
4	202-02279	CURB AND GUTTER, REMOVE	20	LFT	$ 60.00	$ 1,200.00
5	202-52710	SIDEWALK CONCRETE, REMOVE	25	SYS	$ 125.00	$ 3,125.00
6	202-93995	SIGNAL POLE FOUNDATION, REMOVE	4	EACH	$ 1,400.00	$ 5,600.00
7	202-93999	SIGNAL POLE, REMOVE	4	EACH	$ 1,000.00	$ 4,000.00
8	207-08264	SUBGRADE TREATMENT, TYPE II	80	SYS	$ 60.00	$ 4,800.00
9	506-06000	PAVEMENT RECONSTRUCTION ADJACENT TO CURB RAMPS	71	SYS	$ 35.00	$ 2,485.00
10	604-06070	SIDEWALK, CONCRETE	40	SYS	$ 240.00	$ 9,600.00
11	604-08086	CURB RAMP, CONCRETE	48	SYS	$ 280.00	$ 13,440.00
12	604-12083	DETECTABLE WARNING SURFACES	12	SYS	$ 325.00	$ 3,900.00
13	605-06140	CURB AND GUTTER, CONCRETE	160	LFT	$ 90.00	$ 14,400.00
14	801-06775	MAINTAINING TRAFFIC	1	LS	$ 40,000.00	$ 40,000.00
15	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	13	SFT	$ 45.00	$ 585.00
16	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	24	SFT	$ 50.00	$ 1,200.00
17	802-10172	SIGN, LED BLANK OUT	1	EACH	$ 3,000.00	$ 3,000.00
18	805-01300	TRAFFIC SIGNAL EQUIPMENT, REMOVE	1	EACH	$ 12,000.00	$ 12,000.00
19	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	1	LS	$ 5,000.00	$ 5,000.00
20	805-02087	TRANSPORTATION OF SALVAGEABLE SIGNAL EQUIPMENT	1	LS	$ 2,500.00	$ 2,500.00
21	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	8	EACH	$ 1,150.00	$ 9,200.00
22	805-02445	CONTROLLER AND CABINET, TYPE P1	1	EACH	$ 21,600.00	$ 21,600.00
23	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	8	EACH	$ 2,000.00	$ 16,000.00
24	805-11300	SIGNAL CANTILEVER STRUCTURE, SINGLE ARM 15 FT., DPW MODIFIED	1	EACH	$ 18,800.00	$ 18,800.00
25	805-11302	SIGNAL CANTILEVER STRUCTURE, SINGLE ARM 25 FT., DPW MODIFIED	1	EACH	$ 21,200.00	$ 21,200.00
26	805-11303	SIGNAL CANTILEVER STRUCTURE, SINGLE ARM 30 FT., DPW MODIFIED	2	EACH	$ 23,500.00	$ 47,000.00
27	805-11311	SIGNAL CANTILEVER STRUCTURE, DRILLED SHAFT FOUNDATION, A, DPW MODIFIED	4	EACH	$ 9,800.00	$ 39,200.00
28	805-11817	PEDESTRIAN PUSH BUTTON, APS	8	EACH	$ 1,600.00	$ 12,800.00
29	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	4	EACH	$ 1,100.00	$ 4,400.00
30	805-78000	DETECTION LOOP, 6 FT DIA.	44	EACH	$ 1,300.00	$ 57,200.00
31	805-78205	TRAFFIC SIGNAL HEAD, NO. 3 SECTION, 12 IN.	8	EACH	$ 1,200.00	$ 9,600.00
32	805-78230	TRAFFIC SIGNAL HEAD, NO. 5 SECTION, 12 IN.	2	EACH	$ 2,000.00	$ 4,000.00
33	805-78412	SIGNAL POLE, PEDESTAL, 9 FT	4	EACH	$ 1,500.00	$ 6,000.00
34	805-78445	SIGNAL SERVICE	1	EACH	$ 2,800.00	$ 2,800.00
35	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	2,000	LFT	$ 4.30	$ 8,600.00
36	805-78490	SIGNAL CABLE, CONTROL, COPPER, 7C/14 GAUGE	300	LFT	$ 5.40	$ 1,620.00
37	805-78495	SIGNAL CABLE, CONTROL, COPPER, 9C/14 GAUGE	200	LFT	$ 6.00	$ 1,200.00
38	805-78925	CONTROLLER CABINET FOUNDATION, TYPE P1	1	EACH	$ 2,950.00	$ 2,950.00
39	807-02783	LUMINAIRE, MAST ARM, 15 FT	2	EACH	$ 2,000.00	$ 4,000.00
40	808-10031	LINE, MULTI-COMPONENT, BROKEN, WHITE, 4 IN.	530	LFT	$ 2.50	$ 1,325.00
41	808-10033	LINE, MULTI-COMPONENT, SOLID, WHITE, 4 IN.	1,170	LFT	$ 1.25	$ 1,462.50
42	808-10034	LINE, MULTI-COMPONENT, SOLID, YELLOW, 4 IN.	1,180	LFT	$ 14.00	$ 16,520.00
43	808-10036	LINE, MULTI-COMPONENT, BROKEN, YELLOW, 4 IN.	780	LFT	$ 2.50	$ 1,950.00
44	808-10047	TRANSVERSE MARKING, MULTI-COMPONENT, CROSSHATCH LINE, WHITE, 12 IN.	60	LFT	$ 7.50	$ 450.00
45	808-10051	TRANSVERSE MARKING, MULTI-COMPONENT, STOP LINE, WHITE, 24 IN.	155	LFT	$ 14.00	$ 2,170.00
46	808-10052	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, ONLY	3	EACH	$ 240.00	$ 720.00
47	808-10077	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, LANE INDICATION ARROW	4	EACH	$ 250.00	$ 1,000.00
48	808-10192	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, BIKE SYMBOL	1	EACH	$ 320.00	$ 320.00
49	808-11481	LINE, MULTI-COMPONENT, DOTTED, WHITE, 4 IN.	190	LFT	$ 3.00	$ 570.00
50	808-11727	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, SHARED LANE	1	EACH	$ 355.00	$ 355.00
51	808-75300	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 6 IN.	575	LFT	$ 4.00	$ 2,300.00
					TOTAL	$ 453,805.00

CONSTRUCTION TOTAL	**$454,000.00**
CONTINGENCY (10%)	**$45,000.00**
OVERALL PROJECT TOTAL	**$499,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases

Task No.	Task	Cost
1	Preliminary Engineering	$ 60,000
2	Right of Way	$ -
3	Utility CN	$ 10,000
4	Railroad CN	$ -
5	Construction Inspection/Testing	$ -
	TOTAL	**$ 70,000**

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature

Todd Johnson
Estimate Completed By

6/5/2026
Date



ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - LONG TERM

Fall Creek Parkway & 30th Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	105-06845	CONSTRUCTION ENGINEERING	set to x% of total cost
2	110-01001	MOBILIZATION AND DEMOBILIZATION	assume this cost to remove trees/brush and to prune trees
3	201-52370	CLEARING RIGHT-OF-WAY	Use this to replace existing end treatment
4	202-02279	CURB AND GUTTER, REMOVE	replaces existing guardrail
5	202-52710	SIDEWALK CONCRETE, REMOVE	for portion of guardrail that is curved at intersection fillet
6	202-93995	SIGNAL POLE FOUNDATION, REMOVE	guardrail connection to bridge railing
7	202-93999	SIGNAL POLE, REMOVE	
8	207-08264	SUBGRADE TREATMENT, TYPE II	
9	506-06000	PAVEMENT RECONSTRUCTION ADJACENT TO CURB RAMPS	
10	604-06070	SIDEWALK, CONCRETE	for any replacement/repair/routine maintenance of Ped Heads
11	604-08086	CURB RAMP, CONCRETE	lane lines
12	604-12083	DETECTABLE WARNING SURFACES	lane lines at turn lanes (no edge lines)
13	605-06140	CURB AND GUTTER, CONCRETE	double yellow centerline on 30th
14	801-06775	MAINTAINING TRAFFIC	for reversible lane on Fall Creek Pkwy
15	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	used between bike lane and travel lane on 30th
16	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	at all four legs and at east leg of College Ave
17	802-10172	SIGN, LED BLANK OUT	on left turn lanes on 30th
18	805-01300	TRAFFIC SIGNAL EQUIPMENT, REMOVE	on left turn lanes on 30th
19	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	assume on each of the four legs of the intersection
20	805-02087	TRANSPORTATION OF SALVAGEABLE SIGNAL EQUIPMENT	for bike lane on 30th north of Fall Creek Pkwy
21	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	lines through intersection
22	805-02445	CONTROLLER AND CABINET, TYPE P1	for Shared lane on WB 30th east of Fall Creek Pkwy
23	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	
24	805-11300	SIGNAL CANTILEVER STRUCTURE, SINGLE ARM 15 FT., DPW MODIFIED	
25	805-11302	SIGNAL CANTILEVER STRUCTURE, SINGLE ARM 25 FT., DPW MODIFIED	
26	805-11303	SIGNAL CANTILEVER STRUCTURE, SINGLE ARM 30 FT., DPW MODIFIED	
27	805-11311	SIGNAL CANTILEVER STRUCTURE, DRILLED SHAFT FOUNDATION, A, DPW MODIFIED	
28	805-11817	PEDESTRIAN PUSH BUTTON, APS	
29	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	
30	805-78000	DETECTION LOOP, 6 FT DIA.	
31	805-78205	TRAFFIC SIGNAL HEAD, NO. 3 SECTION, 12 IN.	
32	805-78230	TRAFFIC SIGNAL HEAD, NO. 5 SECTION, 12 IN.	
33	805-78412	SIGNAL POLE, PEDESTAL, 9 FT	
34	805-78445	SIGNAL SERVICE	
35	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	
36	805-78490	SIGNAL CABLE, CONTROL, COPPER, 7C/14 GAUGE	
37	805-78495	SIGNAL CABLE, CONTROL, COPPER, 9C/14 GAUGE	
38	805-78925	CONTROLLER CABINET FOUNDATION, TYPE P1	
39	807-02783	LUMINAIRE, MAST ARM, 15 FT	
40	808-10031	LINE, MULTI-COMPONENT, BROKEN, WHITE, 4 IN.	
41	808-10033	LINE, MULTI-COMPONENT, SOLID, WHITE, 4 IN.	
42	808-10034	LINE, MULTI-COMPONENT, SOLID, YELLOW, 4 IN.	
43	808-10036	LINE, MULTI-COMPONENT, BROKEN, YELLOW, 4 IN.	
44	808-10047	TRANSVERSE MARKING, MULTI-COMPONENT, CROSSHATCH LINE, WHITE, 12 IN.	
45	808-10051	TRANSVERSE MARKING, MULTI-COMPONENT, STOP LINE, WHITE, 24 IN.	
46	808-10052	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, ONLY	
47	808-10077	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, LANE INDICATION ARROW	
48	808-10192	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, BIKE SYMBOL	
49	808-11481	LINE, MULTI-COMPONENT, DOTTED, WHITE, 4 IN.	
50	808-11727	PAVEMENT MESSAGE MARKING, MULTI-COMPONENT, SHARED LANE	
51	808-75300	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 6 IN.	

Economic Evaluation - Form F5

Alternative: Fall Creek Parkway & 30th Street - Long-Term Recommendation

INPUT Collapse

Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	8
Non-Incapacitating and Possible Injury Crashes	10
Property Damage Only Crashes	39
Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Present Year (yyyy)	2026
Implementation Year (yyyy)	2030
Inflation Rate (%)	2
Interest Rate (%)	4
Annual Traffic Growth Rate (%)	2
Total Traffic Growth Factor	2.08
Future Traffic Growth Period (years)	24

COUNTERMEASURES Collapse All

Countermeasure 1 Collapse [C] Copy

Description	Signal Modification that adds changes left turns to protected only on 30th St
Crash Reduction Factors (%)	
Fatal and Incapacitating Injury Crashes	.99
Non-Incapacitating and Possible Injury Crashes	.99
Property Damage Only Crashes	.99
Number of Target Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	8
Non-Incapacitating and Possible Injury Crashes	10
Property Damage Only Crashes	39
Countermeasure Service Life (years)	20
Countermeasure Capital Cost ($)	569000
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0

[+] Add

Form 1 2 3 4 5 6 7 CDB Tool

Calculate Load Crashes

New Open

Save Save As

Reports Exit

Guidelines Help

Equations

General Improvements Table

Service Life Table

Crash Reduction Factors Table - Indiana

Crash Modification Factors Clearinghouse

Alternatives

Save Current Alternative

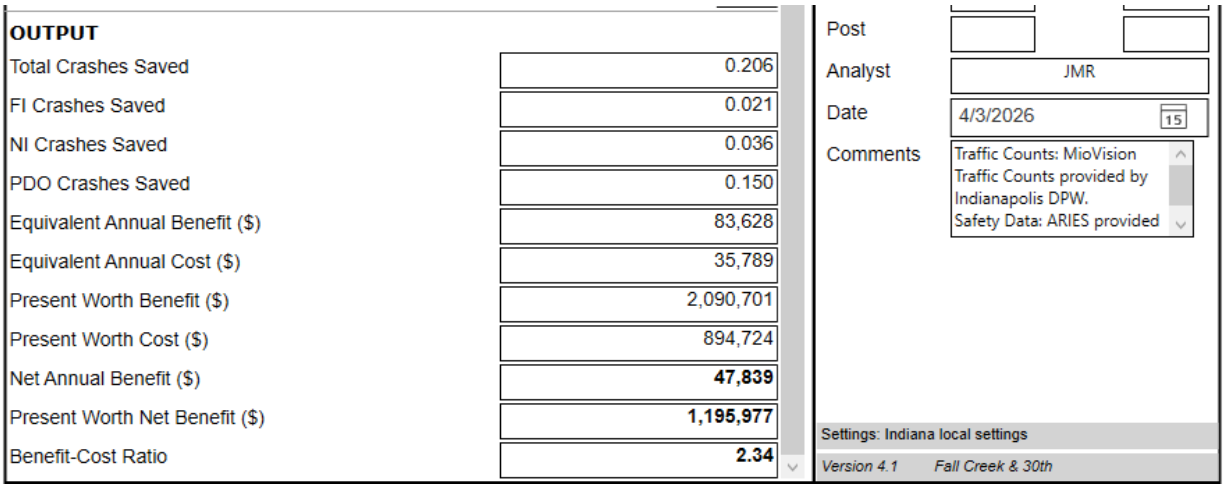
Read Alternative

Fall Creek Parkway & 30th Street - Long-Terr

Notes:

The number of target crashes are those that can be specifically reduced by the countermeasure selected. The number of target crashes for each countermeasure should not exceed the number of crashes

Location	Fall Creek Pkwy & E 30th Street
GIS	
Post	
Analyst	JMR
Date	4/3/2026
Comments	Traffic Counts: MioVision Traffic Counts provided by Indianapolis DPW. Safety Data: ARIES provided


OUTPUT
Total Crashes Saved 0.206
FI Crashes Saved 0.021
NI Crashes Saved 0.036
PDO Crashes Saved 0.150
Equivalent Annual Benefit ($) 83,628
Equivalent Annual Cost ($) 35,789
Present Worth Benefit ($) 2,090,701
Present Worth Cost ($) 894,724
Net Annual Benefit ($) 47,839
Present Worth Net Benefit ($) 1,195,977
Benefit-Cost Ratio 2.34
Post
Analyst JMR
Date 4/3/2026
Comments Traffic Counts: MioVision
Traffic Counts provided by Indianapolis DPW.
Safety Data: ARIES provided
Settings: Indiana local settings
Version 4.1 Fall Creek & 30th

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/25/2026
Des. No.:	n/a

Reviewer Information:		Agency/Firm Name:	Corradino LLC
Primary Author:	James Mark Rinehart	Agency:	Indianapolis Metropolitan Planning Organization
Phone Numbers:	(317) 488-2363	Email Address:	jrinehart@corradino.com

Purpose of Review:

Corradino LLC was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Fall Creek Pkwy		District: Greenfield		City: Indianapolis		County: Marion	
Lat & Long (BOP)	39.814093	-86.14379	Lat & Long (EOP):	39.814093	-86.14379	Inside Urban Area Boundary?	Yes (circled) or No
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit			
Location: The intersection of Fall Creek Parkway & 32nd Street							

Existing Conditions:

The Fall Creek Parkway & 32nd Street intersection is an unsignalized "T" intersection with stop control on the 32nd Street approach. 32nd Street is a two-lane roadway at the intersection. Fall Creek Parkway is a 5-lane roadway at the intersection. There are two SB and two NB lanes along Fall Creek Parkway. The center lane is a reversible lane that operates in the SB direction during Peak AM hours and in the NB direction during Peak PM hours. The posted speed on 32nd Street is 35 MPH. The posted speed limit on Fall Creek Parkway at the intersection is 40 MPH.

Sidewalk is located at the study intersection on the northwest side of Fall Creek Parkway and on both the north and south sides of 32nd Street. In fact, the curb ramps, crosswalk, and approximately 20' to 40' of sidewalk were reconstructed at the intersection in 2024. Additionally, the Fall Creek Trail is located along the southeast side of Fall Creek Parkway. It is a paved, 10'-wide shared-use trail protected by guardrails installed along Fall Creek Parkway. There are no pedestrian crossings at 32nd Street to connect the sidewalks on the northwest side of Fall Creek Parkway to the Fall Creek Trail.

Located in each quadrant of the intersection are:

- NW Quadrant: Empty Parking Lot.
- SW Quadrant: Utilities Station Operated by CWA Authority, Inc.
- SE Quadrant: The Fall Creek Trail & Fall Creek.
- NE Quadrant: The Fall Creek Trail & Fall Creek.

Corradino staff held a virtual meeting with Indianapolis DPW staff on February 19, 2026, to review data generated for the IMPO's Regional Safety Study update and to identify intersections within the City of Indianapolis for further study. The Fall Creek Parkway & 32nd Street intersection was identified as a high-crash location in Central Indiana and prioritized by the Indianapolis DPW. Meeting minutes from the virtual meeting with Indianapolis DPW are available in **Attachment D**.

Corradino held a field check with the representatives from the IMPO, City of Indianapolis DPW, and IMPD on April 29, 2026, to provide a recap of the discussion held during the virtual meeting, share test results for the near-term and long-term solutions, and build consensus around a series of countermeasures for Corradino to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Traffic Operations:

a) Mobility/Congestion Performance: According to 12-hour traffic count data collected on March 5, 2026, EB traffic entering the intersection was **103.** The NB traffic entering the intersection was **13,695.** The SB traffic entering the intersection was **11,214.** Turning movement counts are available for review in **Attachment B**. A **2.8%** forecasted annual growth rate, derived from the IMPO's TDM, was used to develop a future no-build traffic scenario and to test long-term build alternatives at the intersection. The design year for the project was **2050.** Results from the traffic analysis are available in **Attachment C**.

Corradino's team acknowledged that the forecasted annual growth rate of 2.8% appeared to be higher than expected for a developed urban environment. Indianapolis DPW agreed but noted they were more focused on existing traffic operations at the Fall Creek Parkway & 32nd Street intersection. If a roadway reconstruction project along Fall Creek Parkway were identified as part of a future corridor study, Indianapolis DPW said it would further evaluate the forecasted annual growth rate.

	Eastbound		Westbound		Northbound		Southbound	
Alternative	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
AM Peak – 2026	**F**	**113.5**	**-**	**-**	**A**	**2.1**	**A**	**0.0**
PM Peak - 2026	**F**	**53.5**	**-**	**-**	**A**	**0.2**	**A**	**0.0**
AM Peak - 2050	**F**	**89,232.6**	**-**	**-**	**F**	**170.0**	**A**	**0.0**
PM Peak - 2050	**F**	**1,437.6**	**-**	**-**	**B**	**14.1**	**A**	**0.0**

b) Safety Performance / Crash Analysis: According to available crash data reported between January 1, 2022, and December 31, 2024, there were **19** crashes near the Fall Creek Parkway & 32nd Street intersection. Of those crashes, **1** resulted in fatality, **2** resulted in incapacitating injuries, and **0** resulted in non-incapacitating injuries. See attached Crash Summary and output from RoadHAT 4.1 in **Attachment A.**

It was observed that eight (42%) of the reported crashes were Run-Off-Road crashes. Six of the eight Ran Off Road crashes involved SB traffic. During the field check, Corradino observed that in the curved sections of Fall Creek Parkway north of the intersection with 32nd Street, the roadway was constructed with a normal crown rather than a superelevation. The absence of superelevation typically promotes slower speeds along a roadway. Still, in the circumstances along Fall Creek Parkway, where vehicles are frequently observed traveling above the posted speed limit, the normal crown might entice vehicles to move toward the outer edge of the travel lane, due to centrifugal force, increasing the potential for Run Off Road crashes. Indianapolis DPW acknowledged this observation and noted that a future corridor study intended for Fall Creek Parkway will examine multiple elements in the roadway design to encourage slower travel speeds. Removal of the crowned section would require total pavement reconstruction along Fall Creek Parkway, which is beyond the scope of this RSA.

It is also important to note that 10 of the 19 reported crashes at the intersection involved vehicles attempting to turn left onto 32nd Street. According to the turning movement counts collected at the intersection, only 2% of traffic makes an NB left turn. Still, NB left-turn movement accounted for 58% of the reported crashes, including the one fatal crash reported. Identifying countermeasures to prohibit NB left turns at the intersection was discussed in detail during the field check.

RoadHAT 4.1 was used to develop crash cost (ICC) and crash frequency (ICF) scores for the Fall Creek Parkway & 32nd Street Intersection. Results from the RoadHAT 4.1 analysis were: I_{CC} = **1.76**, I_{CF} = **3.58.** The RoadHAT 4.1 analysis results are available in **Attachment A.**

Alternatives & Recommendations

During the field check with representatives from Indianapolis DPW and the IMPO, crash data and traffic data were discussed while observing traffic patterns. Multiple maintenance-type improvements were identified in the field to address near-term safety needs at the intersection, along with some longer-term infrastructure improvements. Below are the discussed Near- and Long-Term recommended improvements for the Fall Creek Parkway & 32nd Street intersection. Notes from the field check summarizing conversations with Indianapolis DPW and IMPO staff are available for review in **Attachment D.**

Near-Term

Near-term solutions will include:

- Install "No Left Turn" signs on 32nd Street and Fall Creek Parkway for the NB and EB left-turning movements.
- Install chevron signs along the northwest side of Fall Creek Parkway in the curved section.

Long-Term

- Install chevron signs in the curve north of the intersection.
- Close 32nd Street and construct a cul-de-sac on 32nd Street. The cul-de-sac would need to serve the adjacent alley. Corradino investigated the ownership of the gravel area immediately west of the CEG lift station complex in the southwest quadrant of the intersection. Per the GIS information contained in the MapIndy website, the entire parcel in the SW quadrant of the intersection, between Fall Creek Parkway and the alley to the west, is owned by CWA Authority, Inc. Corradino also investigated the geometric requirements of the cul-de-sac to confirm this as an option for a long-term infrastructure improvement.

A schematic of the long-term recommendations is available in **Attachment E**.

Future Consideration
Indianapolis DPW noted they intend to study Fall Creek Parkway in the future to determine the feasibility of removing the reversible center travel lane. The improvements recommended as part of this RSA would be factored into that project.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation

PE - **$10,000**
ROW - **$0**
Utility CN - **$500**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0**
CN (including 10% contingency) – **$11,000**

Near-Term Total - $21,500

Long-Term Recommendation

PE - **$50,000**
ROW - **$20,000**
Utility CN - **$5,000**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0**
CN (including 10% contingency) - **$256,000**

Long-Term Total - $331,000

Project Score: (for INDOT use)

Safety Program Score =

Miscellaneous Notes:

Attachments:

Attachment A: Preliminary Findings Report

Attachment B: Traffic Counts

Attachment C: Traffic Analysis

Attachment D: Virtual Meeting Minutes & Field Check

Minutes **Attachment E:** Cost Estimates & Schematics

Attachment A
Preliminary Findings

PRELIMINARY FINDINGS

Safety Analysis at Fall Creek Parkway & 32nd St.

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Fall Creek Parkway & 32nd Street (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (Icc) and crash frequency (Icf) for the Study Area using RoadHat 4.1.

19 crashes were identified within the Study Area. Two of those reported crashes resulted in incapacitating injuries, and one resulted in a fatality. Both incapacitating injury crashes were reported as Ran Off Road crashes when traveling southbound along Fall Creek Parkway and struck a tree. The fatal crash occurred when a westbound vehicle turning onto 32nd Street did not yield to a southbound vehicle on Fall Creek Parkway. Other notable results near the Study Area include:

- 42% of the reported crashes at the intersection were Ran off Road crashes. Six of the Ran Off Road crashes occurred in the southbound direction on Fall Creek Parkway. Two Ran Off Road crashes occurred when northbound vehicles attempted to turn onto 32nd Street but did not slow enough to make the turn.
- 74% of reported crashes occurred during Off-Peak travel times. 5% of reported crashes occurred during the morning peak hours (6am-9am), and 21% during the evening peak hours (4pm-7pm).
- 53% of reported crashes occurred in daylight hours and 42% in dark (lighted) conditions. The remaining 5% of crashes listed lighting conditions as "Unknown" in the police report.
- 21% of reported crashes occurred in wet roadway surface conditions. The remaining 79% of reported crashes occurred on a dry roadway surface.
- 63% of reported crashes occurred when the weather conditions were clear. The remaining 37% of reported crashes occurred on cloudy days.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

2022-2024 Crash Summary	
TOTAL CRASHES	19
TOTAL INJURIES	5
PROPERTY DAMAGE ONLY	15
POSSIBLE INJURY	1
NON-INCAPACITATING	0
INCAPACITATING	2
FATAL	1

Summary of Primary Factors per Manner of Collision

Primary Factors per Manner of Collision	Crashes	Percent
RAN OFF ROAD	**8**	**42%**
FAILURE TO MAINTAIN LANE	2	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
UNSAFE SPEED	1	
TIRE FAILURE OR DEFECTIVE	1	
IMPROPER LANE USAGE	1	
RAN OFF ROAD RIGHT	1	
OVERCORRECTING/OVERSTEERING	1	
SAME DIRECTION SIDESWIPE	**6**	**32%**
IMPROPER TURNING	3	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
FAILURE TO YIELD RIGHT OF WAY	1	
IMPROPER PASSING	1	
LEFT TURN	**2**	**11%**
FAILURE TO YIELD RIGHT OF WAY	1	
IMPROPER PASSING	1	
REAR END	**2**	**11%**
FOLLOWING TOO CLOSELY	2	
RIGHT ANGLE	**1**	**5%**
IMPROPER TURNING	1	
Total Crashes	**19**	**100%**

Summary of Crashes per Time of Day

Time of Day	Crashes	Percent
Peak AM (6:00-9:00 AM)	1	5%
Peak PM (4:00-7:00 PM)	4	21%
Off Peak	14	74%
Total Crashes	**19**	**100%**

Summary of Crashes per Light Conditions		
Light Conditions	**Crashes**	**Percent**
UNKNOWN	1	5%
DARK (LIGHTED)	8	42%
DAYLIGHT	10	53%
Total Crashes	**19**	**100%**

Summary of Roadway Surface Conditions			
Manner of Collision	**DRY**	**WET**	**Total Crashes**
RAN OFF ROAD	8		8
SAME DIRECTION SIDESWIPE	5	1	6
LEFT TURN	1	1	2
REAR END	1	1	2
RIGHT ANGLE		1	1
Total Crashes	**15**	**4**	**19**

Summary of Weather Conditions			
Manner of Collision	**CLEAR**	**CLOUDY**	**Total Crashes**
RAN OFF ROAD	6	2	8
SAME DIRECTION SIDESWIPE	4	2	6
LEFT TURN	1	1	2
REAR END	1	1	2
RIGHT ANGLE		1	1
Total Crashes	**12**	**7**	**19**

DIAGRAM OF COLLISION REPORTS

Fall Creek Parkway & 32nd Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis - DPW

INDOT District: Greenfield County: Marion City/Town: Indianapolis

Analyst: JMR QC: DC Date: 2/25/2026



YEAR	REPORTS
2022	7
2023	3
2024	9
Total	19

NOTES

1) Crashes with determinable location are shown in diagram. Crash total may not match ARIES database.

2) Crashes on diagram do not represent exact crash locations; they are approximated based on available information.

3) Diagram not to scale.

Object Symbols

- MOVING VEHICLE
- TURNING VEHICLE
- BACKING VEHICLE
- OUT OF CONTROL
- PARKED VEHICLE
- PEDESTRIAN
- BICYCLE
- A — ANIMAL
- D — DEBRIS IN ROADWAY
- DR — DRIVEWAY CRASH
- # — FATAL CRASH
- # — INJURY CRASH – INCAPACITATING
- # — INJURY CRASH – NONINCAPACITATING
- # — PDO CRASHES (IF > 1)
- SIGNALIZED INTERSECTION
- # — FIXED OBJECT (See table for # codes)

Collision Symbols

- REAR END
- HEAD ON
- OTHER
- SIDESWIPE – SAME
- SIDESWIPE – OPPOSITE
- RIGHT ANGLE
- LEFT/RIGHT TURN
- RAN OFF ROAD

Fixed Object Codes

01 – BRIDGE or OVERPASS
02 – BUILDING
03 – CULVERT or DITCH
04 – CURB
05 – GUARDRAIL or BARRIER
06 – EMBANKMENT
07 – FENCE
08 – TRAFFIC POLE
09 – UTILITY POLE
10 – SIGN
11 – TREE / SHRUB
12 – CONTRUCTION BARRIER
13 – CRASH ATTENUATOR
88 – OTHER
99 - UNKNOWN

Intersection Images

Fall Creek Parkway & 32nd Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

INDOT District: Greenfield County: Marion City/Town: Indianapolis



West Leg – Looking West



West Leg – Looking East

No East Leg at this Intersection

East Leg – Looking West

No East Leg at this Intersection

East Leg – Looking East



South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Imagery provided by Google Earth

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Fall Creek Pkwy & E 32nd Street	
GIS		
Post		
Analyst	JMR	
Date	4/3/2026	

INPUT	
Road Facility Type	City Arterial Intersection
Busiest Road AADT (veh/day)	24,909
Crossing Road AADT (veh/day)	103
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	16
Route or Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.076
Non-Incapacitating and Possible Injury Crashes	0.11
Property Damage Only Crashes	0.59
All Crashes	0.77
Index of Crash Frequency	**3.58**
Index of Crash Cost	**1.76**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Fall Creek Pkwy & E 32nd Street	
GIS		
Post		
Analyst	JMR	
Date	4/3/2026	

Comments: Traffic Counts: MioVision Traffic Counts provided by Indianapolis DPW. Safety Data: ARIES provided by IMPO.

Attachment B
Traffic Counts

32nd St & Fall Creek Blvd - TMC

Thu Mar 5, 2026
Full Length (8:30 AM-9 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383430, Location: 39.81411, -86.143734

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

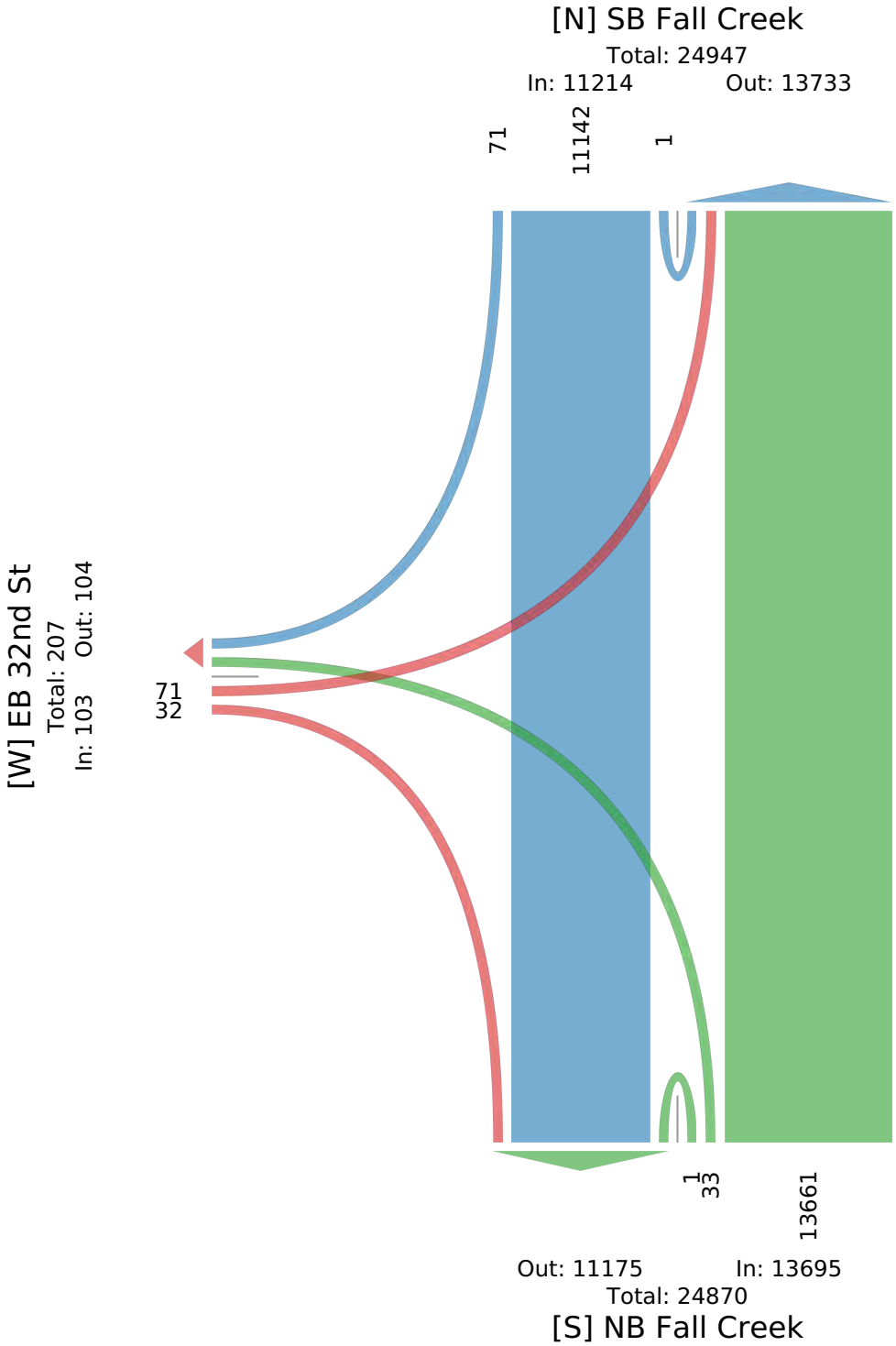
Leg Direction	EB 32nd St Eastbound				NB Fall Creek Northbound				SB Fall Creek Southbound				
Time	L	R	U	App	L	T	U	App	T	R	U	App	Int
2026-03-05 8:30AM	1	1	0	**2**	0	256	0	**256**	581	4	0	**585**	**843**
8:45AM	3	0	0	**3**	1	209	0	**210**	531	2	0	**533**	**746**
Hourly Total	4	1	0	**5**	1	465	0	**466**	1112	6	0	**1118**	**1589**
9:00AM	0	1	0	**1**	2	211	0	**213**	424	0	0	**424**	**638**
9:15AM	1	2	0	**3**	0	177	0	**177**	439	5	0	**444**	**624**
9:30AM	1	0	0	**1**	0	177	0	**177**	360	0	0	**360**	**538**
9:45AM	1	0	0	**1**	0	161	0	**161**	328	0	0	**328**	**490**
Hourly Total	3	3	0	**6**	2	726	0	**728**	1551	5	0	**1556**	**2290**
10:00AM	3	1	0	**4**	0	130	0	**130**	257	0	0	**257**	**391**
10:15AM	1	0	0	**1**	2	149	0	**151**	181	0	0	**181**	**333**
10:30AM	1	1	0	**2**	2	149	0	**151**	178	1	0	**179**	**332**
10:45AM	0	0	0	**0**	0	161	0	**161**	182	3	0	**185**	**346**
Hourly Total	5	2	0	**7**	4	589	0	**593**	798	4	0	**802**	**1402**
11:00AM	2	0	0	**2**	0	165	0	**165**	167	0	0	**167**	**334**
11:15AM	1	0	0	**1**	0	209	0	**209**	189	2	0	**191**	**401**
11:30AM	2	1	0	**3**	1	225	0	**226**	180	0	0	**180**	**409**
11:45AM	0	0	0	**0**	0	188	0	**188**	184	0	0	**184**	**372**
Hourly Total	5	1	0	**6**	1	787	0	**788**	720	2	0	**722**	**1516**
12:00PM	0	0	0	**0**	0	188	0	**188**	164	0	0	**164**	**352**
12:15PM	2	0	0	**2**	0	200	0	**200**	185	0	0	**185**	**387**
12:30PM	0	1	0	**1**	0	221	0	**221**	209	3	0	**212**	**434**
12:45PM	0	0	0	**0**	2	221	0	**223**	216	0	0	**216**	**439**
Hourly Total	2	1	0	**3**	2	830	0	**832**	774	3	0	**777**	**1612**
1:00PM	0	1	0	**1**	0	198	0	**198**	176	2	0	**178**	**377**
1:15PM	0	0	0	**0**	0	216	1	**217**	172	0	0	**172**	**389**
1:30PM	0	1	0	**1**	1	235	0	**236**	180	0	0	**180**	**417**
1:45PM	1	0	0	**1**	0	215	0	**215**	175	2	1	**178**	**394**
Hourly Total	1	2	0	**3**	1	864	1	**866**	703	4	1	**708**	**1577**
2:00PM	0	1	0	**1**	1	233	0	**234**	169	1	0	**170**	**405**
2:15PM	0	1	0	**1**	2	239	0	**241**	217	0	0	**217**	**459**
2:30PM	2	1	0	**3**	0	291	0	**291**	204	1	0	**205**	**499**
2:45PM	0	0	0	**0**	0	301	0	**301**	208	1	0	**209**	**510**
Hourly Total	2	3	0	**5**	3	1064	0	**1067**	798	3	0	**801**	**1873**
3:00PM	2	1	0	**3**	1	363	0	**364**	196	1	0	**197**	**564**
3:15PM	1	1	0	**2**	0	499	0	**499**	220	1	0	**221**	**722**
3:30PM	5	0	0	**5**	1	408	0	**409**	200	1	0	**201**	**615**
3:45PM	0	1	0	**1**	0	492	0	**492**	241	1	0	**242**	**735**
Hourly Total	8	3	0	**11**	2	1762	0	**1764**	857	4	0	**861**	**2636**
4:00PM	4	0	0	**4**	0	488	0	**488**	203	1	0	**204**	**696**
4:15PM	2	1	0	**3**	1	591	0	**592**	241	1	0	**242**	**837**
4:30PM	6	2	0	**8**	0	561	0	**561**	226	1	0	**227**	**796**
4:45PM	8	6	0	**14**	2	596	0	**598**	263	1	0	**264**	**876**
Hourly Total	20	9	0	**29**	3	2236	0	**2239**	933	4	0	**937**	**3205**
5:00PM	7	0	0	**7**	2	530	0	**532**	249	2	0	**251**	**790**
5:15PM	1	1	0	**2**	1	540	0	**541**	273	1	0	**274**	**817**
5:30PM	2	1	0	**3**	1	479	0	**480**	248	3	0	**251**	**734**
5:45PM	1	1	0	**2**	2	434	0	**436**	237	5	0	**242**	**680**
Hourly Total	11	3	0	**14**	6	1983	0	**1989**	1007	11	0	**1018**	**3021**
6:00PM	1	0	0	**1**	2	338	0	**340**	228	2	0	**230**	**571**
6:15PM	2	0	0	**2**	0	309	0	**309**	193	3	0	**196**	**507**
6:30PM	0	0	0	**0**	1	235	0	**236**	238	4	0	**242**	**478**
6:45PM	0	1	0	**1**	3	220	0	**223**	140	2	0	**142**	**366**
Hourly Total	3	1	0	**4**	6	1102	0	**1108**	799	11	0	**810**	**1922**

Leg Direction	EB 32nd St Eastbound				NB Fall Creek Northbound				SB Fall Creek Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
7:00PM	1	0	0	**1**	1	176	0	**177**	142	1	0	**143**	**321**
7:15PM	0	0	0	**0**	1	181	0	**182**	163	2	0	**165**	**347**
7:30PM	0	2	0	**2**	0	176	0	**176**	149	2	0	**151**	**329**
7:45PM	3	0	0	**3**	0	168	0	**168**	152	0	0	**152**	**323**
Hourly Total	4	2	0	**6**	2	701	0	**703**	606	5	0	**611**	**1320**
8:00PM	0	1	0	**1**	0	169	0	**169**	139	4	0	**143**	**313**
8:15PM	0	0	0	**0**	0	149	0	**149**	114	0	0	**114**	**263**
8:30PM	2	0	0	**2**	0	111	0	**111**	104	2	0	**106**	**219**
8:45PM	1	0	0	**1**	0	123	0	**123**	127	3	0	**130**	**254**
Hourly Total	3	1	0	**4**	0	552	0	**552**	484	9	0	**493**	**1049**
Total	71	32	0	**103**	33	13661	1	**13695**	11142	71	1	**11214**	**25012**
% Approach	68.9%	31.1%	0%	**-**	0.2%	99.8%	0%	**-**	99.4%	0.6%	0%	**-**	-
% Total	0.3%	0.1%	0%	**0.4%**	0.1%	54.6%	0%	**54.8%**	44.5%	0.3%	0%	**44.8%**	-
Lights	71	31	0	**102**	33	13518	1	**13552**	11006	68	1	**11075**	24729
% Lights	100%	96.9%	0%	**99.0%**	100%	99.0%	100%	**99.0%**	98.8%	95.8%	100%	**98.8%**	98.9%
Articulated Trucks	0	0	0	**0**	0	9	0	**9**	10	2	0	**12**	21
% Articulated Trucks	0%	0%	0%	**0%**	0%	0.1%	0%	**0.1%**	0.1%	2.8%	0%	**0.1%**	0.1%
Buses and Single-Unit Trucks	0	1	0	**1**	0	134	0	**134**	126	1	0	**127**	262
% Buses and Single-Unit Trucks	0%	3.1%	0%	**1.0%**	0%	1.0%	0%	**1.0%**	1.1%	1.4%	0%	**1.1%**	1.0%

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

32nd St & Fall Creek Blvd - TMC
Thu Mar 5, 2026
Full Length (8:30 AM-9 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383430, Location: 39.81411, -86.143734

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



32nd St & Fall Creek Blvd - TMC

Thu Mar 5, 2026
AM Peak (8:30 AM - 9:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383430, Location: 39.81411, -86.143734

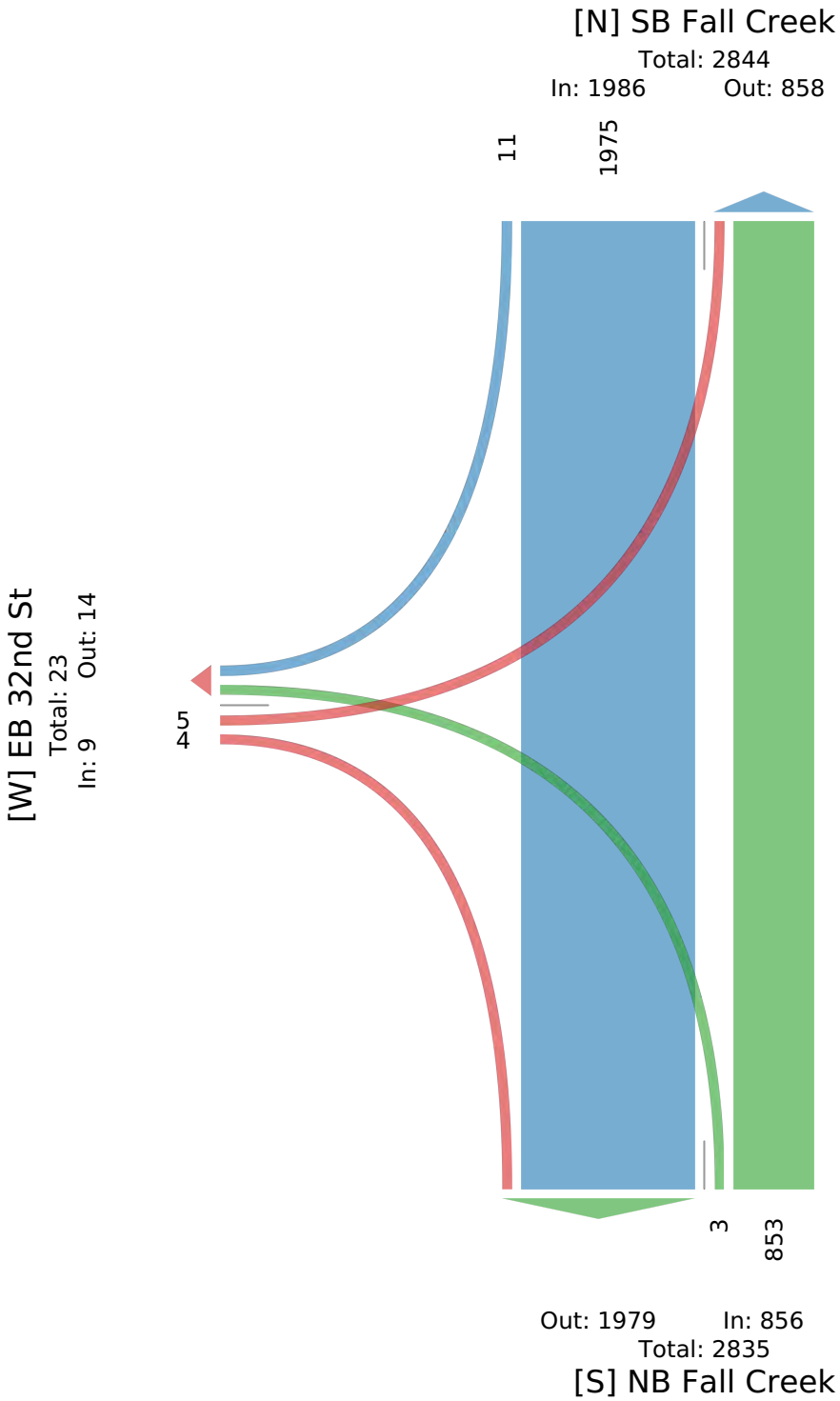
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 32nd St Eastbound				NB Fall Creek Northbound				SB Fall Creek Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2026-03-05 8:30AM	1	1	0	**2**	0	256	0	**256**	581	4	0	**585**	**843**
8:45AM	3	0	0	**3**	1	209	0	**210**	531	2	0	**533**	**746**
9:00AM	0	1	0	**1**	2	211	0	**213**	424	0	0	**424**	**638**
9:15AM	1	2	0	**3**	0	177	0	**177**	439	5	0	**444**	**624**
Total	5	4	0	**9**	3	853	0	**856**	1975	11	0	**1986**	**2851**
% Approach	55.6%	44.4%	0%	**-**	0.4%	99.6%	0%	**-**	99.4%	0.6%	0%	**-**	-
% Total	0.2%	0.1%	0%	**0.3%**	0.1%	29.9%	0%	**30.0%**	69.3%	0.4%	0%	**69.7%**	-
PHF	0.417	0.500	-	**0.750**	0.375	0.833	-	**0.836**	0.850	0.550	-	**0.849**	0.845
Lights	5	4	0	**9**	3	829	0	**832**	1957	9	0	**1966**	2807
% Lights	100%	100%	0%	**100%**	100%	97.2%	0%	**97.2%**	99.1%	81.8%	0%	**99.0%**	98.5%
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	2	1	0	**3**	3
% Articulated Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0.1%	9.1%	0%	**0.2%**	0.1%
Buses and Single-Unit Trucks	0	0	0	**0**	0	24	0	**24**	16	1	0	**17**	41
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	0%	2.8%	0%	**2.8%**	0.8%	9.1%	0%	**0.9%**	1.4%

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

32nd St & Fall Creek Blvd - TMC
Thu Mar 5, 2026
AM Peak (8:30 AM - 9:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383430, Location: 39.81411, -86.143734

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



32nd St & Fall Creek Blvd - TMC

Thu Mar 5, 2026
Midday Peak (12:30 PM - 1:30 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383430, Location: 39.81411, -86.143734

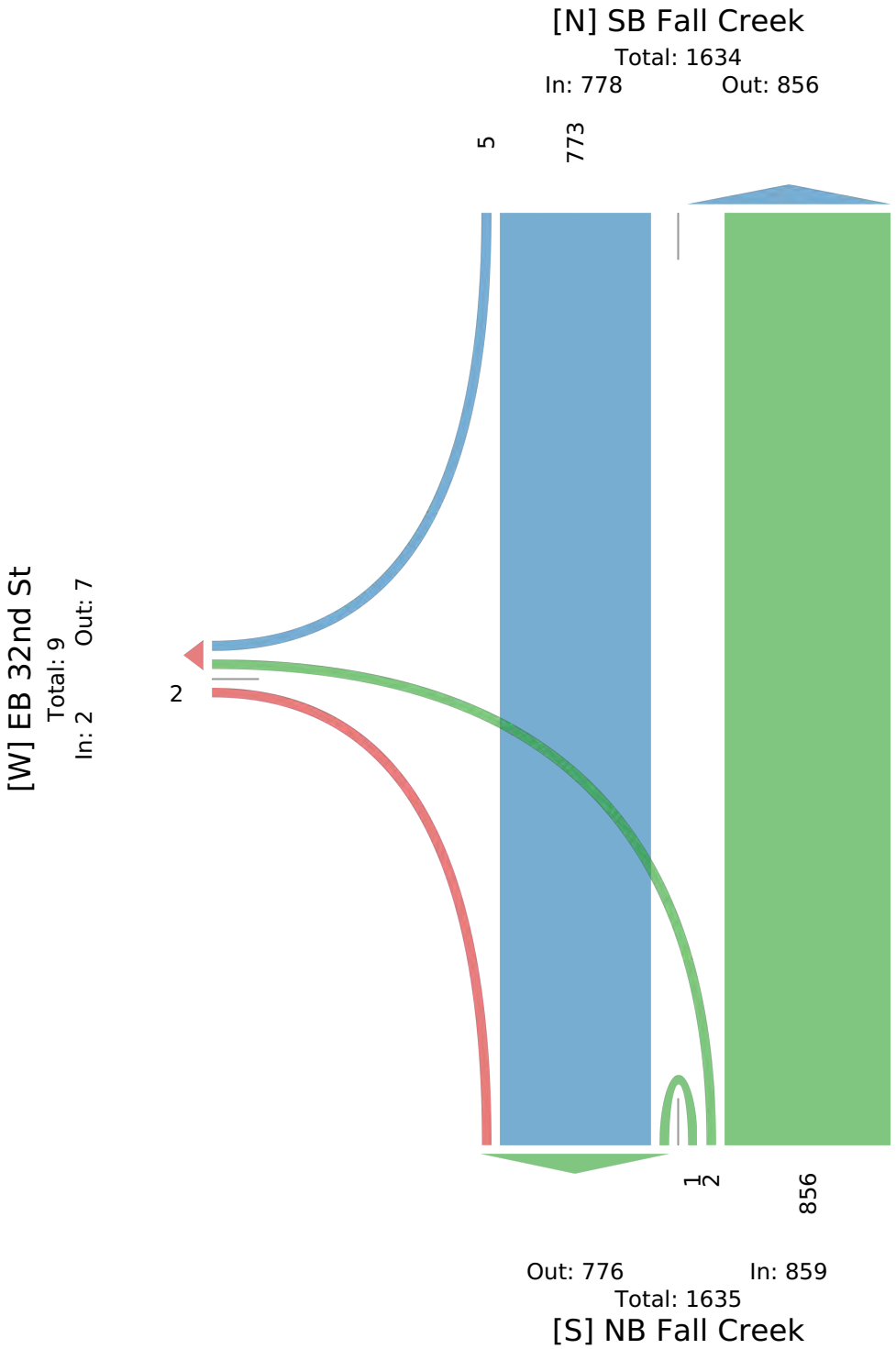
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 32nd St Eastbound				NB Fall Creek Northbound				SB Fall Creek Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2026-03-05 12:30PM	0	1	0	**1**	0	221	0	**221**	209	3	0	**212**	**434**
12:45PM	0	0	0	**0**	2	221	0	**223**	216	0	0	**216**	**439**
1:00PM	0	1	0	**1**	0	198	0	**198**	176	2	0	**178**	**377**
1:15PM	0	0	0	**0**	0	216	1	**217**	172	0	0	**172**	**389**
Total	0	2	0	**2**	2	856	1	**859**	773	5	0	**778**	**1639**
% Approach	0%	100%	0%	**-**	0.2%	99.7%	0.1%	**-**	99.4%	0.6%	0%	**-**	-
% Total	0%	0.1%	0%	**0.1%**	0.1%	52.2%	0.1%	**52.4%**	47.2%	0.3%	0%	**47.5%**	-
PHF	-	0.500	-	**0.500**	0.250	0.968	0.250	**0.963**	0.895	0.417	-	**0.900**	0.933
Lights	0	2	0	**2**	2	845	1	**848**	765	5	0	**770**	1620
% Lights	0%	100%	0%	**100%**	100%	98.7%	100%	**98.7%**	99.0%	100%	0%	**99.0%**	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**	0	11	0	**11**	8	0	0	**8**	19
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	0%	1.3%	0%	**1.3%**	1.0%	0%	0%	**1.0%**	1.2%

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

32nd St & Fall Creek Blvd - TMC
Thu Mar 5, 2026
Midday Peak (12:30 PM - 1:30 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383430, Location: 39.81411, -86.143734

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



32nd St & Fall Creek Blvd - TMC

Thu Mar 5, 2026
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383430, Location: 39.81411, -86.143734

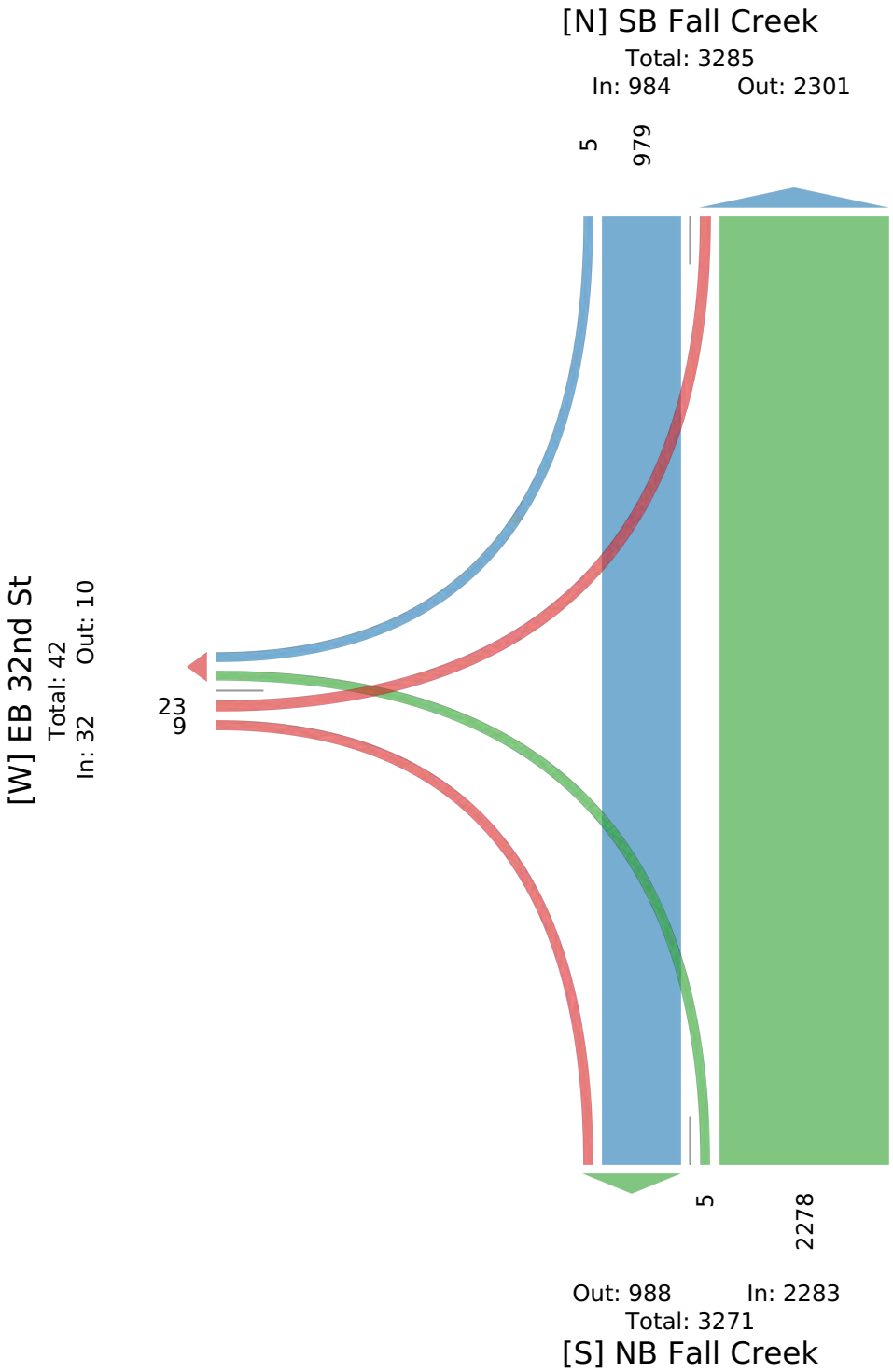
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 32nd St Eastbound				NB Fall Creek Northbound				SB Fall Creek Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2026-03-05 4:15PM	2	1	0	**3**	1	591	0	**592**	241	1	0	**242**	**837**
4:30PM	6	2	0	**8**	0	561	0	**561**	226	1	0	**227**	**796**
4:45PM	8	6	0	**14**	2	596	0	**598**	263	1	0	**264**	**876**
5:00PM	7	0	0	**7**	2	530	0	**532**	249	2	0	**251**	**790**
Total	23	9	0	**32**	5	2278	0	**2283**	979	5	0	**984**	**3299**
% Approach	71.9%	28.1%	0%	**-**	0.2%	99.8%	0%	**-**	99.5%	0.5%	0%	**-**	-
% Total	0.7%	0.3%	0%	**1.0%**	0.2%	69.1%	0%	**69.2%**	29.7%	0.2%	0%	**29.8%**	-
PHF	0.719	0.375	-	**0.571**	0.625	0.956	-	**0.954**	0.931	0.625	-	**0.932**	0.941
Lights	23	9	0	**32**	5	2264	0	**2269**	971	5	0	**976**	3277
% Lights	100%	100%	0%	**100%**	100%	99.4%	0%	**99.4%**	99.2%	100%	0%	**99.2%**	99.3%
Articulated Trucks	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	1
% 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	13	0	**13**	8	0	0	**8**	21
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	0%	0.6%	0%	**0.6%**	0.8%	0%	0%	**0.8%**	0.6%

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

32nd St & Fall Creek Blvd - TMC
Thu Mar 5, 2026
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383430, Location: 39.81411, -86.143734

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



Attachment C
Traffic Analysis

Intersection	Type	MOE	Existing 2026									
			2026 AM Peak Hour					2026 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Fall Creek Pkwy & 32nd St	TWSC	*LOS*	**F**	---	A	A	**N/A**	**F**	---	A	A	**N/A**
		Delay (sec/veh)	113.5	---	2.1	0.0	**1.0**	53.5	---	0.2	0.0	**0.6**
		Queue Length 95th (ft)	16	---	4	0		24	---	0	0	
		v/c Ratio	0.25	---	0.03	0.00		0.30	---	0.01	0.00	
		LOS-F Movements	EBL/R	---	---	---		EBL/R	---	---	---	

Intersection	Type	MOE	No-Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Fall Creek Pkwy & 32nd St	TWSC	*LOS*	**F**	---	**F**	A	**N/A**	**F**	---	B	A	**N/A**
		Delay (sec/veh)	89232.6	---	170.0	0.0	**81.1**	1437.6	---	14.1	0.0	**14.6**
		Queue Length 95th (ft)	76	---	18	0		146	---	2	0	
		v/c Ratio	11.50	---	0.33	0.00		3.16	---	0.02	0.00	
		LOS-F Movements	EBL/R	---	---	---		EBL/R	---	---	---	

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	4	3	799	1851	10
Future Vol, veh/h	5	4	3	799	1851	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	3	1	18
Mvmt Flow	6	5	4	940	2178	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2661	1095	2189	0	-	0
Stage 1	2184	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Critical Hdwy	6.25	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.65	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	28	182	103	-	-	-
Stage 1	45	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	27	182	103	-	-	-
Mov Cap-2 Maneuver	27	-	-	-	-	-
Stage 1	43	-	-	-	-	-
Stage 2	577	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	113.54	2.05	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	13	-	43	-	-
HCM Lane V/C Ratio	0.034	-	0.245	-	-
HCM Ctrl Dly (s/v)	41.3	1.9	113.5	-	-
HCM Lane LOS	E	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	8	5	2135	917	5
Future Vol, veh/h	22	8	5	2135	917	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	23	9	5	2271	976	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1897	490	981	0	-	0
Stage 1	978	-	-	-	-	-
Stage 2	919	-	-	-	-	-
Critical Hdwy	6.25	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.65	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	82	529	712	-	-	-
Stage 1	322	-	-	-	-	-
Stage 2	328	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	81	529	712	-	-	-
Mov Cap-2 Maneuver	81	-	-	-	-	-
Stage 1	317	-	-	-	-	-
Stage 2	328	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	53.54	0.15	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	13	-	105	-	-
HCM Lane V/C Ratio	0.007	-	0.304	-	-
HCM Ctrl Dly (s/v)	10.1	0.1	53.5	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

Intersection	
Int Delay, s/veh	81.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	7	5	1333	3087	17
Future Vol, veh/h	8	7	5	1333	3087	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	3	1	18
Mvmt Flow	9	8	6	1568	3632	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	4438	1826	3652	0	-	0
Stage 1	3642	-	-	-	-	-
Stage 2	796	-	-	-	-	-
Critical Hdwy	6.25	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.65	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	~ 2	58	18	-	-	-
Stage 1	~ 5	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 1	58	18	-	-	-
Mov Cap-2 Maneuver	~ 1	-	-	-	-	-
Stage 1	~ 2	-	-	-	-	-
Stage 2	399	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	$ 8923.63	170.03	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	10	-	2	-	-
HCM Lane V/C Ratio	0.333	-	11.5	-	-
HCM Ctrl Dly (s/v)	289.4	169.5	$ 8923.6	-	-
HCM Lane LOS	F	F	F	-	-
HCM 95th %tile Q(veh)	0.9	-	3.8	-	-

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

Intersection	
Int Delay, s/veh	14.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	13	8	3561	1529	8
Future Vol, veh/h	37	13	8	3561	1529	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	39	14	9	3788	1627	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3163	818	1635	0	-	0
Stage 1	1631	-	-	-	-	-
Stage 2	1532	-	-	-	-	-
Critical Hdwy	6.25	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.65	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 14	324	402	-	-	-
Stage 1	146	-	-	-	-	-
Stage 2	151	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 13	324	402	-	-	-
Mov Cap-2 Maneuver	~ 13	-	-	-	-	-
Stage 1	136	-	-	-	-	-
Stage 2	151	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	$ 1437.56	1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	12	-	17	-	-
HCM Lane V/C Ratio	0.021	-	3.156	-	-
HCM Ctrl Dly (s/v)	14.1	-	$ 1437.6	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	7.3	-	-

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

Intersection: 11: Fall Creek Pkwy & 32nd St

Movement	EB	SB	SB	SB
Directions Served	LR	T	T	TR
Maximum Queue (ft)	357	511	515	512
Average Queue (ft)	188	452	434	409
95th Queue (ft)	374	643	664	696
Link Distance (ft)	437	471	471	471
Upstream Blk Time (%)	0	49	56	56
Queuing Penalty (veh)	0	0	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Fall Creek Pkwy & 32nd St

Movement	EB	SB	SB
Directions Served	LR	T	TR
Maximum Queue (ft)	445	475	476
Average Queue (ft)	380	346	341
95th Queue (ft)	545	690	691
Link Distance (ft)	435	465	465
Upstream Blk Time (%)	67	56	57
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Attachment D
Virtual Meeting Minutes & Field Check Minutes

CORRADINO LLC
200 S. Meridian St. Suite 330
Indianapolis, IN 46225

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

Field Check Notes for RSA at Fall Creek Parkway & 32nd Street

Date:	5/21/2026
Des. No.:	n/a

Reviewer Information:	
Primary Author: James Mark Rinehart	Agency/Firm Name: Corradino LLC
Phone Numbers: (317) 488-2363	Agency: Indianapolis Metropolitan Planning Organization
	Email Address: jrinehart@corradino.com

Attendees:

- Jill Palmer, Indy DPW
- Jason Bowers, Indy DPW
- Detective Snow, IMPD
- Jennifer Dunn, IMPO
- James Mark Rinehart, Corradino
- David Cleveland, Corradino

Purpose of Field Check:

The purpose of this field check was to review the crash history at the Fall Creek Parkway & 32nd Street intersection, evaluate the current roadway conditions, observe traffic patterns, and collaborate with representatives from Local Public Agencies (LPA) and Law Enforcement to identify safety countermeasures. Participants in the field check were provided with a Preliminary Findings Report summarizing the crash history at the intersection, 24-hour traffic counts, existing traffic conditions, and a future no-build analysis during the field visit.

The goal of the field check was to identify near-term and long-term improvements and build consensus with the LPAs and Local Law Enforcement on the recommendations.

Recommendations from the field check will serve as the final recommendations for the RSA and will be included in IMPO's Safety Study.

Project Location:

Location: Intersection of Fall Creek Parkway & 32nd Street

INDOT District: Greenfield				City: Indianapolis	County: Marion
Lat & Long (BOP)	39.814090	-86.143759	Urban/Rural - **URBAN**	Functional Class of Major Roadway: Other Principal Arterial	
Traffic Control Type: Stop-Controlled, "T" intersection				Posted Speed Limit: Fall Creek – 35mph; 32nd St. – 30mph	

Site Observations

- Corradino shared that 10 of the 19 reported crashes at the intersection were correlated with NB vehicles attempting to turn left onto 32nd Street. Two of the crashes were left-turn crashes, and two ran off the road after making the NB left-turn too quickly. Four of the NB crashes were same-direction side-swipe crashes that involved a vehicle merging over, and the driver did not know there was an NB vehicle in the reversible center lane. The last two NB crashes were rear-end crashes in which someone stopped to turn left and was hit from behind.
    - Corradino also noted that NB left turns at the Fall Creek Parkway and 30th Street intersection are prohibited, which might be causing left-turning movement at Fall Creek Parkway and 32nd Street.
    - Indianapolis DPW noted they are aware that left turns at this intersection are an issue. They also noted that the recent closure of left turns and through traffic at the 32nd Street and College Avenue intersection, located approximately 260' east of the intersection, likely discourages left turns. Note that the crash data used for the subject RSA occurred after the previously mentioned closure, and there is still enough crash activity to prompt an RSA.
    - Additionally, Indianapolis DPW stated that a near-term solution would be to put up "No Left Turn" signage along Fall Creek Parkway and 32nd Street to reduce the number of left turns. A long-term solution would be to close 32nd Street and either create a cul-de-sac or provide a "hammerhead" turnaround.
        - Citizens Energy Group has a lift station in the SW corner of the intersection that would need to maintain access.

- Corradino shared that five reported crashes were SB run-off-the-road crashes. Four of the five crashes occurred in the curve along Fall Creek Parkway just north of the intersection.
    - It was observed that the outside lane has a ~4% slope that, if a vehicle is traveling faster than the posted speed limit, may help force the vehicle to the outside part of the lane into the curb; however, remedying this situation would require total road reconstruction, which is beyond the scope of this report.
    - IMPD asked if it would be possible to add more chevron signs along the right side of Fall Creek Parkway to help drivers know how close they are getting to the curb when navigating the curve.
    - Indianapolis DPW agreed that chevron signs would be a good near-term improvement.

Potential Alternatives Discussed

Near-Term

- Install "No Left Turn" signs on 32nd Street and Fall Creek Parkway for the NB and EB left-turning movements
- Install chevron signs in the curve north of the intersection.

Long-Term

- Install the near-term recommendations.
- Evaluate feasibility of closing 32nd Street & construct a "Hammerhead" cul-de-sac on 32nd Street. The cul-de-sac would need to serve the adjacent alley. Corradino will investigate the ownership of the gravel area immediately west of the lift station complex in the southwest quadrant of the intersection. Citizens Energy Group may own it and could possibly serve as a suitable hammerhead cul-de-sac location. Corradino will investigate the geometric requirements of the cul-de-sac to determine whether this is an option.

Future Consideration

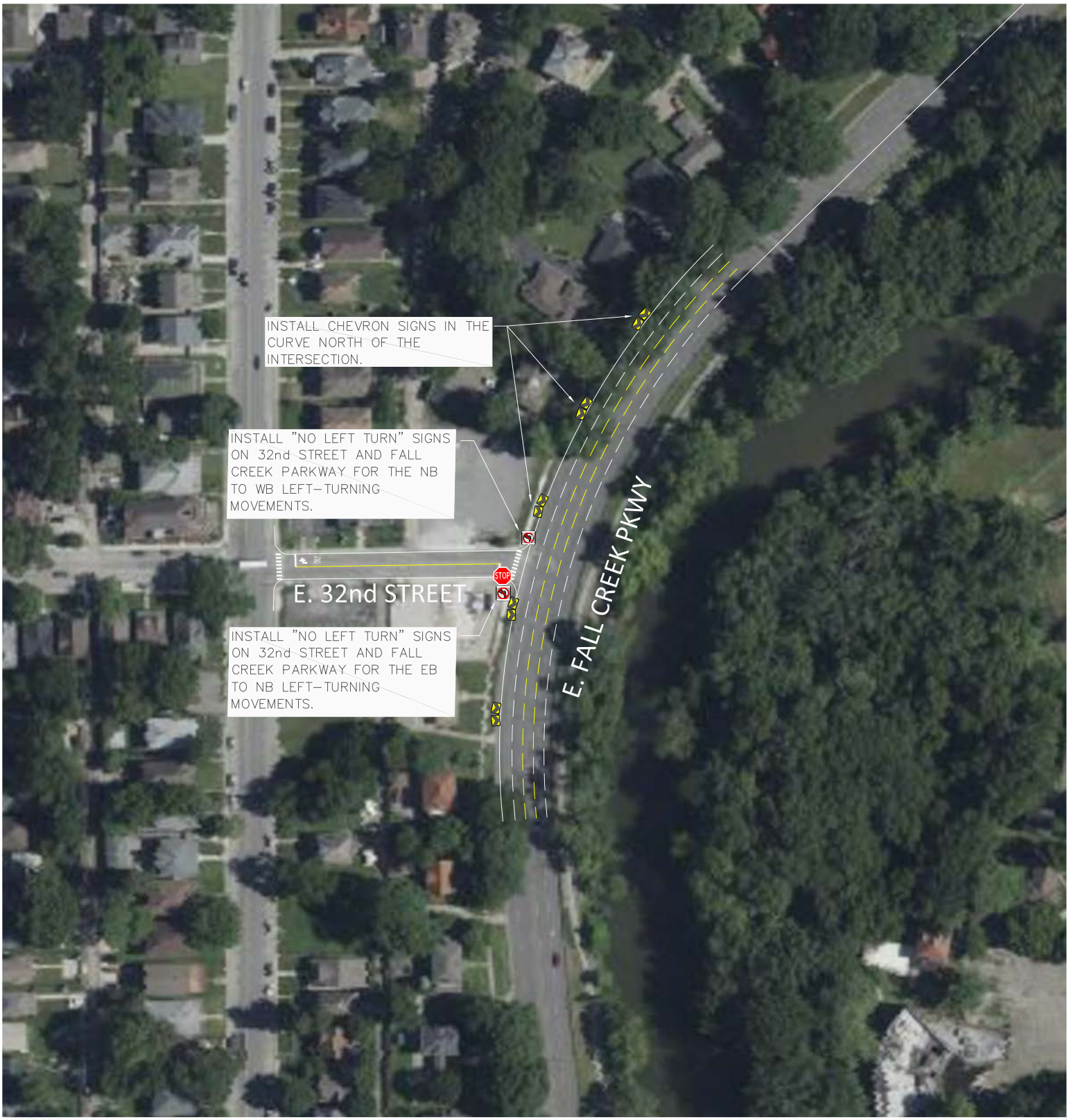
Indianapolis DPW indicated they will evaluate Fall Creek Parkway in the future with the intention of removing the reversible center travel lane.

Consensus on Key Items for Alternatives

Indianapolis DPW agreed with the identified near-and long-term alternatives.

Attachment E
Cost Estimates & Schematics

Near-Term Improvements
Fall Creek Parkway & 32nd. Street



PRELIMINARY COST ESTIMATE - NEAR TERM
Fall Creek Parkway & 32nd Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 5,000.00	$ 5,000.00
2	801-06775	MAINTAINING TRAFFIC	1	LS	$ 1,000.00	$ 1,000.00
3	802-05704	SIGN POST, SQUARE, TYPE 1, UNREINFORCED ANCHOR BASE	73	LFT	$ 31.00	$ 2,263.00
4	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	34	SFT	$ 32.00	$ 1,088.00
5	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	9	SFT	$ 35.00	$ 315.00
					TOTAL	$ 9,666.00

CONSTRUCTION TOTAL	**$10,000.00**
CONTINGENCY (10%)	**$1,000.00**
OVERALL PROJECT TOTAL	**$11,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases

Task No.	Task	Cost
1	Preliminary Engineering	$ 10,000
2	Right of Way	$ -
3	Utility CN	$ 500
4	Railroad CN	$ -
5	Construction Inspection/Testing (10%)	$ -
	TOTAL	**$ 10,500**

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



Todd Johnson
Estimate Completed By

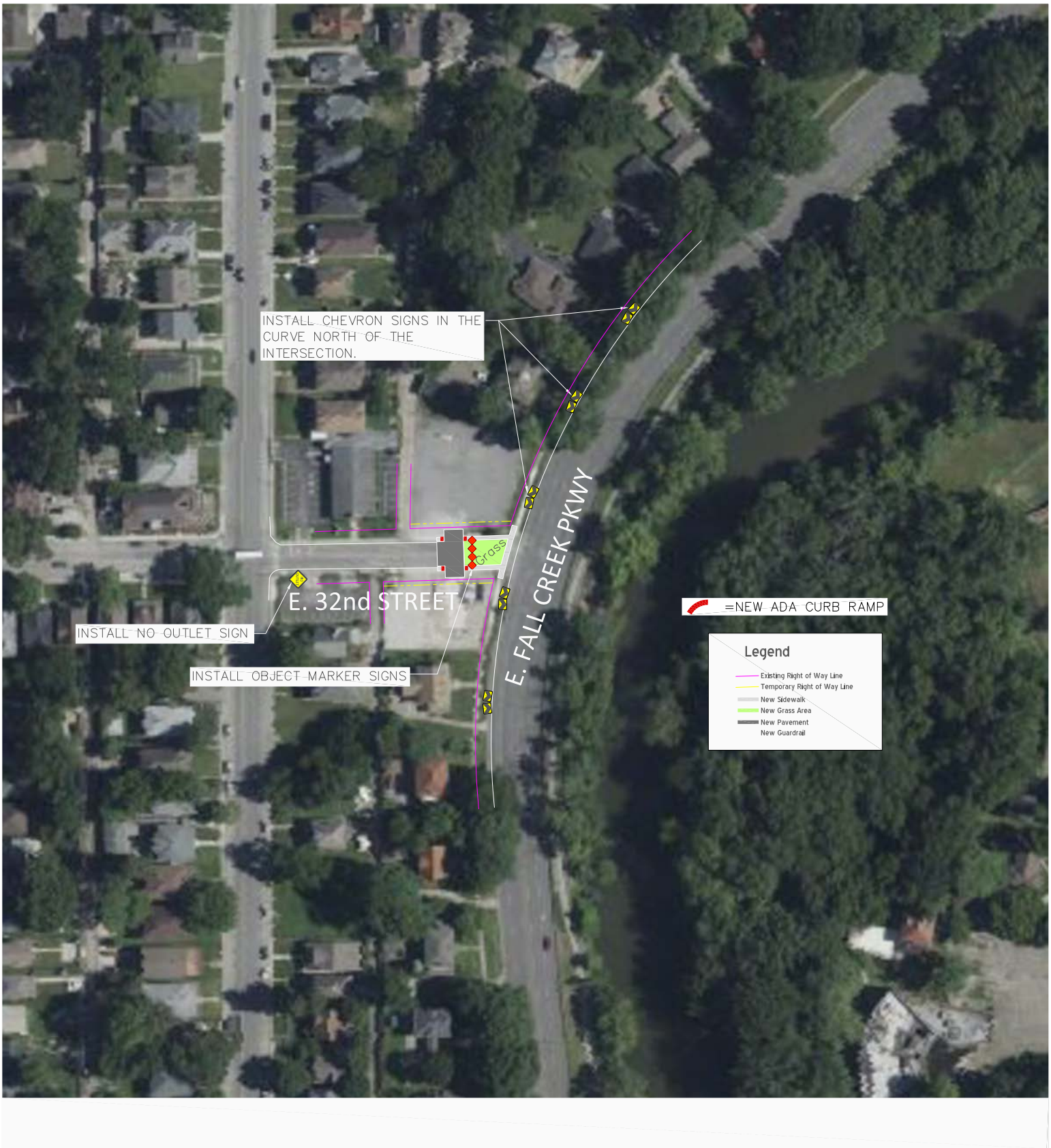
6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - NEAR TERM

Fall Creek Parkway & 32nd Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	110-01001	MOBILIZATION AND DEMOBILIZATION	
2	801-06775	MAINTAINING TRAFFIC	
3	802-05704	SIGN POST, SQUARE, TYPE 1, UNREINFORCED ANCHOR BASE	use 13' for No Left Turn and 12' for each chevron paired sign or 5 each 60'; total = 73'
4	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	used for the 24" by 24" No Left Turn mounted undewr the existing Stop sign and 10 ea 18' by 24" Chevrons
5	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	used for the 36" by 36" No Left Turn symbol sign - 9 SFT

Long-Term Improvements
Fall Creek Parkway & 32nd. Street



PRELIMINARY COST ESTIMATE - LONG TERM
Fall Creek Parkway & 32nd Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	105-06845	CONSTRUCTION ENGINEERING	1	LS	$ 8,000.00	$ 8,000.00
2	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 10,700.00	$ 10,700.00
3	201-52370	CLEARING RIGHT-OF-WAY	1	LS	$ 20,000.00	$ 20,000.00
4	202-02240	PAVEMENT REMOVAL	250	SYS	$ 70.00	$ 17,500.00
5	202-02279	CURB AND GUTTER, REMOVE	210	LFT	$ 60.00	$ 12,600.00
6	202-52710	SIDEWALK CONCRETE, REMOVE	140	SYS	$ 125.00	$ 17,500.00
7	202-74035	SIGN, REMOVE	3	EACH	$ 100.00	$ 300.00
8	202-74045	SIGN AND SUPPORTS, CHANNEL POSTS, REMOVE	1	EACH	$ 140.00	$ 140.00
9	203-02000	EXCAVATION, COMMON	65	CYS	$ 165.00	$ 10,725.00
10	207-08264	SUBGRADE TREATMENT, TYPE II	85	SYS	$ 60.00	$ 5,100.00
11	207-09935	SUBGRADE TREATMENT, TYPE IC	150	SYS	$ 45.00	$ 6,750.00
12	304-07493	WIDENING WITH HMA, TYPE B	32	TON	$ 300.00	$ 9,600.00
13	306-08034	MILLING, ASPHALT, 1 1/2 IN.	165	SYS	$ 6.00	$ 990.00
14	401-000008	QC/QA-HMA, 3, 58E, SURFACE, 9.5 mm	14	TON	$ 100.00	$ 1,400.00
15	506-06001	PAVEMENT RECONSTRUCTION ADJACENT TO CURB	40	SYS	$ 35.00	$ 1,400.00
16	601-02241	GUARDRAIL, REMOVE	24	LFT	$ 110.00	$ 2,640.00
17	601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN. SPACING	100	LFT	$ 30.00	$ 3,000.00
18	604-06070	SIDEWALK, CONCRETE	85	SYS	$ 240.00	$ 20,400.00
19	604-08086	CURB RAMP, CONCRETE	20	SYS	$ 280.00	$ 5,600.00
20	604-12083	DETECTABLE WARNING SURFACES	6	SYS	$ 325.00	$ 1,950.00
21	605-06120	CURB, CONCRETE	145	LFT	$ 100.00	$ 14,500.00
22	605-06140	CURB AND GUTTER, CONCRETE	85	LFT	$ 90.00	$ 7,650.00
23	621-06560	MULCHED SEEDING, TYPE U	200	SYS	$ 5.00	$ 1,000.00
24	621-06570	TOPSOIL	300	CYS	$ 75.00	$ 22,500.00
25	801-06775	MAINTAINING TRAFFIC	1	LS	$ 25,000.00	$ 25,000.00
26	802-05704	SIGN POST, SQUARE, TYPE 1, UNREINFORCED ANCHOR BASE	110	LFT	$ 31.00	$ 3,410.00
27	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	46	SFT	$ 45.00	$ 2,070.00
28	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	100	LFT	$ 1.25	$ 125.00
					TOTAL	$ 232,550.00

CONSTRUCTION TOTAL	**$233,000.00**
CONTINGENCY (10%)	**$23,000.00**
OVERALL PROJECT TOTAL	**$256,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases

Task No.	Task	Cost
1	Preliminary Engineering	$ 50,000
2	Right of Way	$ 20,000
3	Utility CN	$ 5,000
4	Railroad CN	$ -
5	Construction Inspection/Testing	$ -
	TOTAL	$ 75,000

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



Todd Johnson
Estimate Completed By

6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - LONG TERM

Fall Creek Parkway & 32nd Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	105-06845	CONSTRUCTION ENGINEERING	layout work and grading for new pavement and curbs say $ 8,000
2	110-01001	MOBILIZATION AND DEMOBILIZATION	
3	201-52370	CLEARING RIGHT-OF-WAY	for general removals and clearing not included in other items say $ 20,000
4	202-02240	PAVEMENT REMOVAL	removes existing pavement between hammerhead and Fall Creek Pkwy (250 SYS per CAD)
5	202-02279	CURB AND GUTTER, REMOVE	removes curbs at pavement removal on 32nd and curb radii at Fall Creek (210 LFT per CAD)
6	202-52710	SIDEWALK CONCRETE, REMOVE	removes sidewalks at pavement removal on 32nd (say 210' * 6' * 1/9 = 140 SYS)
7	202-74035	SIGN, REMOVE	removes signs attached to utility poles and street name signs at Fall Creek (say 3 each)
8	202-74045	SIGN AND SUPPORTS, CHANNEL POSTS, REMOVE	removes Stop sign for EB 32nd traffic - 1 each
9	203-02000	EXCAVATION, COMMON	dig out work for new pavement at hammerhead - (pavement area + subgrade area)* 15" or 1340* 1.25 * 1/27 = say 65 CYS
10	207-08264	SUBGRADE TREATMENT, TYPE II	used under new curbs - (145' * 2.5' + 85' * 4.5') * 1/9 = say 85 SYS
11	207-09935	SUBGRADE TREATMENT, TYPE IC	used under new hammerhead pavement use 1340/9 = say 150 SYS
12	304-07493	WIDENING WITH HMA, TYPE B	used for new hammerhead pavement = 624/9 * 8" * 110/2000 = say 32 Tons
13	306-08034	MILLING, ASPHALT, 1 1/2 IN.	mills existing pavement and new pavement at hammerhead say 1486 per CAD /9 = say 165 SYS
14	401-000008	QC/QA-HMA, 3, 58E, SURFACE, 9.5 mm	covers existing pavement and new pavement at hammerhead - 165 SYS * 1.5" * 110/2000 = say 14 Tons
15	506-06001	PAVEMENT RECONSTRUCTION ADJACENT TO CURB	this is for the 4' strip along Fall Creek where new curb will be added - 85 LFT * 4 * 1/9 = say 40 SYS
16	601-02241	GUARDRAIL, REMOVE	removes the end sections of existing guardrail - assume 12' on each side of 32nd or 24 LFT
17	601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN. SPACING	connects guardrail along Fall Creek existing gap is about 76' + 24' of removed guardrail = 100 LFT
18	604-06070	SIDEWALK, CONCRETE	new sidewalk to connect Fall Creek sidewalk and to reconstruct sidewalk removed at 32nd - 85 SYS
19	604-08086	CURB RAMP, CONCRETE	needed where sidewalk will cross the hammerhead pavement 4 ramps at hammerhead say 20 SYS
20	604-12083	DETECTABLE WARNING SURFACES	needed where sidewalk will cross the hammerhead pavement 4 ramps at 1.5 SYS each 6 SYS
21	605-06120	CURB, CONCRETE	along hammerhead on 32nd 145 LFT per CAD
22	605-06140	CURB AND GUTTER, CONCRETE	along Fall Creek to cover removed 32nd pavement - 85 LFT per CAD
23	621-06560	MULCHED SEEDING, TYPE U	for the removed pavement area on 32nd area is 1,767 SFT or say 200 SYS
24	621-06570	TOPSOIL	fill in for the removed pavement - use same 1,767 SFT and assume an average depth of 18" or say 300 CYS
25	801-06775	MAINTAINING TRAFFIC	should be minimal - lane closure on Fall Creek and road closure local traffic on 32nd but Pump Station will need continuous access - say $ 25,000
26	802-05704	SIGN POST, SQUARE, TYPE 1, UNREINFORCED ANCHOR BASE	for new signs - No Outlet and Object Markers Type 4 say 13' for No Outlet and 9' for each of 4OM-4 signs, and 12' for each chevron paired sign or 5 each 60'; total = 110 LFT
27	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	for new signs - No Outlet (W14-2) (30" by 30") and Object Markers Type 4 (OM4-1) (18" by 18" by 4 each), and 10 ea 18" by 24" Chevrons = say 46 SFT
28	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	edge line along Fall Creek say 100 LFT

Economic Evaluation - Form F5

Alternative: Fall Creek Parkway & 32nd Street - Long Term Recommendation

INPUT Collapse

Number of Crashes (crash/period)

Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	16
Road Type	City Arterial Intersection

Average Crash Costs ($)

Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Present Year (yyyy)	2026
Implementation Year (yyyy)	2030
Inflation Rate (%)	2
Interest Rate (%)	4
Annual Traffic Growth Rate (%)	2
Total Traffic Growth Factor	2.8
Future Traffic Growth Period (years)	24

COUNTERMEASURES Collapse All

Countermeasure 1 Collapse [C] Copy

Description	Cul-de-sac intersection,Install Chevron Signs, & "No Left Turn" Sign

Crash Reduction Factors (%)

Fatal and Incapacitating Injury Crashes	80
Non-Incapacitating and Possible Injury Crashes	80
Property Damage Only Crashes	80

Number of Target Crashes (crash/period)

Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	16
Countermeasure Service Life (years)	20
Countermeasure Capital Cost ($)	331000
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0

[+] Add

Form 1 2 3 4 5 6 7 CDB Tool

Calculate Load Crashes

New Open

Save Save As

Reports Exit

Guidelines Help

Equations

General Improvements Table

Service Life Table

Crash Reduction Factors Table - Indiana

Crash Modification Factors Clearinghouse

Alternatives

Save Current Alternative

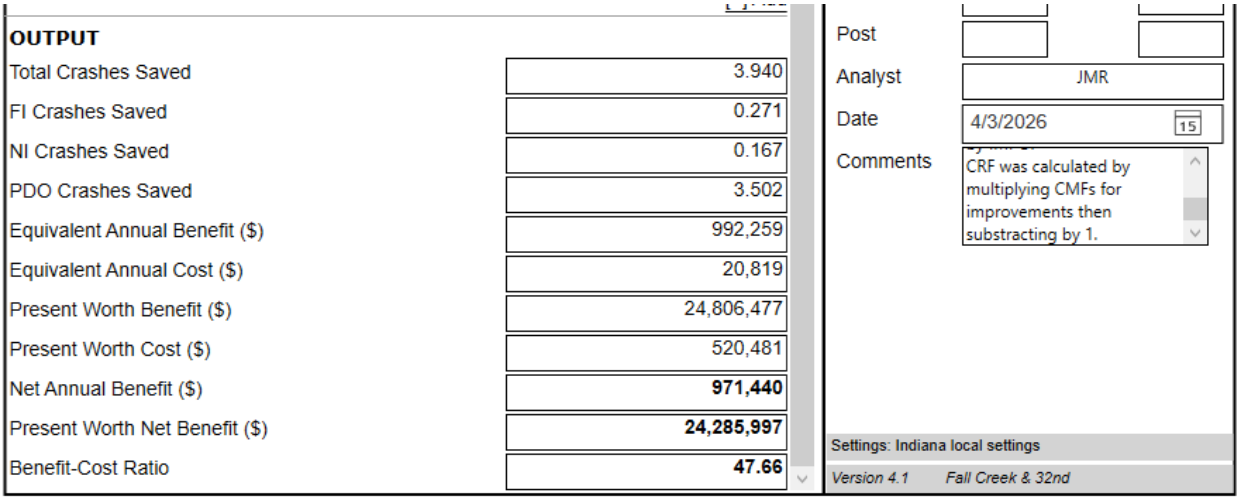
Read Alternative

Fall Creek Parkway & 32nd Street - Long Ter

Notes:

The number of target crashes are those that can be specifically reduced by the countermeasure selected. The number of target crashes for each countermeasure should not exceed the number of crashes

Location	Fall Creek Pkwy & E 32nd Street
GIS	
Post	
Analyst	JMR
Date	4/3/2026
Comments	CRF was calculated by multiplying CMFs for improvements then substracting by 1.


OUTPUT
Total Crashes Saved 3.940
FI Crashes Saved 0.271
NI Crashes Saved 0.167
PDO Crashes Saved 3.502
Equivalent Annual Benefit ($) 992,259
Equivalent Annual Cost ($) 20,819
Present Worth Benefit ($) 24,806,477
Present Worth Cost ($) 520,481
Net Annual Benefit ($) 971,440
Present Worth Net Benefit ($) 24,285,997
Benefit-Cost Ratio 47.66
Post
Analyst JMR
Date 4/3/2026
Comments
CRF was calculated by multiplying CMFs for improvements then substracting by 1.
Settings: Indiana local settings
Version 4.1 Fall Creek & 32nd

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/25/2026
Des. No.:	n/a

Reviewer Information:		Agency/Firm Name:	Corradino LLC
Primary Author:	James Mark Rinehart	Agency:	Indianapolis Metropolitan Planning Organization
Phone Numbers:	(317) 488-2363	Email Address:	jrinehart@corradino.com

Purpose of Review:

Corradino LLC was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Post Rd.		District: Greenfield		City: Indianapolis		County: Marion	
Lat & Long (BOP)	39.796716	-86.009412	Lat & Long (EOP):	39.796716	-86.009412	Inside Urban Area Boundary: Yes or No (circle)	
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit			
Location: The intersection of Post Road & 21st Street							

Existing Conditions:

The Post Road & 21st Street intersection is a four-leg signalized intersection located ~1000' south of interchange exit 91 on I-70. All four legs of the intersection have two through lanes. In addition to the through lanes:

- The south leg of the intersection has a WB left-turn lane, as well as a shared through/EB right turn lane.
  - The south leg of the intersection also has a right-turn receiving lane for SB traffic.
- The west leg of the intersection has a NB left-turn lane and an SB right-turn lane.
- The east leg of the intersection has a SB left-turn lane and an NB right-turn lane.
- The north leg of the intersection has two EB left-turn lanes and a WB right-turn lane.

Protected left-turn signal phases were observed on the Post Road approaches at the intersection. Protected/permissive left-turn signal phases were observed on the 21st Street approaches at the intersection.

There is a sidewalk along Post Road on the southeast side of the intersection and along the north side of 21st Street on the east leg of the intersection. There is ~150' of sidewalk on the south side of 21st Street that connects the sidewalk along Post Road to an IndyGo bus stop. There are curb ramps at the southeast and northeast corners of the intersection. Additionally, there are pedestrian signals, push buttons, and a "piano key" crosswalk connecting the southeast and northeast corners of the intersection.

IndyGo has two transit lines that cross through the Post Road & 21st Street intersection. Route 21 operates along 21st Street, and Route 87 operates only in the northbound direction on Post Road. Bus Stop 51756 is located on the north side of 21st Street, ~200' west of the intersection. There is currently no sidewalk, 5'x8' boarding pad, or bench located at that bus stop. Bus Stop 51664 is located on the south side of 21st Street, ~100' east of the intersection. There is sidewalk access with a 5'x8' boarding pad and a simme-seat bench installed at the bus stop. Bus stop 54008 is located on the east side of Post Road, ~400' south of the intersection. There is sidewalk access with a 5'x8' boarding pad and a simme-seat bench installed at the bus stop.

Located in each quadrant of the intersection are:

- NW Quadrant: BP Gas Station.
- SW Quadrant: CVS Pharmacy.
- SE Quadrant: New Shell Gas Station.
- NE Quadrant: Liquor Store and restaurant.

Corradino staff held a virtual meeting with Indianapolis DPW staff on February 19, 2026, to review data generated for the IMPO's Regional Safety Study update and to identify intersections within the City of Indianapolis for further study. The Post Road & 21st Street intersection was listed as one of the high-crash locations in Central Indiana and was prioritized by the Indianapolis DPW. During that meeting, Indianapolis DPW informed Corradino staff that INDOT Greenfield is evaluating Post Road near this intersection to determine if additional access management is needed. The results from the INDOT evaluation will be incorporated into recommendations for this intersection. Meeting minutes from the virtual meeting with Indianapolis DPW are available in **Attachment D**.

Corradino held a field check with the representatives from the IMPO and the City of Indianapolis DPW on April 29, 2026, to provide a recap of the discussion held during the virtual meeting, share test results for the near-term and long-term solutions, and build consensus around a series of countermeasures for Corradino to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Traffic Operations:

a) Mobility/Congestion Performance: According to 24-hour traffic count data collected on February 26, 2026, EB traffic entering the intersection was **8,070.** The WB traffic entering the intersection was **10,771.** The NB traffic entering the intersection was **9,865.** The SB traffic entering the intersection was **14,377.** Turning movement counts are available for review in **Attachment B**. A **0.6%** forecasted annual growth rate, derived from the IMPO's TDM, was used to develop a future no-build traffic scenario and to test long-term build alternatives at the intersection. The design year for the project was **2050.** Results from the traffic capacity analysis are available in **Attachment C**.

	Eastbound		Westbound		Northbound		Southbound	
Alternative	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
AM Peak – 2026	**C**	**23.0**	**F**	**139.3**	**C**	**23.2**	**C**	**23.1**
PM Peak - 2026	**C**	**23.7**	**C**	**26.4**	**C**	**31.5**	**F**	**91.3**
AM Peak - 2050	**C**	**28.2**	**F**	**168.9**	**C**	**22.7**	**C**	**21.1**
PM Peak - 2050	**E**	**57.6**	**D**	**37.4**	**C**	**32.3**	**C**	**32.4**

b) Safety Performance / Crash Analysis: According to available crash data reported between January 1, 2022, and December 31, 2024, there were **100** crashes reported near the Post Road & 21st Street intersection. Of those crashes, **0** resulted in fatality, **9** resulted in incapacitating injuries, and **12** resulted in non-incapacitating injuries. See attached Crash Summary and output from RoadHAT 4.1 in **Attachment A.**

It is important to note that 27 of the reported crashes at the intersection were Rear End crashes. The most common primary factor for the reported Rear End crashes was vehicles following too closely. Additionally, 23 of the reported crashes at the intersection were Left Turn crashes. According to the collision diagram, 12 Left Turn crashes involved either an EB-to-NB or a WB-to-SB left-turning vehicle. Eight reported Left Turn crashes involved NB-to-WB or SB-to-EB left-turning vehicles, even though these movements have protected-only left-turn phases. 14 of the 21 injury-related crashes at the intersection were Left Turn crashes.

It is also important to note that 13 reported crashes occurred on the legs of the intersection when vehicles attempted to enter/exit the businesses in all four quadrants of the intersection. One of the reported crashes was an incapacitating crash involving a pedestrian being struck by a vehicle. INDOT Greenfield District informed the project team that they intend to close the median located on the north leg of the Post Road & 21st Street intersection. In addition to INDOT's plans, the IMPO, Indianapolis DPW, and project team discussed extending medians on the other legs of the intersection to improve access management and safety. The collision diagram for the Post Road & 21st Street intersection is available in **Attachment A.**

RoadHAT 4.1 was used to develop crash cost (ICC) and crash frequency (ICF) scores for the Post Road & 21st Street intersection. Results from the RoadHAT 4.1 analysis were: I_{CC} = **2.52**, I_{CF} = **2.21.** The RoadHAT 4.1 analysis results are available in **Attachment A.**

Alternatives & Recommendations

During the field check with representatives from Indianapolis DPW and the IMPO, crash data and traffic data were discussed while observing traffic patterns. Multiple maintenance-type improvements were identified in the field to address near-term safety needs at the intersection (striping, traffic signal backplates, etc.), as well as some longer-term infrastructure improvements. Below are the discussed Near- and Long-Term recommended improvements for the Post Road & 21st Street intersection. Notes from the field check summarizing conversations with Indianapolis DPW and IMPO staff are available for review in **Attachment D.**

Near-Term

Near-term solutions will include:

- Change the EB and WB left-turning phase from protected/permissive to protected-only.
- Replace existing "dog house" traffic signals on EB and WB approaches with a three-ball signal head with arrows for the protected left turns.
- Install backplates on the existing traffic signals and the new traffic signals installed for the protected left turns.
- Restripe the eastbound and westbound approaches of the intersection (21st Street).

Long-Term

- Implement Near-Term recommendations listed above.
- Construct ADA ramps in all four corners of the intersection with pedestrian crossings, pedestrian signals, and push buttons.
- Extend the curb medians on the south, west, and east legs of the intersection for better access management and safety. Distance will vary from ~30'-130' depending on which leg of the intersection.
- Add a sidewalk from the new ADA ramp in the NW corner west to the IndyGo bus stop.

A schematic for the long-term improvement is available in **Attachment E**.

Future Consideration

INDOT has plans to construct a new median to connect the two existing medians on the north leg of the intersection.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation

PE - **$10,000**
ROW - **$0**
Utility CN - **$0**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0**
CN (including 10% contingency) - **$46,000**

Near-Term Total - $56,000

Long-Term Recommendation

PE - **$50,000**
ROW - **$0**
Utility CN - **$5,000**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0** CN (including 10% contingency) - **$350,000**

Long-Term Total – $405,000

Project Score: (for INDOT use)

Safety Program Score =

Miscellaneous Notes:
Attachments:
Attachment A: Preliminary Findings Report **Attachment B:** Traffic Counts **Attachment C:** Traffic Analysis **Attachment D:** Virtual Meeting Minutes & Field Check Minutes **Attachment E:** Cost Estimates & Schematics

Attachment A
Preliminary Findings

PRELIMINARY FINDINGS

Safety Analysis at Post Rd. & 21st St.

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Post Road & 21st Street (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (Icc) and crash frequency (Icf) for the Study Area using RoadHat 4.1.

100 crashes were identified within the Study Area. 23 of the reported crashes were injury-related crashes. Nine of the reported injury-related crashes resulted in Incapacitating injury crashes, 12 Non-incapacitating injury crashes, and two Possible injury crashes. There were no reported fatal crashes reported in the Study Area. 16 of the 23 reported injury-related crashes were with Left Turn or Right Angle crashes. Additionally, there was one Incapacitating crash where a pedestrian was struck by a vehicle. The pedestrian attempted to cross 21st Street when struck by a vehicle. Other notable results near the Study Area include:

- 27% of the reported crashes within the Study Area were Rear End crashes.
- Left Turn and Right Angle Crashes combined made up 41% of the reported crashes in the Study Area. 10 of the Left Turn & Right Angle crashes occurred at business accesses on the west leg of the intersection along 21st Street.
- 23% of reported crashes were Same Direction Sideswipe crashes, 11 were in the southbound direction.
- 60% of reported crashes occurred during Off-Peak travel times. 14% of reported crashes occurred during the morning peak hours (6 am-9 am), and 26% during the evening peak hours (4 pm-7 pm).
- 72% of reported crashes occurred in daylight hours and 26% in dark (lighted) conditions. The remaining 2% of crashes listed lighting conditions as "Dawn/Dusk" or "Unknown" in the police report.
- 15% of reported crashes occurred in wet, icy, or snowy roadway surface conditions. The remaining 85% of reported crashes occurred on dry roadways.
- 80% of reported crashes occurred when the weather conditions were clear. The remaining 20% of reported crashes occurred in either Cloudy, Rainy, or Blowing Sand/Soil/Snow weather conditions.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

2022-2024 Crash Summary	
TOTAL CRASHES	100
TOTAL INJURIES	32
PROPERTY DAMAGE ONLY	77
POSSIBLE INJURY	2
NON-INCAPACITATING	12
INCAPACITATING	9
FATAL	0

Summary of Primary Factors per Manner of Collision		
Primary Factors per Manner of Collision	**Crashes**	**Percent**
REAR END	**27**	**27%**
FOLLOWING TOO CLOSELY	18	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	2	
FAILURE TO YIELD RIGHT OF WAY	1	
DISREGARD SIGNAL/REG SIGN	1	
FAILURE TO MAINTAIN LANE	1	
DRIVER DISTRACTED - EXPLAIN IN NARRATIVE	1	
IMPROPER LANE USAGE	1	
OTHER (VEHICLE) - EXPLAIN IN NARRATIVE	1	
UNSAFE LANE MOVEMENT	1	
LEFT TURN	**23**	**23%**
FAILURE TO YIELD RIGHT OF WAY	12	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	4	
UNSAFE SPEED	2	
DISREGARD SIGNAL/REG SIGN	2	
IMPROPER TURNING	2	
UNSAFE LANE MOVEMENT	1	
SAME DIRECTION SIDESWIPE	**23**	**23%**
FAILURE TO YIELD RIGHT OF WAY	8	
UNSAFE LANE MOVEMENT	6	
IMPROPER LANE USAGE	5	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	2	
FAILURE TO MAINTAIN LANE	1	
FOLLOWING TOO CLOSELY	1	
RIGHT ANGLE	**19**	**19%**
FAILURE TO YIELD RIGHT OF WAY	11	
DISREGARD SIGNAL/REG SIGN	3	
UNSAFE LANE MOVEMENT	1	
IMPROPER LANE USAGE	1	
UNSAFE SPEED	1	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
IMPROPER TURNING	1	
RIGHT TURN	**4**	**4%**
FAILURE TO YIELD RIGHT OF WAY	2	
ROADWAY SURFACE CONDITION	1	
IMPROPER TURNING	1	
OPPOSITE DIRECTION SIDESWIPE	**2**	**2%**
FAILURE TO YIELD RIGHT OF WAY	1	
IMPROPER TURNING	1	
COLLISION WITH OBJECT IN ROAD	**1**	**1%**
PEDESTRIAN ACTION	1	
HEAD ON BETWEEN TWO MOTOR VEHICLES	**1**	**1%**
OVERCORRECTING/OVERSTEERING	1	
Total Crashes	**100**	**100%**

Summary of Crashes per Time of Day		
Time of Day	**Crashes**	**Percent**
Peak AM (6:00-9:00 AM)	14	14%
Peak PM (4:00-7:00 PM)	26	26%
Off Peak	60	60%
Total Crashes	**100**	**100%**

Summary of Crashes per Light Conditions		
Light Conditions	**Crashes**	**Percent**
DAWN/DUSK	2	2%
DARK (LIGHTED)	26	26%
DAYLIGHT	72	72%
Total Crashes	**100**	**100%**

Summary of Roadway Surface Conditions					
Manner of Collision	**DRY**	**ICE**	**SNOW/SLUSH**	**WET**	**Total Crashes**
REAR END	22	1		4	27
LEFT TURN	21		1	1	23
SAME DIRECTION SIDESWIPE	20			3	23
RIGHT ANGLE	16			3	19
RIGHT TURN	2	1		1	4
OPPOSITE DIRECTION SIDESWIPE	2				2
COLLISION WITH OBJECT IN ROAD	1				1
HEAD ON BETWEEN TWO MOTOR VEHICLES	1				1
Total Crashes	**85**	**2**	**1**	**12**	**100**

Summary of Weather Conditions					
Manner of Collision	**CLEAR**	**RAIN**	**CLOUDY**	**BLOWING SAND/ SOIL/SNOW**	**Total Crashes**
REAR END	19	3	5		27
LEFT TURN	20		3		23
SAME DIRECTION SIDESWIPE	19	2	2		23
RIGHT ANGLE	16	2	1		19
RIGHT TURN	3	1			4
OPPOSITE DIRECTION SIDESWIPE	1			1	2
COLLISION WITH OBJECT IN ROAD	1				1
HEAD ON BETWEEN TWO MOTOR VEHICLES	1				1
Total Crashes	**80**	**8**	**11**	**1**	**100**

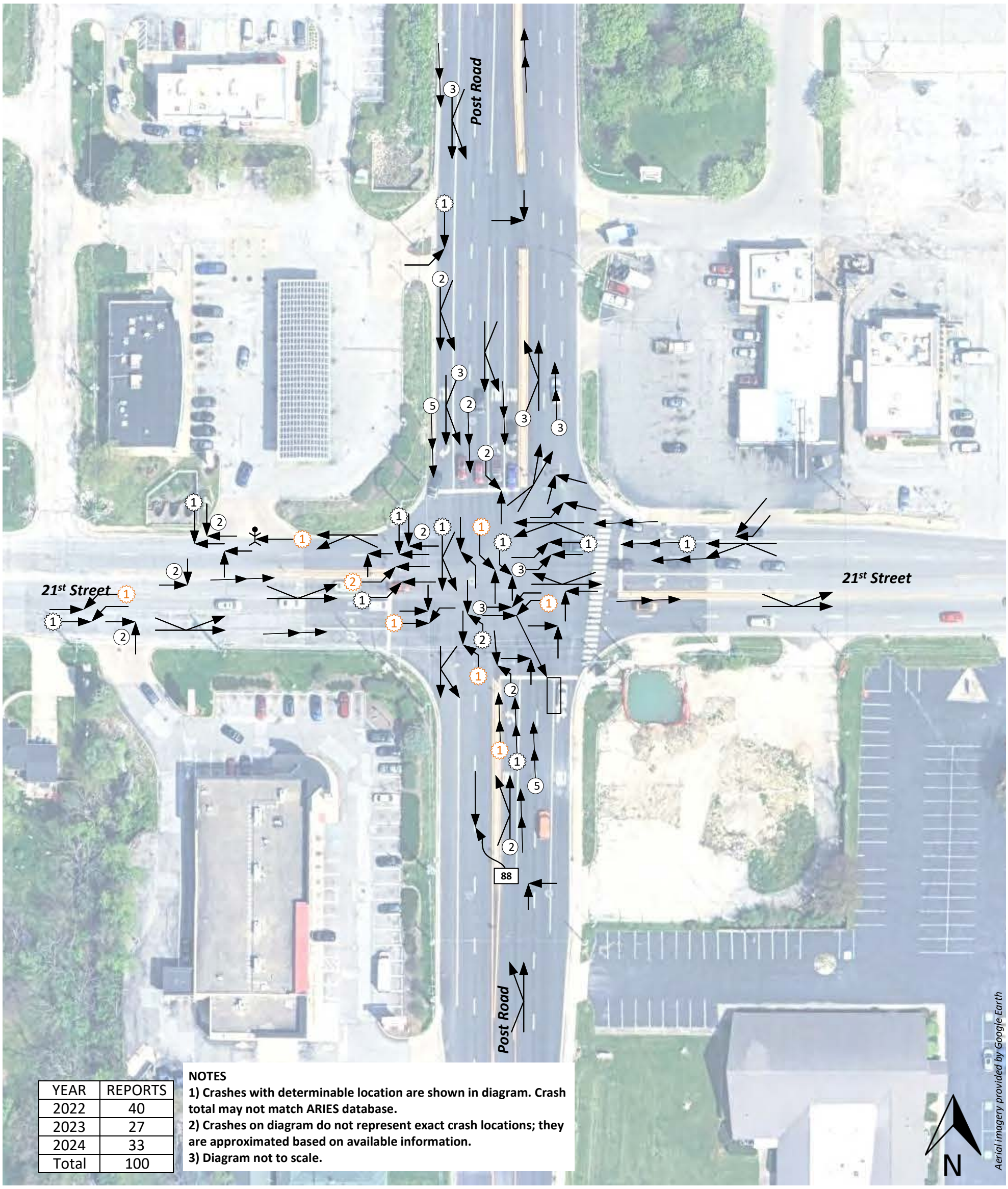
DIAGRAM OF COLLISION REPORTS

Post Road & 21st Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis - DPW

INDOT District: Greenfield County: Marion City/Town: Indianapolis

Analyst: JMR QC: DC Date: 3/13/2026



YEAR	REPORTS
2022	40
2023	27
2024	33
Total	100

NOTES

1) Crashes with determinable location are shown in diagram. Crash total may not match ARIES database.

2) Crashes on diagram do not represent exact crash locations; they are approximated based on available information.

3) Diagram not to scale.

Object Symbols

- MOVING VEHICLE
- TURNING VEHICLE
- BACKING VEHICLE
- OUT OF CONTROL
- PARKED VEHICLE
- PEDESTRIAN
- BICYCLE
- A — ANIMAL
- D — DEBRIS IN ROADWAY
- DR — DRIVEWAY CRASH
- FATAL CRASH
- INJURY CRASH – INCAPACITATING
- INJURY CRASH – NONINCAPACITATING
- PDO CRASHES (IF > 1)
- SIGNALIZED INTERSECTION
- FIXED OBJECT (See table for # codes)

Collision Symbols

- REAR END
- HEAD ON
- OTHER
- SIDESWIPE – SAME
- SIDESWIPE – OPPOSITE
- RIGHT ANGLE
- LEFT/RIGHT TURN
- RAN OFF ROAD

Fixed Object Codes

01 – BRIDGE or OVERPASS
02 – BUILDING
03 – CULVERT or DITCH
04 – CURB
05 – GUARDRAIL or BARRIER
06 – EMBANKMENT
07 – FENCE
08 – TRAFFIC POLE
09 – UTILITY POLE
10 – SIGN
11 – TREE / SHRUB
12 – CONTRUCTION BARRIER
13 – CRASH ATTENUATOR
88 – OTHER
99 - UNKNOWN

Intersection Images

Post Road & 21st Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

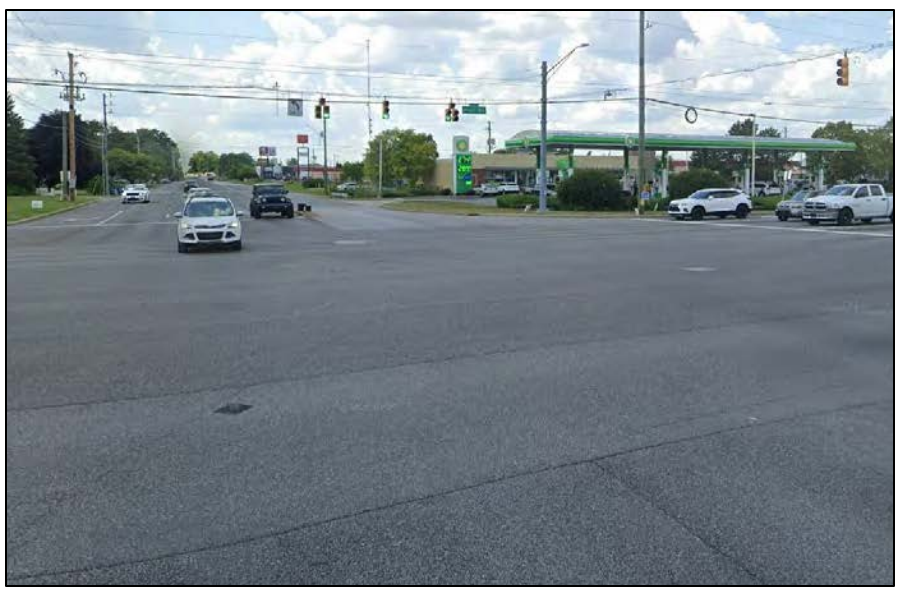
INDOT District: Greenfield County: Marion City/Town: Indianapolis



West Leg – Looking West



West Leg – Looking East



East Leg – Looking West



East Leg – Looking East



South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Imagery provided by Google Earth

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Post Rd & 21st St	
GIS		
Post		
Analyst	JMR	
Date	3/10/2026	

INPUT	
Road Facility Type	City Arterial Intersection
Busiest Road AADT (veh/day)	31835
Crossing Road AADT (veh/day)	14372
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	9
Non-Incapacitating and Possible Injury Crashes	14
Property Damage Only Crashes	77
Route or Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.560
Non-Incapacitating and Possible Injury Crashes	1.79
Property Damage Only Crashes	8.91
All Crashes	11.26
Index of Crash Frequency	**2.21**
Index of Crash Cost	**2.52**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Post Rd & 21st St	
GIS		
Post		
Analyst	JMR	
Date	3/10/2026	

Comments: Traffic Counts: INDOT TCDS. Safety Data: ARIES provided by IMPO.

Attachment B
Traffic Counts

21st St & Post Rd - TMC

Thu Feb 26, 2026
Full Length (4 AM-4 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383387, Location: 39.796705, -86.009446

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg / Direction	EB 21st St Eastbound					WB 21st St Westbound					NB Post Rd Northbound					SB Post Rd Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2026-02-26 4:00AM	9	6	1	0	**16**	0	2	31	0	**33**	2	13	0	0	**15**	13	4	4	0	**21**	**85**
4:15AM	11	8	2	0	**21**	0	8	30	0	**38**	2	6	3	0	**11**	13	17	7	0	**37**	**107**
4:30AM	14	10	1	0	**25**	1	6	41	0	**48**	1	30	1	0	**32**	10	18	10	0	**38**	**143**
4:45AM	6	8	4	1	**19**	1	14	40	0	**55**	2	24	0	0	**26**	10	15	5	0	**30**	**130**
Hourly Total	40	32	8	1	**81**	2	30	142	0	**174**	7	73	4	0	**84**	46	54	26	0	**126**	**465**
5:00AM	13	5	3	0	**21**	0	11	57	0	**68**	2	39	1	0	**42**	13	21	8	1	**43**	**174**
5:15AM	19	6	3	0	**28**	4	11	75	0	**90**	3	57	3	0	**63**	5	20	3	0	**28**	**209**
5:30AM	19	17	3	0	**39**	5	28	106	0	**139**	6	78	10	0	**94**	13	41	3	0	**57**	**329**
5:45AM	30	15	1	0	**46**	5	20	77	0	**102**	5	58	3	0	**66**	23	46	16	0	**85**	**299**
Hourly Total	81	43	10	0	**134**	14	70	315	0	**399**	16	232	17	0	**265**	54	128	30	1	**213**	**1011**
6:00AM	24	18	4	0	**46**	6	18	98	0	**122**	9	63	4	0	**76**	34	38	24	0	**96**	**340**
6:15AM	29	28	6	0	**63**	13	31	98	0	**142**	9	72	6	0	**87**	33	49	21	1	**104**	**396**
6:30AM	24	25	25	0	**74**	14	32	151	0	**197**	6	120	9	0	**135**	38	59	22	0	**119**	**525**
6:45AM	36	44	35	0	**115**	22	44	121	0	**187**	39	124	16	0	**179**	56	165	22	1	**244**	**725**
Hourly Total	113	115	70	0	**298**	55	125	468	0	**648**	63	379	35	0	**477**	161	311	89	2	**563**	**1986**
7:00AM	32	46	33	0	**111**	14	47	119	0	**180**	31	139	27	0	**197**	61	113	27	0	**201**	**689**
7:15AM	40	31	10	0	**81**	12	57	152	0	**221**	32	121	9	0	**162**	41	100	32	0	**173**	**637**
7:30AM	51	40	14	0	**105**	14	56	122	0	**192**	10	119	11	0	**140**	46	113	34	0	**193**	**630**
7:45AM	35	45	15	0	**95**	11	65	101	0	**177**	15	151	10	0	**176**	51	135	27	0	**213**	**661**
Hourly Total	158	162	72	0	**392**	51	225	494	0	**770**	88	530	57	0	**675**	199	461	120	0	**780**	**2617**
8:00AM	39	45	20	0	**104**	15	56	110	0	**181**	15	131	16	0	**162**	80	123	34	0	**237**	**684**
8:15AM	46	43	25	0	**114**	15	60	122	0	**197**	26	106	11	0	**143**	51	106	26	0	**183**	**637**
8:30AM	35	40	30	0	**105**	10	52	97	0	**159**	12	122	14	0	**148**	58	115	39	1	**213**	**625**
8:45AM	33	37	17	0	**87**	20	60	88	0	**168**	17	89	13	0	**119**	60	104	36	0	**200**	**574**
Hourly Total	153	165	92	0	**410**	60	228	417	0	**705**	70	448	54	0	**572**	249	448	135	1	**833**	**2520**
9:00AM	34	35	14	0	**83**	19	56	80	0	**155**	10	90	14	0	**114**	47	104	34	0	**185**	**537**
9:15AM	35	37	16	0	**88**	20	30	68	0	**118**	28	94	10	0	**132**	49	117	30	1	**197**	**535**
9:30AM	38	44	11	0	**93**	14	40	81	0	**135**	17	104	6	0	**127**	61	98	26	0	**185**	**540**
9:45AM	41	52	21	0	**114**	13	40	67	0	**120**	10	112	10	0	**132**	49	106	28	0	**183**	**549**
Hourly Total	148	168	62	0	**378**	66	166	296	0	**528**	65	400	40	0	**505**	206	425	118	1	**750**	**2161**
10:00AM	34	35	6	0	**75**	15	34	68	0	**117**	13	97	5	0	**115**	37	93	26	0	**156**	**463**
10:15AM	29	35	19	0	**83**	18	47	75	0	**140**	18	81	12	0	**111**	49	97	18	0	**164**	**498**
10:30AM	36	43	9	0	**88**	20	46	71	0	**137**	17	104	12	1	**134**	58	102	23	2	**185**	**544**
10:45AM	32	43	13	0	**88**	12	47	69	0	**128**	12	78	7	0	**97**	45	137	33	0	**215**	**528**
Hourly Total	131	156	47	0	**334**	65	174	283	0	**522**	60	360	36	1	**457**	189	429	100	2	**720**	**2033**
11:00AM	49	37	14	0	**100**	16	48	63	0	**127**	17	100	10	0	**127**	46	92	25	1	**164**	**518**
11:15AM	30	36	25	0	**91**	7	45	72	0	**124**	15	120	10	1	**146**	60	110	25	1	**196**	**557**
11:30AM	28	37	21	0	**86**	15	32	68	0	**115**	18	104	14	0	**136**	50	123	27	0	**200**	**537**
11:45AM	51	59	28	0	**138**	10	46	47	0	**103**	12	94	8	0	**114**	58	113	23	1	**195**	**550**
Hourly Total	158	169	88	0	**415**	48	171	250	0	**469**	62	418	42	1	**523**	214	438	100	3	**755**	**2162**
12:00PM	33	41	18	0	**92**	24	52	67	0	**143**	12	106	12	0	**130**	45	134	27	1	**207**	**572**
12:15PM	40	41	25	0	**106**	17	43	70	0	**130**	17	113	15	0	**145**	66	121	47	2	**236**	**617**
12:30PM	41	48	12	0	**101**	23	38	68	0	**129**	21	117	15	0	**153**	47	134	17	0	**198**	**581**
12:45PM	46	49	21	0	**116**	19	47	58	0	**124**	22	99	15	0	**136**	55	123	40	0	**218**	**594**
Hourly Total	160	179	76	0	**415**	83	180	263	0	**526**	72	435	57	0	**564**	213	512	131	3	**859**	**2364**
1:00PM	53	59	19	0	**131**	32	50	84	0	**166**	24	129	15	0	**168**	70	128	38	1	**237**	**702**
1:15PM	48	56	29	0	**133**	25	46	68	0	**139**	21	146	10	0	**177**	59	149	33	0	**241**	**690**
1:30PM	47	57	24	0	**128**	18	61	78	0	**157**	17	129	19	0	**165**	66	163	32	0	**261**	**711**
1:45PM	34	80	25	0	**139**	21	45	69	0	**135**	13	118	14	0	**145**	52	141	31	1	**225**	**644**
Hourly Total	182	252	97	0	**531**	96	202	299	0	**597**	75	522	58	0	**655**	247	581	134	2	**964**	**2747**
2:00PM	42	50	20	0	**112**	25	53	97	0	**175**	31	137	24	0	**192**	66	146	28	0	**240**	**719**
2:15PM	52	53	28	0	**133**	38	73	102	0	**213**	34	126	17	1	**178**	99	167	39	0	**305**	**829**
2:30PM	61	55	29	0	**145**	26	53	67	0	**146**	14	128	18	0	**160**	92	175	46	0	**313**	**764**

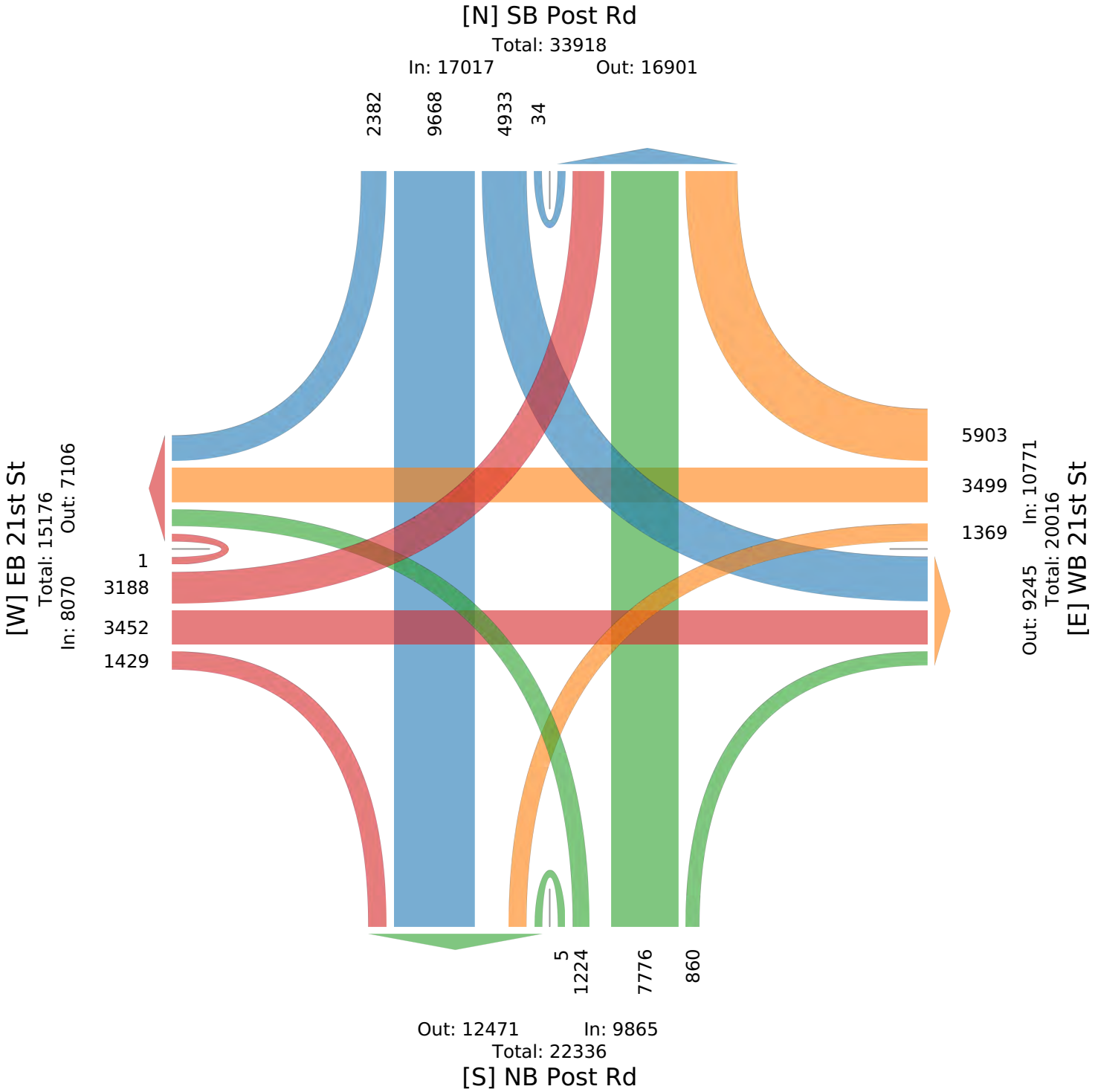
Leg	EB 21st St					WB 21st St					NB Post Rd					SB Post Rd					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2:45PM	51	62	16	0	**129**	22	52	78	0	**152**	23	140	15	0	**178**	82	181	37	1	**301**	**760**
Hourly Total	206	220	93	0	**519**	111	231	344	0	**686**	102	531	74	1	**708**	339	669	150	1	**1159**	**3072**
3:00PM	58	74	33	0	**165**	29	60	100	0	**189**	29	173	17	0	**219**	68	171	37	0	**276**	**849**
3:15PM	64	67	40	0	**171**	33	77	95	0	**205**	21	163	15	0	**199**	58	222	35	0	**315**	**890**
3:30PM	67	78	28	0	**173**	36	75	81	0	**192**	21	154	14	0	**189**	79	236	52	0	**367**	**921**
3:45PM	60	70	34	0	**164**	28	82	93	0	**203**	20	145	9	0	**174**	85	262	51	0	**398**	**939**
Hourly Total	249	289	135	0	**673**	126	294	369	0	**789**	91	635	55	0	**781**	290	891	175	0	**1356**	**3599**
4:00PM	57	73	36	0	**166**	37	60	76	0	**173**	29	135	8	0	**172**	112	205	53	0	**370**	**881**
4:15PM	65	58	38	0	**161**	36	58	83	0	**177**	29	146	14	0	**189**	108	263	52	0	**423**	**950**
4:30PM	64	39	37	0	**140**	31	66	90	0	**187**	23	147	7	0	**177**	90	282	44	0	**416**	**920**
4:45PM	64	54	34	0	**152**	39	72	71	0	**182**	24	154	12	0	**190**	127	301	54	0	**482**	**1006**
Hourly Total	250	224	145	0	**619**	143	256	320	0	**719**	105	582	41	0	**728**	437	1051	203	0	**1691**	**3757**
5:00PM	58	86	32	0	**176**	44	73	91	0	**208**	28	170	20	0	**218**	133	296	56	0	**485**	**1087**
5:15PM	68	81	38	0	**187**	39	67	94	0	**200**	28	171	19	0	**218**	123	277	47	2	**449**	**1054**
5:30PM	65	80	36	0	**181**	38	59	80	0	**177**	25	151	23	0	**199**	109	285	56	0	**450**	**1007**
5:45PM	58	65	29	0	**152**	32	54	87	0	**173**	24	121	16	0	**161**	100	237	72	0	**409**	**895**
Hourly Total	249	312	135	0	**696**	153	253	352	0	**758**	105	613	78	0	**796**	465	1095	231	2	**1793**	**4043**
6:00PM	61	62	25	0	**148**	40	72	95	0	**207**	23	108	13	0	**144**	79	190	74	0	**343**	**842**
6:15PM	59	74	29	0	**162**	24	56	90	0	**170**	20	127	6	0	**153**	83	155	55	0	**293**	**778**
6:30PM	48	57	21	0	**126**	35	66	104	0	**205**	14	103	15	0	**132**	60	116	71	1	**248**	**711**
6:45PM	33	52	19	0	**104**	27	61	95	0	**183**	10	102	8	1	**121**	64	116	32	0	**212**	**620**
Hourly Total	201	245	94	0	**540**	126	255	384	0	**765**	67	440	42	1	**550**	286	577	232	1	**1096**	**2951**
7:00PM	38	50	14	0	**102**	16	52	67	0	**135**	19	110	8	0	**137**	72	125	30	0	**227**	**601**
7:15PM	38	47	17	0	**102**	13	38	43	0	**94**	13	80	11	0	**104**	70	138	22	0	**230**	**530**
7:30PM	50	57	13	0	**120**	11	50	57	0	**118**	13	79	11	0	**103**	63	96	25	0	**184**	**525**
7:45PM	67	54	16	0	**137**	11	37	41	0	**89**	7	61	10	0	**78**	80	113	31	0	**224**	**528**
Hourly Total	193	208	60	0	**461**	51	177	208	0	**436**	52	330	40	0	**422**	285	472	108	0	**865**	**2184**
8:00PM	83	48	20	0	**151**	10	37	63	0	**110**	10	73	5	0	**88**	94	66	23	1	**184**	**533**
8:15PM	53	29	12	0	**94**	12	29	39	0	**80**	15	77	11	0	**103**	72	106	22	2	**202**	**479**
8:30PM	54	53	11	0	**118**	9	21	42	0	**72**	12	55	12	0	**79**	75	78	23	0	**176**	**445**
8:45PM	29	42	10	0	**81**	8	24	39	0	**71**	13	66	10	0	**89**	68	89	29	2	**188**	**429**
Hourly Total	219	172	53	0	**444**	39	111	183	0	**333**	50	271	38	0	**359**	309	339	97	5	**750**	**1886**
9:00PM	31	22	7	0	**60**	4	26	38	0	**68**	12	43	4	0	**59**	40	79	15	0	**134**	**321**
9:15PM	31	24	16	0	**71**	13	20	44	0	**77**	4	58	3	1	**66**	42	66	12	0	**120**	**334**
9:30PM	24	23	4	0	**51**	7	25	25	0	**57**	13	60	14	0	**87**	64	81	20	0	**165**	**360**
9:45PM	27	26	17	0	**70**	9	27	28	0	**64**	8	52	7	0	**67**	55	58	15	2	**130**	**331**
Hourly Total	113	95	44	0	**252**	33	98	135	0	**266**	37	213	28	1	**279**	201	284	62	2	**549**	**1346**
10:00PM	26	27	8	0	**61**	6	27	40	0	**73**	1	36	4	0	**41**	44	54	14	0	**112**	**287**
10:15PM	11	19	1	0	**31**	2	21	35	0	**58**	6	42	5	0	**53**	63	50	20	0	**133**	**275**
10:30PM	23	20	4	0	**47**	6	22	38	0	**66**	4	22	2	0	**28**	38	39	10	1	**88**	**229**
10:45PM	10	19	4	0	**33**	4	21	27	0	**52**	5	30	3	0	**38**	39	36	8	0	**83**	**206**
Hourly Total	70	85	17	0	**172**	18	91	140	0	**249**	16	130	14	0	**160**	184	179	52	1	**416**	**997**
11:00PM	12	14	4	0	**30**	4	15	25	0	**44**	1	30	7	0	**38**	39	36	9	1	**85**	**197**
11:15PM	16	13	3	0	**32**	6	17	16	0	**39**	2	29	1	0	**32**	32	39	5	0	**76**	**179**
11:30PM	12	14	3	0	**29**	4	20	10	0	**34**	5	32	3	0	**40**	36	35	2	0	**73**	**176**
11:45PM	6	18	2	0	**26**	2	9	13	0	**24**	2	22	4	0	**28**	33	27	3	1	**64**	**142**
Hourly Total	46	59	12	0	**117**	16	61	64	0	**141**	10	113	15	0	**138**	140	137	19	2	**298**	**694**
2026-02-27 12:00AM	6	11	4	0	**21**	1	15	12	0	**28**	2	18	3	0	**23**	20	25	6	1	**52**	**124**
12:15AM	5	12	3	0	**20**	4	8	15	0	**27**	1	15	1	0	**17**	33	18	5	1	**57**	**121**
12:30AM	3	14	4	0	**21**	1	12	16	0	**29**	1	7	3	0	**11**	15	10	3	0	**28**	**89**
12:45AM	5	6	0	0	**11**	1	5	7	0	**13**	1	8	5	0	**14**	15	18	6	1	**40**	**78**
Hourly Total	19	43	11	0	**73**	7	40	50	0	**97**	5	48	12	0	**65**	83	71	20	3	**177**	**412**
1:00AM	2	11	0	0	**13**	2	5	13	0	**20**	1	7	6	0	**14**	19	9	3	1	**32**	**79**
1:15AM	3	9	1	0	**13**	1	4	10	0	**15**	0	4	5	0	**9**	10	11	3	0	**24**	**61**
1:30AM	5	3	1	0	**9**	1	7	5	0	**13**	0	5	2	0	**7**	15	9	4	0	**28**	**57**
1:45AM	5	4	1	0	**10**	0	4	5	0	**9**	0	2	1	0	**3**	12	17	4	0	**33**	**55**
Hourly Total	15	27	3	0	**45**	4	20	33	0	**57**	1	18	14	0	**33**	56	46	14	1	**117**	**252**
2:00AM	5	5	3	0	**13**	0	5	9	0	**14**	1	6	2	0	**9**	8	8	8	1	**25**	**61**
2:15AM	5	8	1	0	**14**	0	7	8	0	**15**	1	8	1	0	**10**	15	10	3	0	**28**	**67**
2:30AM	8	5	1	0	**14**	1	5	12	0	**18**	0	3	1	0	**4**	10	8	7	0	**25**	**61**

Leg	EB 21st St					WB 21st St					NB Post Rd					SB Post Rd					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2:45AM	4	5	0	0	**9**	0	10	11	0	**21**	1	7	1	0	**9**	12	8	2	0	**22**	**61**
Hourly Total	22	23	5	0	**50**	1	27	40	0	**68**	3	24	5	0	**32**	45	34	20	1	**100**	**250**
3:00AM	1	2	0	0	**3**	1	6	11	0	**18**	1	10	0	0	**11**	9	6	3	0	**18**	**50**
3:15AM	3	1	0	0	**4**	0	3	9	0	**12**	1	4	2	0	**7**	10	8	4	0	**22**	**45**
3:30AM	4	4	0	0	**8**	0	2	17	0	**19**	0	9	2	0	**11**	10	9	4	0	**23**	**61**
3:45AM	4	2	0	0	**6**	0	3	17	0	**20**	0	8	0	0	**8**	6	13	5	0	**24**	**58**
Hourly Total	12	9	0	0	**21**	1	14	54	0	**69**	2	31	4	0	**37**	35	36	16	0	**87**	**214**
Total	3188	3452	1429	1	**8070**	1369	3499	5903	0	**10771**	1224	7776	860	5	**9865**	4933	9668	2382	34	**17017**	**45723**
% Approach	39.5%	42.8%	17.7%	0%	**-**	12.7%	32.5%	54.8%	0%	**-**	12.4%	78.8%	8.7%	0.1%	**-**	29.0%	56.8%	14.0%	0.2%	**-**	-
% Total	7.0%	7.5%	3.1%	0%	**17.6%**	3.0%	7.7%	12.9%	0%	**23.6%**	2.7%	17.0%	1.9%	0%	**21.6%**	10.8%	21.1%	5.2%	0.1%	**37.2%**	-
Lights	3087	3372	1407	1	**7867**	1335	3424	5771	0	**10530**	1200	7497	832	5	**9534**	4831	9323	2307	34	**16495**	44426
% Lights	96.8%	97.7%	98.5%	100%	**97.5%**	97.5%	97.9%	97.8%	0%	**97.8%**	98.0%	96.4%	96.7%	100%	**96.6%**	97.9%	96.4%	96.9%	100%	**96.9%**	97.2%
Articulated Trucks	26	3	5	0	**34**	1	1	19	0	**21**	5	63	3	0	**71**	18	98	24	0	**140**	266
% Articulated Trucks	0.8%	0.1%	0.3%	0%	**0.4%**	0.1%	0%	0.3%	0%	**0.2%**	0.4%	0.8%	0.3%	0%	**0.7%**	0.4%	1.0%	1.0%	0%	**0.8%**	0.6%
Buses and Single-Unit Trucks	75	77	17	0	**169**	33	74	113	0	**220**	19	216	25	0	**260**	84	247	51	0	**382**	1031
% Buses and Single-Unit Trucks	2.4%	2.2%	1.2%	0%	**2.1%**	2.4%	2.1%	1.9%	0%	**2.0%**	1.6%	2.8%	2.9%	0%	**2.6%**	1.7%	2.6%	2.1%	0%	**2.2%**	2.3%

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

21st St & Post Rd - TMC
Thu Feb 26, 2026
Full Length (4 AM-4 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383387, Location: 39.796705, -86.009446

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



21st St & Post Rd - TMC

Thu Feb 26, 2026
AM Peak (Feb 26 2026 6:45AM - 7:45 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383387, Location: 39.796705, -86.009446

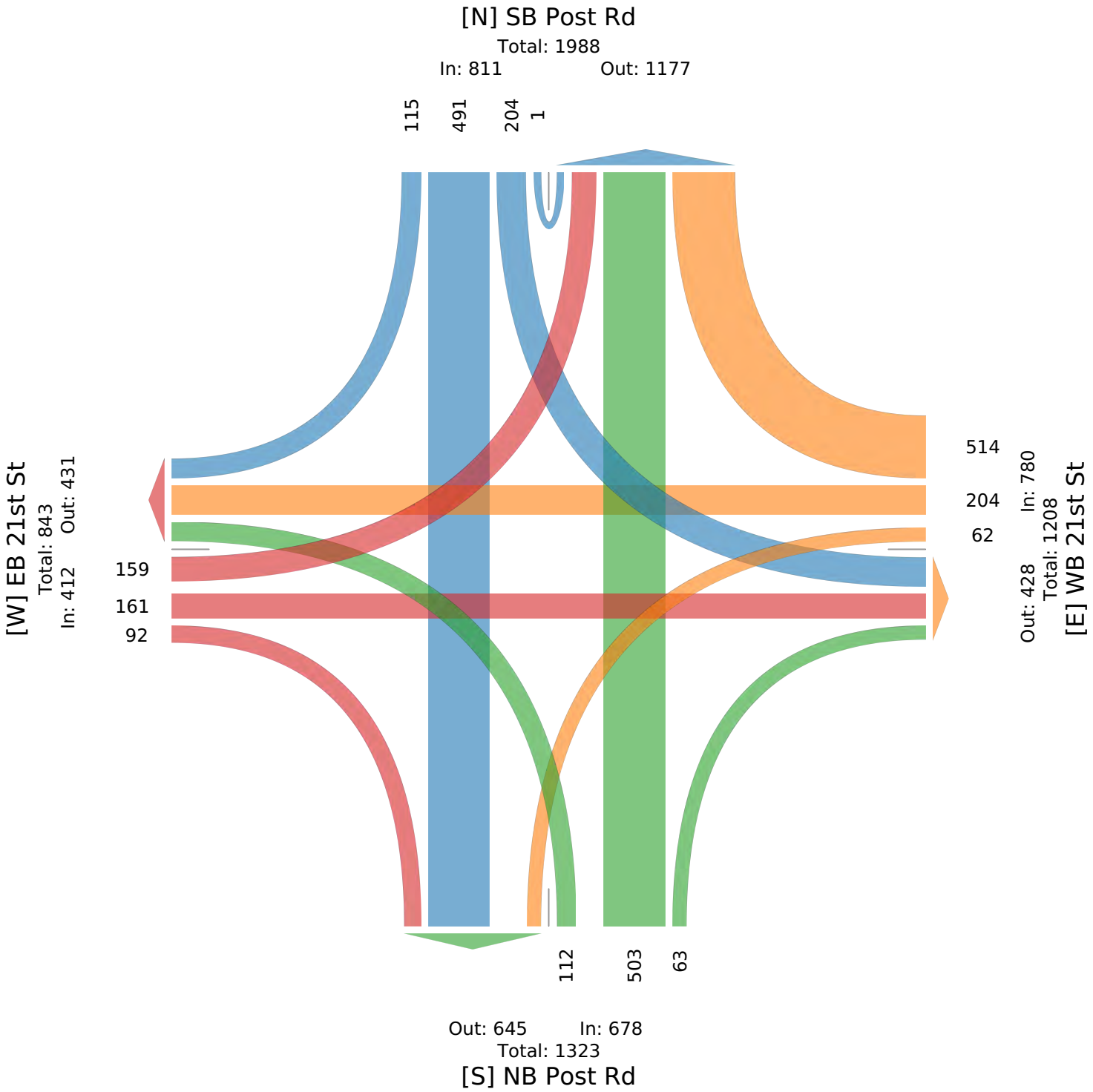
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 21st St Eastbound					WB 21st St Westbound					NB Post Rd Northbound					SB Post Rd Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-02-26 6:45AM	36	44	35	0	**115**	22	44	121	0	**187**	39	124	16	0	**179**	56	165	22	1	**244**	**725**
7:00AM	32	46	33	0	**111**	14	47	119	0	**180**	31	139	27	0	**197**	61	113	27	0	**201**	**689**
7:15AM	40	31	10	0	**81**	12	57	152	0	**221**	32	121	9	0	**162**	41	100	32	0	**173**	**637**
7:30AM	51	40	14	0	**105**	14	56	122	0	**192**	10	119	11	0	**140**	46	113	34	0	**193**	**630**
Total	159	161	92	0	**412**	62	204	514	0	**780**	112	503	63	0	**678**	204	491	115	1	**811**	**2681**
% Approach	38.6%	39.1%	22.3%	0%	**-**	7.9%	26.2%	65.9%	0%	**-**	16.5%	74.2%	9.3%	0%	**-**	25.2%	60.5%	14.2%	0.1%	**-**	-
% Total	5.9%	6.0%	3.4%	0%	**15.4%**	2.3%	7.6%	19.2%	0%	**29.1%**	4.2%	18.8%	2.3%	0%	**25.3%**	7.6%	18.3%	4.3%	0%	**30.2%**	-
PHF	0.779	0.875	0.657	-	**0.896**	0.705	0.895	0.845	-	**0.882**	0.718	0.905	0.583	-	**0.860**	0.836	0.744	0.846	0.250	**0.831**	0.924
Lights	150	151	88	0	**389**	62	193	505	0	**760**	108	485	61	0	**654**	197	461	112	1	**771**	2574
% Lights	94.3%	93.8%	95.7%	0%	**94.4%**	100%	94.6%	98.2%	0%	**97.4%**	96.4%	96.4%	96.8%	0%	**96.5%**	96.6%	93.9%	97.4%	100%	**95.1%**	96.0%
Articulated Trucks	2	1	0	0	**3**	0	0	0	0	**0**	0	4	0	0	**4**	1	3	0	0	**4**	11
% Articulated Trucks	1.3%	0.6%	0%	0%	**0.7%**	0%	0%	0%	0%	**0%**	0%	0.8%	0%	0%	**0.6%**	0.5%	0.6%	0%	0%	**0.5%**	0.4%
Buses and Single-Unit Trucks	7	9	4	0	**20**	0	11	9	0	**20**	4	14	2	0	**20**	6	27	3	0	**36**	96
% Buses and Single-Unit Trucks	4.4%	5.6%	4.3%	0%	**4.9%**	0%	5.4%	1.8%	0%	**2.6%**	3.6%	2.8%	3.2%	0%	**2.9%**	2.9%	5.5%	2.6%	0%	**4.4%**	3.6%

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

21st St & Post Rd - TMC
Thu Feb 26, 2026
AM Peak (Feb 26 2026 6:45AM - 7:45 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383387, Location: 39.796705, -86.009446

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



21st St & Post Rd - TMC

Thu Feb 26, 2026
Midday Peak (Feb 26 2026 1PM - 2 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383387, Location: 39.796705, -86.009446

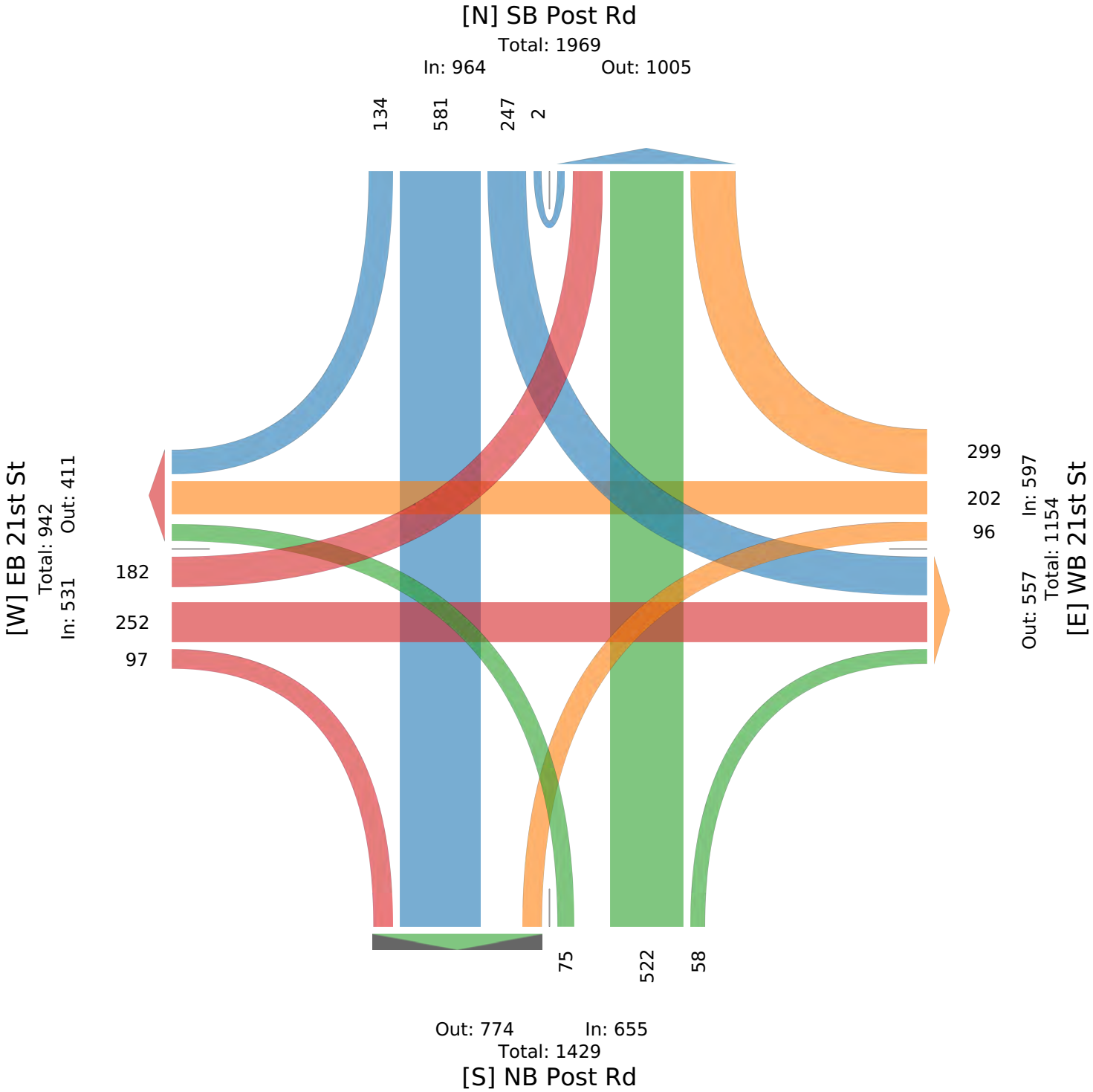
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 21st St Eastbound					WB 21st St Westbound					NB Post Rd Northbound					SB Post Rd Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-02-26 1:00PM	53	59	19	0	**131**	32	50	84	0	**166**	24	129	15	0	**168**	70	128	38	1	**237**	**702**
1:15PM	48	56	29	0	**133**	25	46	68	0	**139**	21	146	10	0	**177**	59	149	33	0	**241**	**690**
1:30PM	47	57	24	0	**128**	18	61	78	0	**157**	17	129	19	0	**165**	66	163	32	0	**261**	**711**
1:45PM	34	80	25	0	**139**	21	45	69	0	**135**	13	118	14	0	**145**	52	141	31	1	**225**	**644**
Total	182	252	97	0	**531**	96	202	299	0	**597**	75	522	58	0	**655**	247	581	134	2	**964**	**2747**
% Approach	34.3%	47.5%	18.3%	0%	**-**	16.1%	33.8%	50.1%	0%	**-**	11.5%	79.7%	8.9%	0%	**-**	25.6%	60.3%	13.9%	0.2%	**-**	-
% Total	6.6%	9.2%	3.5%	0%	**19.3%**	3.5%	7.4%	10.9%	0%	**21.7%**	2.7%	19.0%	2.1%	0%	**23.8%**	9.0%	21.2%	4.9%	0.1%	**35.1%**	-
PHF	0.858	0.788	0.836	-	**0.955**	0.750	0.828	0.890	-	**0.899**	0.781	0.894	0.763	-	**0.925**	0.882	0.891	0.882	0.500	**0.923**	0.966
Lights	169	249	96	0	**514**	96	195	291	0	**582**	73	494	56	0	**623**	235	549	130	2	**916**	2635
% Lights	92.9%	98.8%	99.0%	0%	**96.8%**	100%	96.5%	97.3%	0%	**97.5%**	97.3%	94.6%	96.6%	0%	**95.1%**	95.1%	94.5%	97.0%	100%	**95.0%**	95.9%
Articulated Trucks	3	0	0	0	**3**	0	0	1	0	**1**	0	6	0	0	**6**	1	12	3	0	**16**	26
% Articulated Trucks	1.6%	0%	0%	0%	**0.6%**	0%	0%	0.3%	0%	**0.2%**	0%	1.1%	0%	0%	**0.9%**	0.4%	2.1%	2.2%	0%	**1.7%**	0.9%
Buses and Single-Unit Trucks	10	3	1	0	**14**	0	7	7	0	**14**	2	22	2	0	**26**	11	20	1	0	**32**	86
% Buses and Single-Unit Trucks	5.5%	1.2%	1.0%	0%	**2.6%**	0%	3.5%	2.3%	0%	**2.3%**	2.7%	4.2%	3.4%	0%	**4.0%**	4.5%	3.4%	0.7%	0%	**3.3%**	3.1%

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

21st St & Post Rd - TMC
Thu Feb 26, 2026
Midday Peak (Feb 26 2026 1PM - 2 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383387, Location: 39.796705, -86.009446

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



21st St & Post Rd - TMC

Thu Feb 26, 2026
PM Peak (Feb 26 2026 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383387, Location: 39.796705, -86.009446

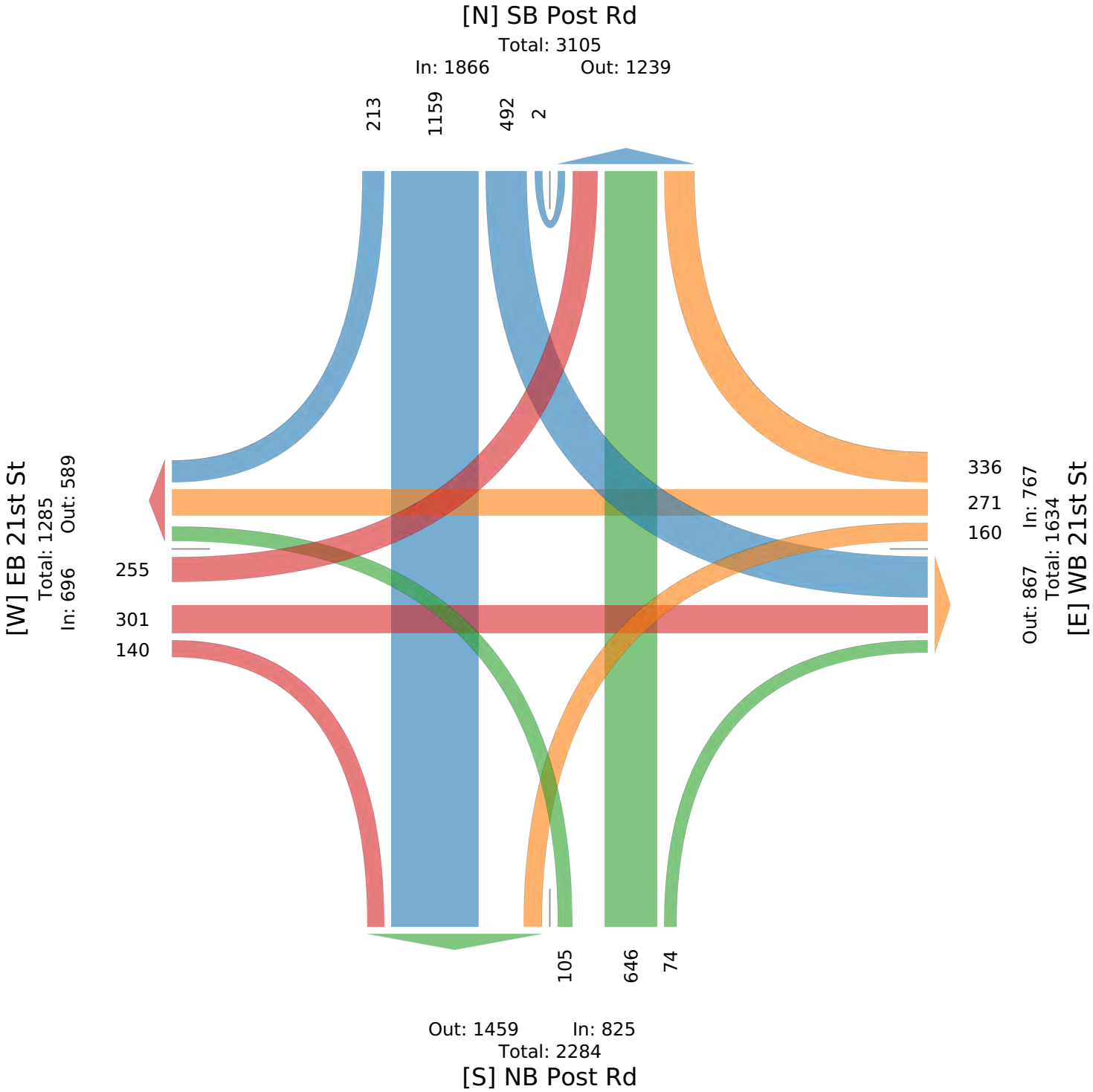
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 21st St Eastbound					WB 21st St Westbound					NB Post Rd Northbound					SB Post Rd Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-02-26 4:45PM	64	54	34	0	**152**	39	72	71	0	**182**	24	154	12	0	**190**	127	301	54	0	**482**	**1006**
5:00PM	58	86	32	0	**176**	44	73	91	0	**208**	28	170	20	0	**218**	133	296	56	0	**485**	**1087**
5:15PM	68	81	38	0	**187**	39	67	94	0	**200**	28	171	19	0	**218**	123	277	47	2	**449**	**1054**
5:30PM	65	80	36	0	**181**	38	59	80	0	**177**	25	151	23	0	**199**	109	285	56	0	**450**	**1007**
Total	255	301	140	0	**696**	160	271	336	0	**767**	105	646	74	0	**825**	492	1159	213	2	**1866**	**4154**
% Approach	36.6%	43.2%	20.1%	0%	**-**	20.9%	35.3%	43.8%	0%	**-**	12.7%	78.3%	9.0%	0%	**-**	26.4%	62.1%	11.4%	0.1%	**-**	-
% Total	6.1%	7.2%	3.4%	0%	**16.8%**	3.9%	6.5%	8.1%	0%	**18.5%**	2.5%	15.6%	1.8%	0%	**19.9%**	11.8%	27.9%	5.1%	0%	**44.9%**	-
PHF	0.938	0.875	0.921	-	**0.930**	0.909	0.928	0.894	-	**0.922**	0.938	0.944	0.804	-	**0.946**	0.925	0.963	0.951	0.250	**0.962**	0.955
Lights	250	297	140	0	**687**	157	269	331	0	**757**	105	631	70	0	**806**	490	1127	205	2	**1824**	4074
% Lights	98.0%	98.7%	100%	0%	**98.7%**	98.1%	99.3%	98.5%	0%	**98.7%**	100%	97.7%	94.6%	0%	**97.7%**	99.6%	97.2%	96.2%	100%	**97.7%**	98.1%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	5	1	0	**6**	0	10	3	0	**13**	19
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0.8%	1.4%	0%	**0.7%**	0%	0.9%	1.4%	0%	**0.7%**	0.5%
Buses and Single-Unit Trucks	5	4	0	0	**9**	3	2	5	0	**10**	0	10	3	0	**13**	2	22	5	0	**29**	61
% Buses and Single-Unit Trucks	2.0%	1.3%	0%	0%	**1.3%**	1.9%	0.7%	1.5%	0%	**1.3%**	0%	1.5%	4.1%	0%	**1.6%**	0.4%	1.9%	2.3%	0%	**1.6%**	1.5%

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

21st St & Post Rd - TMC
Thu Feb 26, 2026
PM Peak (Feb 26 2026 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383387, Location: 39.796705, -86.009446

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

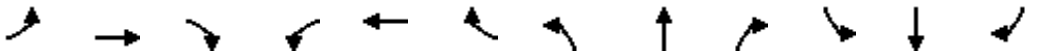


Attachment C
Traffic Analysis

Intersection	Type	MOE	Existing 2026									
			2026 AM Peak Hour					2026 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Post Rd & 21st St	Signal	*LOS*	C	**F**	C	C	**E**	C	C	C	**F**	**E**
		Delay (sec/veh)	23.0	139.3	23.2	23.1	**56.9**	23.7	26.4	31.5	91.3	**56.1**
		Queue Length 95th (ft)	104	305	134	191		167	142	182	595	
		v/c Ratio	0.50	1.34	0.79	0.72		0.59	0.65	0.78	1.26	
		LOS-F Movements	---	WBR	---	---		---	---	---	SBL, SBT	

Intersection	Type	MOE	No-Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Post Rd & 21st St	Signal	*LOS*	C	**F**	C	C	**E**	E	D	C	C	**D**
		Delay (sec/veh)	28.2	168.9	22.7	21.1	**65.6**	57.6	37.4	32.3	32.4	**37.5**
		Queue Length 95th (ft)	160	389	138	168		298	226	191	541	
		v/c Ratio	0.74	1.46	0.80	0.70		1.03	0.77	0.83	0.88	
		LOS-F Movements	---	WBR	---	---		EBL	---	---	---	

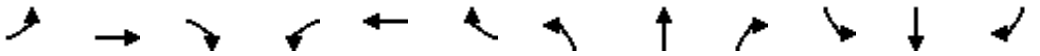
Intersection	Type	MOE	Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Post Rd & 21st St	Signal	*LOS*	D	**F**	C	C	**F**	E	D	D	D	**D**
		Delay (sec/veh)	35.8	216.2	26.7	24.4	**82.5**	58.0	48.1	39.8	40.3	**44.6**
		Queue Length 95th (ft)	201	166	228	207		531	206	319	632	
		v/c Ratio	0.85	1.60	0.81	0.72		1.00	0.86	0.89	0.94	
		LOS-F Movements	---	WBR	---	---		EBL	---	NBL	---	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	159	91	61	202	508	111	497	62	202	486	114
Future Volume (veh/h)	157	159	91	61	202	508	111	497	62	202	486	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1841	1900	1826	1870	1841	1841	1856	1856	1811	1856
Adj Flow Rate, veh/h	171	173	99	66	220	552	121	540	67	220	528	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	4	0	5	2	4	4	3	3	6	3
Cap, veh/h	344	795	496	359	594	413	153	1603	196	306	1267	740
Arrive On Green	0.10	0.23	0.23	0.04	0.17	0.17	0.09	0.35	0.35	0.09	0.37	0.37
Sat Flow, veh/h	1725	3441	1560	1810	3469	1585	1753	4536	555	3428	3441	1572
Grp Volume(v), veh/h	171	173	99	66	220	552	121	397	210	220	528	124
Grp Sat Flow(s),veh/h/ln	1725	1721	1560	1810	1735	1585	1753	1675	1741	1714	1721	1572
Q Serve(g_s), s	6.2	3.3	3.7	2.4	4.5	13.7	5.4	7.0	7.1	5.0	9.2	3.6
Cycle Q Clear(g_c), s	6.2	3.3	3.7	2.4	4.5	13.7	5.4	7.0	7.1	5.0	9.2	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	344	795	496	359	594	413	153	1184	615	306	1267	740
V/C Ratio(X)	0.50	0.22	0.20	0.18	0.37	1.34	0.79	0.34	0.34	0.72	0.42	0.17
Avail Cap(c_a), veh/h	474	795	496	531	594	413	265	1184	615	476	1267	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	24.9	19.9	25.7	29.3	29.6	35.8	19.0	19.0	35.4	18.9	12.2
Incr Delay (d2), s/veh	0.4	0.1	0.1	0.1	0.1	167.1	3.5	0.8	1.5	1.2	1.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.3	1.3	1.0	1.8	26.6	2.4	2.6	2.9	2.0	3.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.8	24.9	19.9	25.8	29.5	196.7	39.3	19.7	20.5	36.6	19.9	12.7
LnGrp LOS	C	C	B	C	C	F	D	B	C	D	B	B
Approach Vol, veh/h		443			838			728			872	
Approach Delay, s/veh		23.0			139.3			23.2			23.1	
Approach LOS		C			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	34.0	13.2	19.2	12.5	35.2	8.4	24.0
Change Period (Y+Rc), s	6.5	5.7	5.0	5.5	5.5	5.7	5.0	5.5
Max Green Setting (Gmax), s	11.1	18.3	14.2	13.7	12.1	18.3	11.0	13.7
Max Q Clear Time (g_c+I1), s	7.0	9.1	8.2	15.7	7.4	11.2	4.4	5.7
Green Ext Time (p_c), s	0.2	5.5	0.2	0.0	0.1	4.3	0.0	0.4

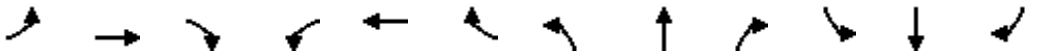
Intersection Summary		
HCM 7th Control Delay, s/veh		56.9
HCM 7th LOS		E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	298	138	158	268	332	104	639	73	487	1146	211
Future Volume (veh/h)	252	298	138	158	268	332	104	639	73	487	1146	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1885	1900	1870	1885	1885	1900	1870	1826	1900	1856	1841
Adj Flow Rate, veh/h	262	310	144	165	279	346	108	666	76	507	1194	220
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	0	2	1	1	0	2	5	0	3	4
Cap, veh/h	444	931	541	425	780	532	138	1265	143	404	1136	712
Arrive On Green	0.13	0.26	0.26	0.09	0.22	0.22	0.08	0.27	0.27	0.11	0.32	0.32
Sat Flow, veh/h	1781	3582	1610	1781	3582	1598	1810	4653	526	3510	3526	1560
Grp Volume(v), veh/h	262	310	144	165	279	346	108	486	256	507	1194	220
Grp Sat Flow(s),veh/h/ln	1781	1791	1610	1781	1791	1598	1810	1702	1776	1755	1763	1560
Q Serve(g_s), s	9.6	6.1	5.7	6.1	5.7	16.0	5.1	10.5	10.7	10.0	28.0	7.8
Cycle Q Clear(g_c), s	9.6	6.1	5.7	6.1	5.7	16.0	5.1	10.5	10.7	10.0	28.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	444	931	541	425	780	532	138	925	483	404	1136	712
V/C Ratio(X)	0.59	0.33	0.27	0.39	0.36	0.65	0.78	0.52	0.53	1.26	1.05	0.31
Avail Cap(c_a), veh/h	477	955	552	533	955	610	229	925	483	404	1136	712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	26.1	21.1	22.8	28.9	24.7	39.5	26.9	27.0	38.5	29.5	15.0
Incr Delay (d2), s/veh	1.0	0.1	0.1	0.2	0.1	1.3	3.7	2.1	4.1	134.2	41.2	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	2.5	2.1	2.5	2.4	5.9	2.3	4.3	4.8	11.6	17.4	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.3	26.2	21.2	23.1	29.0	26.0	43.2	29.0	31.1	172.7	70.6	16.1
LnGrp LOS	C	C	C	C	C	C	D	C	C	F	F	B
Approach Vol, veh/h		716			790			850			1921	
Approach Delay, s/veh		23.7			26.4			31.5			91.3	
Approach LOS		C			C			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	29.4	16.7	24.5	12.1	33.7	13.0	28.1
Change Period (Y+Rc), s	6.5	5.7	5.0	5.5	5.5	5.7	5.0	5.5
Max Green Setting (Gmax), s	10.0	17.8	13.3	23.2	11.0	17.8	13.3	23.2
Max Q Clear Time (g_c+I1), s	12.0	12.7	11.6	18.0	7.1	30.0	8.1	8.1
Green Ext Time (p_c), s	0.0	3.7	0.1	0.9	0.0	0.0	0.1	1.0

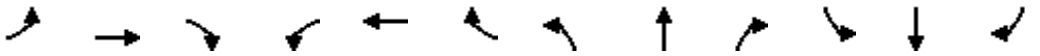
Intersection Summary	
HCM 7th Control Delay, s/veh	56.1
HCM 7th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	184	105	70	233	587	128	574	72	233	562	132
Future Volume (veh/h)	181	184	105	70	233	587	128	574	72	233	562	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1841	1900	1826	1870	1841	1841	1856	1856	1811	1856
Adj Flow Rate, veh/h	197	200	114	76	253	638	139	624	78	253	611	143
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	4	0	5	2	4	4	3	3	6	3
Cap, veh/h	266	620	436	331	595	438	174	1550	192	360	1246	659
Arrive On Green	0.06	0.18	0.18	0.05	0.17	0.17	0.10	0.34	0.34	0.10	0.36	0.36
Sat Flow, veh/h	1725	3441	1560	1810	3469	1585	1753	4530	560	3428	3441	1572
Grp Volume(v), veh/h	197	200	114	76	253	638	139	460	242	253	611	143
Grp Sat Flow(s),veh/h/ln	1725	1721	1560	1810	1735	1585	1753	1675	1740	1714	1721	1572
Q Serve(g_s), s	4.0	3.5	4.0	2.4	4.6	12.0	5.4	7.3	7.5	5.0	9.6	4.1
Cycle Q Clear(g_c), s	4.0	3.5	4.0	2.4	4.6	12.0	5.4	7.3	7.5	5.0	9.6	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	266	620	436	331	595	438	174	1146	595	360	1246	659
V/C Ratio(X)	0.74	0.32	0.26	0.23	0.43	1.46	0.80	0.40	0.41	0.70	0.49	0.22
Avail Cap(c_a), veh/h	266	620	436	346	595	438	225	1146	595	759	1246	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	25.0	19.6	22.3	25.9	25.3	30.8	17.6	17.6	30.3	17.3	13.0
Incr Delay (d2), s/veh	9.4	0.1	0.1	0.1	0.2	217.7	10.8	1.0	2.1	0.9	1.4	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.4	1.4	1.0	1.8	33.1	2.7	2.7	3.0	2.0	3.6	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.2	25.1	19.7	22.4	26.1	243.0	41.6	18.6	19.7	31.2	18.7	13.7
LnGrp LOS	D	C	B	C	C	F	D	B	B	C	B	B
Approach Vol, veh/h		511			967			841			1007	
Approach Delay, s/veh		28.2			168.9			22.7			21.1	
Approach LOS		C			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	29.7	9.0	17.5	12.5	31.0	8.4	18.1
Change Period (Y+Rc), s	6.5	5.7	5.0	5.5	5.5	5.7	5.0	5.5
Max Green Setting (Gmax), s	15.5	15.8	4.0	12.0	9.0	23.3	4.0	12.0
Max Q Clear Time (g_c+I1), s	7.0	9.5	6.0	14.0	7.4	11.6	4.4	6.0
Green Ext Time (p_c), s	0.4	4.4	0.0	0.0	0.0	7.3	0.0	0.4

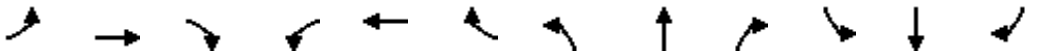
Intersection Summary	
HCM 7th Control Delay, s/veh	65.6
HCM 7th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	344	159	183	310	384	120	738	84	563	1324	244
Future Volume (veh/h)	291	344	159	183	310	384	120	738	84	563	1324	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1885	1900	1870	1885	1885	1900	1870	1826	1900	1856	1841
Adj Flow Rate, veh/h	303	358	166	191	323	400	125	769	88	586	1379	254
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	0	2	1	1	0	2	5	0	3	4
Cap, veh/h	293	557	385	273	478	517	151	1507	171	668	1559	846
Arrive On Green	0.10	0.16	0.16	0.08	0.13	0.13	0.08	0.32	0.32	0.19	0.44	0.44
Sat Flow, veh/h	1781	3582	1610	1781	3582	1598	1810	4650	529	3510	3526	1560
Grp Volume(v), veh/h	303	358	166	191	323	400	125	562	295	586	1379	254
Grp Sat Flow(s),veh/h/ln	1781	1791	1610	1781	1791	1598	1810	1702	1775	1755	1763	1560
Q Serve(g_s), s	9.0	8.4	7.9	7.0	7.7	12.0	6.1	12.0	12.1	14.6	32.3	8.0
Cycle Q Clear(g_c), s	9.0	8.4	7.9	7.0	7.7	12.0	6.1	12.0	12.1	14.6	32.3	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	293	557	385	273	478	517	151	1103	575	668	1559	846
V/C Ratio(X)	1.03	0.64	0.43	0.70	0.68	0.77	0.83	0.51	0.51	0.88	0.88	0.30
Avail Cap(c_a), veh/h	293	557	385	273	478	517	151	1103	575	753	1559	846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	35.7	29.1	33.0	37.2	27.5	40.6	24.6	24.7	35.4	23.0	11.3
Incr Delay (d2), s/veh	61.9	2.0	0.3	6.6	3.1	6.5	28.8	1.7	3.3	9.7	7.7	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	3.7	3.0	1.0	3.5	8.3	3.8	4.8	5.3	6.8	13.7	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	96.7	37.6	29.3	39.6	40.3	34.0	69.5	26.3	27.9	45.1	30.7	12.2
LnGrp LOS	F	D	C	D	D	C	E	C	C	D	C	B
Approach Vol, veh/h		827			914			982			2219	
Approach Delay, s/veh		57.6			37.4			32.3			32.4	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.6	34.9	14.0	17.5	13.0	45.5	12.0	19.5
Change Period (Y+Rc), s	6.5	5.7	5.0	5.5	5.5	5.7	5.0	5.5
Max Green Setting (Gmax), s	19.3	27.0	9.0	12.0	7.5	39.8	7.0	14.0
Max Q Clear Time (g_c+I1), s	16.6	14.1	11.0	14.0	8.1	34.3	9.0	10.4
Green Ext Time (p_c), s	0.5	9.3	0.0	0.0	0.0	5.3	0.0	0.6

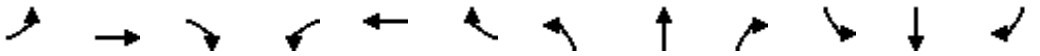
Intersection Summary	
HCM 7th Control Delay, s/veh	37.5
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	184	105	70	233	587	128	574	72	233	562	132
Future Volume (veh/h)	181	184	105	70	233	587	128	574	72	233	562	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1841	1900	1826	1870	1841	1841	1856	1856	1811	1856
Adj Flow Rate, veh/h	197	200	114	76	253	638	139	624	78	253	611	143
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	4	0	5	2	4	4	3	3	6	3
Cap, veh/h	233	793	513	98	520	399	172	1492	184	350	1189	756
Arrive On Green	0.13	0.23	0.23	0.05	0.15	0.15	0.10	0.33	0.33	0.10	0.35	0.35
Sat Flow, veh/h	1725	3441	1560	1810	3469	1585	1753	4530	560	3428	3441	1572
Grp Volume(v), veh/h	197	200	114	76	253	638	139	460	242	253	611	143
Grp Sat Flow(s),veh/h/ln	1725	1721	1560	1810	1735	1585	1753	1675	1740	1714	1721	1572
Q Serve(g_s), s	8.9	3.8	4.2	3.3	5.3	12.0	6.2	8.5	8.7	5.7	11.3	4.2
Cycle Q Clear(g_c), s	8.9	3.8	4.2	3.3	5.3	12.0	6.2	8.5	8.7	5.7	11.3	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	233	793	513	98	520	399	172	1103	573	350	1189	756
V/C Ratio(X)	0.85	0.25	0.22	0.77	0.49	1.60	0.81	0.42	0.42	0.72	0.51	0.19
Avail Cap(c_a), veh/h	237	793	513	204	520	399	215	1103	573	793	1189	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	25.1	19.4	37.3	31.2	29.9	35.3	20.9	20.9	34.8	20.8	11.9
Incr Delay (d2), s/veh	22.3	0.1	0.1	4.8	0.3	280.3	13.3	1.2	2.3	1.1	1.6	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	1.5	1.5	1.6	2.2	38.3	3.2	3.3	3.6	2.3	4.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.1	25.2	19.5	42.1	31.4	310.2	48.6	22.0	23.2	35.9	22.4	12.4
LnGrp LOS	E	C	B	D	C	F	D	C	C	D	C	B
Approach Vol, veh/h		511			967			841			1007	
Approach Delay, s/veh		35.8			216.2			26.7			24.4	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	32.0	15.8	17.5	13.4	33.3	9.3	23.9
Change Period (Y+Rc), s	6.5	5.7	5.0	5.5	5.5	5.7	5.0	5.5
Max Green Setting (Gmax), s	18.5	15.8	11.0	12.0	9.8	25.5	9.0	14.0
Max Q Clear Time (g_c+I1), s	7.7	10.7	10.9	14.0	8.2	13.3	5.3	6.2
Green Ext Time (p_c), s	0.5	3.6	0.0	0.0	0.0	7.6	0.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	82.5
HCM 7th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	344	159	183	310	384	120	738	84	563	1324	244
Future Volume (veh/h)	291	344	159	183	310	384	120	738	84	563	1324	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1885	1900	1870	1885	1885	1900	1870	1826	1900	1856	1841
Adj Flow Rate, veh/h	303	358	166	191	323	400	125	769	88	586	1379	254
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	0	2	1	1	0	2	5	0	3	4
Cap, veh/h	303	591	391	223	430	492	141	1371	156	661	1463	913
Arrive On Green	0.17	0.17	0.17	0.12	0.12	0.12	0.08	0.29	0.29	0.19	0.42	0.42
Sat Flow, veh/h	1781	3582	1610	1781	3582	1598	1810	4650	529	3510	3526	1560
Grp Volume(v), veh/h	303	358	166	191	323	400	125	562	295	586	1379	254
Grp Sat Flow(s),veh/h/ln	1781	1791	1610	1781	1791	1598	1810	1702	1775	1755	1763	1560
Q Serve(g_s), s	17.0	9.3	8.7	10.5	8.7	12.0	6.8	13.9	14.1	16.3	37.6	8.1
Cycle Q Clear(g_c), s	17.0	9.3	8.7	10.5	8.7	12.0	6.8	13.9	14.1	16.3	37.6	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	303	591	391	223	430	492	141	1003	523	661	1463	913
V/C Ratio(X)	1.00	0.61	0.42	0.86	0.75	0.81	0.89	0.56	0.56	0.89	0.94	0.28
Avail Cap(c_a), veh/h	303	591	391	267	430	492	141	1003	523	741	1463	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	38.7	31.9	42.9	42.6	31.9	45.7	29.8	29.8	39.5	28.1	10.3
Incr Delay (d2), s/veh	51.9	1.3	0.3	18.1	6.5	9.3	42.6	2.3	4.4	10.8	13.3	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	4.1	3.3	5.7	4.2	9.9	4.7	5.8	6.4	7.7	17.3	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	93.4	40.0	32.2	61.0	49.1	41.2	88.3	32.0	34.2	50.4	41.4	11.0
LnGrp LOS	F	D	C	E	D	D	F	C	C	D	D	B
Approach Vol, veh/h		827			914			982			2219	
Approach Delay, s/veh		58.0			48.1			39.8			40.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.3	35.2	22.0	17.5	13.3	47.2	17.5	22.0
Change Period (Y+Rc), s	6.5	5.7	5.0	5.5	5.5	5.7	5.0	5.5
Max Green Setting (Gmax), s	21.1	27.2	17.0	12.0	7.8	41.5	15.0	14.0
Max Q Clear Time (g_c+I1), s	18.3	16.1	19.0	14.0	8.8	39.6	12.5	11.3
Green Ext Time (p_c), s	0.6	8.2	0.0	0.0	0.0	1.9	0.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	44.6
HCM 7th LOS	D

Intersection: 12: Post Rd & 21st St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	TR
Maximum Queue (ft)	124	258	171	65	122	178	152	198	202	263	214	147
Average Queue (ft)	99	89	35	22	46	86	54	99	87	151	112	42
95th Queue (ft)	146	201	109	49	93	149	114	166	156	228	189	103
Link Distance (ft)		670	670			974	974			1069	1069	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	75			150	120			160	120			160
Storage Blk Time (%)	27	5	0		0	3	0	1	3	18	1	0
Queuing Penalty (veh)	25	9	0		0	2	0	1	7	23	2	0

Intersection: 12: Post Rd & 21st St

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	142	173	243	204	64
Average Queue (ft)	32	96	135	83	23
95th Queue (ft)	93	153	207	166	49
Link Distance (ft)		994	994	994	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	700				700
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 12: Post Rd & 21st St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	TR
Maximum Queue (ft)	124	530	447	167	212	237	205	156	220	354	306	197
Average Queue (ft)	122	294	202	56	124	131	102	76	119	220	174	85
95th Queue (ft)	137	531	440	118	202	206	181	128	222	319	267	178
Link Distance (ft)		670	670			974	974			1069	1069	
Upstream Blk Time (%)		0										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)	75			150	120			160	120			160
Storage Blk Time (%)	63	11	3	0	14	18	2	0	10	36	5	0
Queuing Penalty (veh)	108	32	5	0	22	33	6	1	24	44	18	1

Intersection: 12: Post Rd & 21st St

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	617	685	719	619	152
Average Queue (ft)	244	311	434	359	45
95th Queue (ft)	439	533	632	559	103
Link Distance (ft)		994	994	994	
Upstream Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)	700				700
Storage Blk Time (%)		0		0	
Queuing Penalty (veh)		1		0	

Attachment D
Virtual Meeting Minutes & Field Check Minutes

CORRADINO LLC
200 S. Meridian St. Suite 330
Indianapolis, IN 46225

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

Field Check Notes for RSA at Post Road & 21st Street

Date:	5/28/2026
Des. No.:	n/a

Reviewer Information:	Agency/Firm Name: Corradino LLC
Primary Author: James Mark Rinehart	Agency: Indianapolis Metropolitan Planning Organization
Phone Numbers: (317) 488-2363	Email Address: jrinehart@corradino.com

Attendees:

- Jill Palmer, Indy DPW
- Jason Bowers, Indy DPW
- Jennifer Dunn, IMPO
- James Mark Rinehart, Corradino
- David Cleveland, Corradino

Purpose of Field Check:

The purpose of this field check was to review the crash history at the Post Road & 21st Street intersection, evaluate the current roadway conditions, observe traffic patterns, and collaborate with representatives from Local Public Agencies (LPA) and Law Enforcement to identify safety countermeasures.

The goal of the field check was to identify near-term and long-term improvements and build consensus with the LPAs and Local Law Enforcement on the recommendations.

Recommendations from the field check will be used as the final recommendations for the RSA and included in the IMPO's Safety Study.

Project Location:

Location: Intersection of Post Road & 21st Street

INDOT District: Greenfield				City: Indianapolis	County: Marion
Lat & Long (BOP)	39.796702	-86.009476	Urban/Rural - **URBAN**	Functional Class of Major Roadway: Other Principal Arterial	
Traffic Control Type: Signalized				Posted Speed Limit: Post Rd – 40mph; 21st St. – 35mph	

Site Observations

- It was noted, after reviewing the collision diagram during the field check, that there were several EB and WB left-turning crashes within the intersection. The group identified that the left turn signals for EB & WB traffic were timed with a protected/permissive phasing.
    - Indianapolis DPW noted it would be good to evaluate if converting the EB and WB left-turn signals to protected-only phasing.
- It was observed during the field check that a new gas station has been constructed in the SE corner of the intersection and is open to the public, since the aerial image used for the collision diagram was taken. The current crash data shows few crashes near the new gas station because the crashes occurred before the station opened.
    - Indianapolis DPW noticed the medians on the south and east legs of the intersection still allow left turns out of the new gas station, and thought extending the medians would help prevent future right-angle crashes.
- On the west leg of the intersection, there were 12 right-angle or left-turn crashes where vehicles were crossing to access the CVS pharmacy in the southwest corner or the gas station in the northwest corner of the intersection. The existing median on the west leg of the intersection does not extend far enough to prevent traffic from turning left into or out of the CVS or gas station.
    - Indianapolis DPW suggested extending the median further west to prevent the left turns into and out of the CVS and gas station.
- Corradino asked Indianapolis DPW if they would like to add a new sidewalk in the northwest corner of the intersection, extending west to the IndyGo bus stop. Currently, there is no sidewalk access or boarding pad at the bus stop.

- Indianapolis DPW agreed adding the sidewalk connection would be good to have, but suggested Corradino be mindful of the large drainage structure that goes under 21st Street near the bus stop. The structure's location would affect the cost of the sidewalk.
- Corradino looked at the bus stop location in question and confirmed that it is located directly above the drainage structure. There appears to be a "cow path" created at the bus stop where a 6-foot sidewalk at the curb could fit. However, an ADA-compliant bus stop must have at least a 5'x8' boarding pad. Initially, it does not appear there would be enough room for a bus stop boarding pad, even with the construction of a new sidewalk. The treatment would be better than the current status of the bus stop. Coordination between the Indianapolis DPW and IndyGo would help finalize the recommended improvement for the bus stop.

- It was observed in the field that there were only ADA ramps in the SE and NE corners of the intersection, with a recently painted crosswalk.
  - Indianapolis DPW noted the ADA ramps and crosswalk were added as part of a recent pavement project along Post Road. However, adding ADA ramps, crosswalks, and pedestrian signals could be part of a long-term improvement if future redevelopment requires the installation of a sidewalk.
- INDOT has planned to close the median on the north leg of the intersection.

Potential Alternatives Discussed

Near-Term

- Install backplates to the existing traffic signals.
- Test if a protected left-turn phase works for the EB and WB left-turning movements. If yes, replace the "dog house" traffic signals with a three-ball signal head for the protected left-turns.
- Restripe the eastbound and westbound approaches of the intersection (21st Street).

Long-Term

- Include the improvements identified in the Near-Term alternatives
- Construct ADA ramps in all four corners of the intersection with pedestrian crossings, pedestrian signals, push buttons (may need to be free-standing posts)
- Extend the medians on the south, west, and east legs of the intersection.
- Add sidewalk from the new ADA ramp in the NW corner west to the IndyGo bus stop. (The sidewalk at the bus stop may need to be evaluated further because of the large drainage structure beneath it. Potential coordination with IndyGo may be needed as well).

Future Consideration

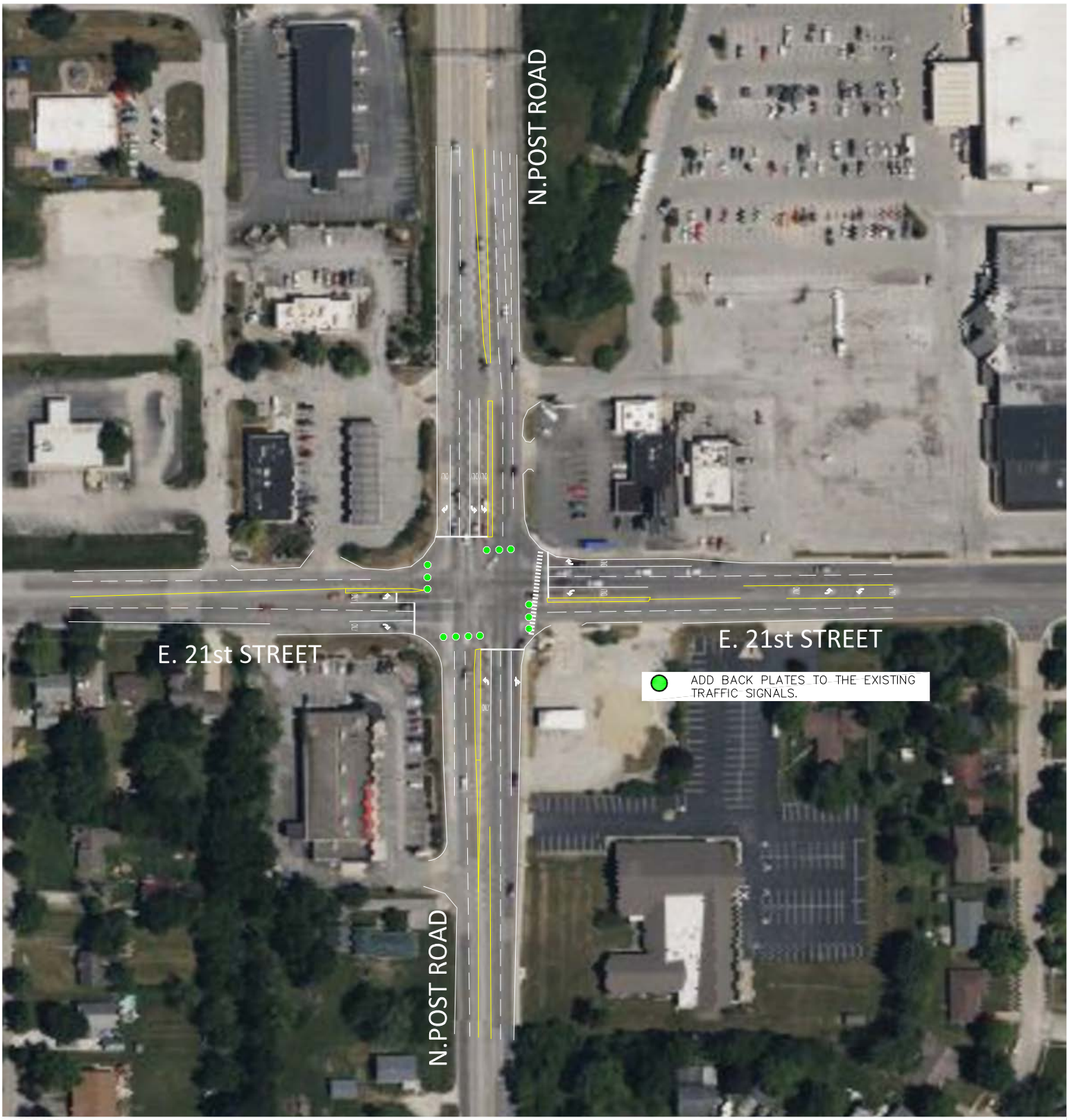
- INDOT will be constructing a new median to connect the two existing medians on the north leg of the intersection.

Consensus on Key Items for Alternatives

Indianapolis DPW agreed with the suggested near-and long-term recommendations identified during the field check.

Attachment E
Cost Estimates & Schematics

Near-Term Improvements
Post Road & 21st Street



PRELIMINARY COST ESTIMATE - NEAR TERM
Post Road & 21st Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 5,000.00	$ 5,000.00
2	801-06775	MAINTAINING TRAFFIC	1	LS	$ 2,600.00	$ 2,600.00
3	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	13	EACH	$ 1,750.00	$ 22,750.00
4	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	138	LFT	$ 15.00	$ 2,070.00
5	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	380	LFT	$ 2.50	$ 950.00
6	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	1,750	LFT	$ 1.25	$ 2,187.50
7	808-75240	LINE, THERMOPLASTIC, BROKEN, YELLOW, 4 IN.	160	LFT	$ 2.50	$ 400.00
8	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	1,125	LFT	$ 1.25	$ 1,406.25
9	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	100	LFT	$ 14.00	$ 1,400.00
10	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	6	EACH	$ 250.00	$ 1,500.00
11	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	6	EACH	$ 240.00	$ 1,440.00
					TOTAL	$ 41,703.75

CONSTRUCTION TOTAL	**$42,000.00**
CONTINGENCY (10%)	**$4,000.00**
OVERALL PROJECT TOTAL	**$46,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases

Task No.	Task	Cost
1	Preliminary Engineering	$ 10,000
2	Right of Way	$ -
3	Utility CN	$ -
4	Railroad CN	$ -
5	Construction Inspection/Testing	$ -
	TOTAL	**$ 10,000**

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



Todd Johnson
Estimate Completed By

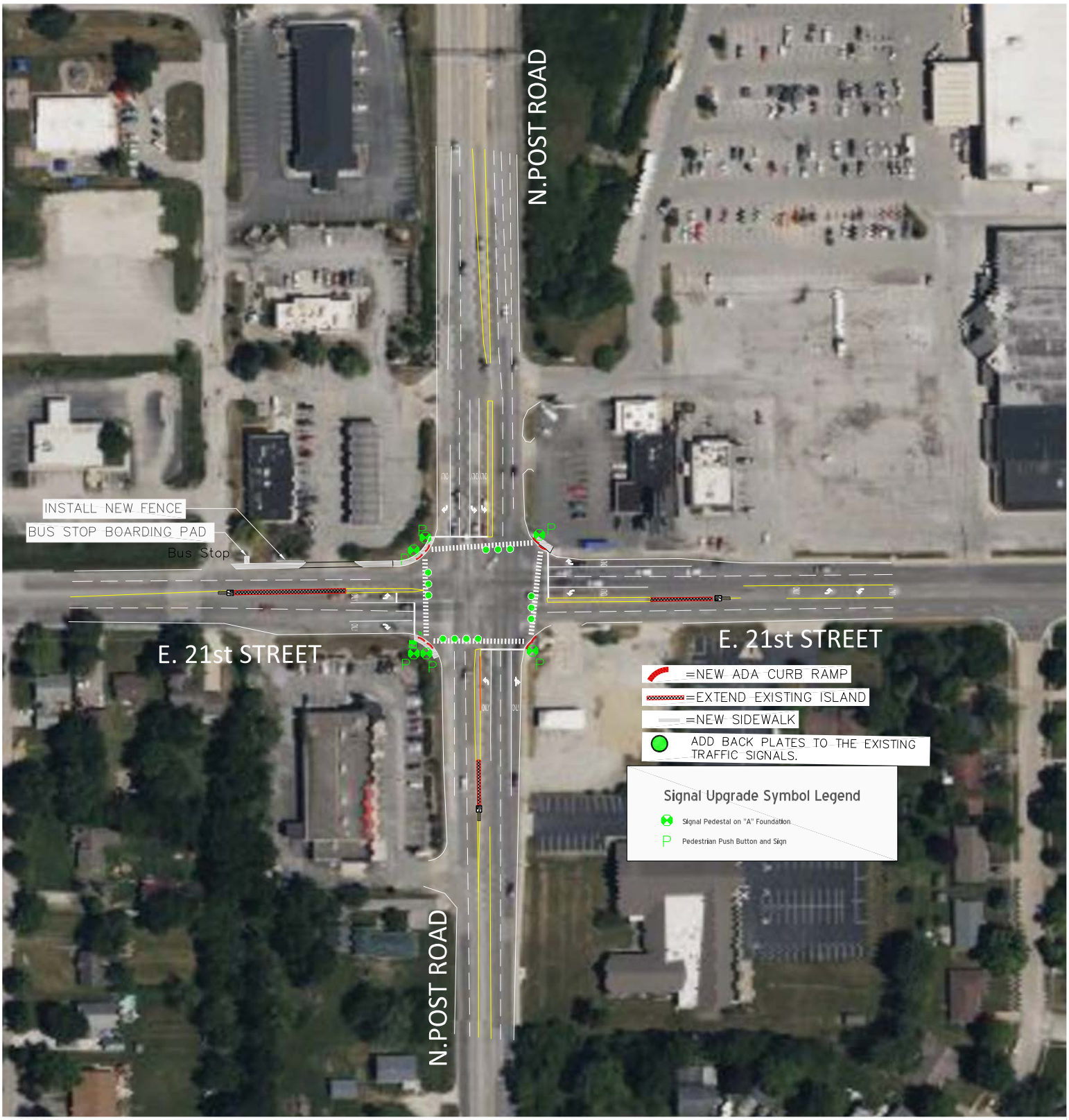
6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - NEAR TERM

Post Road & 21st Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	110-01001	MOBILIZATION AND DEMOBILIZATION	
2	801-06775	MAINTAINING TRAFFIC	
3	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	
4	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	Used on the west and east legs - 21st St.
5	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	Assume project length is ISD for Stop Control (35 MPH = 390' on 21st)
6	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	Assume project length is ISD for Stop Control (35 MPH = 390' on 21st)
7	808-75240	LINE, THERMOPLASTIC, BROKEN, YELLOW, 4 IN.	Assume project length is ISD for Stop Control (35 MPH = 390' on 21st)
8	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	Assume project length is ISD for Stop Control (35 MPH = 390' on 21st)
9	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	Used on the west and east legs - 21st St.
10	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	Used on the west and east legs - 21st St.
11	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	Used on the west and east legs - 21st St.

Long-Term Improvements
Post Road & 21st. Street



PRELIMINARY COST ESTIMATE - LONG TERM
Post Road & 21st Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	105-06845	CONSTRUCTION ENGINEERING	1	LS	$ 11,000.00	$ 11,000.00
2	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 14,600.00	$ 14,600.00
3	201-52370	CLEARING RIGHT-OF-WAY	1	LS	$ 2,500.00	$ 2,500.00
4	202-02240	PAVEMENT REMOVAL	125	SYS	$ 70.00	$ 8,750.00
5	202-02273	CENTER CURB, CONCRETE, REMOVE	9	SYS	$ 250.00	$ 2,250.00
6	202-02279	CURB AND GUTTER, REMOVE	200	LFT	$ 60.00	$ 12,000.00
7	202-52710	SIDEWALK CONCRETE, REMOVE	50	SYS	$ 125.00	$ 6,250.00
8	202-74035	SIGN, REMOVE	3	EACH	$ 200.00	$ 600.00
9	207-08264	SUBGRADE TREATMENT, TYPE II	234	SYS	$ 60.00	$ 14,040.00
10	603-11706	FENCE, CHAIN LINK, PVC COATED, 60 IN.	40	LFT	$ 50.00	$ 2,000.00
11	604-06070	SIDEWALK, CONCRETE	125	SYS	$ 240.00	$ 30,000.00
12	604-08086	CURB RAMP, CONCRETE	96	SYS	$ 280.00	$ 26,880.00
13	604-12083	DETECTABLE WARNING SURFACES	12	SYS	$ 325.00	$ 3,900.00
14	605-06140	CURB AND GUTTER, CONCRETE	200	LFT	$ 90.00	$ 18,000.00
15	605-06255	CENTER CURB, CONCRETE, TYPE D	134	SYS	$ 200.00	$ 26,800.00
16	801-06775	MAINTAINING TRAFFIC	1	LS	$ 30,000.00	$ 30,000.00
17	802-05701	SIGN POST, SQUARE, TYPE 1, REINFORCED ANCHOR BASE	36	LFT	$ 40.00	$ 1,440.00
18	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	24	SFT	$ 45.00	$ 1,080.00
19	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	1	LS	$ 5,000.00	$ 5,000.00
20	805-01842	HANDHOLE, SIGNAL, TYPE 1	4	EACH	$ 2,500.00	$ 10,000.00
21	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	6	EACH	$ 1,150.00	$ 6,900.00
22	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	6	EACH	$ 2,000.00	$ 12,000.00
23	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	13	EACH	$ 1,750.00	$ 22,750.00
24	805-11813	CONDUIT, PVC, 2 IN. SCHEDULE 80	300	LFT	$ 42.00	$ 12,600.00
25	805-11817	PEDESTRIAN PUSH BUTTON, APS	6	EACH	$ 1,600.00	$ 9,600.00
26	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	6	EACH	$ 1,100.00	$ 6,600.00
27	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	400	LFT	$ 4.30	$ 1,720.00
28	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	610	LFT	$ 15.00	$ 9,150.00
29	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	380	LFT	$ 2.50	$ 950.00
30	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	1,750	LFT	$ 1.25	$ 2,187.50
31	808-75240	LINE, THERMOPLASTIC, BROKEN, YELLOW, 4 IN.	160	LFT	$ 2.50	$ 400.00
32	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	1,125	LFT	$ 1.25	$ 1,406.25
33	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	100	LFT	$ 14.00	$ 1,400.00
34	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	6	EACH	$ 250.00	$ 1,500.00
35	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	6	EACH	$ 240.00	$ 1,440.00
					TOTAL	$ 317,693.75

CONSTRUCTION TOTAL	**$318,000.00**
CONTINGENCY (10%)	**$32,000.00**
OVERALL PROJECT TOTAL	**$350,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases		
Task No.	**Task**	**Cost**
1	Preliminary Engineering	$ 50,000
2	Right of Way	$ -
3	Utility CN	$ 5,000
4	Railroad CN	$ -
5	Construction Inspection/Testing	$ -
	TOTAL	$ 55,000

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



Todd Johnson
Estimate Completed By

6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - LONG TERM

Post Road & 21st Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	105-06845	CONSTRUCTION ENGINEERING	Say $ 2,500 per quad and $ 1,000 around drainage str. to do layout work or $ 11,000
2	110-01001	MOBILIZATION AND DEMOBILIZATION	set to x% of total cost
3	201-52370	CLEARING RIGHT-OF-WAY	Assume $ 500 per quad and $ 500 at drainage str. for minor clearing and restoration-seeding or $ 2,500
4	202-02240	PAVEMENT REMOVAL	Assume: 70 SYS West; 32 SYS east; 23 SYS south for 125 SYS
5	202-02273	CENTER CURB, CONCRETE, REMOVE	this is to remove the sloped ends of existing center curb to connect new center curb. Say 3 SYS/Ea or 9 SYS
6	202-02279	CURB AND GUTTER, REMOVE	Remove say 40' in each quad and 40' at gas station drive for ramp construction or 200'
7	202-52710	SIDEWALK CONCRETE, REMOVE	remove existing sidewalk as needed. Say 20 SYS in NE and 30 SYS in SE or 50 SYS
8	202-74035	SIGN, REMOVE	remove Keep Right/Object Marker signs at 3 of the center curbs - 3 EA
9	207-08264	SUBGRADE TREATMENT, TYPE II	used under new curb (200' * 4.5' or 100 SYS) and at center curbs (134 SYS) or 234 SYS
10	603-11706	FENCE, CHAIN LINK, PVC COATED, 60 IN.	use this where the new sidewalk will be near the drainage str. Say 40 LFT
11	604-06070	SIDEWALK, CONCRETE	assume 12 SYS per quad to tie the ramps together; 6' * 115' = 77 SYS to Bus Stop or 125 SYS
12	604-08086	CURB RAMP, CONCRETE	Assume 24 SYS per quad or 96 SYS
13	604-12083	DETECTABLE WARNING SURFACES	Assume 3 SYS per quad or 12 SYS
14	605-06140	CURB AND GUTTER, CONCRETE	Replace removed amount or 200 LFT
15	605-06255	CENTER CURB, CONCRETE, TYPE D	Assume: 70 SYS west; 32 SYS east; 23 SYS south for 125 SYS + 9 SYS = 134 SYS
16	801-06775	MAINTAINING TRAFFIC	Assume total cost 30,000
17	802-05701	SIGN POST, SQUARE, TYPE 1, REINFORCED ANCHOR BASE	Say 12 LFT per sign or 36 LFT total for 3 signs
18	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	for Keep Right and Objecrt Marker (3 each) for a total of 24 SFT
19	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	
20	805-01842	HANDHOLE, SIGNAL, TYPE 1	1 in each quad or 4 total
21	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	NE = 1; SE = 1; NW = 2; SW = 2 - Total = 6 Each
22	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	NE = 1; SE = 1; NW = 2; SW = 2 - Total = 6 Each
23	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	
24	805-11813	CONDUIT, PVC, 2 IN. SCHEDULE 80	
25	805-11817	PEDESTRIAN PUSH BUTTON, APS	NE = 1; SE = 1; NW = 2; SW = 2 - Total = 6 Each
26	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	NE = 1; SE = 1; NW = 2; SW = 2 - Total = 6 Each
27	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	
28	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	Used on all legs = 610
29	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	Assume project length is ISD for Stop Control (35 MPH = 390' on 21st)
30	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	Assume project length is ISD for Stop Control (35 MPH = 390' on 21st)
31	808-75240	LINE, THERMOPLASTIC, BROKEN, YELLOW, 4 IN.	Assume project length is ISD for Stop Control (35 MPH = 390' on 21st)
32	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	Assume project length is ISD for Stop Control (35 MPH = 390' on 21st)
33	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	Used on the west and east legs - 21st St.
34	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	Used on the west and east legs - 21st St.
35	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	Used on the west and east legs - 21st St.

Economic Evaluation - Form F5

Alternative: Post Road & 21st Street - Long-Term Recommendation

INPUT Collapse

Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	9
Non-Incapacitating and Possible Injury Crashes	14
Property Damage Only Crashes	77
Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Present Year (yyyy)	2026
Implementation Year (yyyy)	2030
Inflation Rate (%)	2
Interest Rate (%)	4
Annual Traffic Growth Rate (%)	2
Total Traffic Growth Factor	1.15
Future Traffic Growth Period (years)	24

COUNTERMEASURES Collapse All

Countermeasure 1 Collapse [C] Copy

Description	Interseciton improvement that includes changin signal phasing, new ADA ramps
Crash Reduction Factors (%)	
Fatal and Incapacitating Injury Crashes	55
Non-Incapacitating and Possible Injury Crashes	55
Property Damage Only Crashes	55
Number of Target Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	9
Non-Incapacitating and Possible Injury Crashes	14
Property Damage Only Crashes	77
Countermeasure Service Life (years)	20
Countermeasure Capital Cost ($)	405,000
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0

[+] Add

Form 1 2 3 4 5 6 7 CDB Tool

Calculate Load Crashes

New Open

Save Save As

Reports Exit

Guidelines Help

Equations

General Improvements Table

Service Life Table

Crash Reduction Factors Table - Indiana

Crash Modification Factors Clearinghouse

Alternatives

Save Current Alternative

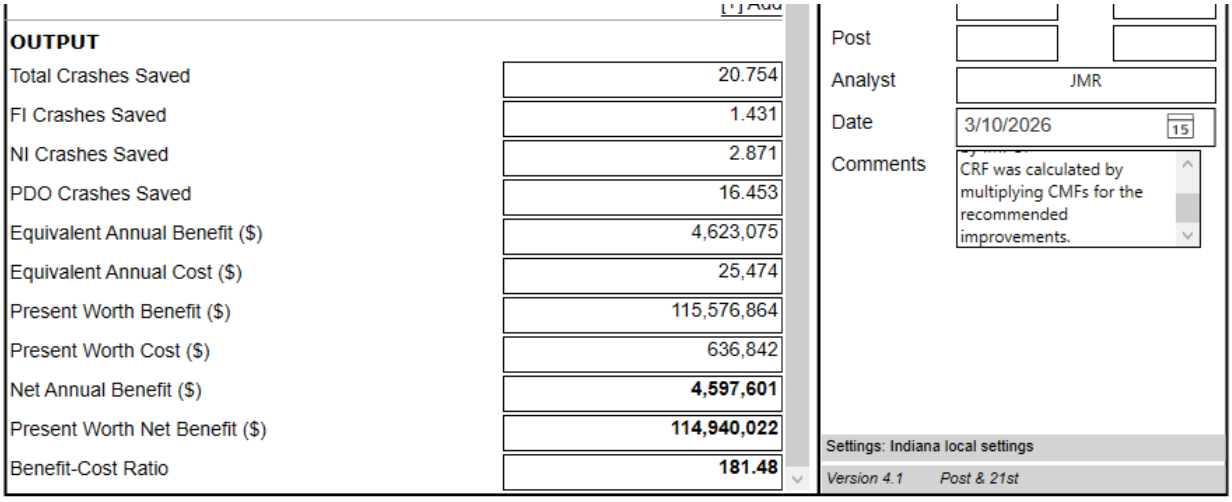
Read Alternative

Post Road & 21st Street - Long-Term Recom

Notes:

target crashes for each countermeasure should not exceed the number of crashes at the top of the form.
The Annual Traffic Growth Rate is the percent of growth expected in the initial

Location	Post Rd & 21st St
GIS	
Post	
Analyst	JMR
Date	3/10/2026
Comments	CRF was calculated by multiplying CMFs for the recommended improvements.


OUTPUT
Total Crashes Saved 20.754
FI Crashes Saved 1.431
NI Crashes Saved 2.871
PDO Crashes Saved 16.453
Equivalent Annual Benefit ($) 4,623,075
Equivalent Annual Cost ($) 25,474
Present Worth Benefit ($) 115,576,864
Present Worth Cost ($) 636,842
Net Annual Benefit ($) 4,597,601
Present Worth Net Benefit ($) 114,940,022
Benefit-Cost Ratio 181.48
Post
Analyst JMR
Date 3/10/2026
Comments
CRF was calculated by multiplying CMFs for the recommended improvements.
Settings: Indiana local settings
Version 4.1 Post & 21st

P

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/25/2026
Des. No.:	n/a

Reviewer Information:		Agency/Firm Name:	Corradino LLC
Primary Author:	James Mark Rinehart	Agency:	Indianapolis Metropolitan Planning Organization
Phone Numbers:	(317) 488-2363	Email Address:	jrinehart@corradino.com

Purpose of Review:

Corradino LLC was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Post Rd.		District: Greenfield		City: Indianapolis			County: Marion
Lat & Long (BOP)	39.804024	-86.009554	Lat & Long (EOP):	39.804024	-86.009554	Inside Urban Area Boundary: (Yes) or No (circle)	
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit			
Location: The intersection of Post Road & 25th Street							

Existing Conditions:

The Post Road & 25th Street intersection is a four-leg signalized intersection located ~700' north of interchange exit 91 on I-70. Post Road has three SB through lanes, three NB through lanes. In addition to the through lanes:

- The south leg of the intersection had a WB left-turn lane and a EB right-turn lane.
- The north leg of the intersection had a EB left-turn lane and a EB right turning roadway.

Protected/permissive left-turn signals were observed on both the NB and SB intersection approaches.

25th Street has one EB and one WB through lane at the intersection. In addition to the through lanes:

- The west leg has a NB left-turn lane and a SB right-turn lane.
- The east leg has a left-turn lane.

The traffic signals on 25th Street operate with a split signal phasing.

The south and north legs of the intersection both have a 4' curbed median dividing NB and SB traffic. The west leg of the intersection has a 6' curbed median dividing EB and WB traffic.

There is a sidewalk along the north and south sides of 25th Street on the east leg of the intersection, as well as along the east side of Post Road north of the intersection. There are no pedestrian signals or push buttons at the intersection. Still, there is a "piano key" crosswalk connecting the ADA ramps in the southeast and northeast corners of the intersection.

IndyGo's Route 87 operates only in the NB direction on Post Road at the intersection. Bus Stop 54009 is located on the east side of Post Road, ~250' north of the intersection. There is sidewalk access with a 5'x8' boarding pad and a simme-seat bench installed at the bus stop.

Located in each quadrant of the intersection are:

- NW Quadrant: Vacant lot in residential neighborhood.
- SW Quadrant: Commercial district with hotels, restaurants, and a Lowe's Home Improvement.
- SE Quadrant: Single-family residence.
- NE Quadrant: Single-family residence.

Corradino staff held a virtual meeting with Indianapolis DPW staff on February 19, 2026, to review data generated for the IMP O's Regional Safety Study update and to identify intersections within the City of Indianapolis for further study. The Post Road & 25th Street intersection was listed as one of the most dangerous in Central Indiana and was prioritized by the Indianapolis DPW. Meeting minutes from the virtual meeting

with Indianapolis DPW are available in **Attachment D**.

Corradino held a field check with the representatives from the IMPO, City of Indianapolis DPW, and IIMPD on April 19, 2026, to provide a recap of the discussion held during the virtual meeting, share test results for the near-term and long-term solutions, and build consensus around a series of countermeasures for Corradino to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Traffic Operations:

a) Mobility/Congestion Performance: According to 12-hour traffic count data collected on April 30, 2024, EB traffic entering the intersection was **6,359** (67% of EB traffic was EB-to-SB right-turn traffic)**.** The WB traffic entering the intersection was **5,066** (80% of WB traffic was WB-to-SB left-turn traffic)**.** The NB traffic entering the intersection was **21,421.** The SB traffic entering the intersection was **14,377.** Turning movement counts are available for review in **Attachment B**. A **1.0%** forecasted annual growth rate, derived from the IMPO's TDM, was used to develop a future no-build traffic scenario and to test long-term build alternatives at the intersection. The design year for the project was **2050.** Results from the traffic capacity analysis are available in **Attachment C**.

	Eastbound		Westbound		Northbound		Southbound	
Alternative	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
AM Peak – 2026	**B**	**14.8**	**C**	**31.9**	**C**	**22.1**	**D**	**50.5**
PM Peak - 2026	**C**	**28.3**	**D**	**50.1**	**C**	**23.7**	**C**	**33.7**
AM Peak - 2050	**C**	**24.9**	**E**	**61.5**	**C**	**26.2**	**D**	**42.6**
PM Peak - 2050	**E**	**56.7**	**E**	**72.8**	**C**	**29.0**	**D**	**51.1**

b) Safety Performance / Crash Analysis: According to available crash data reported between January 1, 2022, and December 31, 2024, there were **66** crashes reported near the Post Road & 25th Street intersection. Of those crashes, **1** resulted in fatality, **6** resulted in incapacitating injuries, and **5** resulted in non-incapacitating injuries. See attached Crash Summary and output from RoadHAT 4.1 in **Attachment A.**

It is important to note that 23 (35%) of the reported crashes at the intersection were Rear End crashes. The most common primary factor for the reported Rear End crashes was vehicles following too closely. Additionally, 18 (27%) of the reported crashes at the intersection were Left Turn crashes. According to the collision diagram, all reported Left Turn crashes occurred when either NB or SB vehicles attempted to cross over traffic in the intersection. Seven of the 11 (64%) injury or fatal crashes at the intersection were reported as Left Turn crashes. The collision diagram for the Post Road & 25th Street intersection is available in **Attachment A.**

RoadHAT 4.1 was used to develop crash cost (ICC) and crash frequency (ICF) scores for the Post Road & 25th Street intersection. Results from the RoadHAT 4.1 analysis were: I_{CC} = **1.51**, I_{CF} = **1.06.** The RoadHAT 4.1 analysis results are available in **Attachment A.**

Alternatives & Recommendations

During the field check with representatives from Indianapolis DPW and the IMPO, crash data and traffic data were discussed while observing traffic patterns. Multiple maintenance-type improvements were identified in the field to address near-term safety needs at the intersection (striping, traffic signal backplates, etc.), as well as some longer-term infrastructure improvements. Below are the discussed Near- and Long-Term recommended improvements for the Post Road & 25th Street intersection. Notes from the field check summarizing conversations with Indianapolis DPW and IMPO staff are available for review in **Attachment D.**

Near-Term

Near-term solutions will include:

- Modify the left-turn phases to be protected-only for NB and SB lefts. Also, update NB and SB left-turn signals to be three-signal head with arrows.
- Add back plates to existing signal heads and new traffic signal heads for the NB and SB left turns.
- Updated the striping at the intersection.
- Updated the striping on 25th Street from the entrance closest to Lowe's to the intersection with Post Road (approximately 930').
- Evaluate the current signal timing to potentially extend the "All-Red" clearance times.

Long-Term

Long-Term solutions will include:

- Modernize the intersection with new traffic signal heads, loops, wiring, and a cabinet.
- Construct ADA ramps in all four corners of the intersection.
- Stripe new crosswalks to connect all four corners of the intersection.
- Install new pedestrian signals, pedestrian signal poles, and push buttons in all four corners of the intersection.

A schematic of the long-term improvements is available in **Attachment E**.

Future Considerations

No future considerations were discussed for the Post Road & 25th Street intersection.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation

PE - **$10,000**
ROW - **$0**
Utility CN - **$0**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0**
CN (including 10% contingency) - **$52,000**

Near-Term Total - $62,000

Long-Term Recommendation

PE - **$51,720**
ROW - **$0**
Utility CN - **$5,000**
Railroad CN - **$0**
Construction Inspection/Testing (10% Rounded up to nearest $1k) - **$0**
CN (including 10% contingency) – **$431,000**

Long-Term Total - $487,720

Project Score: (for INDOT use)

Safety Program Score =

Miscellaneous Notes:

Attachments:

Attachment A: Preliminary Findings Report

Attachment B: Traffic Counts

Attachment C: Traffic Analysis

Attachment D: Virtual Meeting Minutes & Field Check

Minutes **Attachment E:** Cost Estimates & Schematics

Attachment A
Preliminary Findings

PRELIMINARY FINDINGS

Safety Analysis at Post Rd. & 25th St.

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Post Road & 25th Street (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (Icc) and crash frequency (Icf) for the Study Area using RoadHat 4.1.

66 crashes were identified within the Study Area. 11 of the reported crashes in the Study Area were injury-related crashes. Six of the 11 reported injury-related crashes were Incapacitating, and five were Non-Incapacitating. Six of the 11 reported injury-related crashes were Left Turn crashes. Additionally, one Fatal crash was reported in the Study Area. The reported Fatal crash occurred when a driver made a northbound left turn, not yielding to oncoming traffic, and was struck by a southbound vehicle driving through the intersection.

Other notable results near the Study Area include:

- 35% of the reported crashes within the Study Area were Rear End crashes, most of which had a reported primary factor being "following too closely."
- Left Turn and Right Angle Crashes combined were 30% of the reported crashes at the intersection. The majority of the left-turn crashes occurred where a vehicle attempted to turn west into the shopping plaza and was struck by a southbound vehicle.
    - 27% of the Left Turn & Right Angle crashes were injury-related or fatal crashes.
- 55% of reported crashes occurred during Off-Peak travel times. 18% of reported crashes occurred during the morning peak hours (6 am-9 am), and 27% during the evening peak hours (4 pm-7 pm).
- 55% of reported crashes occurred in daylight hours and 42% in dark (lighted) conditions. The remaining 3% of crashes listed lighting conditions as "Dawn/Dusk" in the police report.
- 21% of reported crashes occurred in wet, icy, or snowy roadway surface conditions. The remaining 79% of reported crashes occurred on dry roadways.
- 77% of reported crashes occurred when the weather conditions were clear. The remaining 23% of reported crashes occurred in either Cloudy, Foggy, Rainy, or Snowy weather conditions.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

2022-2024 Crash Summary	
TOTAL CRASHES	66
TOTAL INJURIES	17
PROPERTY DAMAGE ONLY	53
REFUSED TREATMENT	1
NON-INCAPACITATING	5
INCAPACITATING	6
FATAL	1

Summary of Primary Factors per Manner of Collision		
Primary Factors per Manner of Collision	**Crashes**	**Percent**
REAR END	**23**	**35%**
FOLLOWING TOO CLOSELY	15	
BRAKE FAILURE OR DEFECTIVE	3	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	2	
SPEED TOO FAST FOR WEATHER CONDITIONS	1	
UNSAFE SPEED	1	
DISREGARD SIGNAL/REG SIGN	1	
LEFT TURN	**18**	**27%**
FAILURE TO YIELD RIGHT OF WAY	10	
DISREGARD SIGNAL/REG SIGN	5	
FAILURE TO MAINTAIN LANE	1	
IMPROPER TURNING	1	
UNSAFE LANE MOVEMENT	1	
SAME DIRECTION SIDESWIPE	**11**	**17%**
UNSAFE LANE MOVEMENT	4	
IMPROPER LANE USAGE	2	
FAILURE TO YIELD RIGHT OF WAY	2	
OVERCORRECTING/OVERSTEERING	1	
IMPROPER PASSING	1	
IMPROPER TURNING	1	
RIGHT ANGLE	**8**	**12%**
FAILURE TO YIELD RIGHT OF WAY	4	
DISREGARD SIGNAL/REG SIGN	3	
IMPROPER LANE USAGE	1	
OPPOSITE DIRECTION SIDESWIPE	**2**	**3%**
IMPROPER TURNING	1	
LEFT OF CENTER	1	
RAN OFF ROAD	**2**	**3%**
FOLLOWING TOO CLOSELY	1	
OVERCORRECTING/OVERSTEERING	1	
OTHER - EXPLAIN IN NARRATIVE	**1**	**2%**
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
NON-COLLISION	**1**	**2%**
OTHER (ENVIRONMENTAL) - EXPLAIN IN NARR	1	
Total Crashes	**66**	**100%**

Summary of Crashes per Time of Day		
Time of Day	**Crashes**	**Percent**
Peak AM (6:00-9:00 AM)	12	18%
Peak PM (4:00-7:00 PM)	18	27%
Off Peak	36	55%
Total Crashes	**66**	**100%**

Summary of Crashes per Light Conditions		
Light Conditions	**Crashes**	**Percent**
DAWN/DUSK	2	3%
DARK (LIGHTED)	28	42%
DAYLIGHT	36	55%
Total Crashes	**66**	**100%**

Summary of Roadway Surface Conditions					
Manner of Collision	**DRY**	**ICE**	**SNOW/SLUSH**	**WET**	**Total Crashes**
REAR END	20			3	23
LEFT TURN	12			6	18
SAME DIRECTION SIDESWIPE	8	1	1	1	11
RIGHT ANGLE	7	1			8
OPPOSITE DIRECTION SIDESWIPE	2				2
RAN OFF ROAD	2				2
NON-COLLISION				1	1
OTHER - EXPLAIN IN NARRATIVE	1				1
Total Crashes	**52**	**2**	**1**	**11**	**66**

Summary of WeatherConditions							
Manner of Collision	**CLEAR**	**RAIN**	**CLOUDY**	**SNOW**	**SLEET/HAIL/ FREEZING RAIN**	**FOG/SMOKE/S MOG**	**Total Crashes**
REAR END	19	2	2				23
LEFT TURN	12	3	1	1		1	18
SAME DIRECTION SIDESWIPE	9	1		1			11
RIGHT ANGLE	7				1		8
OPPOSITE DIRECTION SIDESWIPE	2						2
RAN OFF ROAD	2						2
NON-COLLISION		1					**1**
OTHER - EXPLAIN IN NARRATIVE	1						**1**
Total Crashes	**51**	**7**	**3**	**2**	**1**	**1**	**66**

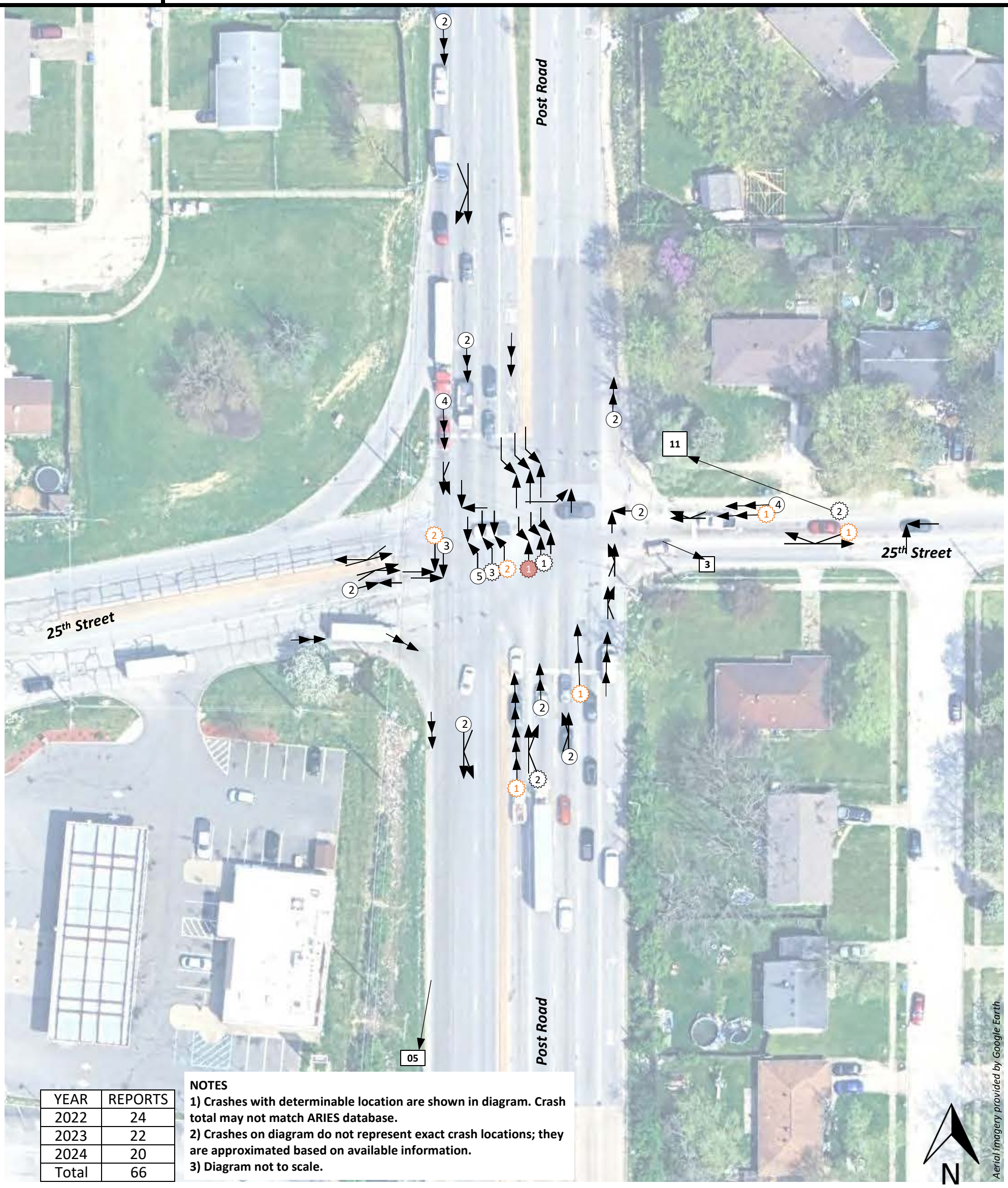
DIAGRAM OF COLLISION REPORTS

Post Road & 25th Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis - DPW

INDOT District: Greenfield County: Marion City/Town: Indianapolis

Analyst: JMR QC: DC Date: 3/13/2026



YEAR	REPORTS
2022	24
2023	22
2024	20
Total	66

NOTES

1) Crashes with determinable location are shown in diagram. Crash total may not match ARIES database.

2) Crashes on diagram do not represent exact crash locations; they are approximated based on available information.

3) Diagram not to scale.

Object Symbols

- MOVING VEHICLE
- TURNING VEHICLE
- BACKING VEHICLE
- OUT OF CONTROL
- PARKED VEHICLE
- PEDESTRIAN
- BICYCLE
- A — ANIMAL
- D — DEBRIS IN ROADWAY
- DW — DRIVEWAY CRASH
- # — FATAL CRASH
- # — INJURY CRASH – INCAPACITATING
- # — INJURY CRASH – NONINCAPACITATING
- # — PDO CRASHES (IF > 1)
- SIGNALIZED INTERSECTION
- # — FIXED OBJECT (See table for # codes)

Collision Symbols

- REAR END
- HEAD ON
- OTHER
- SIDESWIPE – SAME
- SIDESWIPE – OPPOSITE
- RIGHT ANGLE
- LEFT/RIGHT TURN
- RAN OFF ROAD

Fixed Object Codes

01 – BRIDGE or OVERPASS
02 – BUILDING
03 – CULVERT or DITCH
04 – CURB
05 – GUARDRAIL or BARRIER
06 – EMBANKMENT
07 – FENCE
08 – TRAFFIC POLE
09 – UTILITY POLE
10 – SIGN
11 – TREE / SHRUB
12 – CONTRUCTION BARRIER
13 – CRASH ATTENUATOR
88 – OTHER
99 - UNKNOWN

Intersection Images

Post Road & 25th Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

INDOT District: Greenfield County: Marion City/Town: Indianapolis



West Leg – Looking West



West Leg – Looking East



East Leg – Looking West



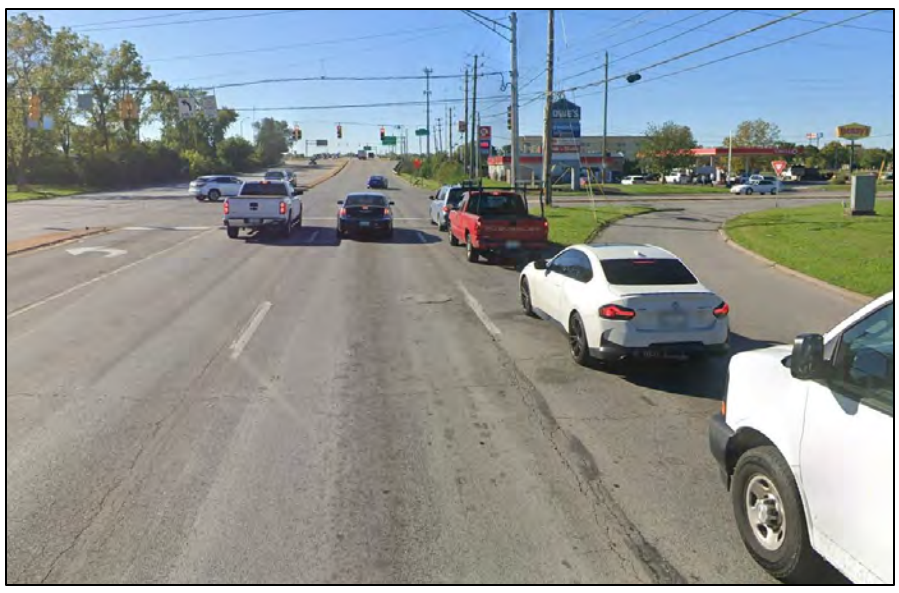
East Leg – Looking East



South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Imagery provided by Google Earth

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Post Rd & 25th St	
GIS		
Post		
Analyst	JMR	
Date	4/3/2026	

INPUT	
Road Facility Type	City Arterial Intersection
Busiest Road AADT (veh/day)	35,798
Crossing Road AADT (veh/day)	12,502
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	7
Non-Incapacitating and Possible Injury Crashes	5
Property Damage Only Crashes	54
Route or Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.574
Non-Incapacitating and Possible Injury Crashes	1.84
Property Damage Only Crashes	9.07
All Crashes	11.48
Index of Crash Frequency	**1.06**
Index of Crash Cost	**1.51**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Post Rd & 25th St	
GIS		
Post		
Analyst	JMR	
Date	4/3/2026	

Comments: Traffic Counts: MioVision Counts provided by Indianapolis DPW Safety Data: ARIES provided by IMPO.

Attachment B
Traffic Counts

POST RD & 25TH ST - TMC

Tue Apr 30, 2024
Full Length (12 AM-12 AM (+1))
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1183983, Location: 39.804031, -86.009581

A&F ENGINEERING
Transportation & Site Engineering
Creating Order Since 1964

Provided by: A&F Engineering
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg	West					East					South					North					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2024-04-30 12:00AM	2	1	7	0	**10**	9	0	0	0	**9**	7	38	17	0	**62**	1	28	6	0	**35**	**116**
12:15AM	6	0	7	0	**13**	7	1	1	0	**9**	11	33	19	0	**63**	0	25	4	0	**29**	**114**
12:30AM	5	0	14	0	**19**	10	3	0	0	**13**	4	34	10	0	**48**	3	31	3	0	**37**	**117**
12:45AM	1	1	5	0	**7**	7	0	1	0	**8**	5	24	13	0	**42**	3	32	0	0	**35**	**92**
Hourly Total	14	2	33	0	**49**	33	4	2	0	**39**	27	129	59	0	**215**	7	116	13	0	**136**	**439**
1:00AM	1	0	9	0	**10**	8	1	2	0	**11**	8	28	9	0	**45**	1	20	2	1	**24**	**90**
1:15AM	1	3	4	0	**8**	2	1	0	0	**3**	6	28	9	0	**43**	1	29	2	0	**32**	**86**
1:30AM	1	0	7	0	**8**	3	2	4	0	**9**	4	19	3	0	**26**	1	20	2	0	**23**	**66**
1:45AM	0	1	6	0	**7**	2	0	0	0	**2**	2	12	7	0	**21**	1	15	0	0	**16**	**46**
Hourly Total	3	4	26	0	**33**	15	4	6	0	**25**	20	87	28	0	**135**	4	84	6	1	**95**	**288**
2:00AM	0	0	7	0	**7**	7	1	1	0	**9**	5	20	5	0	**30**	0	18	2	0	**20**	**66**
2:15AM	3	0	5	0	**8**	5	0	2	0	**7**	2	27	9	0	**38**	0	22	1	0	**23**	**76**
2:30AM	1	0	7	0	**8**	7	0	1	0	**8**	4	24	9	0	**37**	2	36	4	0	**42**	**95**
2:45AM	1	0	3	0	**4**	4	0	1	0	**5**	1	27	5	0	**33**	0	23	2	0	**25**	**67**
Hourly Total	5	0	22	0	**27**	23	1	5	0	**29**	12	98	28	0	**138**	2	99	9	0	**110**	**304**
3:00AM	3	1	2	0	**6**	3	1	1	0	**5**	6	32	10	0	**48**	1	25	0	0	**26**	**85**
3:15AM	2	0	5	0	**7**	14	0	0	0	**14**	3	28	2	0	**33**	1	21	3	0	**25**	**79**
3:30AM	0	0	3	0	**3**	9	2	0	0	**11**	9	23	7	0	**39**	0	26	1	0	**27**	**80**
3:45AM	4	0	6	0	**10**	15	0	2	0	**17**	1	44	4	0	**49**	0	28	2	0	**30**	**106**
Hourly Total	9	1	16	0	**26**	41	3	3	0	**47**	19	127	23	0	**169**	2	100	6	0	**108**	**350**
4:00AM	0	1	5	0	**6**	15	0	2	0	**17**	6	44	11	0	**61**	1	40	4	0	**45**	**129**
4:15AM	2	1	14	0	**17**	12	2	1	0	**15**	6	30	6	0	**42**	0	47	7	0	**54**	**128**
4:30AM	14	5	29	1	**49**	25	3	1	0	**29**	9	59	5	0	**73**	0	60	5	0	**65**	**216**
4:45AM	9	0	13	0	**22**	33	3	1	0	**37**	15	60	6	0	**81**	2	55	5	0	**62**	**202**
Hourly Total	25	7	61	1	**94**	85	8	5	0	**98**	36	193	28	0	**257**	3	202	21	0	**226**	**675**
5:00AM	1	0	10	0	**11**	59	2	2	0	**63**	18	72	3	0	**93**	1	74	7	0	**82**	**249**
5:15AM	6	2	23	0	**31**	71	11	2	0	**84**	23	84	11	0	**118**	2	99	11	0	**112**	**345**
5:30AM	4	2	22	0	**28**	85	12	1	0	**98**	59	126	22	0	**207**	1	103	30	0	**134**	**467**
5:45AM	9	5	25	0	**39**	65	27	1	0	**93**	92	147	32	0	**271**	0	121	37	0	**158**	**561**
Hourly Total	20	9	80	0	**109**	280	52	6	0	**338**	192	429	68	0	**689**	4	397	85	0	**486**	**1622**
6:00AM	9	0	31	0	**40**	80	4	2	0	**86**	37	118	17	0	**172**	2	126	9	0	**137**	**435**
6:15AM	2	2	28	0	**32**	88	6	6	0	**100**	20	153	18	1	**192**	5	134	10	0	**149**	**473**
6:30AM	5	2	30	0	**37**	101	7	0	0	**108**	31	172	27	0	**230**	4	194	10	0	**208**	**583**
6:45AM	8	4	34	0	**46**	110	6	1	0	**117**	57	245	32	0	**334**	3	218	13	0	**234**	**731**
Hourly Total	24	8	123	0	**155**	379	23	9	0	**411**	145	688	94	1	**928**	14	672	42	0	**728**	**2222**
7:00AM	10	4	36	0	**50**	103	6	3	0	**112**	48	204	46	0	**298**	3	219	17	0	**239**	**699**
7:15AM	13	6	46	0	**65**	100	4	2	0	**106**	39	212	49	0	**300**	2	244	15	0	**261**	**732**
7:30AM	16	4	63	0	**83**	119	8	0	0	**127**	37	219	45	2	**303**	4	244	18	1	**267**	**780**
7:45AM	9	3	49	0	**61**	98	13	4	0	**115**	58	278	56	0	**392**	13	227	25	0	**265**	**833**
Hourly Total	48	17	194	0	**259**	420	31	9	0	**460**	182	913	196	2	**1293**	22	934	75	1	**1032**	**3044**
8:00AM	14	4	50	0	**68**	89	11	10	0	**110**	52	212	46	0	**310**	5	164	21	0	**190**	**678**
8:15AM	15	4	31	0	**50**	89	22	9	0	**120**	43	221	46	0	**310**	5	160	18	0	**183**	**663**
8:30AM	19	7	38	1	**65**	81	15	4	0	**100**	49	193	52	0	**294**	6	162	20	0	**188**	**647**
8:45AM	14	6	43	0	**63**	79	6	4	0	**89**	33	190	48	0	**271**	7	155	26	1	**189**	**612**
Hourly Total	62	21	162	1	**246**	338	54	27	0	**419**	177	816	192	0	**1185**	23	641	85	1	**750**	**2600**
9:00AM	14	9	34	0	**57**	67	10	10	0	**87**	52	197	35	1	**285**	5	148	18	0	**171**	**600**
9:15AM	14	3	46	0	**63**	72	7	1	0	**80**	50	158	40	0	**248**	7	130	24	0	**161**	**552**
9:30AM	19	4	50	0	**73**	66	8	3	0	**77**	53	160	29	0	**242**	8	166	21	0	**195**	**587**
9:45AM	18	6	49	0	**73**	63	15	2	0	**80**	48	135	23	0	**206**	6	157	34	0	**197**	**556**
Hourly Total	65	22	179	0	**266**	268	40	16	0	**324**	203	650	127	1	**981**	26	601	97	0	**724**	**2295**
10:00AM	20	7	45	0	**72**	44	9	9	0	**62**	52	156	28	1	**237**	6	126	26	0	**158**	**529**
10:15AM	32	5	47	0	**84**	64	11	2	0	**77**	53	144	23	0	**220**	9	138	14	1	**162**	**543**
10:30AM	22	11	49	0	**82**	61	12	1	0	**74**	59	165	31	2	**257**	6	140	20	2	**168**	**581**
10:45AM	14	11	59	0	**84**	57	11	6	0	**74**	46	122	28	0	**196**	6	139	27	2	**174**	**528**

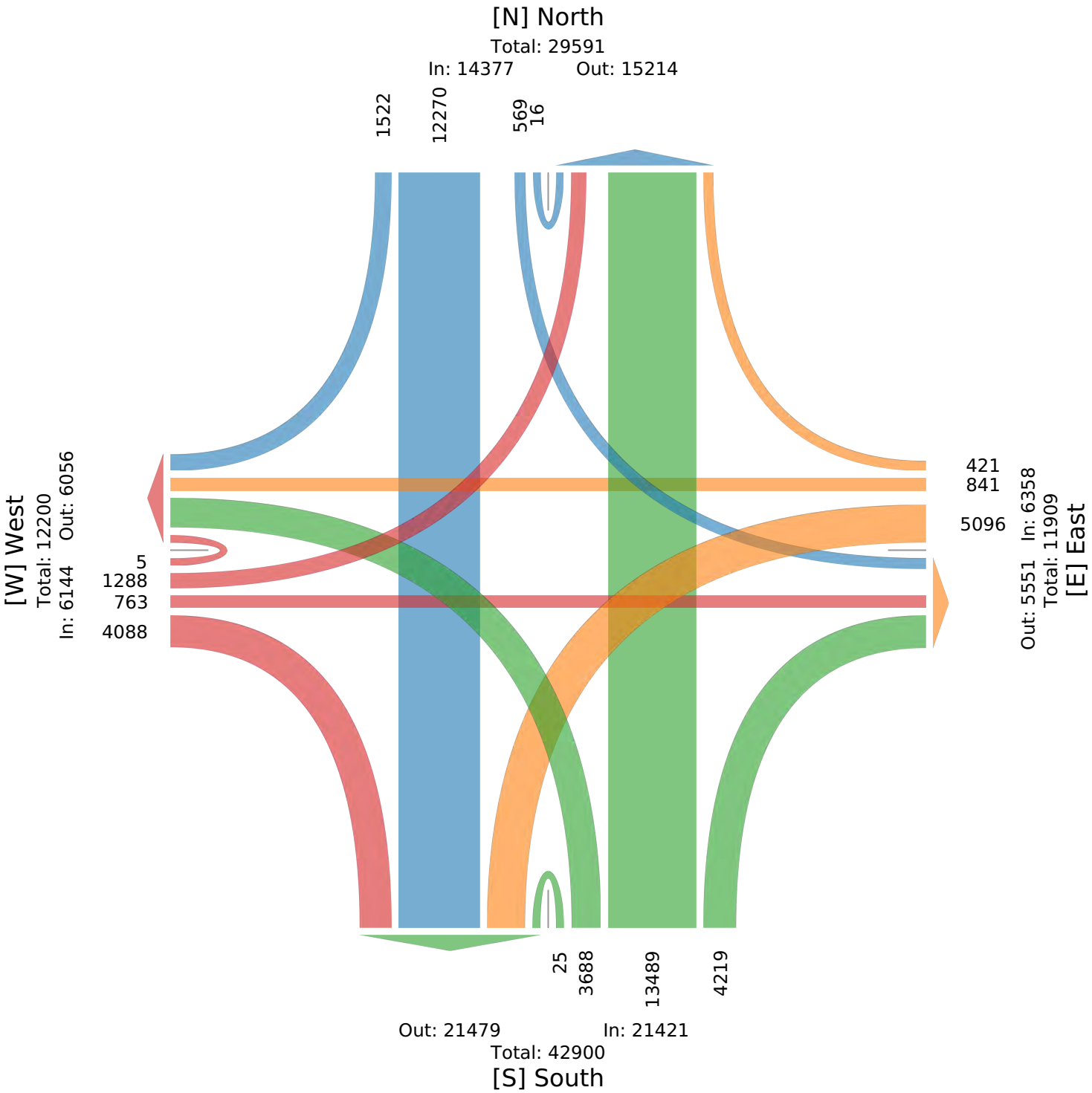
Leg	West					East					South					North					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
Hourly Total	88	34	200	0	**322**	226	43	18	0	**287**	210	587	110	3	**910**	27	543	87	5	**662**	**2181**
11:00AM	26	7	73	0	**106**	48	14	9	0	**71**	58	159	27	1	**245**	10	130	23	0	**163**	**585**
11:15AM	27	10	64	1	**102**	61	13	5	0	**79**	64	158	25	0	**247**	4	118	21	0	**143**	**571**
11:30AM	30	6	69	0	**105**	52	12	4	0	**68**	52	145	31	0	**228**	3	131	29	0	**163**	**564**
11:45AM	19	17	66	0	**102**	53	17	4	0	**74**	68	148	48	0	**264**	5	148	28	0	**181**	**621**
Hourly Total	102	40	272	1	**415**	214	56	22	0	**292**	242	610	131	1	**984**	22	527	101	0	**650**	**2341**
12:00PM	31	15	69	0	**115**	40	15	6	0	**61**	56	152	56	0	**264**	5	157	33	1	**196**	**636**
12:15PM	16	11	77	0	**104**	59	14	7	0	**80**	61	166	47	0	**274**	4	136	30	0	**170**	**628**
12:30PM	26	9	72	0	**107**	60	15	6	0	**81**	64	170	48	1	**283**	8	131	17	0	**156**	**627**
12:45PM	26	13	68	0	**107**	58	12	7	0	**77**	63	182	41	1	**287**	6	173	26	0	**205**	**676**
Hourly Total	99	48	286	0	**433**	217	56	26	0	**299**	244	670	192	2	**1108**	23	597	106	1	**727**	**2567**
1:00PM	23	17	66	1	**107**	58	12	6	0	**76**	42	183	44	0	**269**	8	157	27	0	**192**	**644**
1:15PM	23	11	49	0	**83**	71	15	5	0	**91**	47	167	42	0	**256**	4	152	24	0	**180**	**610**
1:30PM	18	10	50	0	**78**	66	11	20	0	**97**	66	183	48	0	**297**	5	143	21	0	**169**	**641**
1:45PM	12	12	69	0	**93**	72	11	4	0	**87**	65	165	44	2	**276**	6	168	13	0	**187**	**643**
Hourly Total	76	50	234	1	**361**	267	49	35	0	**351**	220	698	178	2	**1098**	23	620	85	0	**728**	**2538**
2:00PM	25	6	85	0	**116**	63	14	5	0	**82**	51	208	66	0	**325**	14	180	26	0	**220**	**743**
2:15PM	18	15	68	0	**101**	73	16	7	0	**96**	51	181	67	0	**299**	7	155	19	0	**181**	**677**
2:30PM	19	19	76	0	**114**	84	10	9	0	**103**	62	219	57	0	**338**	12	190	25	1	**228**	**783**
2:45PM	23	10	82	0	**115**	77	17	8	0	**102**	58	225	92	1	**376**	10	203	33	3	**249**	**842**
Hourly Total	85	50	311	0	**446**	297	57	29	0	**383**	222	833	282	1	**1338**	43	728	103	4	**878**	**3045**
3:00PM	19	20	91	0	**130**	98	13	8	0	**119**	50	236	69	1	**356**	15	203	22	0	**240**	**845**
3:15PM	16	9	81	0	**106**	67	16	5	0	**88**	55	237	80	0	**372**	9	250	23	0	**282**	**848**
3:30PM	25	19	100	0	**144**	95	14	10	0	**119**	52	203	93	0	**348**	15	228	34	0	**277**	**888**
3:45PM	14	11	91	0	**116**	66	10	7	0	**83**	70	224	98	0	**392**	17	254	24	0	**295**	**886**
Hourly Total	74	59	363	0	**496**	326	53	30	0	**409**	227	900	340	1	**1468**	56	935	103	0	**1094**	**3467**
4:00PM	27	22	87	0	**136**	83	19	4	0	**106**	65	200	82	0	**347**	12	240	27	1	**280**	**869**
4:15PM	25	16	83	0	**124**	76	10	11	0	**97**	67	219	81	2	**369**	9	261	19	0	**289**	**879**
4:30PM	31	32	100	1	**164**	91	13	6	0	**110**	56	235	95	0	**386**	13	289	24	0	**326**	**986**
4:45PM	22	22	91	0	**135**	84	8	10	0	**102**	62	230	118	0	**410**	10	266	27	0	**303**	**950**
Hourly Total	105	92	361	1	**559**	334	50	31	0	**415**	250	884	376	2	**1512**	44	1056	97	1	**1198**	**3684**
5:00PM	30	24	97	0	**151**	90	12	8	0	**110**	63	296	103	1	**463**	16	301	23	0	**340**	**1064**
5:15PM	20	19	68	0	**107**	80	7	4	0	**91**	68	245	112	0	**425**	11	235	29	0	**275**	**898**
5:30PM	19	11	67	0	**97**	80	11	12	0	**103**	61	213	107	0	**381**	10	210	32	0	**252**	**833**
5:45PM	15	14	69	0	**98**	74	14	8	0	**96**	80	253	97	0	**430**	15	207	24	0	**246**	**870**
Hourly Total	84	68	301	0	**453**	324	44	32	0	**400**	272	1007	419	1	**1699**	52	953	108	0	**1113**	**3665**
6:00PM	17	23	88	0	**128**	74	14	5	0	**93**	64	228	110	0	**402**	11	168	13	0	**192**	**815**
6:15PM	20	13	74	0	**107**	60	22	11	0	**93**	52	260	84	0	**396**	14	153	18	0	**185**	**781**
6:30PM	19	12	55	0	**86**	57	11	7	0	**75**	58	202	75	0	**335**	10	138	15	0	**163**	**659**
6:45PM	15	12	53	0	**80**	61	12	7	0	**80**	50	181	69	1	**301**	12	161	11	0	**184**	**645**
Hourly Total	71	60	270	0	**401**	252	59	30	0	**341**	224	871	338	1	**1434**	47	620	57	0	**724**	**2900**
7:00PM	22	20	30	0	**72**	53	12	4	0	**69**	48	164	65	1	**278**	9	136	23	0	**168**	**587**
7:15PM	11	9	58	0	**78**	57	10	7	0	**74**	45	141	58	0	**244**	10	137	21	0	**168**	**564**
7:30PM	11	15	36	0	**62**	43	8	2	0	**53**	45	151	58	0	**254**	5	133	15	0	**153**	**522**
7:45PM	14	9	40	0	**63**	52	13	2	0	**67**	45	146	73	0	**264**	6	115	17	0	**138**	**532**
Hourly Total	58	53	164	0	**275**	205	43	15	0	**263**	183	602	254	1	**1040**	30	521	76	0	**627**	**2205**
8:00PM	23	5	41	0	**69**	41	12	6	0	**59**	35	140	56	0	**231**	10	101	14	0	**125**	**484**
8:15PM	8	12	34	0	**54**	54	11	8	0	**73**	39	140	77	0	**256**	5	100	11	0	**116**	**499**
8:30PM	16	17	48	0	**81**	52	11	5	0	**68**	48	143	58	1	**250**	8	107	12	0	**127**	**526**
8:45PM	17	14	42	0	**73**	39	8	6	0	**53**	43	137	60	2	**242**	7	115	10	1	**133**	**501**
Hourly Total	64	48	165	0	**277**	186	42	25	0	**253**	165	560	251	3	**979**	30	423	47	1	**501**	**2010**
9:00PM	14	9	36	0	**59**	46	10	6	0	**62**	37	143	64	0	**244**	9	117	17	0	**143**	**508**
9:15PM	15	8	37	0	**60**	35	4	5	0	**44**	25	134	52	0	**211**	7	96	5	0	**108**	**423**
9:30PM	8	9	35	0	**52**	23	11	8	0	**42**	23	135	47	0	**205**	11	95	12	0	**118**	**417**
9:45PM	12	6	23	0	**41**	37	9	4	0	**50**	24	105	48	0	**177**	6	101	12	0	**119**	**387**
Hourly Total	49	32	131	0	**212**	141	34	23	0	**198**	109	517	211	0	**837**	33	409	46	0	**488**	**1735**
10:00PM	12	15	27	0	**54**	41	6	2	0	**49**	12	97	45	1	**155**	6	100	18	0	**124**	**382**
10:15PM	16	7	26	0	**49**	35	7	1	0	**43**	18	98	44	0	**160**	5	72	12	0	**89**	**341**
10:30PM	10	0	17	0	**27**	41	1	4	0	**46**	23	68	34	0	**125**	4	81	7	1	**93**	**291**
10:45PM	5	3	16	0	**24**	24	5	1	0	**30**	14	93	44	0	**151**	4	46	7	0	**57**	**262**

Leg Direction	West Eastbound					East Westbound					South Northbound					North Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
Hourly Total	43	25	86	0	**154**	141	19	8	0	**168**	67	356	167	1	**591**	19	299	44	1	**363**	**1276**
11:00PM	4	4	11	0	**19**	24	5	3	0	**32**	12	80	35	1	**128**	4	69	7	0	**80**	**259**
11:15PM	4	4	14	0	**22**	26	3	3	0	**32**	9	64	24	1	**98**	3	47	6	0	**56**	**208**
11:30PM	3	2	14	0	**19**	18	4	2	0	**24**	9	57	31	0	**97**	3	44	3	0	**50**	**190**
11:45PM	4	3	9	0	**16**	16	4	1	0	**21**	10	63	37	0	**110**	3	33	7	0	**43**	**190**
Hourly Total	15	13	48	0	**76**	84	16	9	0	**109**	40	264	127	2	**433**	13	193	23	0	**229**	**847**
Total	1288	763	4088	5	**6144**	5096	841	421	0	**6358**	3688	13489	4219	25	**21421**	569	12270	1522	16	**14377**	**48300**
% Approach	21.0%	12.4%	66.5%	0.1%	-	80.2%	13.2%	6.6%	0%	-	17.2%	63.0%	19.7%	0.1%	-	4.0%	85.3%	10.6%	0.1%	-	-
% Total	2.7%	1.6%	8.5%	0%	**12.7%**	10.6%	1.7%	0.9%	0%	**13.2%**	7.6%	27.9%	8.7%	0.1%	**44.3%**	1.2%	25.4%	3.2%	0%	**29.8%**	-
Lights and Motorcycles	1208	747	3749	5	**5709**	5012	835	411	0	**6258**	3428	12426	4163	24	**20041**	561	11289	1402	16	**13268**	45276
% Lights and Motorcycles	93.8%	97.9%	91.7%	100%	**92.9%**	98.4%	99.3%	97.6%	0%	**98.4%**	93.0%	92.1%	98.7%	96.0%	**93.6%**	98.6%	92.0%	92.1%	100%	**92.3%**	93.7%
Heavy	80	16	339	0	**435**	84	6	10	0	**100**	260	1063	56	1	**1380**	8	981	120	0	**1109**	3024
% Heavy	6.2%	2.1%	8.3%	0%	**7.1%**	1.6%	0.7%	2.4%	0%	**1.6%**	7.0%	7.9%	1.3%	4.0%	**6.4%**	1.4%	8.0%	7.9%	0%	**7.7%**	6.3%

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

POST RD & 25TH ST - TMC
Tue Apr 30, 2024
Full Length (12 AM-12 AM (+1))
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1183983, Location: 39.804031, -86.009581

Provided by: A&F Engineering
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



POST RD & 25TH ST - TMC

Tue Apr 30, 2024
AM Peak (7 AM - 8 AM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1183983, Location: 39.804031, -86.009581

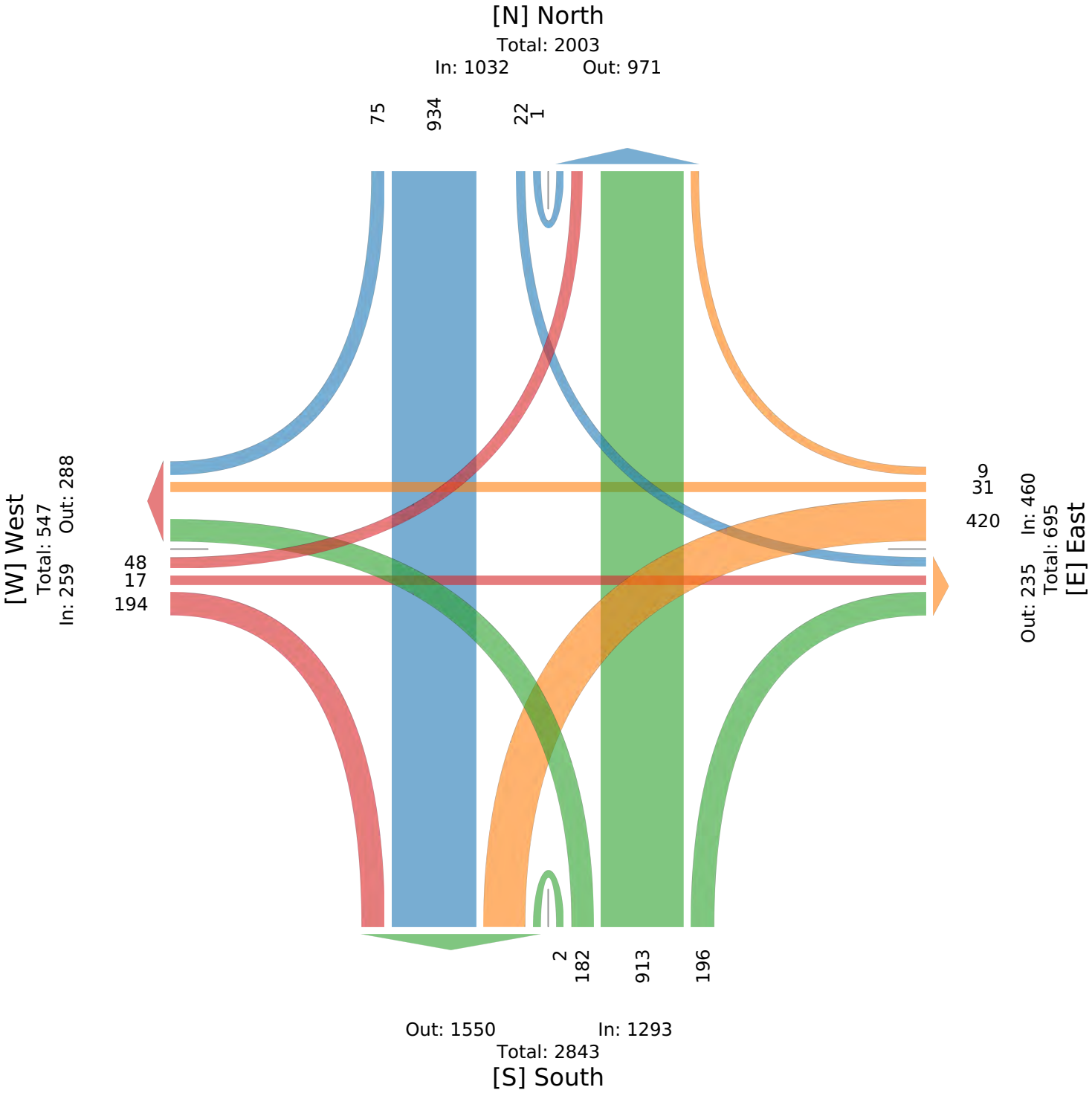
Provided by: A&F Engineering
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg	West					East					South					North					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2024-04-30 7:00AM	10	4	36	0	**50**	103	6	3	0	**112**	48	204	46	0	**298**	3	219	17	0	**239**	**699**
7:15AM	13	6	46	0	**65**	100	4	2	0	**106**	39	212	49	0	**300**	2	244	15	0	**261**	**732**
7:30AM	16	4	63	0	**83**	119	8	0	0	**127**	37	219	45	2	**303**	4	244	18	1	**267**	**780**
7:45AM	9	3	49	0	**61**	98	13	4	0	**115**	58	278	56	0	**392**	13	227	25	0	**265**	**833**
Total	48	17	194	0	**259**	420	31	9	0	**460**	182	913	196	2	**1293**	22	934	75	1	**1032**	**3044**
% Approach	18.5%	6.6%	74.9%	0%	**-**	91.3%	6.7%	2.0%	0%	**-**	14.1%	70.6%	15.2%	0.2%	**-**	2.1%	90.5%	7.3%	0.1%	**-**	-
% Total	1.6%	0.6%	6.4%	0%	**8.5%**	13.8%	1.0%	0.3%	0%	**15.1%**	6.0%	30.0%	6.4%	0.1%	**42.5%**	0.7%	30.7%	2.5%	0%	**33.9%**	-
PHF	0.750	0.708	0.770	-	**0.780**	0.882	0.596	0.563	-	**0.906**	0.784	0.821	0.875	0.250	**0.825**	0.423	0.957	0.750	0.250	**0.966**	0.914
Lights and Motorcycles	43	15	159	0	**217**	415	31	9	0	**455**	168	848	192	2	**1210**	20	846	66	1	**933**	2815
% Lights and Motorcycles	89.6%	88.2%	82.0%	0%	**83.8%**	98.8%	100%	100%	0%	**98.9%**	92.3%	92.9%	98.0%	100%	**93.6%**	90.9%	90.6%	88.0%	100%	**90.4%**	92.5%
Heavy	5	2	35	0	**42**	5	0	0	0	**5**	14	65	4	0	**83**	2	88	9	0	**99**	229
% Heavy	10.4%	11.8%	18.0%	0%	**16.2%**	1.2%	0%	0%	0%	**1.1%**	7.7%	7.1%	2.0%	0%	**6.4%**	9.1%	9.4%	12.0%	0%	**9.6%**	7.5%

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

POST RD & 25TH ST - TMC
Tue Apr 30, 2024
AM Peak (7 AM - 8 AM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1183983, Location: 39.804031, -86.009581

Provided by: A&F Engineering
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



POST RD & 25TH ST - TMC

Tue Apr 30, 2024
Midday Peak (12:15 PM - 1:15 PM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1183983, Location: 39.804031, -86.009581

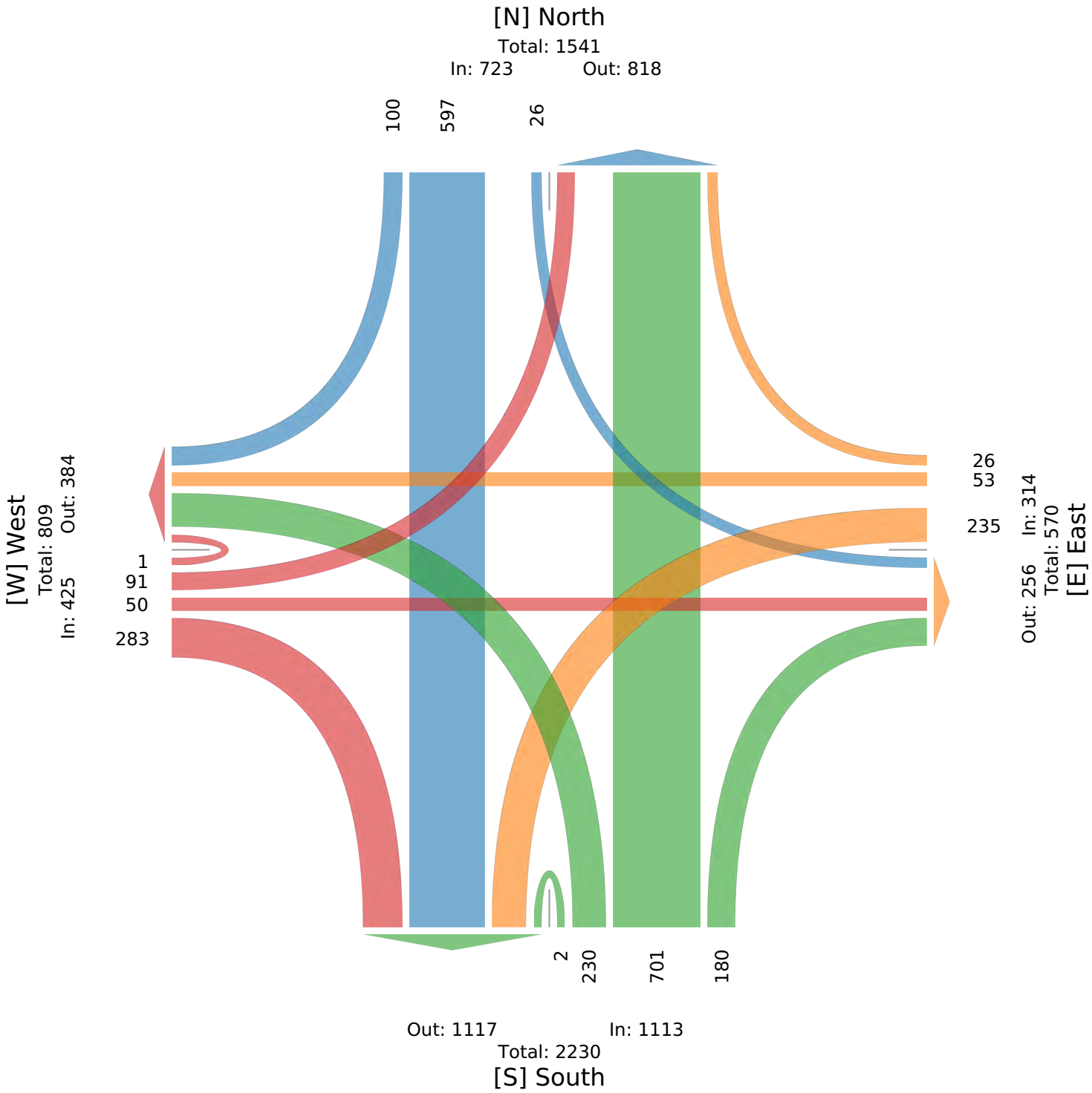
Provided by: A&F Engineering
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg / Direction	West Eastbound					East Westbound					South Northbound					North Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2024-04-30 12:15PM	16	11	77	0	**104**	59	14	7	0	**80**	61	166	47	0	**274**	4	136	30	0	**170**	**628**
12:30PM	26	9	72	0	**107**	60	15	6	0	**81**	64	170	48	1	**283**	8	131	17	0	**156**	**627**
12:45PM	26	13	68	0	**107**	58	12	7	0	**77**	63	182	41	1	**287**	6	173	26	0	**205**	**676**
1:00PM	23	17	66	1	**107**	58	12	6	0	**76**	42	183	44	0	**269**	8	157	27	0	**192**	**644**
Total	91	50	283	1	**425**	235	53	26	0	**314**	230	701	180	2	**1113**	26	597	100	0	**723**	**2575**
% Approach	21.4%	11.8%	66.6%	0.2%	-	74.8%	16.9%	8.3%	0%	-	20.7%	63.0%	16.2%	0.2%	-	3.6%	82.6%	13.8%	0%	-	-
% Total	3.5%	1.9%	11.0%	0%	**16.5%**	9.1%	2.1%	1.0%	0%	**12.2%**	8.9%	27.2%	7.0%	0.1%	**43.2%**	1.0%	23.2%	3.9%	0%	**28.1%**	-
PHF	0.875	0.735	0.919	0.250	**0.993**	0.979	0.883	0.929	-	**0.969**	0.898	0.958	0.938	0.500	**0.970**	0.813	0.863	0.833	-	**0.882**	0.952
Lights and Motorcycles	83	49	262	1	**395**	232	53	25	0	**310**	213	632	173	1	**1019**	25	545	92	0	**662**	2386
% Lights and Motorcycles	91.2%	98.0%	92.6%	100%	**92.9%**	98.7%	100%	96.2%	0%	**98.7%**	92.6%	90.2%	96.1%	50.0%	**91.6%**	96.2%	91.3%	92.0%	0%	**91.6%**	92.7%
Heavy	8	1	21	0	**30**	3	0	1	0	**4**	17	69	7	1	**94**	1	52	8	0	**61**	189
% Heavy	8.8%	2.0%	7.4%	0%	**7.1%**	1.3%	0%	3.8%	0%	**1.3%**	7.4%	9.8%	3.9%	50.0%	**8.4%**	3.8%	8.7%	8.0%	0%	**8.4%**	7.3%

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

POST RD & 25TH ST - TMC
Tue Apr 30, 2024
Midday Peak (12:15 PM - 1:15 PM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1183983, Location: 39.804031, -86.009581

Provided by: A&F Engineering
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



POST RD & 25TH ST - TMC

Tue Apr 30, 2024
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1183983, Location: 39.804031, -86.009581

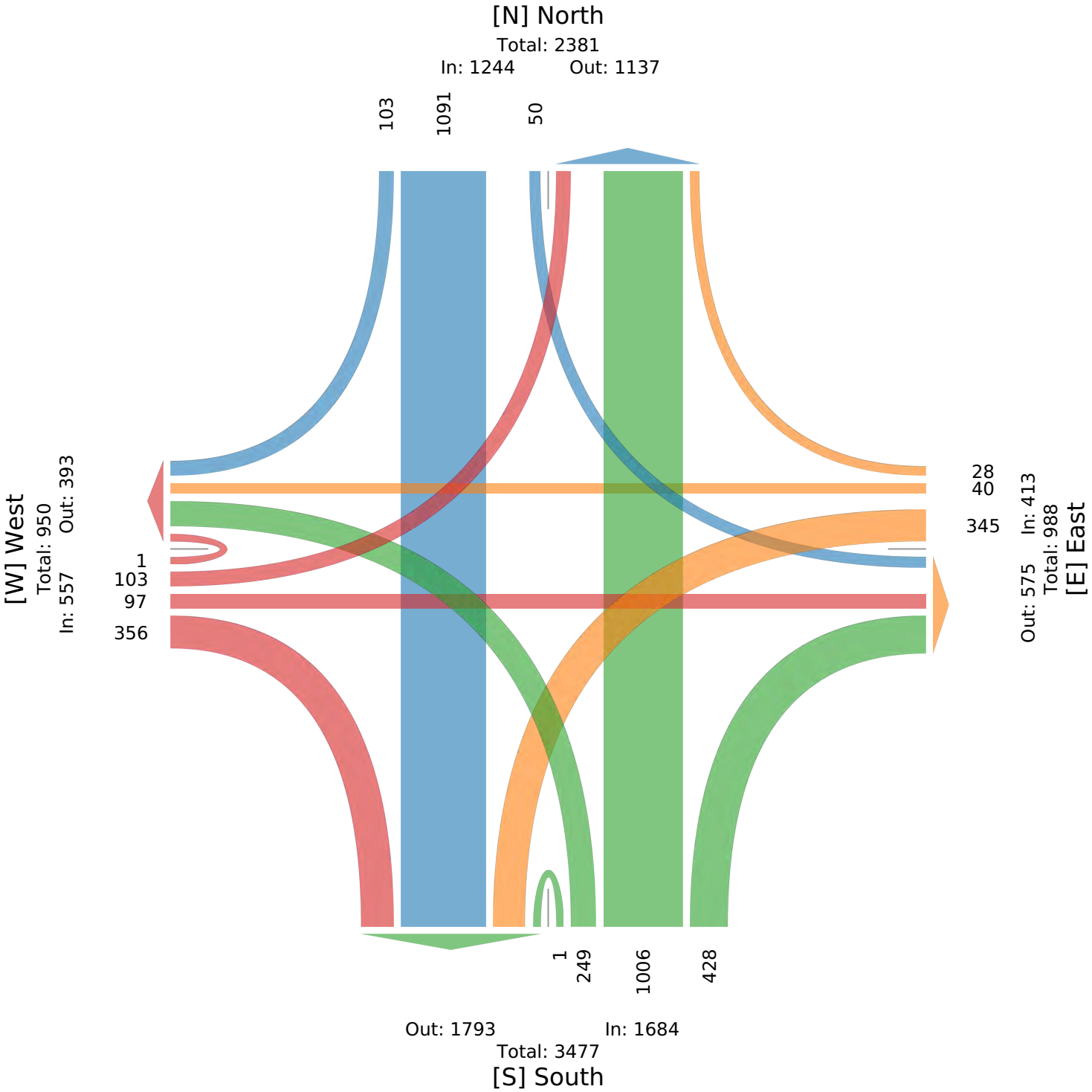
Provided by: A&F Engineering
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg	West					East					South					North					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2024-04-30 4:30PM	31	32	100	1	**164**	91	13	6	0	**110**	56	235	95	0	**386**	13	289	24	0	**326**	**986**
4:45PM	22	22	91	0	**135**	84	8	10	0	**102**	62	230	118	0	**410**	10	266	27	0	**303**	**950**
5:00PM	30	24	97	0	**151**	90	12	8	0	**110**	63	296	103	1	**463**	16	301	23	0	**340**	**1064**
5:15PM	20	19	68	0	**107**	80	7	4	0	**91**	68	245	112	0	**425**	11	235	29	0	**275**	**898**
Total	103	97	356	1	**557**	345	40	28	0	**413**	249	1006	428	1	**1684**	50	1091	103	0	**1244**	**3898**
% Approach	18.5%	17.4%	63.9%	0.2%	-	83.5%	9.7%	6.8%	0%	-	14.8%	59.7%	25.4%	0.1%	-	4.0%	87.7%	8.3%	0%	-	-
% Total	2.6%	2.5%	9.1%	0%	**14.3%**	8.9%	1.0%	0.7%	0%	**10.6%**	6.4%	25.8%	11.0%	0%	**43.2%**	1.3%	28.0%	2.6%	0%	**31.9%**	-
PHF	0.831	0.758	0.890	0.250	**0.849**	0.948	0.769	0.700	-	**0.939**	0.915	0.850	0.907	0.250	**0.909**	0.781	0.906	0.888	-	**0.915**	0.916
Lights and Motorcycles	98	96	341	1	**536**	337	39	28	0	**404**	233	956	425	1	**1615**	49	1060	98	0	**1207**	3762
% Lights and Motorcycles	95.1%	99.0%	95.8%	100%	**96.2%**	97.7%	97.5%	100%	0%	**97.8%**	93.6%	95.0%	99.3%	100%	**95.9%**	98.0%	97.2%	95.1%	0%	**97.0%**	96.5%
Heavy	5	1	15	0	**21**	8	1	0	0	**9**	16	50	3	0	**69**	1	31	5	0	**37**	136
% Heavy	4.9%	1.0%	4.2%	0%	**3.8%**	2.3%	2.5%	0%	0%	**2.2%**	6.4%	5.0%	0.7%	0%	**4.1%**	2.0%	2.8%	4.9%	0%	**3.0%**	3.5%

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

POST RD & 25TH ST - TMC
Tue Apr 30, 2024
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1183983, Location: 39.804031, -86.009581

Provided by: A&F Engineering
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

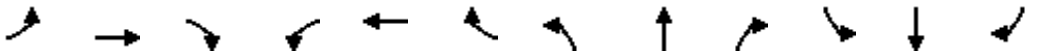


Attachment C
Traffic Analysis

Intersection	Type	MOE	Existing 2026									
			2026 AM Peak Hour					2026 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Post Rd & 25th St	Signal	*LOS*	B	C	C	D	**C**	C	D	C	C	**C**
		Delay (sec/veh)	14.8	31.9	22.1	50.5	**32.6**	28.3	50.1	23.7	33.7	**30.3**
		Queue Length 95th (ft)	58	405	205	294		173	339	247	308	
		v/c Ratio	0.45	0.69	0.58	0.96		0.63	0.88	0.82	0.82	
		LOS-F Movements	---	---	---	---		---	---	---	---	

Intersection	Type	MOE	No-Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Post Rd & 25th St	Signal	*LOS*	**C**	E	C	D	**D**	E	E	C	D	**D**
		Delay (sec/veh)	24.9	61.5	26.2	42.6	**37.0**	56.7	72.8	29.0	51.1	**44.6**
		Queue Length 95th (ft)	125	522	282	364		362	487	345	429	
		v/c Ratio	0.58	0.97	0.83	0.93		0.93	1.00	0.96	0.98	
		LOS-F Movements	---	---	---	---		EBL,EBT	WBL	---	---	

Intersection	Type	MOE	Build 2050									
			2050 AM Peak Hour					2050 PM Peak Hour				
			EB	WB	NB	SB	INT	EB	WB	NB	SB	INT
Post Rd & 25th St	Signal	*LOS*	**C**	E	C	D	**D**	E	E	C	E	**D**
		Delay (sec/veh)	27.9	65.1	33.3	51.2	**43.7**	63.1	79.1	32.4	58.5	**50.0**
		Queue Length 95th (ft)	148	503	320	674		243	553	346	933	
		v/c Ratio	0.56	0.98	0.97	0.96		0.96	1.00	0.98	0.98	
		LOS-F Movements	---	---	NBL	---		EBL, EBT	WBL	NBL	---	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	16	179	388	29	8	168	843	181	20	862	69
Future Volume (vph)	44	16	179	388	29	8	168	843	181	20	862	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	175		175	100		0	500		0	130		75
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	100		100	100		25	100		25	170		100
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.967				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1640	1323	1728	1776	0	1616	4686	1531	1601	4600	1394
Flt Permitted	0.950			0.950			0.388			0.417		
Satd. Flow (perm)	1586	1640	1323	1728	1776	0	660	4686	1531	703	4600	1394
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			191		9				199			192
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		385			507			681			598	
Travel Time (s)		7.5			9.9			11.6			10.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	10%	12%	18%	1%	0%	0%	8%	7%	2%	9%	9%	12%
Adj. Flow (vph)	48	18	197	426	32	9	185	926	199	22	947	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	18	197	426	41	0	185	926	199	22	947	76
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		19			11			17			17	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		25			30			35			40	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	301	50	50	301	50
Trailing Detector (ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Position(ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Size(ft)	50	50	50	50	50		50	6	50	50	6	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	3	5	4	4		5	2		1	6	
Permitted Phases			3				2		2	6		6
Detector Phase	3	3	5	4	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	4.0	8.0	8.0		4.0	15.0	15.0	4.0	15.0	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.4	12.4	9.3	13.7	13.7		9.3	21.0	21.0	9.3	21.0	21.0
Total Split (s)	20.0	20.0	18.4	20.0	20.0		18.4	27.2	27.2	12.8	21.6	21.6
Total Split (%)	25.0%	25.0%	23.0%	25.0%	25.0%		23.0%	34.0%	34.0%	16.0%	27.0%	27.0%
Maximum Green (s)	14.6	14.6	13.1	14.3	14.3		13.1	21.2	21.2	7.5	15.6	15.6
Yellow Time (s)	4.2	4.2	3.8	4.2	4.2		3.8	4.5	4.5	3.8	4.5	4.5
All-Red Time (s)	1.2	1.2	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.7	5.7		5.3	6.0	6.0	5.3	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.8	1.8	1.5	2.0	2.0		1.5	0.2	0.2	0.8	0.2	0.2
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	7.7	7.7	17.5	28.5	28.5		28.2	27.5	27.5	17.8	17.1	17.1
Actuated g/C Ratio	0.10	0.10	0.22	0.36	0.36		0.35	0.34	0.34	0.22	0.21	0.21
v/c Ratio	0.32	0.11	0.45	0.69	0.06		0.54	0.58	0.30	0.11	0.96	0.17
Control Delay (s/veh)	39.1	34.2	7.0	33.2	18.3		30.6	24.0	5.0	26.9	55.0	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.1	34.2	7.0	33.2	18.3		30.6	24.0	5.0	26.9	55.0	0.8
LOS	D	C	A	C	B		C	C	A	C	E	A
Approach Delay (s/veh)		14.8			31.9			22.1			50.5	
Approach LOS		B			C			C			D	
Queue Length 50th (ft)	25	9	3	189	11		68	138	0	10	~206	0
Queue Length 95th (ft)	58	30	51	#405	37		139	205	47	30	#294	0
Internal Link Dist (ft)		305			427			601			518	
Turn Bay Length (ft)	175		175	100			500			130		75
Base Capacity (vph)	289	299	461	614	637		419	1609	656	240	982	448
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.06	0.43	0.69	0.06		0.44	0.58	0.30	0.09	0.96	0.17

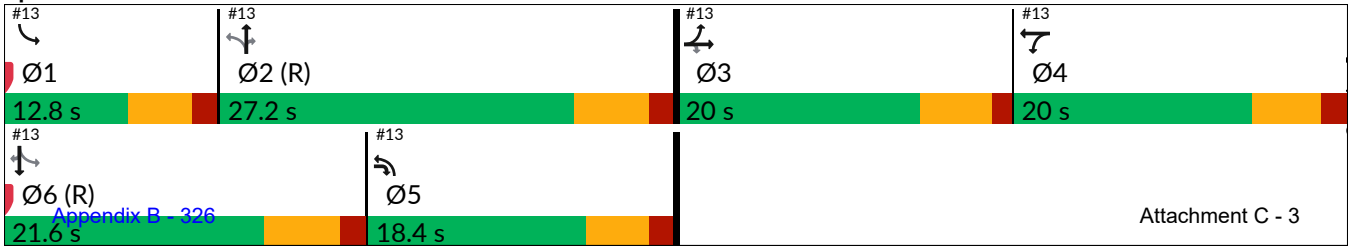
Intersection Summary

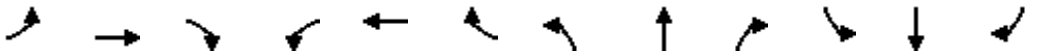
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay (s/veh): 32.6 Intersection LOS: C
Intersection Capacity Utilization 68.3% ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

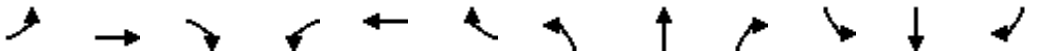
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Post Rd & 25th St





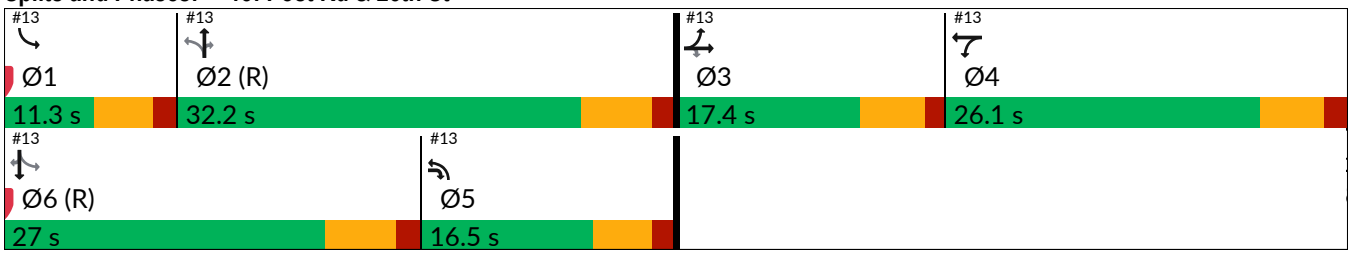
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	90	329	319	37	26	230	929	395	46	1007	95
Future Volume (vph)	95	90	329	319	37	26	230	929	395	46	1007	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	175		175	100		0	500		0	130		75
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	100		100	100		25	100		25	170		100
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.938				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1818	1501	1711	1693	0	1646	4775	1546	1711	4868	1487
Flt Permitted	0.950			0.950			0.209			0.217		
Satd. Flow (perm)	1662	1818	1501	1711	1693	0	362	4775	1546	391	4868	1487
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176		28				429			177
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		385			507			681			598	
Travel Time (s)		7.5			9.9			11.6			10.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	1%	4%	2%	3%	0%	6%	5%	1%	2%	3%	5%
Adj. Flow (vph)	103	98	358	347	40	28	250	1010	429	50	1095	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	98	358	347	68	0	250	1010	429	50	1095	103
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		19			11			17			17	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		25			30			35			40	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	301	50	50	301	50
Trailing Detector (ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Position(ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Size(ft)	50	50	50	50	50		50	6	50	50	6	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	3	5	4	4		5	2		1	6	
Permitted Phases			3				2		2	6		6
Detector Phase	3	3	5	4	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	4.0	8.0	8.0		4.0	15.0	15.0	4.0	15.0	15.0

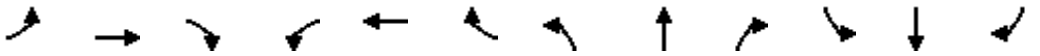


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.4	12.4	9.3	13.7	13.7		9.3	21.0	21.0	9.3	21.0	21.0
Total Split (s)	17.4	17.4	16.5	26.1	26.1		16.5	32.2	32.2	11.3	27.0	27.0
Total Split (%)	20.0%	20.0%	19.0%	30.0%	30.0%		19.0%	37.0%	37.0%	13.0%	31.0%	31.0%
Maximum Green (s)	12.0	12.0	11.2	20.4	20.4		11.2	26.2	26.2	6.0	21.0	21.0
Yellow Time (s)	4.2	4.2	3.8	4.2	4.2		3.8	4.5	4.5	3.8	4.5	4.5
All-Red Time (s)	1.2	1.2	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.7	5.7		5.3	6.0	6.0	5.3	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.8	1.8	1.5	2.0	2.0		1.5	0.2	0.2	0.8	0.2	0.2
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	9.5	9.5	25.9	20.2	20.2		34.3	33.6	33.6	24.6	23.9	23.9
Actuated g/C Ratio	0.11	0.11	0.30	0.23	0.23		0.39	0.39	0.39	0.28	0.27	0.27
v/c Ratio	0.57	0.49	0.63	0.88	0.16		0.82	0.55	0.50	0.27	0.82	0.19
Control Delay (s/veh)	48.8	44.7	18.0	56.3	18.5		54.5	24.1	4.8	28.9	36.9	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	48.8	44.7	18.0	56.3	18.5		54.5	24.1	4.8	28.9	36.9	1.3
LOS	D	D	B	E	B		D	C	A	C	D	A
Approach Delay (s/veh)		28.3			50.1			23.7			33.7	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	57	52	84	179	17		114	182	0	22	220	0
Queue Length 95th (ft)	106	98	173	#339	52		#247	235	66	51	#308	5
Internal Link Dist (ft)		305			427			601			518	
Turn Bay Length (ft)	175		175	100			500			130		75
Base Capacity (vph)	229	250	559	413	430		311	1843	860	201	1338	537
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.39	0.64	0.84	0.16		0.80	0.55	0.50	0.25	0.82	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 87			
Actuated Cycle Length: 87			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay (s/veh): 30.3		Intersection LOS: C	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: Post Rd & 25th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	20	224	485	36	10	210	1053	226	25	1077	86
Future Volume (vph)	55	20	224	485	36	10	210	1053	226	25	1077	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	175		175	100		0	500		0	130		75
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	100		100	100		25	100		25	170		100
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1640	1323	1728	1778	0	1616	4686	1531	1601	4600	1394
Flt Permitted	0.950			0.950			0.203			0.211		
Satd. Flow (perm)	1586	1640	1323	1728	1778	0	345	4686	1531	356	4600	1394
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			170		11				248			171
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		385			507			681			598	
Travel Time (s)		7.5			9.9			11.6			10.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	10%	12%	18%	1%	0%	0%	8%	7%	2%	9%	9%	12%
Adj. Flow (vph)	60	22	246	533	40	11	231	1157	248	27	1184	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	22	246	533	51	0	231	1157	248	27	1184	95
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		19			11			17			17	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		25			30			35			40	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	301	50	50	301	50
Trailing Detector (ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Position(ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Size(ft)	50	50	50	50	50		50	6	50	50	6	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	3	5	4	4		5	2		1	6	
Permitted Phases			3				2		2	6		6
Detector Phase	3	3	5	4	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	4.0	8.0	8.0		4.0	15.0	15.0	4.0	15.0	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.4	12.4	9.3	13.7	13.7		9.3	21.0	21.0	9.3	21.0	21.0
Total Split (s)	12.4	12.4	14.6	33.1	33.1		14.6	35.2	35.2	9.3	29.9	29.9
Total Split (%)	13.8%	13.8%	16.2%	36.8%	36.8%		16.2%	39.1%	39.1%	10.3%	33.2%	33.2%
Maximum Green (s)	7.0	7.0	9.3	27.4	27.4		9.3	29.2	29.2	4.0	23.9	23.9
Yellow Time (s)	4.2	4.2	3.8	4.2	4.2		3.8	4.5	4.5	3.8	4.5	4.5
All-Red Time (s)	1.2	1.2	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.7	5.7		5.3	6.0	6.0	5.3	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.8	1.8	1.5	2.0	2.0		1.5	0.2	0.2	0.8	0.2	0.2
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	7.0	7.0	19.6	28.5	28.5		36.9	36.2	36.2	25.6	24.9	24.9
Actuated g/C Ratio	0.08	0.08	0.22	0.32	0.32		0.41	0.40	0.40	0.28	0.28	0.28
v/c Ratio	0.49	0.17	0.58	0.97	0.09		0.83	0.61	0.33	0.17	0.93	0.19
Control Delay (s/veh)	53.7	42.3	16.3	65.6	19.2		58.9	24.4	4.4	26.9	46.3	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.7	42.3	16.3	65.6	19.2		58.9	24.4	4.4	26.9	46.3	1.0
LOS	D	D	B	E	B		E	C	A	C	D	A
Approach Delay (s/veh)		24.9			61.5			26.2			42.6	
Approach LOS		C			E			C			D	
Queue Length 50th (ft)	36	13	40	~311	16		89	187	0	12	261	0
Queue Length 95th (ft)	#84	39	125	#522	43		#239	282	52	34	#364	2
Internal Link Dist (ft)		305			427			601			518	
Turn Bay Length (ft)	175		175	100			500			130		75
Base Capacity (vph)	123	127	421	547	570		277	1882	763	156	1273	509
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.17	0.58	0.97	0.09		0.83	0.61	0.33	0.17	0.93	0.19

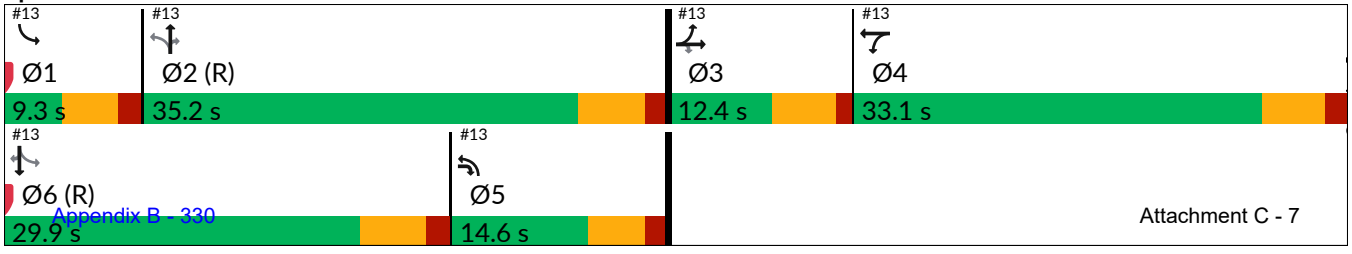
Intersection Summary

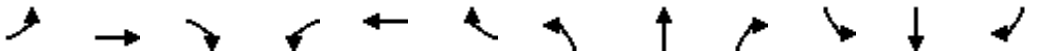
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay (s/veh): 37.0 Intersection LOS: D
Intersection Capacity Utilization 80.1% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

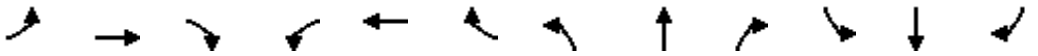
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Post Rd & 25th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	112	411	399	46	32	287	1161	494	57	1258	119
Future Volume (vph)	119	112	411	399	46	32	287	1161	494	57	1258	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	175		175	100		0	500		0	130		75
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	100		100	100		25	100		25	170		100
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.938				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1818	1501	1711	1693	0	1646	4775	1546	1711	4868	1487
Flt Permitted	0.950			0.950			0.169			0.175		
Satd. Flow (perm)	1662	1818	1501	1711	1693	0	293	4775	1546	315	4868	1487
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			153		34				537			154
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		385			507			681			598	
Travel Time (s)		7.5			9.9			11.6			10.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	1%	4%	2%	3%	0%	6%	5%	1%	2%	3%	5%
Adj. Flow (vph)	129	122	447	434	50	35	312	1262	537	62	1367	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	129	122	447	434	85	0	312	1262	537	62	1367	129
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		19			11			17			17	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		25			30			35			40	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	301	50	50	301	50
Trailing Detector (ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Position(ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Size(ft)	50	50	50	50	50		50	6	50	50	6	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	3	5	4	4		5	2		1	6	
Permitted Phases			3				2		2	6		6
Detector Phase	3	3	5	4	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	4.0	8.0	8.0		4.0	15.0	15.0	4.0	15.0	15.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.4	12.4	9.3	13.7	13.7		9.3	21.0	21.0	9.3	21.0	21.0
Total Split (s)	13.8	13.8	20.4	31.0	31.0		20.4	43.4	43.4	11.8	34.8	34.8
Total Split (%)	13.8%	13.8%	20.4%	31.0%	31.0%		20.4%	43.4%	43.4%	11.8%	34.8%	34.8%
Maximum Green (s)	8.4	8.4	15.1	25.3	25.3		15.1	37.4	37.4	6.5	28.8	28.8
Yellow Time (s)	4.2	4.2	3.8	4.2	4.2		3.8	4.5	4.5	3.8	4.5	4.5
All-Red Time (s)	1.2	1.2	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.7	5.7		5.3	6.0	6.0	5.3	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.8	1.8	1.5	2.0	2.0		1.5	0.2	0.2	0.8	0.2	0.2
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	8.4	8.4	29.1	25.3	25.3		40.9	40.2	40.2	29.3	28.6	28.6
Actuated g/C Ratio	0.08	0.08	0.29	0.25	0.25		0.41	0.40	0.40	0.29	0.29	0.29
v/c Ratio	0.93	0.80	0.82	1.00	0.19		0.96	0.66	0.57	0.37	0.98	0.24
Control Delay (s/veh)	106.7	81.2	35.5	83.2	20.0		78.9	27.0	4.6	32.3	56.4	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	106.7	81.2	35.5	83.2	20.0		78.9	27.0	4.6	32.3	56.4	4.1
LOS	F	F	D	F	B		E	C	A	C	E	A
Approach Delay (s/veh)		56.7			72.8			29.0			51.1	
Approach LOS		E			E			C			D	
Queue Length 50th (ft)	87	78	186	~283	26		159	254	0	29	323	0
Queue Length 95th (ft)	#204	#177	#362	#487	65		#345	312	68	62	#429	31
Internal Link Dist (ft)		305			427			601			518	
Turn Bay Length (ft)	175		175	100			500			130		75
Base Capacity (vph)	139	152	545	432	453		326	1920	942	182	1401	537
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.80	0.82	1.00	0.19		0.96	0.66	0.57	0.34	0.98	0.24

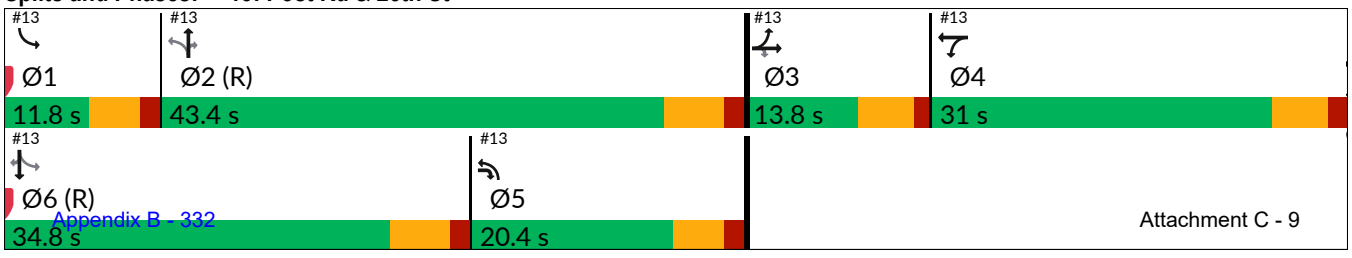
Intersection Summary

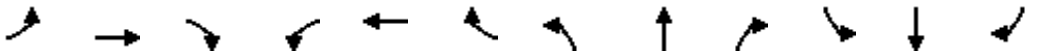
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay (s/veh): 44.6 Intersection LOS: D
Intersection Capacity Utilization 86.0% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Post Rd & 25th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	20	224	485	36	10	210	1053	226	25	1077	86
Future Volume (vph)	55	20	224	485	36	10	210	1053	226	25	1077	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	175		175	100		0	500		525	130		75
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	100		100	100		25	100		100	170		100
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1640	1323	1728	1778	0	1616	4686	1531	1601	4600	1394
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1586	1640	1323	1728	1778	0	1616	4686	1531	1601	4600	1394
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			153		11				248			154
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		964			1087			770			1009	
Travel Time (s)		18.8			21.2			13.1			17.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	10%	12%	18%	1%	0%	0%	8%	7%	2%	9%	9%	12%
Adj. Flow (vph)	60	22	246	533	40	11	231	1157	248	27	1184	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	22	246	533	51	0	231	1157	248	27	1184	95
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		19			11			17			17	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		25			30			35			40	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	301	50	50	301	50
Trailing Detector (ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Position(ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Size(ft)	50	50	50	50	50		50	6	50	50	6	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3	5	4	4		5	2		1	6	
Permitted Phases			3						2			6
Detector Phase	3	3	5	4	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	4.0	8.0	8.0		4.0	15.0	15.0	4.0	15.0	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.4	12.4	9.3	13.7	13.7		9.3	21.0	21.0	9.3	21.0	21.0
Total Split (s)	12.4	12.4	20.0	36.0	36.0		20.0	40.0	40.0	11.6	31.6	31.6
Total Split (%)	12.4%	12.4%	20.0%	36.0%	36.0%		20.0%	40.0%	40.0%	11.6%	31.6%	31.6%
Maximum Green (s)	7.0	7.0	14.7	30.3	30.3		14.7	34.0	34.0	6.3	25.6	25.6
Yellow Time (s)	4.2	4.2	3.8	4.2	4.2		3.8	4.5	4.5	3.8	4.5	4.5
All-Red Time (s)	1.2	1.2	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.7	5.7		5.3	6.0	6.0	5.3	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.8	1.8	1.5	2.0	2.0		1.5	0.2	0.2	0.8	0.2	0.2
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	7.0	7.0	24.6	31.6	31.6		14.7	40.2	40.2	5.0	26.8	26.8
Actuated g/C Ratio	0.07	0.07	0.25	0.32	0.32		0.15	0.40	0.40	0.05	0.27	0.27
v/c Ratio	0.54	0.19	0.56	0.98	0.09		0.97	0.61	0.32	0.34	0.96	0.20
Control Delay (s/veh)	63.7	48.1	17.3	69.3	21.3		96.6	26.8	4.4	56.8	55.1	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	63.7	48.1	17.3	69.3	21.3		96.6	26.8	4.4	56.8	55.1	1.8
LOS	E	D	B	E	C		F	C	A	E	E	A
Approach Delay (s/veh)		27.9			65.1			33.3			51.2	
Approach LOS		C			E			C			D	
Queue Length 50th (ft)	41	15	53	~353	18		158	242	0	18	~299	0
Queue Length 95th (ft)	#96	42	142	#569	46		#318	303	53	48	#410	10
Internal Link Dist (ft)		884			1007			690			929	
Turn Bay Length (ft)	175		175	100			500		525	130		75
Base Capacity (vph)	111	114	441	545	569		237	1883	764	100	1232	486
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.19	0.56	0.98	0.09		0.97	0.61	0.32	0.27	0.96	0.20

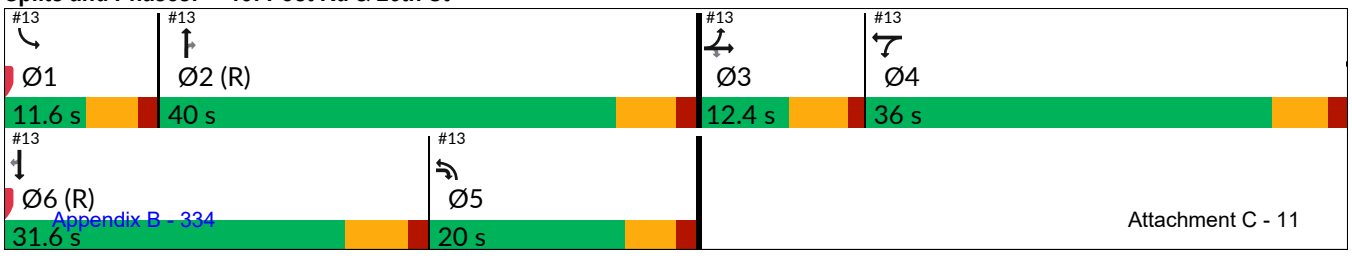
Intersection Summary

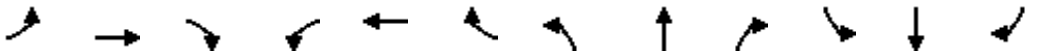
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay (s/veh): 43.7 Intersection LOS: D
Intersection Capacity Utilization 80.1% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Post Rd & 25th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	112	411	399	46	32	287	1161	494	57	1258	119
Future Volume (vph)	119	112	411	399	46	32	287	1161	494	57	1258	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	175		175	100		0	500		525	130		75
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	100		100	100		25	100		100	170		100
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.938				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1818	1501	1711	1693	0	1646	4775	1546	1711	4868	1487
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1662	1818	1501	1711	1693	0	1646	4775	1546	1711	4868	1487
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127		28				537			128
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		964			1087			770			1009	
Travel Time (s)		18.8			21.2			13.1			17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	1%	4%	2%	3%	0%	6%	5%	1%	2%	3%	5%
Adj. Flow (vph)	129	122	447	434	50	35	312	1262	537	62	1367	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	129	122	447	434	85	0	312	1262	537	62	1367	129
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		19			11			17			17	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		25			30			35			40	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	301	50	50	301	50
Trailing Detector (ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Position(ft)	0	0	0	0	0		0	295	0	0	295	0
Detector 1 Size(ft)	50	50	50	50	50		50	6	50	50	6	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3	5	4	4		5	2		1	6	
Permitted Phases			3						2			6
Detector Phase	3	3	5	4	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	4.0	8.0	8.0		4.0	15.0	15.0	4.0	15.0	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.4	12.4	9.3	13.7	13.7		9.3	21.0	21.0	9.3	21.0	21.0
Total Split (s)	15.2	15.2	28.0	36.0	36.0		28.0	53.5	53.5	15.3	40.8	40.8
Total Split (%)	12.7%	12.7%	23.3%	30.0%	30.0%		23.3%	44.6%	44.6%	12.8%	34.0%	34.0%
Maximum Green (s)	9.8	9.8	22.7	30.3	30.3		22.7	47.5	47.5	10.0	34.8	34.8
Yellow Time (s)	4.2	4.2	3.8	4.2	4.2		3.8	4.5	4.5	3.8	4.5	4.5
All-Red Time (s)	1.2	1.2	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.7	5.7		5.3	6.0	6.0	5.3	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.8	1.8	1.5	2.0	2.0		1.5	0.2	0.2	0.8	0.2	0.2
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	9.8	9.8	38.3	30.3	30.3		23.1	52.0	52.0	7.4	34.4	34.4
Actuated g/C Ratio	0.08	0.08	0.32	0.25	0.25		0.19	0.43	0.43	0.06	0.29	0.29
v/c Ratio	0.96	0.82	0.79	1.00	0.19		0.98	0.61	0.55	0.59	0.98	0.25
Control Delay (s/veh)	121.7	93.3	37.9	89.6	25.3		95.8	28.6	4.4	76.6	62.5	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	121.7	93.3	37.9	89.6	25.3		95.8	28.6	4.4	76.6	62.5	6.9
LOS	F	F	D	F	C		F	C	A	E	E	A
Approach Delay (s/veh)		63.1			79.1			32.4			58.5	
Approach LOS		E			E			C			E	
Queue Length 50th (ft)	105	95	241	~346	35		~257	290	0	48	392	1
Queue Length 95th (ft)	#235	#204	#412	#563	79		#453	357	71	95	#498	48
Internal Link Dist (ft)		884			1007			690			929	
Turn Bay Length (ft)	175		175	100			500		525	130		75
Base Capacity (vph)	135	148	565	432	448		317	2069	974	142	1411	522
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.82	0.79	1.00	0.19		0.98	0.61	0.55	0.44	0.97	0.25

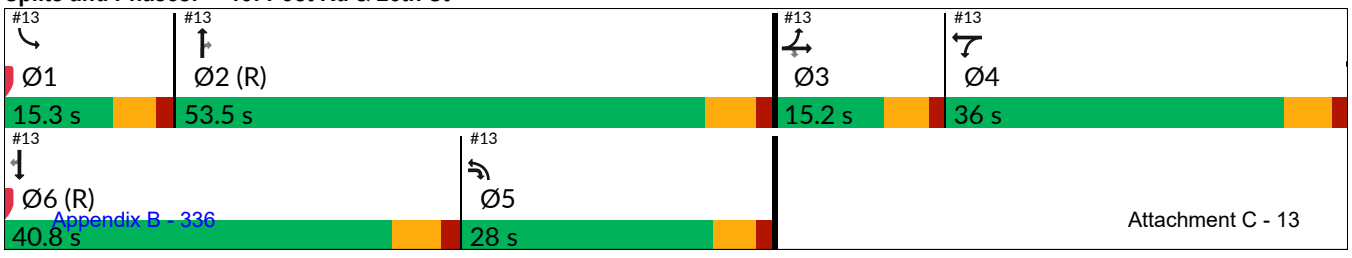
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay (s/veh): 50.0 Intersection LOS: D
Intersection Capacity Utilization 86.0% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Post Rd & 25th St



Intersection: 13: Post Rd & 25th St

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	T	T	R	L	T
Maximum Queue (ft)	113	73	181	200	506	270	349	310	233	73	300	704
Average Queue (ft)	45	16	81	192	247	128	208	165	80	25	85	482
95th Queue (ft)	100	50	148	224	503	220	320	274	185	54	278	674
Link Distance (ft)		884			1004		692	692	692			953
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	175		175	100		500				525	130	
Storage Blk Time (%)			0	47	0						0	72
Queuing Penalty (veh)			0	22	0						0	18

Intersection: 13: Post Rd & 25th St

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	656	494	175
Average Queue (ft)	424	290	61
95th Queue (ft)	625	447	197
Link Distance (ft)	953	953	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			75
Storage Blk Time (%)		52	
Queuing Penalty (veh)		44	

Intersection: 13: Post Rd & 25th St

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	T	T	R	L	T
Maximum Queue (ft)	194	279	272	200	594	403	386	328	246	212	300	909
Average Queue (ft)	103	108	141	196	283	194	227	187	110	77	155	698
95th Queue (ft)	174	203	243	216	553	343	346	285	221	150	360	933
Link Distance (ft)		884			1004		692	692	692			953
Upstream Blk Time (%)												4
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	175		175	100		500				525	130	
Storage Blk Time (%)	2	2	5	54	1	0	0				1	76
Queuing Penalty (veh)	9	9	12	42	4	1	0				3	43

Intersection: 13: Post Rd & 25th St

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	856	736	175
Average Queue (ft)	646	504	103
95th Queue (ft)	882	760	244
Link Distance (ft)	953	953	
Upstream Blk Time (%)	2	2	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			75
Storage Blk Time (%)		73	
Queuing Penalty (veh)		86	

Attachment D
Virtual Meeting Minutes & Field Check Minutes

CORRADINO LLC
200 S. Meridian St. Suite 330
Indianapolis, IN 46225

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

Field Check Notes for RSA at Post Road & 25th Street

Date:	5/28/2026
Des. No.:	n/a

Reviewer Information:	Agency/Firm Name: Corradino LLC
Primary Author: James Mark Rinehart	Agency: Indianapolis Metropolitan Planning Organization
Phone Numbers: (317) 488-2363	Email Address: jrinehart@corradino.com

Attendees:

- Jill Palmer, Indy DPW
- Jason Bowers, Indy DPW
- Detective Snow, IMPD
- Jennifer Dunn, IMPO
- James Mark Rinehart, Corradino
- David Cleveland, Corradino

Purpose of Field Check:

The purpose of this field check was to review the crash history at the Post Road & 25th Street intersection, evaluate the current roadway conditions, observe traffic patterns, and collaborate with representatives from Local Public Agencies (LPA) and Law Enforcement to identify safety countermeasures.

The goal of the field check was to identify near-term and long-term improvements and build consensus with the LPAs and Local Law Enforcement on the recommendations.

Recommendations from the field check will be used as the final recommendations for the RSA and included in the IMPO's Safety Study.

Project Location:

Location: Intersection of Post Road & 25th Street

INDOT District: Greenfield				City: Indianapolis	County: Marion
Lat & Long (BOP)	39.804030	-86.009572	Urban/Rural – **URBAN**	Functional Class of Major Roadway: Other Principal Arterial	
Traffic Control Type: Signalized				Posted Speed Limit: Post Rd – 40mph; 25th St. – 35mph	

Site Observations

- Corradino Staff noted during the field check that there were 16 left-turn crashes reported at the intersection. 10 of the left-turn crashes were NB left-turns, and the size was SB Left turns. The group observed, while out in the field, that the NB and SB left-turns currently operate with permissive/protected signal phasing.
    - Indianapolis DPW suggested testing a protected-only signal phase for the NB and SB left-turn.
    - Corradino staff asked if a protected left-turn would require any signal modernization at the intersection. Indianapolis DPW said no; they could program a protected left-turn phase with the current materials. It would only require replacing the "dog house" signal heads at the intersection with a three-signal head and left-turn arrow.
        - Additionally, Indianapolis DPW said a good long-term improvement would be a signal modernization to update all the signal heads, wiring, loops, and the signal cabinet.
- It was observed during the field check that there was only pedestrian infrastructure on the east side of the intersection.
    - Indianapolis DPW noted that INDOT is looking into adding pedestrian infrastructure along Post Road spanning over I-70. The timeline for those improvements is still to be determined.
    - Note: after the field check, Corradino staff drove through the intersection and observed an adult and three children cross over Post Road from the NW corner to the NE corner to access the IndyGo bus stop.
    - Indianapolis DPW suggested a good long-term improvement would be to add ADA ramps, crosswalks, pedestrian signal heads with free-standing poles, and push buttons. Currently, the signals are mounted using steel strain poles and overhead wires. The poles are set too far back from the intersection to accommodate pedestrian signals.

- The group noticed that there were heavy EB rights and WB lefts at the intersection. Looking further at the intersection, it was noted that the EB and WB movements operate under split-signal phasing.
    - Indianapolis DPW said they would like to keep the split phasing, but suggested doing a red/yellow signal clearance check and see if adjustments to signal timings can be made.
- Indianapolis DPW staff noted two near-term improvements would be adding back plates to signals and updating striping. However, the striping on the west leg of the intersection can be confusing because of the lane configurations for entering the Lowe's parking lot. Indianapolis DPW suggested striping 25th St from the entrance closest to the Lowe's building to the intersection with Post Road. The striping on the remaining legs would be confined to the intersection.
    - Corradino staff measured the distance after the field check. The suggested distance is approximately 930' of striping on the west leg.

Potential Alternatives Discussed

Near-Term

- Confirm if protected left-turn phases can be accommodated for NB and SB lefts. If yes, update signal phasing and replace the existing "dog house" signal with a three-signal head traffic signal for the NB and SB lefts.
- Add back plates to existing signal heads (and to the updated signal head if protected left turns are feasible).
- Restripe the intersections, but also restripe 25th Street from the entrance closest to Lowe's to Post Road (approximately 930'.
- Evaluate the red/yellow clearance to see if signal timings can be adjusted at the intersection to accommodate the heavy WB left-turns.

Long-Term

- Modernize the intersection with new traffic signals, loops, wiring, and cabinet.
- Construct ADA ramps with a crosswalk in all four corners of the intersection.
- Install new pedestrian signals, pedestrian signal poles, and push buttons in all four corners of the intersection.

Future Consideration

INDOT is considering installing a new sidewalk along Post Road from the intersection going south over I-70. The timing of that project is still to be determined.

Consensus on Key Items for Alternatives

The items listed for both the Near-and Long-Term improvements were agreed upon by Indianapolis DPW staff.

Attachment E
Cost Estimates & Schematics

Near-Term Improvements
Post Road & 25th. Street



PRELIMINARY COST ESTIMATE - NEAR TERM
Post Road & 25th Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 5,000.00	$ 5,000.00
2	801-06775	MAINTAINING TRAFFIC	1	LS	$ 3,000.00	$ 3,000.00
3	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	11	EACH	$ 1,750.00	$ 19,250.00
4	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	54	LFT	$ 15.00	$ 810.00
5	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	2,770	LFT	$ 1.25	$ 3,462.50
6	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	1,000	LFT	$ 2.50	$ 2,500.00
7	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	4,610	LFT	$ 1.25	$ 5,762.50
8	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	185	LFT	$ 14.00	$ 2,590.00
9	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	9	EACH	$ 250.00	$ 2,250.00
10	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	6	EACH	$ 250.00	$ 1,500.00
					TOTAL	$ 46,125.00

CONSTRUCTION TOTAL	**$47,000.00**
CONTINGENCY (10%)	**$5,000.00**
OVERALL PROJECT TOTAL	**$52,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases		
Task No.	**Task**	**Cost**
1	Preliminary Engineering	$ 10,000
2	Right of Way	$ -
3	Utility CN	$ -
4	Railroad CN	$ -
5	Construction Inspection/Testing	$ -
	TOTAL	**$ 10,000**

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



Todd Johnson
Estimate Completed By

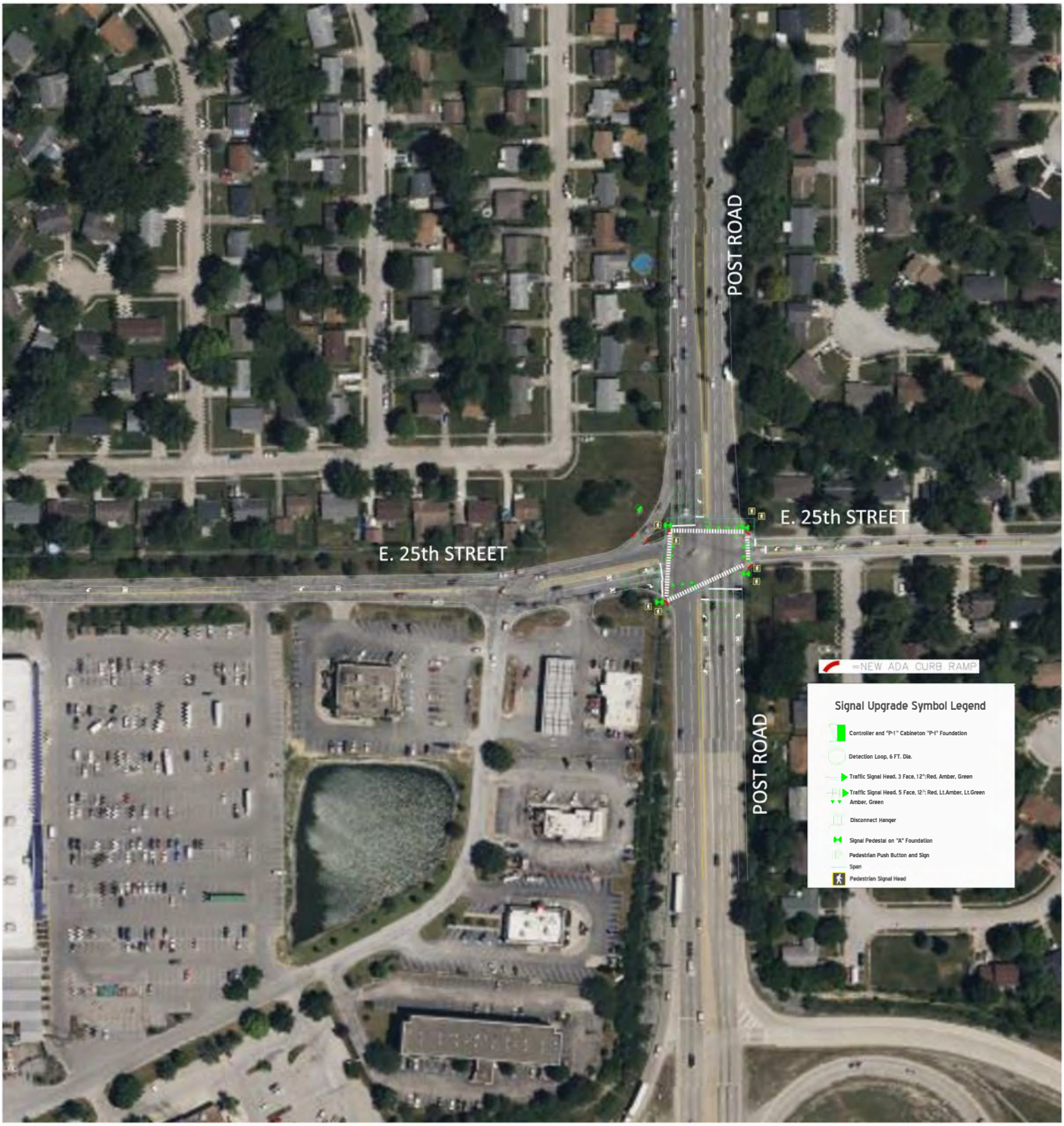
6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - NEAR TERM

Post Road & 25th Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	110-01001	MOBILIZATION AND DEMOBILIZATION	
2	801-06775	MAINTAINING TRAFFIC	
3	805-08126	TRAFFIC SIGNAL HEAD, (NO.) SECTION, RETROFIT	this is to add backplates to the existing signal heads
4	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	Used only on east leg
5	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	930' west leg (to Lowe's); 390' east leg : 440' on north and south legs
6	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	930' west leg (to Lowe's); 390' east leg : 440' on north and south legs
7	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	930' west leg (to Lowe's); 390' east leg : 440' on north and south legs
8	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	Used on all four legs
9	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	Used on all left turn lanes
10	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	Used on all left turn lanes

Long-Term Improvements
Post Road & 25th. Street



PRELIMINARY COST ESTIMATE - LONG TERM
Post Road & 25th Street

LINE ITEM	ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	105-06845	CONSTRUCTION ENGINEERING	1	LS	$ 10,000.00	$ 10,000.00
2	110-01001	MOBILIZATION AND DEMOBILIZATION	1	LS	$ 18,200.00	$ 18,200.00
3	201-52370	CLEARING RIGHT-OF-WAY	1	LS	$ 2,500.00	$ 2,500.00
4	202-02279	CURB AND GUTTER, REMOVE	160	LFT	$ 60.00	$ 9,600.00
5	202-52710	SIDEWALK CONCRETE, REMOVE	11	SYS	$ 125.00	$ 1,375.00
6	207-08264	SUBGRADE TREATMENT, TYPE II	80	SYS	$ 60.00	$ 4,800.00
7	604-06070	SIDEWALK, CONCRETE	48	SYS	$ 240.00	$ 11,520.00
8	604-08086	CURB RAMP, CONCRETE	96	SYS	$ 280.00	$ 26,880.00
9	604-12083	DETECTABLE WARNING SURFACES	12	SYS	$ 325.00	$ 3,900.00
10	605-06140	CURB AND GUTTER, CONCRETE	160	LFT	$ 90.00	$ 14,400.00
11	801-06775	MAINTAINING TRAFFIC	1	LS	$ 30,000.00	$ 30,000.00
12	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	25	SFT	$ 45.00	$ 1,125.00
13	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	12	SFT	$ 50.00	$ 600.00
14	805-01300	TRAFFIC SIGNAL EQUIPMENT, REMOVE	1	EACH	$ 12,000.00	$ 12,000.00
15	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	1	LS	$ 5,000.00	$ 5,000.00
16	805-01842	HANDHOLE, SIGNAL, TYPE 1	4	EACH	$ 2,500.00	$ 10,000.00
17	805-02087	TRANSPORTATION OF SALVAGEABLE SIGNAL EQUIPMENT	1	LS	$ 2,500.00	$ 2,500.00
18	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	8	EACH	$ 1,150.00	$ 9,200.00
19	805-02445	CONTROLLER AND CABINET, TYPE P1	1	EACH	$ 21,600.00	$ 21,600.00
20	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	5	EACH	$ 2,000.00	$ 10,000.00
21	805-11813	CONDUIT, PVC, 2 IN. SCHEDULE 80	500	LFT	$ 42.00	$ 21,000.00
22	805-11817	PEDESTRIAN PUSH BUTTON, APS	8	EACH	$ 1,600.00	$ 12,800.00
23	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	4	EACH	$ 1,100.00	$ 4,400.00
24	805-78205	TRAFFIC SIGNAL HEAD, NO. 3 SECTION, 12 IN.	5	EACH	$ 1,200.00	$ 6,000.00
25	805-78230	TRAFFIC SIGNAL HEAD, NO. 5 SECTION, 12 IN.	6	EACH	$ 2,000.00	$ 12,000.00
26	805-78412	SIGNAL POLE, PEDESTAL, 9 FT	1	EACH	$ 1,500.00	$ 1,500.00
27	805-78415	SPAN, CATENARY, AND TETHER	4	EACH	$ 4,500.00	$ 18,000.00
28	805-78420	DISCONNECT HANGER	4	EACH	$ 600.00	$ 2,400.00
29	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	120	LFT	$ 4.30	$ 516.00
30	805-78490	SIGNAL CABLE, CONTROL, COPPER, 7C/14 GAUGE	240	LFT	$ 5.40	$ 1,296.00
31	805-78495	SIGNAL CABLE, CONTROL, COPPER, 9C/14 GAUGE	400	LFT	$ 6.00	$ 2,400.00
32	805-78925	CONTROLLER CABINET FOUNDATION, TYPE P1	1	EACH	$ 2,950.00	$ 2,950.00
33	805-78000	DETECTION LOOP, 6 FT DIA	56	EACH	$ 1,300.00	$ 72,800.00
34	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	546	LFT	$ 15.00	$ 8,190.00
35	808-06368	TRANSVERSE MARKING, REMOVE	50	LFT	$ 13.00	$ 650.00
36	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	1,000	LFT	$ 2.50	$ 2,500.00
37	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	2,770	LFT	$ 1.25	$ 3,462.50
38	808-06716	LINE, REMOVE	30	LFT	$ 11.00	$ 330.00
39	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	4,610	LFT	$ 1.25	$ 5,762.50
40	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	185	LFT	$ 14.00	$ 2,590.00
41	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	11	EACH	$ 250.00	$ 2,750.00
42	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	8	EACH	$ 240.00	$ 1,920.00
					TOTAL	$ 391,417.00

CONSTRUCTION TOTAL	**$392,000.00**
CONTINGENCY (10%)	**$39,000.00**
OVERALL PROJECT TOTAL	**$431,000.00**

This cost estimate makes the following assumptions:
1.) Unit price estimates based on stand-alone project

Project Phases		
Task No.	**Task**	**Cost**
1	Preliminary Engineering	**$ 51,720**
2	Right of Way	**$ -**
3	Utility CN	**$ 5,000**
4	Railroad CN	**$ -**
5	Construction Inspection/Testing	**$ -**
	TOTAL	**$ 56,720**

The Preliminary Cost Estimate portion of this document was prepared by me or under my supervision and represents a planning level cost estimate of the project's scope.

Gary L. Yellig
Signature



Todd Johnson
Estimate Completed By

6/5/2026
Date

ABBREVIATED ENGINEERING NOTES FOR PRELIMINARY COST ESTIMATE - LONG TERM

Post Road & 25th Street

LINE ITEM	ITEM NO.	DESCRIPTION	NOTES
1	105-06845	CONSTRUCTION ENGINEERING	Say $ 2,500 per quad to do layout work or $ 10,000
2	110-01001	MOBILIZATION AND DEMOBILIZATION	set to x% of total cost
3	201-52370	CLEARING RIGHT-OF-WAY	Assume $ 500 per quad for minor clearing and restoration-seeding or $ 2,000
4	202-02279	CURB AND GUTTER, REMOVE	Remove say 40' in each quad for ramp construction or 160'
5	202-52710	SIDEWALK CONCRETE, REMOVE	remove existing sidewalk as needed. Say 8 SYS in SW and 3 SYS in SE or 11 SYS
6	207-08264	SUBGRADE TREATMENT, TYPE II	used under new curb say 4.5' * 160' * 1/9 = 80 SYS
7	604-06070	SIDEWALK, CONCRETE	Assume 12 SYS per quad to tie in ramps or 48 SYS
8	604-08086	CURB RAMP, CONCRETE	Assume 24 SYS per quad or 96 SYS
9	604-12083	DETECTABLE WARNING SURFACES	Assume 3 SYS per quad or 12 SYS
10	605-06140	CURB AND GUTTER, CONCRETE	Replace the removed amount or 160'
11	801-06775	MAINTAINING TRAFFIC	set to x% of total cost
12	802-09838	SIGN, SHEET, WITH LEGEND, 0.080 IN. THICKNESS	7 existing signs. Assume average area of 3.5 sft and use 25 SFT
13	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	Replace Street Name signs on signal spans. Say 3 sft per sign and 4 each or 12 SFT
14	805-01300	TRAFFIC SIGNAL EQUIPMENT, REMOVE	
15	805-01579	MISCELLANEOUS EQUIPMENT FOR TRAFFIC SIGNALS	
16	805-01842	HANDHOLE, SIGNAL, TYPE 1	4 each required - for pedestrian push button wiring
17	805-02087	TRANSPORTATION OF SALVAGEABLE SIGNAL EQUIPMENT	
18	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	2 each in each quad for a total of 8 EA
19	805-02445	CONTROLLER AND CABINET, TYPE P1	Replace the existing one (will need to keep existing cabinet operational during constuction)
20	805-02645	SIGNAL POLE FOUNDATION, 24 IN. X 24 IN. X 36 IN.	5 each - used for new pedestal poles
21	805-11813	CONDUIT, PVC, 2 IN. SCHEDULE 80	for wiring of new buttons. Assume 150' north-south legs; 130 west; 70 east for 500 LFT
22	805-11817	PEDESTRIAN PUSH BUTTON, APS	2 each in each quad for a total of 8 EA
23	805-12650	SIGNAL POLE, PEDESTAL, 5 FT	say 1 each required in each quad (assume 1 button mounted on exisitng pole) or 4 EA
24	805-78205	TRAFFIC SIGNAL HEAD, NO. 3 SECTION, 12 IN.	
25	805-78230	TRAFFIC SIGNAL HEAD, NO. 5 SECTION, 12 IN.	
26	805-78412	SIGNAL POLE, PEDESTAL, 9 FT	say 1 each needed in SW quad
27	805-78415	SPAN, CATENARY, AND TETHER	4 each required
28	805-78420	DISCONNECT HANGER	4 each required
29	805-78485	SIGNAL CABLE, CONTROL, COPPER, 5C/14 GAUGE	this is from disconnect hangar to 3-Section signal head. Also for ped heads and ped buttons
30	805-78490	SIGNAL CABLE, CONTROL, COPPER, 7C/14 GAUGE	this is from disconnect hangar to 5-Section signal head
31	805-78495	SIGNAL CABLE, CONTROL, COPPER, 9C/14 GAUGE	this is from disconnect hangar to control cabinet
32	805-78925	CONTROLLER CABINET FOUNDATION, TYPE P1	1 each required
33	805-78000	DETECTION LOOP, 6 FT DIA	
34	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	
35	808-06368	TRANSVERSE MARKING, REMOVE	remove stop line on south leg 50 lft
36	808-06701	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.	
37	808-06703	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	
38	808-06716	LINE, REMOVE	remove lane lines on south leg 30 lft
39	808-75245	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	
40	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	
41	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	
42	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	

Economic Evaluation - Form F5

Alternative: Post Road & 25th Street - Long-Term Recommendation

INPUT Collapse

Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	7
Non-Incapacitating and Possible Injury Crashes	5
Property Damage Only Crashes	54
Road Type	City Arterial Intersection
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Present Year (yyyy)	2026
Implementation Year (yyyy)	2030
Inflation Rate (%)	2
Interest Rate (%)	4
Annual Traffic Growth Rate (%)	2
Total Traffic Growth Factor	1.27
Future Traffic Growth Period (years)	24

COUNTERMEASURES Collapse All

Countermeasure 1 Collapse [C] Copy

Description	Signal Modernization that includes pedestrian signals, crosswalks, and ADA ramps.
Crash Reduction Factors (%)	
Fatal and Incapacitating Injury Crashes	31
Non-Incapacitating and Possible Injury Crashes	31
Property Damage Only Crashes	31
Number of Target Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	7
Non-Incapacitating and Possible Injury Crashes	5
Property Damage Only Crashes	54
Countermeasure Service Life (years)	20
Countermeasure Capital Cost ($)	487,720
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0

[+] Add

Form 1 2 3 4 5 6 7 CDB Tool

Calculate | Load Crashes

New | Open

Save | Save As

Reports | Exit

Guidelines | Help

Equations

General Improvements Table

Service Life Table

Crash Reduction Factors Table - Indiana

Crash Modification Factors Clearinghouse

Alternatives

Save Current Alternative

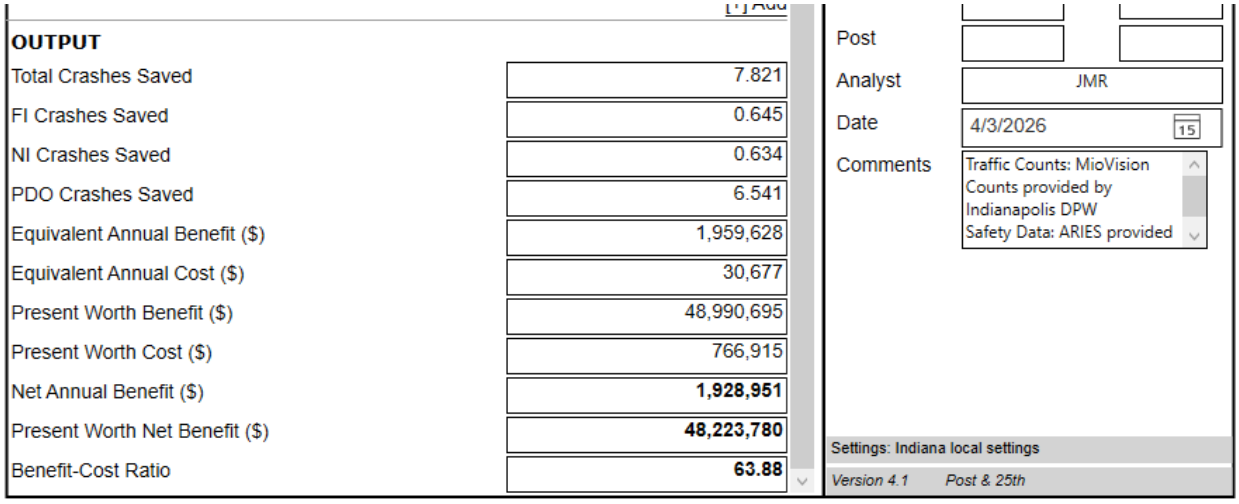
Read Alternative

Post Road & 25th Street - Long-Term Recom

Notes:

The number of target crashes are those that can be specifically reduced by the countermeasure selected. The number of target crashes for each countermeasure should not exceed the number of crashes

Location	Post Rd & 25th St
GIS	
Post	
Analyst	JMR
Date	4/3/2026
Comments	Traffic Counts: MioVision Counts provided by Indianapolis DPW Safety Data: ARIES provided


OUTPUT
Total Crashes Saved 7.821
FI Crashes Saved 0.645
NI Crashes Saved 0.634
PDO Crashes Saved 6.541
Equivalent Annual Benefit ($) 1,959,628
Equivalent Annual Cost ($) 30,677
Present Worth Benefit ($) 48,990,695
Present Worth Cost ($) 766,915
Net Annual Benefit ($) 1,928,951
Present Worth Net Benefit ($) 48,223,780
Benefit-Cost Ratio 63.88
Post
Analyst JMR
Date 4/3/2026
Comments
Traffic Counts: MioVision
Counts provided by
Indianapolis DPW
Safety Data: ARIES provided
Settings: Indiana local settings
Version 4.1 Post & 25th

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/19/2026
Des. No.:	N/A

Reviewer Information:		Agency/Firm Name:	Burgess & Niple
Primary Author:	Micah Reynolds, PE, RSP_{2I}	Agency:	Indianapolis Metropolitan Planning Organization
Phone Number:	(260) 452-7171	Email Address:	micah.reynolds@burgessniple.com

Purpose of Review:

Burgess & Niple was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Keystone Avenue		District: Greenfield		City: Indianapolis			County: Marion
Lat & Long (BOP):	39.805267	-86.121527	Lat & Long (EOP):	39.805267	-86.121527	Inside Urban Area Boundary: Yes	
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit			

Location: The intersection of Keystone Avenue & 27th Street

Existing Conditions:

The Keystone Avenue & 27th Street intersection is an unsignalized four-leg intersection with stop control on the 27th Street approaches. 27th Street is a two-lane roadway at the intersection. Keystone Avenue is a 4-lane roadway at the intersection. There are two southbound and two northbound lanes along Keystone Avenue with no dedicated turn lanes at the intersection. The posted speed limit on Keystone Avenue at the intersection is 35 MPH. There is no posted speed on 27th Street. IMPO Replica data indicates that northbound Keystone 85th percentile speeds are 43.5 MPH while 95th percentile (outlier speeds) are 47 MPH. Southbound speeds through the intersection are 40.5 MPH for the 85th percentile and 45 MPH for the 95th percentile speeds. Vehicles are likely slowing down in the southbound direction due to the signalized intersection at Keystone Avenue and 25th Street.

There doesn't appear to be significant geometric deficiencies that are contributing to the crashes that are occurring. There is significant pedestrian traffic that attempts to cross Keystone Avenue at this location, and unfortunately one person was killed attempting to cross.

Sidewalk is located at the study intersection along Keystone Avenue and on both side of the east leg of 27th Street. There is no buffer between the roadway and the sidewalk, which can be unnerving at times for anybody walking along the sidewalk. There are also a significant lack of available pedestrian crossings and pedestrian warning signs in the area, and only exist at the signalized intersections along the corridor.

Located in each quadrant of the intersection are:

- NW Quadrant: Private residence.
- SW Quadrant: Private residence.
- SE Quadrant: Empty lot.
- NE Quadrant: Private residence.

Burgess & Niple held a field check with the representatives from the IMPO and City of Indianapolis DPW on April 27, 2026, to discuss some near-term and long-term solutions and build consensus around a series of countermeasures for Burgess & Niple to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Prior to the field check, B&N set up Miovision cameras to record driver and pedestrian behaviors. The surveillance video was studied for a 24-hour period. There was notable pedestrian activity at this intersection. However, there were four pedestrians that completed midblock crossings to both the north and south of the intersection. During the near miss analysis review there were two instances where pedestrians had to run across Keystone Avenue to avoid being struck by a motor vehicle. There were two cyclists that crossed Keystone Avenue in front of traffic. The traffic from the signalized intersection to the south (Keystone Avenue & 25th Street) created queues on Keystone Avenue that extended past the 27th Street intersection. This queue was the primary cause of the vehicular near misses. The queueing on Keystone Avenue seemed to cause drivers on 27th Street to become impatient and pull out in front of oncoming traffic by accepting unsafe gaps. The still photo observations are available in Attachment F.

Traffic Operations:

Mobility/Congestion Performance: According to 14-hour traffic count data collected on March 5th, 2026, the AM Peak features the highest volumes. For the AM Peak, eastbound traffic entering the intersection is **five,** westbound traffic entering the intersection is **eight**, northbound traffic entering the intersection is **1,092**, and southbound traffic entering the intersection is **1,211**. These counts were adjusted using INDOT's standard Adjustment Factors, and the adjusted counts can be viewed in the traffic data in **Attachment B**. The attached HCS analysis illustrates that vehicles may struggle to find gaps during peak times, both under existing traffic volumes and future design year (2048) traffic volumes. Design year volumes were forecasted from the original count data using a 0.5% per year growth rate to determine 2048 traffic volumes.

	Eastbound		Westbound		Northbound		Southbound	
Alternative	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
AM Peak - 2026	E	48.3	F	98.8	A	0.0	A	0.0
PM Peak - 2026	F	52.1	F	50.0	A	0.0	A	0.0
AM Peak - 2048	F	75.8	F	180.0	A	0.1	A	0.0
PM Peak - 2048	F	73.3	F	70.1	A	0.0	A	0.1

Safety Performance / Crash Analysis: According to available crash data, there were **twenty** crashes associated with the study area from January 1, 2022, to December 31, 2024. Of those crashes, **two** resulted in fatality, **one** resulted in incapacitating injuries, and **four** resulted in non-incapacitating injuries. See attached Crash Summary and output from RoadHAT 4.1 in **Attachment A.**

2022-2024 Crash Data –analyzed as **City Arterial Intersection One AADT** I_{CC} = 1.86, I_{CF} = 2.46

Alternatives & Recommendations

Near-Term

- Maintenance of the existing curb and drainage inlets. A portion of the crashes showed wet pavement conditions and some with standing water. The inlets at the intersection were in poor condition and were clogged with sediment which has impacted the inlet's effectiveness at removing water from the roadway.
- Maintenance of the existing striping at the intersection, especially for the minor approaches, which are unmarked.

Long-Term

- Construct an enhanced pedestrian crossing with a pedestrian hybrid beacon with push buttons.
- Construct a 6" centerline curb to convert the intersection to Right-In-Right-Out

A schematic of the long-term solutions is included in Attachment E.

Future Consideration

IMPO staff noted that they intend to study the Keystone Avenue corridor from I-70 to Fall Creek Parkway through a SS4A planning study. Considerations of intersection type (i.e. roundabout or traditional intersection improvements) at the major intersections should be included along with analyzing the number of lanes on Keystone Avenue in the Corridor Study. Access control and speed management should be considered as alternatives analyzed in this study. This will set up future success for the corridor through reimagining the roadway to provide space for all road users to safely traverse the Keystone Avenue corridor.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Detailed cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation	
Construction	$158,375
Preliminary Engineering (15%)	$23,800
Utility Allowance (5%)	$8,000
Right of Way	$0
Grand Total	$190,175

Long-Term Recommendation

Construction	$367,290
Preliminary Engineering (15%)	$55,100
Utility Allowance (5%)	$18,400
Right of Way	$0
Grand Total	$440,790

Project Score: (for INDOT use)

Safety Program Score =

Miscellaneous Notes:

Attachments:

Attachment A: Preliminary Findings Report
Attachment B: Traffic Counts
Attachment C: Traffic Analysis
Attachment D: Virtual Meeting Minutes & Field Check Minutes
Attachment E: Cost Estimates & Schematics
Attachment F: Near Miss Analysis

ATTACHMENT A

Preliminary Findings Report

PRELIMINARY FINDINGS

Safety Analysis at Keystone Avenue at 27th Street

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Keystone Avenue & 27th Street (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (Icc) and crash frequency (Icf) for the Study Area using RoadHat 4.1.

20 crashes were identified within the Study Area. One of the reported crashes resulted in incapacitating injury, and two resulted in a fatality. The incapacitating injury crash was reported as a Ran Off Road crash when traveling northbound along Keystone Avenue and struck a fence and a car parked in a driveway. One fatal crash occurred when a southbound vehicle crossed the centerline and had a head on collision with a northbound vehicle. The second fatal crash involved a northbound vehicle and a westbound pedestrian on the south side of the intersection. Other notable results near the Study Area include:

- 25% of the reported crashes at the intersection were Rear End Crashes. Three of the Rear End crashes occurred in the southbound direction while the other two were in the northbound direction.
- 70% of reported crashes occurred during Off-Peak travel times. 10% of reported crashes occurred during the morning peak hours (6am-9am), and 20% during the evening peak hours (4pm-7pm).
- 55% of reported crashes occurred in daylight hours and 45% in low light conditions.
- 35% of reported crashes occurred in wet roadway surface conditions. The remaining 65% of reported crashes occurred on a dry roadway surface.
- 55% of reported crashes occurred when the weather conditions were clear. 15% of the crashes occurred in rainy weather conditions and the remaining 30% of reported crashes occurred on cloudy days.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

Crash Data Summary
Keystone Avenue & 27th Street

2022 - 2024 Crash Summary	
TOTAL CRASHES	20
TOTAL DEAD	2
TOTAL INJURED	9
PROPERTY DAMAGE ONLY	13
NON-INCAPACITATING	4
INCAPACITATING	1
FATAL	2

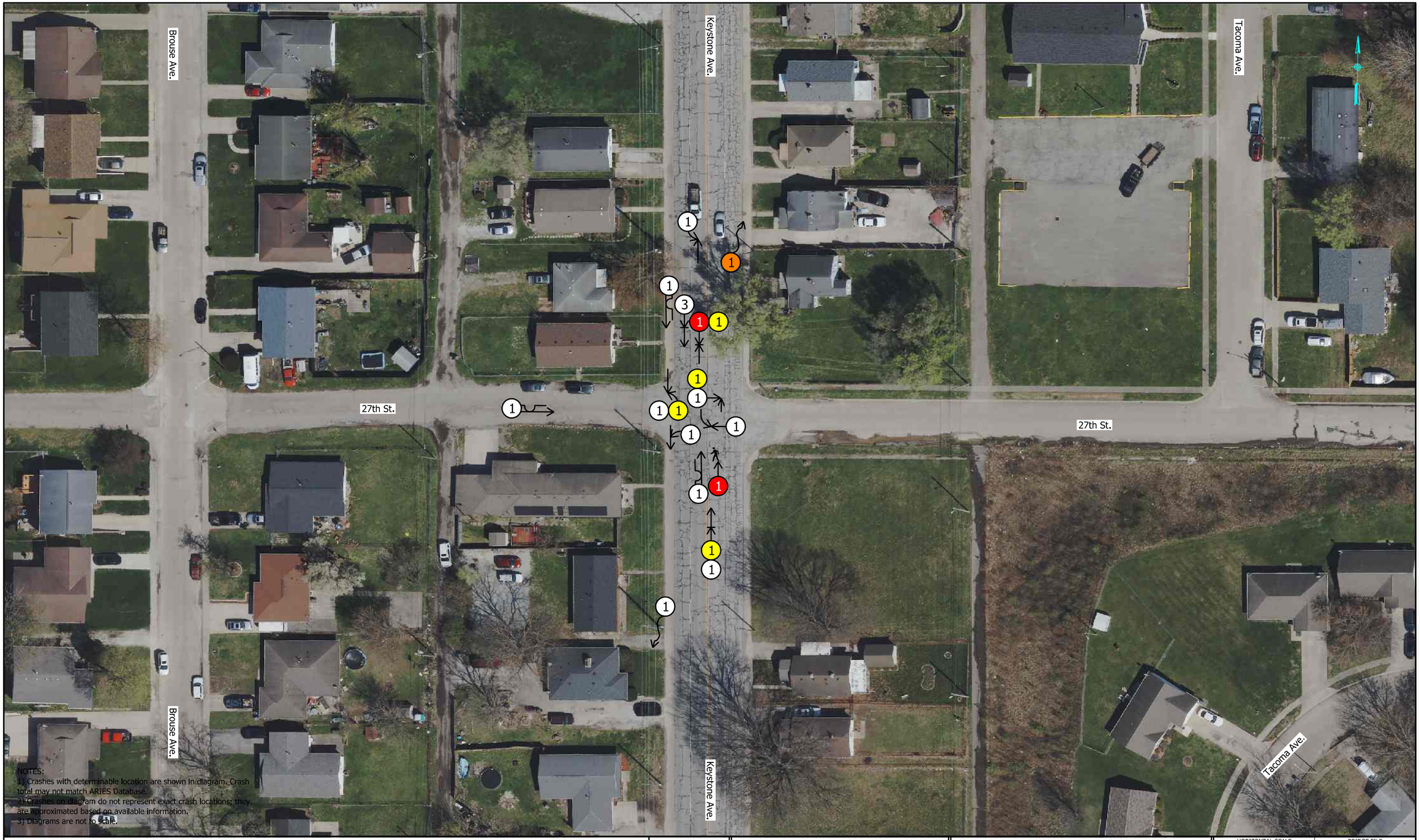
Summary of Primary Factors per Manner of Collision	Crashes	Percent
HEAD ON	**2**	**10%**
LEFT OF CENTER	1	
UNSAFE LANE MOVEMENT	1	
LEFT TURN	**4**	**20%**
FAILURE TO YIELD RIGHT OF WAY	2	
IMPROPER TURNING	1	
UNSAFE SPEED	1	
PEDESTRIAN	**1**	**5%**
PEDESTRIAN ACTION	1	
RAN OFF ROAD	**2**	**10%**
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
RAN OFF ROAD RIGHT	1	
REAR END	**5**	**25%**
FOLLOWING TOO CLOSELY	4	
UNSAFE SPEED	1	
RIGHT ANGLE	**2**	**10%**
FAILURE TO YIELD RIGHT OF WAY	1	
OTHER (DRIVER) - EXPLAIN IN NARRATIVE	1	
SAME DIRECTION SIDESWIPE	**4**	**20%**
FAILURE TO MAINTAIN LANE	1	
FAILURE TO YIELD RIGHT OF WAY	1	
IMPROPER LANE USAGE	2	
Total Crashes	**20**	**100%**

Summary of Crashes per Time of Day	Crashes	Percent
Peak AM (6:00-9:00 AM)	2	10%
Peak PM (4:00-7:00 PM)	4	20%
Off Peak	14	70%
Total Crashes	**20**	**100%**

Summary of Crashes per Light Condition	Crashes	Percent
DARK (LIGHTED)	5	25%
DARK (NOT LIGHTED)	2	10%
DAWN/DUSK	2	10%
DAYLIGHT	11	55%
Total Crashes	**20**	**100%**

Summary of Crashes per Surface Condition				
Manner of Collision	DRY	WATER (STANDING OR MOVING)	WET	Total Crashes
HEAD ON	1		1	2
LEFT TURN	3	1		4
PEDESTRIAN	1			1
RAN OFF ROAD		1	1	2
REAR END	3		2	5
RIGHT ANGLE	1		1	2
SAME DIRECTION SIDESWIPE	4			4
Total Crashes	**13**	**2**	**5**	**20**

Summary of Weather Condtions				
Manner or Collision	CLEAR	CLOUDY	RAIN	Total Crashes
HEAD ON	1		1	2
LEFT TURN	3	1		4
PEDESTRIAN	1			1
RAN OFF ROAD	1		1	2
REAR END	2	3		5
RIGHT ANGLE	1		1	2
SAME DIRECTION SIDESWIPE	2	2		4
Total Crashes	**11**	**6**	**3**	**20**



B&N burgessniple.com

LEGEND

PROPERTY DAMAGE ONLY	VEHICLE PATH	OFF ROAD	REAR-END
NON-INCAPACITATING INJURY	U-TURNING VEHICLE PATH	ROLLOVER	HEAD-ON
INCAPACITATING INJURY	BICYCLE PATH	LEFT TURN	SIDESWIPE
FATALITY	PEDESTRIAN PATH	RIGHT TURN	OTHER
	FIXED OBJECT	ANGLE	

Year	K	A	BC	O	All
2022	0	0	1	2	3
2023	0	1	2	3	6
2024	2	0	1	8	11

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: MDR DRAWN: EMW

CHECKED: _____ CHECKED: _____

INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION

KEYSTONE AVENUE AT 27TH STREET CRASH DIAGRAM

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGN VEHICLE
N/A	WB-50
SURVEY BOOK	SHEETS
	of
CONTRACT	PROJECT
R-XXXXX	XXXXXXX

Intersection Images

Keystone Avenue & 27th Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

INDOT District: Greenfield County: Marion City/Town: Indianapolis

No Photo Taken

West Leg – Looking West



West Leg – Looking East



East Leg – Looking West



East Leg – Looking East

No Photo Taken

South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue at 27th Street	
GIS		
Post		
Analyst	VanVleet	
Date	4/22/2026	

INPUT	
Road Facility Type	City Arterial Intersection One AADT
Busiest Road AADT (veh/day)	31444
Crossing Road Principal Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major Collector Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	4
Property Damage Only Crashes	13
Route or Road Type	City Arterial Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.102
Non-Incapacitating and Possible Injury Crashes	0.25
Property Damage Only Crashes	1.13
All Crashes	1.49
Index of Crash Frequency	**2.46**
Index of Crash Cost	**1.86**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue at 27th Street	
GIS		
Post		
Analyst	VanVleet	
Date	4/22/2026	

Comments: AADT from INDOT TCDS

ATTACHMENT B

Traffic Counts

27th St & Keystone - TMC

Thu Mar 5, 2026
Full Length (7 AM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383437, Location: 39.805254, -86.121551

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

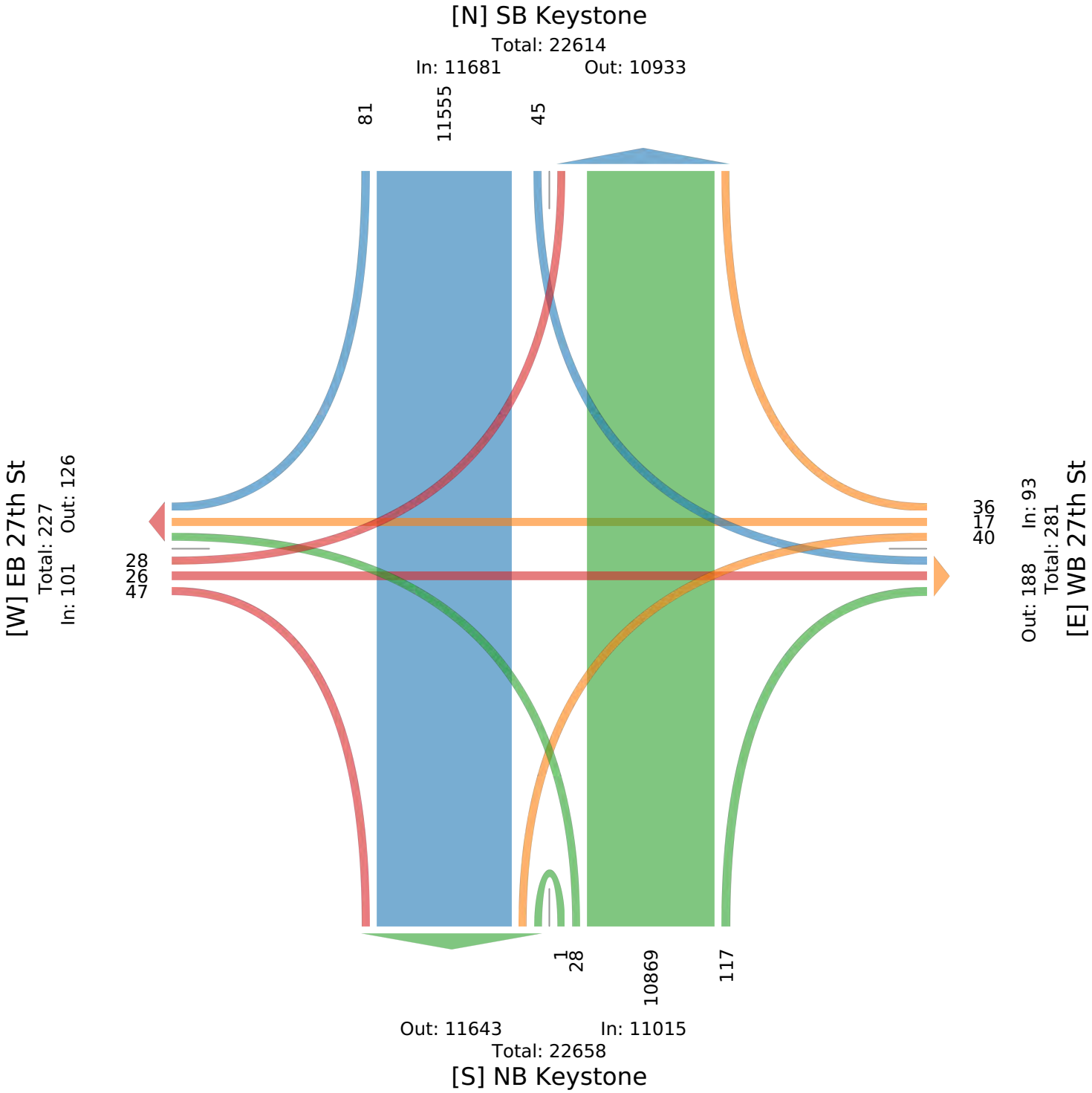
Leg / Direction	EB 27th St Eastbound					WB 27th St Westbound					NB Keystone Northbound					SB Keystone Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2026-03-05 7:00AM	0	0	0	0	**0**	1	0	1	0	**2**	0	242	0	0	**242**	0	246	0	0	**246**	**490**
7:15AM	1	0	0	0	**1**	0	0	0	0	**0**	0	292	2	0	**294**	0	296	4	0	**300**	**595**
7:30AM	1	0	0	0	**1**	1	0	4	0	**5**	0	293	2	0	**295**	0	338	3	0	**341**	**642**
7:45AM	0	0	1	0	**1**	0	0	1	0	**1**	0	254	2	0	**256**	0	317	2	0	**319**	**577**
Hourly Total	2	0	1	0	**3**	2	0	6	0	**8**	0	1081	6	0	**1087**	0	1197	9	0	**1206**	**2304**
8:00AM	1	0	1	0	**2**	0	1	0	0	**1**	1	289	0	0	**290**	0	296	3	0	**299**	**592**
8:15AM	0	0	1	0	**1**	1	0	0	0	**1**	0	305	3	0	**308**	0	313	3	0	**316**	**626**
8:30AM	0	1	0	0	**1**	0	0	1	0	**1**	1	232	1	0	**234**	1	315	2	0	**318**	**554**
8:45AM	0	1	0	0	**1**	0	0	0	0	**0**	0	251	0	0	**251**	1	266	2	0	**269**	**521**
Hourly Total	1	2	2	0	**5**	1	1	1	0	**3**	2	1077	4	0	**1083**	2	1190	10	0	**1202**	**2293**
9:00AM	1	1	1	0	**3**	0	0	0	0	**0**	0	223	2	0	**225**	0	235	3	0	**238**	**466**
9:15AM	1	0	1	0	**2**	0	1	0	0	**1**	0	196	1	0	**197**	0	270	1	0	**271**	**471**
9:30AM	0	0	1	0	**1**	1	0	1	0	**2**	0	173	1	0	**174**	2	234	1	0	**237**	**414**
9:45AM	1	1	2	0	**4**	0	1	1	0	**2**	1	193	2	0	**196**	0	255	0	0	**255**	**457**
Hourly Total	3	2	5	0	**10**	1	2	2	0	**5**	1	785	6	0	**792**	2	994	5	0	**1001**	**1808**
10:00AM	0	0	2	0	**2**	1	0	0	0	**1**	0	198	2	0	**200**	1	238	3	0	**242**	**445**
10:15AM	0	1	0	0	**1**	0	0	1	0	**1**	1	190	0	0	**191**	0	217	1	0	**218**	**411**
10:30AM	0	0	0	0	**0**	3	1	0	0	**4**	0	186	1	0	**187**	0	190	0	0	**190**	**381**
10:45AM	0	0	1	0	**1**	1	0	0	0	**1**	1	196	1	0	**198**	2	197	2	0	**201**	**401**
Hourly Total	0	1	3	0	**4**	5	1	1	0	**7**	2	770	4	0	**776**	3	842	6	0	**851**	**1638**
11:00AM	0	1	0	0	**1**	0	0	0	0	**0**	0	170	2	0	**172**	0	205	0	0	**205**	**378**
11:15AM	0	0	0	0	**0**	2	0	0	0	**2**	0	214	3	0	**217**	0	191	0	0	**191**	**410**
11:30AM	1	0	2	0	**3**	0	2	0	0	**2**	1	194	1	0	**196**	0	185	1	0	**186**	**387**
11:45AM	0	0	1	0	**1**	1	0	1	0	**2**	0	223	3	0	**226**	2	205	0	0	**207**	**436**
Hourly Total	1	1	3	0	**5**	3	2	1	0	**6**	1	801	9	0	**811**	2	786	1	0	**789**	**1611**
12:00PM	0	0	0	0	**0**	0	0	1	0	**1**	0	192	2	0	**194**	1	202	0	0	**203**	**398**
12:15PM	0	2	1	0	**3**	1	0	0	0	**1**	0	171	2	0	**173**	3	210	2	0	**215**	**392**
12:30PM	1	1	0	0	**2**	2	0	3	0	**5**	0	167	4	0	**171**	2	223	0	0	**225**	**403**
12:45PM	2	0	1	0	**3**	3	0	0	0	**3**	1	179	3	0	**183**	1	197	1	0	**199**	**388**
Hourly Total	3	3	2	0	**8**	6	0	4	0	**10**	1	709	11	0	**721**	7	832	3	0	**842**	**1581**
1:00PM	1	0	2	0	**3**	0	1	1	0	**2**	0	161	1	0	**162**	1	219	2	0	**222**	**389**
1:15PM	0	2	0	0	**2**	0	0	0	0	**0**	4	161	3	0	**168**	1	230	1	0	**232**	**402**
1:30PM	2	0	1	0	**3**	1	0	1	0	**2**	1	192	1	0	**194**	0	220	2	0	**222**	**421**
1:45PM	0	1	3	0	**4**	1	1	1	0	**3**	0	177	5	0	**182**	2	230	1	0	**233**	**422**
Hourly Total	3	3	6	0	**12**	2	2	3	0	**7**	5	691	10	0	**706**	4	899	6	0	**909**	**1634**
2:00PM	1	3	2	0	**6**	2	0	0	0	**2**	1	204	2	0	**207**	2	210	0	0	**212**	**427**
2:15PM	0	1	2	0	**3**	1	1	0	0	**2**	2	195	3	1	**201**	0	229	2	0	**231**	**437**
2:30PM	1	0	2	0	**3**	2	0	1	0	**3**	0	236	2	0	**238**	2	247	2	0	**251**	**495**
2:45PM	0	2	0	0	**2**	0	0	3	0	**3**	0	204	1	0	**205**	1	222	0	0	**223**	**433**
Hourly Total	2	6	6	0	**14**	5	1	4	0	**10**	3	839	8	1	**851**	5	908	4	0	**917**	**1792**
3:00PM	1	0	0	0	**1**	0	1	2	0	**3**	1	271	3	0	**275**	0	240	4	0	**244**	**523**
3:15PM	1	0	1	0	**2**	1	0	1	0	**2**	2	247	2	0	**251**	1	260	2	0	**263**	**518**
3:30PM	1	0	3	0	**4**	0	0	0	0	**0**	1	250	6	0	**257**	2	272	1	0	**275**	**536**
3:45PM	1	0	1	0	**2**	1	0	0	0	**1**	1	306	1	0	**308**	0	248	3	0	**251**	**562**
Hourly Total	4	0	5	0	**9**	2	1	3	0	**6**	5	1074	12	0	**1091**	3	1020	10	0	**1033**	**2139**
4:00PM	0	1	0	0	**1**	1	0	1	0	**2**	0	295	5	0	**300**	1	267	1	0	**269**	**572**
4:15PM	0	0	1	0	**1**	0	1	0	0	**1**	0	277	6	0	**283**	1	265	2	0	**268**	**553**
4:30PM	0	1	0	0	**1**	0	0	1	0	**1**	0	288	4	0	**292**	1	245	2	0	**248**	**542**
4:45PM	3	0	1	0	**4**	3	1	3	0	**7**	0	251	5	0	**256**	1	246	4	0	**251**	**518**
Hourly Total	3	2	2	0	**7**	4	2	5	0	**11**	0	1111	20	0	**1131**	4	1023	9	0	**1036**	**2185**
5:00PM	1	1	2	0	**4**	1	1	0	0	**2**	1	284	2	0	**287**	3	243	6	0	**252**	**545**
5:15PM	1	0	1	0	**2**	2	0	0	0	**2**	2	294	4	0	**300**	0	255	1	0	**256**	**560**
5:30PM	0	2	3	0	**5**	2	1	0	0	**3**	0	248	8	0	**256**	2	245	2	0	**249**	**513**

Leg	EB 27th St					WB 27th St					NB Keystone					SB Keystone					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
5:45PM	0	0	2	0	**2**	1	2	2	0	**5**	1	259	4	0	**264**	1	219	2	0	**222**	**493**
Hourly Total	2	3	8	0	**13**	6	4	2	0	**12**	4	1085	18	0	**1107**	6	962	11	0	**979**	**2111**
6:00PM	1	1	1	0	**3**	0	1	0	0	**1**	1	218	4	0	**223**	3	215	1	0	**219**	**446**
6:15PM	0	0	2	0	**2**	3	0	1	0	**4**	0	206	2	0	**208**	1	258	4	0	**263**	**477**
6:30PM	0	1	0	0	**1**	0	0	2	0	**2**	3	239	2	0	**244**	2	219	1	0	**222**	**469**
6:45PM	3	1	1	0	**5**	0	0	1	0	**1**	0	183	1	0	**184**	1	210	1	0	**212**	**402**
Hourly Total	4	3	4	0	**11**	3	1	4	0	**8**	4	846	9	0	**859**	7	902	7	0	**916**	**1794**
Total	28	26	47	0	**101**	40	17	36	0	**93**	28	10869	117	1	**11015**	45	11555	81	0	**11681**	**22890**
% Approach	27.7%	25.7%	46.5%	0%	**-**	43.0%	18.3%	38.7%	0%	**-**	0.3%	98.7%	1.1%	0%	**-**	0.4%	98.9%	0.7%	0%	**-**	-
% Total	0.1%	0.1%	0.2%	0%	**0.4%**	0.2%	0.1%	0.2%	0%	**0.4%**	0.1%	47.5%	0.5%	0%	**48.1%**	0.2%	50.5%	0.4%	0%	**51.0%**	-
Lights	28	22	45	0	**95**	39	14	33	0	**86**	28	10400	109	1	**10538**	44	11088	80	0	**11212**	21931
% Lights	100%	84.6%	95.7%	0%	**94.1%**	97.5%	82.4%	91.7%	0%	**92.5%**	100%	95.7%	93.2%	100%	**95.7%**	97.8%	96.0%	98.8%	0%	**96.0%**	95.8%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	69	1	0	**70**	0	68	0	0	**68**	138
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0.6%	0.9%	0%	**0.6%**	0%	0.6%	0%	0%	**0.6%**	0.6%
Buses and Single-Unit Trucks	0	4	2	0	**6**	1	3	3	0	**7**	0	400	7	0	**407**	1	399	1	0	**401**	821
% Buses and Single-Unit Trucks	0%	15.4%	4.3%	0%	**5.9%**	2.5%	17.6%	8.3%	0%	**7.5%**	0%	3.7%	6.0%	0%	**3.7%**	2.2%	3.5%	1.2%	0%	**3.4%**	3.6%

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

27th St & Keystone - TMC
Thu Mar 5, 2026
Full Length (7 AM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383437, Location: 39.805254, -86.121551

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



27th St & Keystone - TMC

Thu Mar 5, 2026
AM Peak (7:30 AM - 8:30 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383437, Location: 39.805254, -86.121551

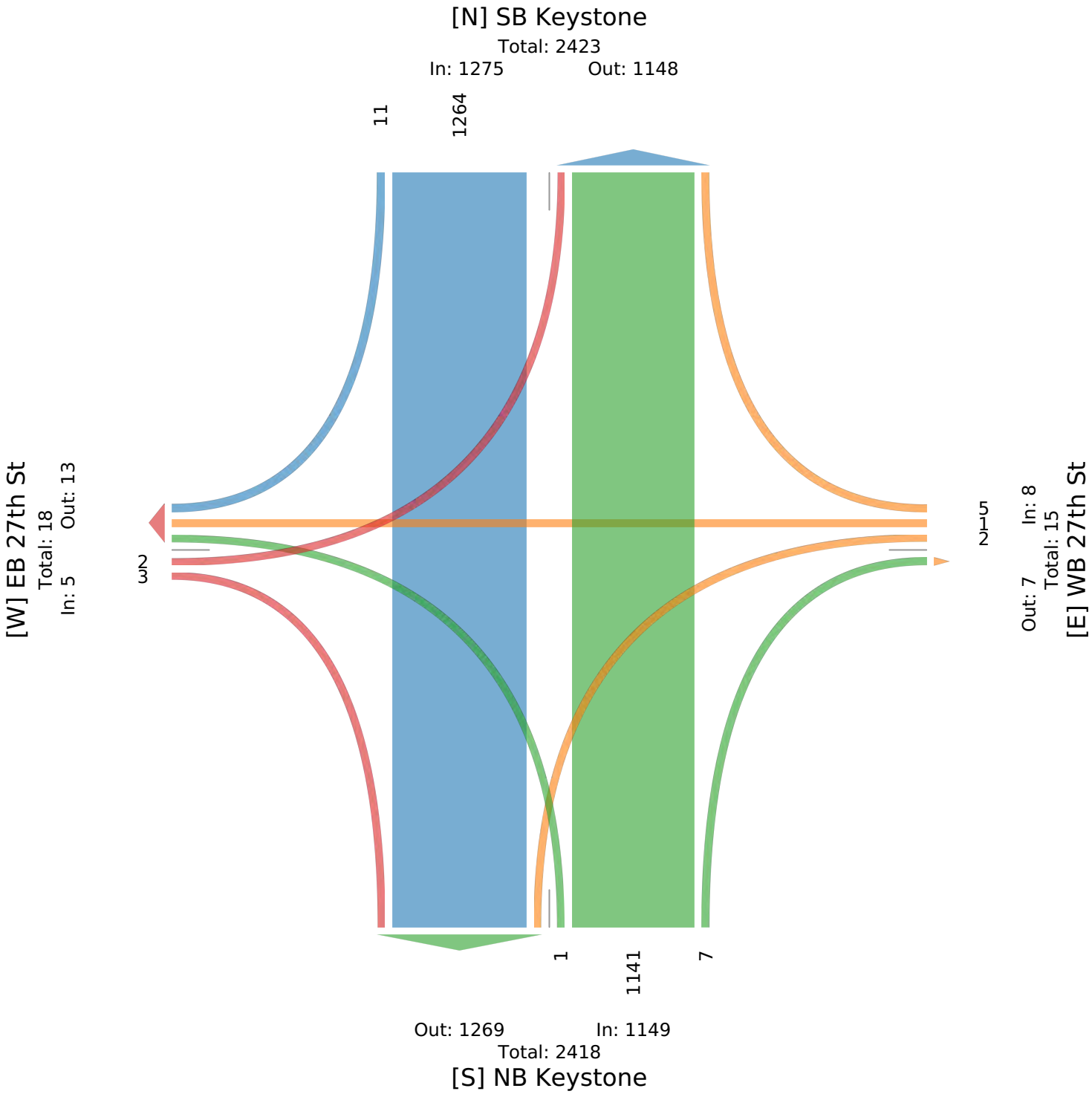
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 27th St Eastbound					WB 27th St Westbound					NB Keystone Northbound					SB Keystone Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-03-05 7:30AM	1	0	0	0	**1**	1	0	4	0	**5**	0	293	2	0	**295**	0	338	3	0	**341**	**642**
7:45AM	0	0	1	0	**1**	0	0	1	0	**1**	0	254	2	0	**256**	0	317	2	0	**319**	**577**
8:00AM	1	0	1	0	**2**	0	1	0	0	**1**	1	289	0	0	**290**	0	296	3	0	**299**	**592**
8:15AM	0	0	1	0	**1**	1	0	0	0	**1**	0	305	3	0	**308**	0	313	3	0	**316**	**626**
Total	2	0	3	0	**5**	2	1	5	0	**8**	1	1141	7	0	**1149**	0	1264	11	0	**1275**	**2437**
% Approach	40.0%	0%	60.0%	0%	**-**	25.0%	12.5%	62.5%	0%	**-**	0.1%	99.3%	0.6%	0%	**-**	0%	99.1%	0.9%	0%	**-**	-
% Total	0.1%	0%	0.1%	0%	**0.2%**	0.1%	0%	0.2%	0%	**0.3%**	0%	46.8%	0.3%	0%	**47.1%**	0%	51.9%	0.5%	0%	**52.3%**	-
PHF	0.500	-	0.750	-	**0.625**	0.500	0.250	0.313	-	**0.400**	0.250	0.935	0.583	-	**0.933**	-	0.935	0.917	-	**0.935**	0.949
Lights	2	0	3	0	**5**	2	0	5	0	**7**	1	1093	5	0	**1099**	0	1241	11	0	**1252**	2363
% Lights	100%	0%	100%	0%	**100%**	100%	0%	100%	0%	**87.5%**	100%	95.8%	71.4%	0%	**95.6%**	0%	98.2%	100%	0%	**98.2%**	97.0%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	6	0	0	**6**	0	2	0	0	**2**	8
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0.5%	0%	0%	**0.5%**	0%	0.2%	0%	0%	**0.2%**	0.3%
Buses and Single-Unit Trucks	0	0	0	0	**0**	0	1	0	0	**1**	0	42	2	0	**44**	0	21	0	0	**21**	66
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	0%	100%	0%	0%	**12.5%**	0%	3.7%	28.6%	0%	**3.8%**	0%	1.7%	0%	0%	**1.6%**	2.7%

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

27th St & Keystone - TMC
Thu Mar 5, 2026
AM Peak (7:30 AM - 8:30 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383437, Location: 39.805254, -86.121551

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



27th St & Keystone - TMC

Thu Mar 5, 2026
Midday Peak (1 PM - 2 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383437, Location: 39.805254, -86.121551

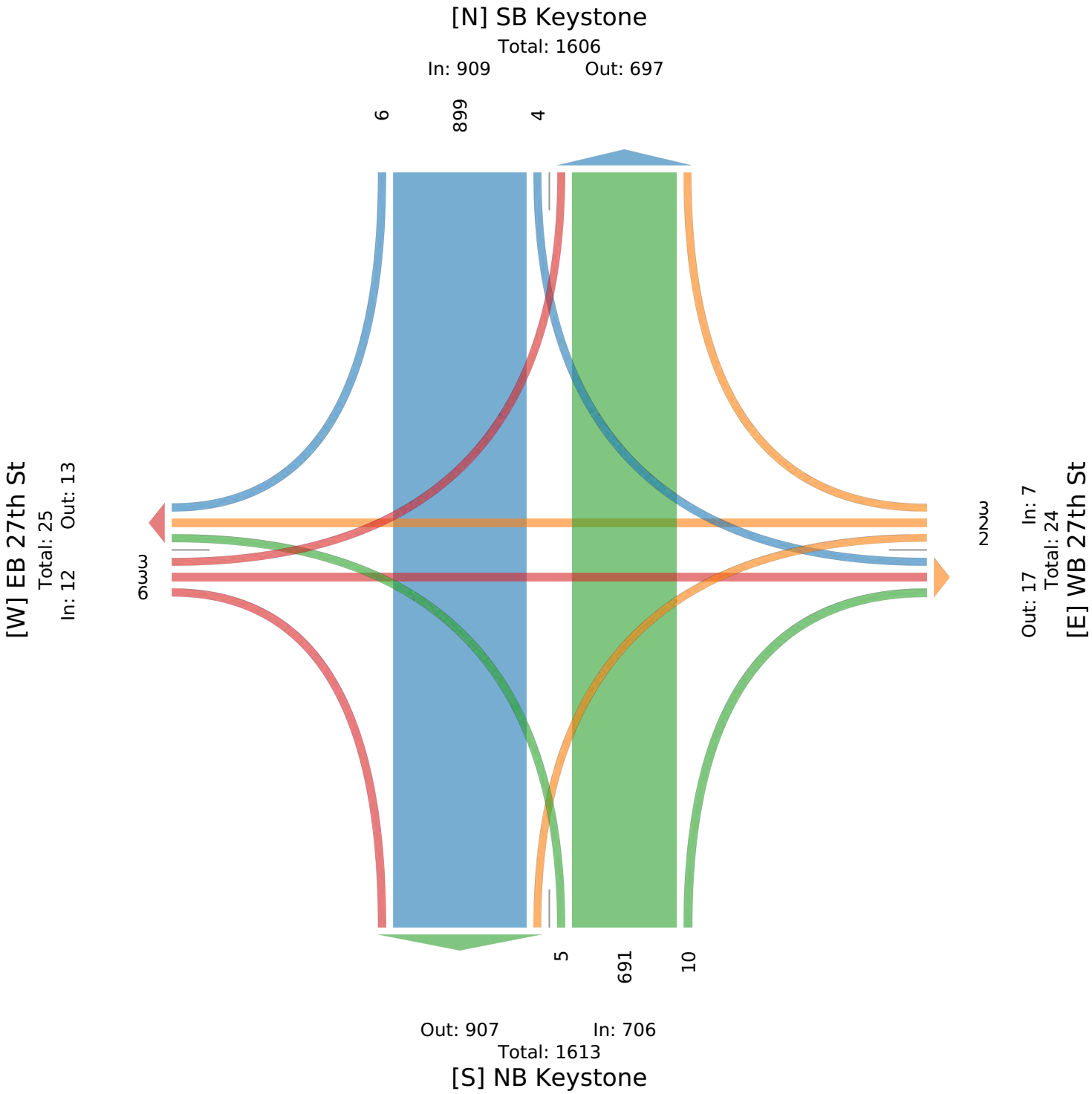
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 27th St Eastbound					WB 27th St Westbound					NB Keystone Northbound					SB Keystone Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-03-05 1:00PM	1	0	2	0	**3**	0	1	1	0	**2**	0	161	1	0	**162**	1	219	2	0	**222**	**389**
1:15PM	0	2	0	0	**2**	0	0	0	0	**0**	4	161	3	0	**168**	1	230	1	0	**232**	**402**
1:30PM	2	0	1	0	**3**	1	0	1	0	**2**	1	192	1	0	**194**	0	220	2	0	**222**	**421**
1:45PM	0	1	3	0	**4**	1	1	1	0	**3**	0	177	5	0	**182**	2	230	1	0	**233**	**422**
Total	3	3	6	0	**12**	2	2	3	0	**7**	5	691	10	0	**706**	4	899	6	0	**909**	**1634**
% Approach	25.0%	25.0%	50.0%	0%	**-**	28.6%	28.6%	42.9%	0%	**-**	0.7%	97.9%	1.4%	0%	**-**	0.4%	98.9%	0.7%	0%	**-**	-
% Total	0.2%	0.2%	0.4%	0%	**0.7%**	0.1%	0.1%	0.2%	0%	**0.4%**	0.3%	42.3%	0.6%	0%	**43.2%**	0.2%	55.0%	0.4%	0%	**55.6%**	-
PHF	0.375	0.375	0.500	-	**0.750**	0.500	0.500	0.750	-	**0.583**	0.313	0.900	0.500	-	**0.910**	0.500	0.977	0.750	-	**0.975**	0.968
Lights	3	2	6	0	**11**	2	2	3	0	**7**	5	650	10	0	**665**	4	859	6	0	**869**	1552
% Lights	100%	66.7%	100%	0%	**91.7%**	100%	100%	100%	0%	**100%**	100%	94.1%	100%	0%	**94.2%**	100%	95.6%	100%	0%	**95.6%**	95.0%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	7	0	0	**7**	0	5	0	0	**5**	12
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	1.0%	0%	0%	**1.0%**	0%	0.6%	0%	0%	**0.6%**	0.7%
Buses and Single-Unit Trucks	0	1	0	0	**1**	0	0	0	0	**0**	0	34	0	0	**34**	0	35	0	0	**35**	70
% Buses and Single-Unit Trucks	0%	33.3%	0%	0%	**8.3%**	0%	0%	0%	0%	**0%**	0%	4.9%	0%	0%	**4.8%**	0%	3.9%	0%	0%	**3.9%**	4.3%

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

27th St & Keystone - TMC
Thu Mar 5, 2026
Midday Peak (1 PM - 2 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383437, Location: 39.805254, -86.121551

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



27th St & Keystone - TMC

Thu Mar 5, 2026
PM Peak (3:45 PM - 4:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383437, Location: 39.805254, -86.121551

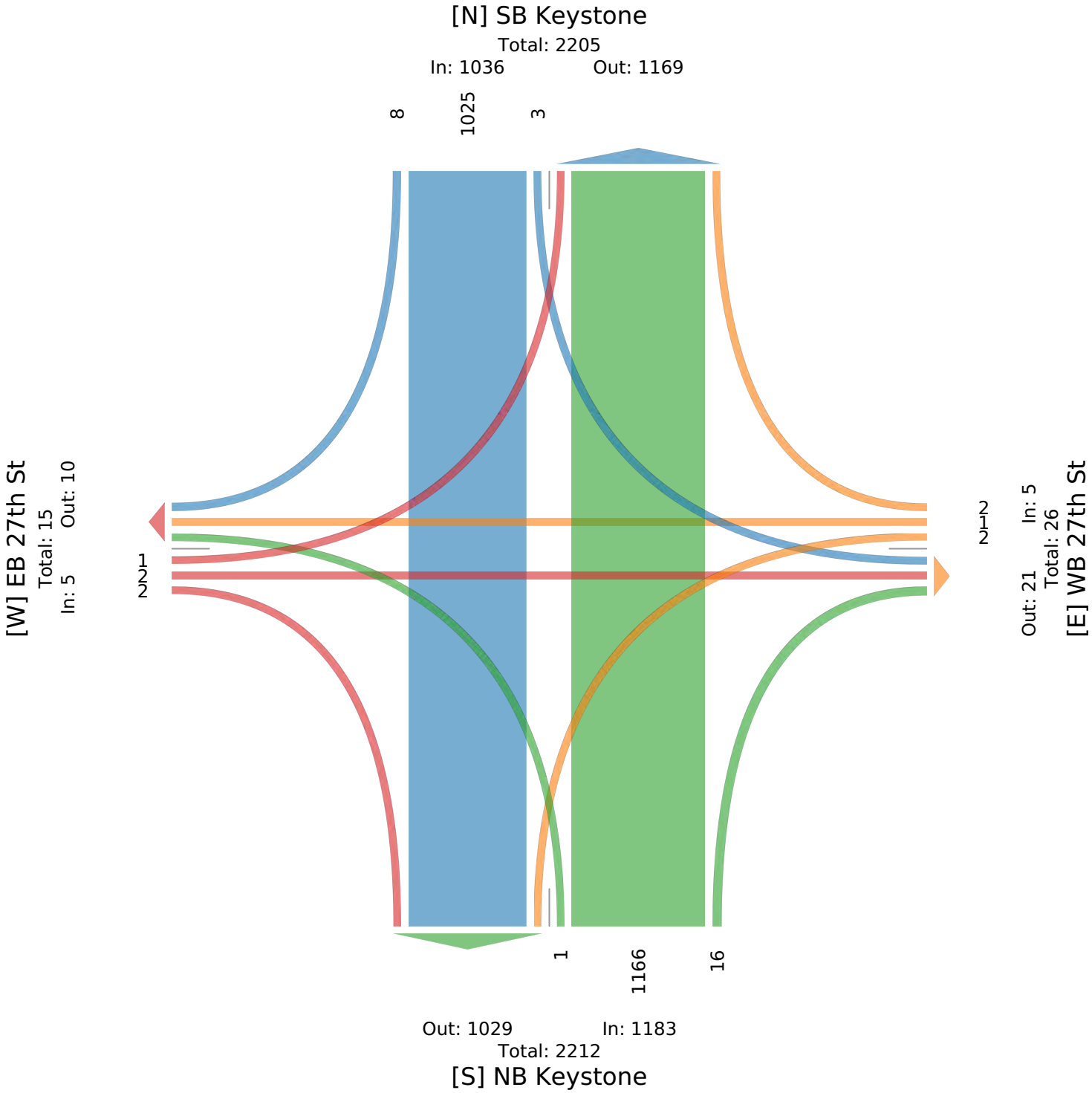
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 27th St Eastbound					WB 27th St Westbound					NB Keystone Northbound					SB Keystone Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-03-05 3:45PM	1	0	1	0	**2**	1	0	0	0	**1**	1	306	1	0	**308**	0	248	3	0	**251**	**562**
4:00PM	0	1	0	0	**1**	1	0	1	0	**2**	0	295	5	0	**300**	1	267	1	0	**269**	**572**
4:15PM	0	0	1	0	**1**	0	1	0	0	**1**	0	277	6	0	**283**	1	265	2	0	**268**	**553**
4:30PM	0	1	0	0	**1**	0	0	1	0	**1**	0	288	4	0	**292**	1	245	2	0	**248**	**542**
Total	1	2	2	0	**5**	2	1	2	0	**5**	1	1166	16	0	**1183**	3	1025	8	0	**1036**	**2229**
% Approach	20.0%	40.0%	40.0%	0%	**-**	40.0%	20.0%	40.0%	0%	**-**	0.1%	98.6%	1.4%	0%	**-**	0.3%	98.9%	0.8%	0%	**-**	-
% Total	0%	0.1%	0.1%	0%	**0.2%**	0.1%	0%	0.1%	0%	**0.2%**	0%	52.3%	0.7%	0%	**53.1%**	0.1%	46.0%	0.4%	0%	**46.5%**	-
PHF	0.250	0.500	0.500		**0.625**	0.500	0.250	0.500		**0.625**	0.250	0.953	0.667		**0.960**	0.750	0.960	0.667		**0.963**	0.974
Lights	1	2	2	0	**5**	2	1	2	0	**5**	1	1152	15	0	**1168**	3	995	8	0	**1006**	2184
% Lights	100%	100%	100%	0%	**100%**	100%	100%	100%	0%	**100%**	100%	98.8%	93.8%	0%	**98.7%**	100%	97.1%	100%	0%	**97.1%**	98.0%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	4	0	0	**4**	4
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0.4%	0%	0%	**0.4%**	0.2%
Buses and Single-Unit Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	14	1	0	**15**	0	26	0	0	**26**	41
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	1.2%	6.3%	0%	**1.3%**	0%	2.5%	0%	0%	**2.5%**	1.8%

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

27th St & Keystone - TMC
Thu Mar 5, 2026
PM Peak (3:45 PM - 4:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383437, Location: 39.805254, -86.121551

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



Leg	EB 27th St					WB 27th St					NB Keystone					SB Keystone					
Direction	Eastbound					Westbound					Northbound					Southbound					
Start Time	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
2026-03-05 07:30:00	1	0	0	0	**1**	1	0	4	0	**5**	0	293	2	0	**295**	0	338	3	0	**341**	**642**
2026-03-05 07:45:00	0	0	1	0	**1**	0	0	1	0	**1**	0	254	2	0	**256**	0	317	2	0	**319**	**577**
2026-03-05 08:00:00	1	0	1	0	**2**	0	1	0	0	**1**	1	289	0	0	**290**	0	296	3	0	**299**	**592**
2026-03-05 08:15:00	0	0	1	0	**1**	1	0	0	0	**1**	0	305	3	0	**308**	0	313	3	0	**316**	**626**
Grand Total	2	0	3	0	**5**	2	1	5	0	**8**	1	1141	7	0	**1149**	0	1264	11	0	**1275**	**2437**
% Approach	40.0%	0.0%	60.0%	0.0%		25.0%	12.5%	62.5%	0.0%		0.1%	99.3%	0.6%	0.0%		0.0%	99.1%	0.9%	0.0%		
% Total	0.1%	0.0%	0.1%	0.0%	**0.2%**	0.1%	0.0%	0.2%	0.0%	**0.3%**	0.0%	46.8%	0.3%	0.0%	**47.1%**	0.0%	51.9%	0.5%	0.0%	**52.3%**	
PHF (7:30 AM - 8:30 AM)	0.5	0	0.75	0	**0.625**	0.5	0.25	0.313	0	**0.4**	0.25	0.935	0.583	0	**0.933**	0	0.935	0.917	0	**0.935**	**0.949**
Lights	2	0	3	0	**5**	2	0	5	0	**7**	1	1093	5	0	**1099**	0	1241	11	0	**1252**	**2363**
% Lights	100.0%	0.0%	100.0%	0.0%	**100.0%**	100.0%	0.0%	100.0%	0.0%	**87.5%**	100.0%	95.8%	71.4%	0.0%	**95.6%**	0.0%	98.2%	100.0%	0.0%	**98.2%**	**97.0%**
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	6	0	0	**6**	0	2	0	0	**2**	**8**
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.5%	0.0%	0.0%	**0.5%**	0.0%	0.2%	0.0%	0.0%	**0.2%**	**0.3%**
Buses and Single-Unit Trucks	0	0	0	0	**0**	0	1	0	0	**1**	0	42	2	0	**44**	0	21	0	0	**21**	**66**
% Buses and Single-Unit Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	100.0%	0.0%	0.0%	**12.5%**	0.0%	3.7%	28.6%	0.0%	**3.8%**	0.0%	1.7%	0.0%	0.0%	**1.6%**	**2.7%**

Thursday	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	2	0	3	0	5	2	1	5	0	8	1	1,086	7	0	1,094	0	1,203	10	0	1,214	2,321
Heavy %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	12.5%	0.0%	4.4%	28.6%	0.0%	4.6%	0.0%	1.9%	0.0%	0.0%	1.9%	
Adjusted Total (2048)	2	0	3	0	5	2	1	5	0	8	1	1,212	7	0	1,221	0	1,343	12	0	1,355	2,589

Season Adj. Factor	Weekday Adj. Factor	Growth Rate	0.50%
Keystone 1.016	Keystone 0.937	Design Year	2048
27th 1.016	27th 0.937	Growth Factor	1.12

Leg	EB 27th St					WB 27th St					NB Keystone					SB Keystone					
Direction	Eastbound					Westbound					Northbound					Southbound					
Start Time	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
2026-03-05 13:00:00	1	0	2	0	**3**	0	1	1	0	**2**	0	161	1	0	**162**	1	219	2	0	**222**	**389**
2026-03-05 13:15:00	0	2	0	0	**2**	0	0	0	0	**0**	4	161	3	0	**168**	1	230	1	0	**232**	**402**
2026-03-05 13:30:00	2	0	1	0	**3**	1	0	1	0	**2**	1	192	1	0	**194**	0	220	2	0	**222**	**421**
2026-03-05 13:45:00	0	1	3	0	**4**	1	1	1	0	**3**	0	177	5	0	**182**	2	230	1	0	**233**	**422**
Grand Total	3	3	6	0	**12**	2	2	3	0	**7**	5	691	10	0	**706**	4	899	6	0	**909**	**1634**
% Approach	25.0%	25.0%	50.0%	0.0%		28.6%	28.6%	42.9%	0.0%		0.7%	97.9%	1.4%	0.0%		0.4%	98.9%	0.7%	0.0%		
% Total	0.2%	0.2%	0.4%	0.0%	**0.7%**	0.1%	0.1%	0.2%	0.0%	**0.4%**	0.3%	42.3%	0.6%	0.0%	**43.2%**	0.2%	55.0%	0.4%	0.0%	**55.6%**	
PHF (1 PM - 2 PM)	0.375	0.375	0.5	0	**0.75**	0.5	0.5	0.75	0	**0.583**	0.313	0.9	0.5	0	**0.91**	0.5	0.977	0.75	0	**0.975**	**0.968**
Lights	3	2	6	0	**11**	2	2	3	0	**7**	5	650	10	0	**665**	4	859	6	0	**869**	**1552**
% Lights	100.0%	66.7%	100.0%	0.0%	**91.7%**	100.0%	100.0%	100.0%	0.0%	**100.0%**	100.0%	94.1%	100.0%	0.0%	**94.2%**	100.0%	95.6%	100.0%	0.0%	**95.6%**	**95.0%**
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	7	0	0	**7**	0	5	0	0	**5**	**12**
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	1.0%	0.0%	0.0%	**1.0%**	0.0%	0.6%	0.0%	0.0%	**0.6%**	**0.7%**
Buses and Single-Unit Trucks	0	1	0	0	**1**	0	0	0	0	**0**	0	34	0	0	**34**	0	35	0	0	**35**	**70**
% Buses and Single-Unit Trucks	0.0%	33.3%	0.0%	0.0%	**8.3%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	4.9%	0.0%	0.0%	**4.8%**	0.0%	3.9%	0.0%	0.0%	**3.9%**	**4.3%**

	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	3	3	6	0	11	2	2	3	0	7	5	658	10	0	672	4	856	6	0	865	1,555
Heavy %)	0.0%	33.3%	0.0%	0.0%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	0.0%	6.1%	0.0%	4.7%	0.0%	0.0%	4.6%	
Adjusted Total (2048)	3	3	6	0	13	2	2	3	0	7	5	734	11	0	750	4	955	6	0	966	1,736

Season Adj. Factor	Weekday Adj. Factor	Growth Rate	0.50%
Keystone 1.016	Keystone 0.937	Design Year	2048
27th 1.016	27th 0.937	Growth Factor	1.12

Leg	EB 27th St					WB 27th St					NB Keystone					SB Keystone					
Direction	Eastbound					Westbound					Northbound					Southbound					
Start Time	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
2026-03-05 15:45:00	1	0	1	0	**2**	1	0	0	0	**1**	1	306	1	0	**308**	0	248	3	0	**251**	**562**
2026-03-05 16:00:00	0	1	0	0	**1**	1	0	1	0	**2**	0	295	5	0	**300**	1	267	1	0	**269**	**572**
2026-03-05 16:15:00	0	0	1	0	**1**	0	1	0	0	**1**	0	277	6	0	**283**	1	265	2	0	**268**	**553**
2026-03-05 16:30:00	0	1	0	0	**1**	0	0	1	0	**1**	0	288	4	0	**292**	1	245	2	0	**248**	**542**
Grand Total	1	2	2	0	**5**	2	1	2	0	**5**	1	1166	16	0	**1183**	3	1025	8	0	**1036**	**2229**
% Approach	20.0%	40.0%	40.0%	0.0%		40.0%	20.0%	40.0%	0.0%		0.1%	98.6%	1.4%	0.0%		0.3%	98.9%	0.8%	0.0%		
% Total	0.0%	0.1%	0.1%	0.0%	**0.2%**	0.1%	0.0%	0.1%	0.0%	**0.2%**	0.0%	52.3%	0.7%	0.0%	**53.1%**	0.1%	46.0%	0.4%	0.0%	**46.5%**	
PHF (3:45 PM - 4:45 PM)	0.25	0.5	0.5	0	**0.625**	0.5	0.25	0.5	0	**0.625**	0.25	0.953	0.667	0	**0.96**	0.75	0.96	0.667	0	**0.963**	**0.974**
Lights	1	2	2	0	**5**	2	1	2	0	**5**	1	1152	15	0	**1168**	3	995	8	0	**1006**	**2184**
% Lights	100.0%	100.0%	100.0%	0.0%	**100.0%**	100.0%	100.0%	100.0%	0.0%	**100.0%**	100.0%	98.8%	93.8%	0.0%	**98.7%**	100.0%	97.1%	100.0%	0.0%	**97.1%**	**98.0%**
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	4	0	0	**4**	**4**
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.4%	0.0%	0.0%	**0.4%**	**0.2%**
Buses and Single-Unit Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	14	1	0	**15**	0	26	0	0	**26**	**41**
% 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%**	0.0%	1.2%	6.3%	0.0%	**1.3%**	0.0%	2.5%	0.0%	0.0%	**2.5%**	**1.8%**

	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	1	2	2	0	5	2	1	2	0	5	1	1,110	15	0	1,126	3	976	8	0	986	2,122
Heavy %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	6.7%	0.0%	1.3%	0.0%	3.1%	0.0%	0.0%	3.0%	
Adjusted Total (2048)	1	2	2	0	5	2	1	2	0	5	1	1239	17	0	1257	3	1089	8	0	1101	2,368

Season Adj. Factor	Weekday Adj. Factor	Growth Rate	0.50%
Keystone 1.016	Keystone 0.937	Design Year	2048
27th 1.016	27th 0.937	Growth Factor	1.12

ATTACHMENT C

Traffic Analysis

HCS Two-Way Stop-Control Report

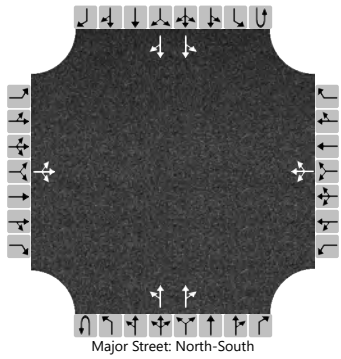
General Information

Analyst	Micah Reynolds
Agency/Co.	Burgess & Niple
Date Performed	5/12/2026
Analysis Year	2026
Time Analyzed	AM Peak (7:30-8:30am)
Intersection Orientation	North-South
Project Description	Keystone Avenue at 27th Street

Site Information

Intersection	Keystone & 27th
Jurisdiction	IMPO
East/West Street	27th Street
North/South Street	Keystone Avenue
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
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	2	0	0	0	2	0
Configuration			LTR				LTR			LT		TR		LT		TR
Volume (veh/h)		2	0	3		2	1	5		1	1086	7		0	1203	10
Percent Heavy Vehicles (%)		0	0	0		0	100	0		4				0		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.50	6.50	6.90		7.50	8.50	6.90		4.18				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	5.00	3.30		2.24				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				8			1				0		
Capacity, c (veh/h)			88				47			529				615		
v/c Ratio			0.06				0.18			0.00				0.00		
95% Queue Length, Q_{95} (veh)			0.2				0.6			0.0				0.0		
95% Queue Length, Q_{95} (ft)			5.0				16.5			0.0				0.0		
Control Delay (s/veh)			48.3				98.8			11.8	0.0			10.9	0.0	
Level of Service (LOS)			E				F			B	A			B	A	
Approach Delay (s/veh)		48.3				98.8				0.0				0.0		
Approach LOS		E				F				A				A		

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HCS Two-Way Stop-Control Report

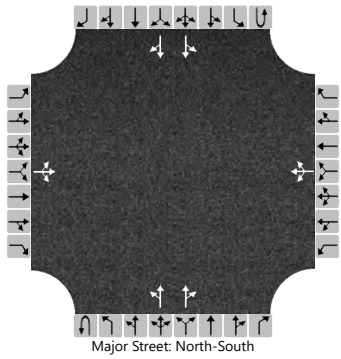
General Information

Analyst	Micah Reynolds
Agency/Co.	Burgess & Niple
Date Performed	5/12/2026
Analysis Year	2026
Time Analyzed	PM Peak (3:45-4:45pm)
Intersection Orientation	North-South
Project Description	Keystone Avenue at 27th Street

Site Information

Intersection	Keystone & 27th
Jurisdiction	IMPO
East/West Street	27th Street
North/South Street	Keystone Avenue
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
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	2	0	0	0	2	0
Configuration			LTR				LTR			LT		TR		LT		TR
Volume (veh/h)		1	2	2		2	1	2		1	1110	15		3	976	8
Percent Heavy Vehicles (%)		0	0	0		0	0	0		1				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.50	6.50	6.90		7.50	6.50	6.90		4.12				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		2.21				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				5			1				3		
Capacity, c (veh/h)			82				85			685				610		
v/c Ratio			0.06				0.06			0.00				0.01		
95% Queue Length, Q_{95} (veh)			0.2				0.2			0.0				0.0		
95% Queue Length, Q_{95} (ft)			5.0				5.0			0.0				0.0		
Control Delay (s/veh)			52.1				50.0			10.3	0.0			10.9	0.1	
Level of Service (LOS)			F				F			B	A			B	A	
Approach Delay (s/veh)	52.1				50.0				0.0				0.1			
Approach LOS	F				F				A				A			

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HCS Two-Way Stop-Control Report

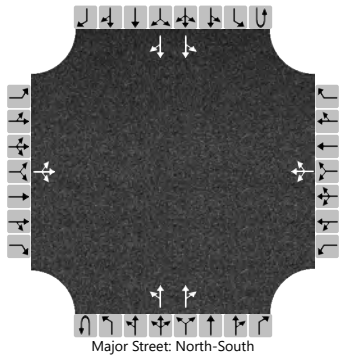
General Information

Analyst	Micah Reynolds
Agency/Co.	Burgess & Niple
Date Performed	5/12/2026
Analysis Year	2048
Time Analyzed	AM Peak (7:30-8:30am)
Intersection Orientation	North-South
Project Description	Keystone Avenue at 27th Street

Site Information

Intersection	Keystone & 27th
Jurisdiction	IMPO
East/West Street	27th Street
North/South Street	Keystone Avenue
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
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	2	0	0	0	2	0
Configuration			LTR				LTR			LT		TR		LT		TR
Volume (veh/h)		2	0	3		2	1	5		1	1210	7		0	1340	12
Percent Heavy Vehicles (%)		0	0	0		0	100	0		4				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.50	6.50	6.90		7.50	8.50	6.90		4.18				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	5.00	3.30		2.24				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				8			1				0		
Capacity, c (veh/h)			57				28			464				549		
v/c Ratio			0.09				0.30			0.00				0.00		
95% Queue Length, Q_{95} (veh)			0.3				0.9			0.0				0.0		
95% Queue Length, Q_{95} (ft)			7.5				24.8			0.0				0.0		
Control Delay (s/veh)			75.1				177.8			12.8	0.0			11.6	0.0	
Level of Service (LOS)			F				F			B	A			B	A	
Approach Delay (s/veh)	75.1				177.8				0.1				0.0			
Approach LOS	F				F				A				A			

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HCS Two-Way Stop-Control Report

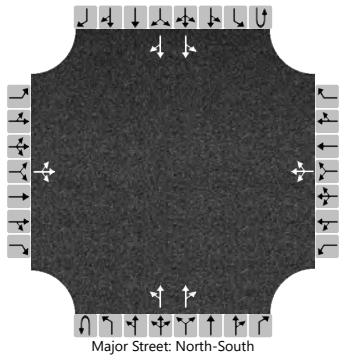
General Information

Analyst	Micah Reynolds
Agency/Co.	Burgess & Niple
Date Performed	5/12/2026
Analysis Year	2048
Time Analyzed	PM Peak (3:45-4:45pm)
Intersection Orientation	North-South
Project Description	Keystone Avenue at 27th Street

Site Information

Intersection	Keystone & 27th
Jurisdiction	IMPO
East/West Street	27th Street
North/South Street	Keystone Avenue
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
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	2	0	0	0	2	0
Configuration			LTR				LTR			LT		TR		LT		TR
Volume (veh/h)		1	2	2		2	1	2		1	1236	17		3	1087	8
Percent Heavy Vehicles (%)		0	0	0		0	0	0		1				0		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.50	6.50	6.90		7.50	6.50	6.90		4.12				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		2.21				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5				5			1				3		
Capacity, c (veh/h)			58				61			620				543		
v/c Ratio			0.09				0.08			0.00				0.01		
95% Queue Length, Q_{95} (veh)			0.3				0.3			0.0				0.0		
95% Queue Length, Q_{95} (ft)			7.5				7.5			0.0				0.0		
Control Delay (s/veh)			72.8				69.6			10.8	0.0			11.7	0.1	
Level of Service (LOS)			F				F			B	A			B	A	
Approach Delay (s/veh)	72.8				69.6				0.0				0.1			
Approach LOS	F				F				A				A			

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ATTACHMENT D

Virtual Meeting Minutes & Field Check Minutes

CORRADINO LLC
200 S. Meridian St. Suite 330
Indianapolis, IN 46225

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

BURGESS & NIPLE

251 North Illinois Street | Capital Center Suite 920 | Indianapolis, IN 46204 | 317.237.2760

Project: **IMPO Safety On-Call** **Date: June 5, 2026**
Location: **Keystone Avenue at 27th Street**
Marion County

Attendees

Jill Palmer	Indianapolis DPW	Jeremy VanVleet	Burgess & Niple
Jason Bowers	Indianapolis DPW	Micah Reynolds	Burgess & Niple
Jamey McPherson	Indianapolis DPW		
Andrea Miller	Indy MPO		
Jennifer Dunn	Indy MPO		

Field Check Observations

The field check attendees met on the northeast quadrant of Keystone Avenue & 27th Street on Monday, April 27th, 2026, at approximately 9:00AM. The existing intersection is a four-leg, minor stop controlled intersection. While at the field check, it was noted that the sidewalks along Keystone Avenue are right against the travel lane, which makes walking along the sidewalk a little uncomfortable. Vehicles on Keystone Avenue seemed to be traveling quite fast, and likely over the posted speed limit of 35mph.

It was brought to the group's attention that the IMPO intends to study the Keystone Avenue corridor wholistically as part of a Safe Streets for All (SS4A) Grant. While observing traffic, several pedestrians crossed Keystone Avenue when there was an adequate gap to do so. It was also noted that a couple of the nearby drainage inlets appeared to be clogged. Replica data may be warranted to identify issues with speeds.

Jeremy then discussed with the group the existing safety performance at the intersection. The crash history indicated that there is not a significant crash pattern of any specific type of crash at the intersection, but there was one pedestrian fatality. The RoadHAT analysis results showed an I_{CF} of 2.46 and an I_{CC} of 1.86 which indicate the intersection is performing worse than expected.

After reviewing the traffic and safety analysis and while watching traffic at the site, the group decided on options that should be analyzed further.

- In the short term, pavement markings at the intersection (especially at the minor approaches), should be painted or refreshed using the wider 6" pavement markings. A pedestrian crossing with HAWK should be considered, including ADA-compliant ramps. Due to the prevalence of nighttime crashes, additional lighting should also be considered.
- In the long term, adding a barrier in the median to prevent traffic from crossing Keystone Avenue should be considered. Additional considerations may be needed regarding drainage at the intersection and ensure there is adequate drainage.

These alternatives will be analyzed, and results will be shared and discussed further.

ATTACHMENT E

Cost Estimates & Schematics

QUANTITY COST ESTIMATE

IMPO RSAs - Keystone Avenue at 27th Street

Proj 63966

Des N/A

ESTIMATED PROJECT COST	
Total:	$131,975.00
20.0% Contingency:	$26,400.00
ESTIMATED TOTAL:	$158,375.00

ID	Item No.	Description	Quantity	Unit	Unit Price	Item Total
0001	105-06845	CONSTRUCTION ENGINEERING	1.00	LS	$5,000.00	$5,000.00
0002	110-01001	MOBILIZATION AND DEMOBILIZATION	1.00	LS	$7,500.00	$7,500.00
0003	201-52370	CLEARING RIGHT-OF-WAY	1.00	LS	$5,000.00	$5,000.00
0004	205-12108	STORMWATER MANAGEMENT BUDGET	2,500.00	DOL	$1.00	$2,500.00
0005	205-12618	SWQCP PREPARATION	1.00	LS	$2,500.00	$2,500.00
0006	207-08264	SUBGRADE TREATMENT, TYPE II	50.00	SYS	$50.00	$2,500.00
0007	304-12625	HMA PATCHING, FULL DEPTH, TYPE C	25.00	TON	$300.00	$7,500.00
0008	304-12626	HMA PATCHING, PARTIAL DEPTH, TYPE C	30.00	TON	$400.00	$12,000.00
0009	604-06070	SIDEWALK, CONCRETE	50.00	SYS	$165.00	$8,250.00
0010	604-08086	CURB RAMP, CONCRETE	11.00	SYS	$250.00	$2,750.00
0011	604-12083	DETECTABLE WARNING SURFACES	11.00	SYS	$300.00	$3,300.00
0012	801-06775	MAINTAINING TRAFFIC	1.00	LS	$15,000.00	$15,000.00
0013	807-04744	LIGHTING	1.00	LS	$50,000.00	$50,000.00
0014	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	220.00	LFT	$15.00	$3,300.00
0015	808-12032	GROOVING FOR PAVEMENT MARKINGS	360.00	LFT	$7.50	$2,700.00
0016	808-75043	LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN.	90.00	LFT	$5.00	$450.00
0017	808-75247	LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN.	270.00	LFT	$5.00	$1,350.00
0018	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	25.00	LFT	$15.00	$375.00
		Total				$158,375.00
		Preliminary Engineering (15%)				$23,800.00
		Utility Allowance (5%)				$8,000.00
		Right of Way				$0.00
		Grand Total				$190,175.00

QUANTITY COST ESTIMATE

IMPO RSAs - Keystone Avenue at 27th Street

Proj 63966

Des N/A

ESTIMATED PROJECT COST	
Total:	$306,070.00
20.0% Contingency:	$61,220.00
ESTIMATED TOTAL:	$367,290.00

ID	Item No.	Description	Quantity	Unit	Unit Price	Item Total
0001	105-06845	CONSTRUCTION ENGINEERING	1.00	LS	$7,500.00	$7,500.00
0002	110-01001	MOBILIZATION AND DEMOBILIZATION	1.00	LS	$15,000.00	$15,000.00
0003	201-52370	CLEARING RIGHT-OF-WAY	1.00	LS	$7,500.00	$7,500.00
0004	205-12108	STORMWATER MANAGEMENT BUDGET	2,500.00	DOL	$1.00	$2,500.00
0005	205-12618	SWQCP PREPARATION	1.00	LS	$2,500.00	$2,500.00
0006	207-08264	SUBGRADE TREATMENT, TYPE II	50.00	SYS	$50.00	$2,500.00
0007	304-12625	HMA PATCHING, FULL DEPTH, TYPE C	25.00	TON	$300.00	$7,500.00
0008	304-12626	HMA PATCHING, PARTIAL DEPTH, TYPE C	30.00	TON	$400.00	$12,000.00
0009	604-06070	SIDEWALK, CONCRETE	110.00	SYS	$165.00	$18,150.00
0010	604-08086	CURB RAMP, CONCRETE	22.00	SYS	$250.00	$5,500.00
0011	604-12083	DETECTABLE WARNING SURFACES	22.00	SYS	$300.00	$6,600.00
0012	605-06215	CENTER CURB, D CONCRETE	200.00	LFT	$200.00	$40,000.00
0013	801-06775	MAINTAINING TRAFFIC	1.00	LS	$30,000.00	$30,000.00
0014	802-05702	SIGN POST, SQUARE, TYPE 2, REINFORCED ANCHOR BASE	20.00	LFT	$35.00	$700.00
0015	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	6.00	SFT	$45.00	$270.00
0016	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	2.00	EACH	$1,000.00	$2,000.00
0017	805-11376	SIGNAL CANTILEVER STRUCTURE, SINGLE ARM 30 FT	2.00	EACH	$30,000.00	$60,000.00
0018	805-11383	SIGNAL CANTILEVER STRUCTURE, DRILLED SHAFT FOUNDATION, TYPE A	2.00	EACH	$7,500.00	$15,000.00
0019	805-11496	PEDESTRIAN HYBRID BEACON	4.00	EACH	$2,000.00	$8,000.00
0020	805-11817	PEDESTRIAN PUSH BUTTON, APS	2.00	EACH	$2,000.00	$4,000.00
0021	807-04744	LIGHTING	1.00	LS	$50,000.00	$50,000.00
0022	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	220.00	LFT	$15.00	$3,300.00
0023	808-12032	GROOVING FOR PAVEMENT MARKINGS	360.00	LFT	$7.50	$2,700.00
0024	808-75043	LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN.	90.00	LFT	$5.00	$450.00
0025	808-75247	LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN.	270.00	LFT	$5.00	$1,350.00
0026	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	70.00	LFT	$15.00	$1,050.00
		Total				$367,290.00
		Preliminary Engineering (15%)				$55,100.00
		Utility Allowance (5%)				$18,400.00
		Right of Way				$0.00
		Grand Total				$440,790.00

Prepared By: _____ Date: _____ Checked By: _____ Date: _____



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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MDR DRAWN: EMW

CHECKED: _____ CHECKED: _____

INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION

KEYSTONE AVENUE AT 27TH STREET
CONCEPT DRAWING

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGN VEHICLE
N/A	WB-50
SURVEY BOOK	SHEETS
	of
CONTRACT	PROJECT
R-XXXXX	XXXXXXX

RoadHAT 4D

Economic Evaluation - Form F5

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue & 27th Street	
Marion County		
GIS		
Post		
Analyst	Elaina Wahlman	
Date	6/18/2026	

INPUT	
Alternative	Long-term recomendation
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	4
Property Damage Only Crashes	13
Route Type	City Arterial Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Present Year (yyyy)	2026
Implementation Year (yyyy)	2050
Inflation Rate (%)	2
Interest Rate (%)	4
Annual Traffic Growth Rate (%)	2
Total Traffic Growth Factor (%)	1.127
Future Traffic Growth Period (years)	24
Countermeasure 1	
Countermeasure Description	Add enhanced pedestrian crossing with a pedestrian hybrid beacon with push buttons.
Crash Reduction Factors (%)	
Fatal and Incapacitating Injury Crashes	19.2
Non-Incapacitating and Possible Injury Crashes	19.2
Property Damage Only Crashes	11.7

RoadHAT 4D

Economic Evaluation - Form F5

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue & 27th Street	
Marion County		
GIS		
Post		
Analyst	Elaina Wahlman	
Date	6/18/2026	

Number of Target Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	4
Property Damage Only Crashes	13
Countermeasure Service Life (years)	25
Countermeasure Capital Cost ($)	220395
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0
Countermeasure 2	
Countermeasure Description	Construct a 6" centerline curb to convert the intersection to right-in-right-out
Crash Reduction Factors (%)	
Fatal and Incapacitating Injury Crashes	45
Non-Incapacitating and Possible Injury Crashes	45
Property Damage Only Crashes	45
Number of Target Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	4
Property Damage Only Crashes	13
Countermeasure Service Life (years)	25
Countermeasure Capital Cost ($)	220395
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0
OUTPUT	
Total Crashes Saved	6.017
FI Crashes Saved	0.948
NI Crashes Saved	1.264
PDO Crashes Saved	3.804

RoadHAT 4D

Economic Evaluation - Form F5

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue & 27th Street	
Marion County		
GIS		
Post		
Analyst	Elaina Wahlman	
Date	6/18/2026	

Equivalent Annual Benefit ($)	646,809
Equivalent Annual Cost ($)	11,008
Present Worth Benefit ($)	16,170,216
Present Worth Cost ($)	275,190
Net Annual Benefit ($)	**635,801**
Present Worth Net Benefit ($)	**15,895,026**
Benefit-Cost Ratio	**58.76**

Comments: Long term solution: Construct an enhanced pedestrian crossing w ith a pedestrian hybrid beacon w ith push buttons. Construct a 6" centerline curb to convert the intersection ro right-in-right-out.

ATTACHMENT F

Near Miss Analysis

The traffic from the southern signal causes queuing to reach the intersection being analyzed. Even though there were not a lot of near misses recorded, the ones that occurred were mostly due to the queuing caused by the signal at Keystone Avenue and 25th Street.

12 AM – No Instances

1 AM – No Instances

2 AM – No Instances

3 AM – No Instances

4 AM – No Instances

5 AM – No Instances

6 AM – No Instances

7 AM – 1 Instance

07:57:16 Pedestrian completing midblock crossing.



8 AM – No Instances

9 AM – 2 Instances

09:32:27 Side street vehicle causes mainline traffic to stop due to failure to yield the right of way.



09:51:41 Vehicle from driveway pulls onto Keystone Avenue and waits for opening in roadway.



10 AM – 4 Instances

10:04:36 Pedestrian running to cross street.



10:34:07 Side street vehicle is nearly hit by an oncoming dump truck.



10:34:29 Pedestrians crossing south side of intersection.



10:58:17 Side street vehicle is occupying mainline driving lane.



11 AM – 1 Instance

11:50:55 Pedestrian crossing midblock.



12 PM – 1 Instance

12:24:31 Side street vehicle is occupying mainline driving lane.



1 PM – 2 Instances

13:27:51 Vehicle parked on the side of the road causing other vehicles to swerve around.



13:36:29 Side street vehicle pulls out in front of mainline vehicle.



2 PM – 1 Instance

14:27:26 Side street vehicle pulling out in front of mainline traffic.



3 PM – 1 Instance

15:32:35 Cyclist crosses in front of traffic.



4 PM – 1 Instance

16:05:59 Cyclist crosses close to vehicle.



5 PM – No Instances

6 PM – 1 Instance

18:15:55 Vehicle driving up the wrong way.



7 PM – 1 Instance

19:25:00 Vehicle almost rear ends backing vehicle.



8 PM – No Instances

9 PM – 1 Instance

21:47:52 Pedestrian nearly hit.



10 PM – No Instances

11 PM – No Instances

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/19/2026
Des. No.:	N/A

Reviewer Information:		Agency/Firm Name:	Burgess & Niple
Primary Author:	Micah Reynolds, PE, RSP_{2I}	Agency:	Indianapolis Metropolitan Planning Organization
Phone Numbers:	(260) 452-7171	Email Address:	micah.reynolds@burgessniple.com

Purpose of Review:

Burgess & Niple was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Keystone Avenue		District: Greenfield		City: Indianapolis			County: Marion
Lat & Long (BOP):	39.810757	-86.121594	Lat & Long (EOP):	39.810757	-86.121594	Inside Urban Area Boundary: Yes	
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit			

Location: The intersection of Keystone Avenue & 30th Street

Existing Conditions:

The Keystone Avenue & 30th Street intersection is a signalized four-leg intersection. 30th Street is a two-lane roadway at the intersection, with dedicated left turn lanes in each direction. Keystone Avenue is a 4-lane roadway at the intersection. There are two southbound and two northbound lanes along Keystone Avenue and dedicated left turn lanes for each direction. The posted speed limit on Keystone Avenue at the intersection is 35 MPH. There is no posted speed on 30th Street. IMPO Replica data indicates that northbound Keystone 85th percentile speeds are 39.5 MPH while 95th percentile (outlier speeds) was observed to be 44.5 MPH. Southbound speeds through the intersection are 38.5 MPH for the 85th percentile and 43.5 MPH for the 95th percentile speeds.

There doesn't appear to be significant geometric deficiencies that are contributing to the crashes that are occurring. There is significant pedestrian traffic that crosses Keystone Avenue at this location and painted crosswalks with pedestrian push buttons and pedestrian signal heads are installed at this location.

Sidewalk is located at the study intersection along Keystone Avenue and 30th Street. There is no buffer between the roadway and the sidewalk, which can be unnerving at times for anybody walking along the sidewalk.

Located in each quadrant of the intersection are:

- NW Quadrant: Gas station
- SW Quadrant: Commercial property
- SE Quadrant: Commercial property
- NE Quadrant: Commercial property

Burgess & Niple held a field check with the representatives from the IMPO and City of Indianapolis DPW on April 27, 2026, to discuss some near-term and long-term solutions and build consensus around a series of countermeasures for Burgess & Niple to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Traffic Operations:

Mobility/Congestion Performance: According to 14-hour traffic count data collected on May 11th, 2023, the PM Peak features the highest volumes. For the PM Peak, eastbound traffic entering the intersection is **534,** westbound traffic entering the intersection is **443**, northbound traffic entering the intersection is **1,075**, and southbound traffic entering the intersection is **1,045**. These counts were adjusted using INDOT's standard Adjustment Factors, and the adjusted counts can be viewed in the traffic data in **Attachment B**. The attached Synchro analysis illustrates that vehicles have acceptable delays in both peak periods. If the intersection is converted to protected only phasing, there is only a marginal increase to delay.

	Eastbound		Westbound		Northbound		Southbound	
Alternative	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
AM Peak - Existing Timing	B	16.7	C	30.0	C	20.0	C	20.3
PM Peak - Existing Timing	D	39.2	D	42.6	C	26.7	C	29.6
AM Peak - Protected Only	B	16.7	C	30.0	C	24.5	C	23.6
PM Peak - Protected Only	D	46.4	D	50.6	D	35.5	D	35.4

Safety Performance / Crash Analysis: According to available crash data, there were 68 crashes associated with the study area from January 1, 2022, to December 31, 2024. Of those crashes, **zero** resulted in fatality, **three** resulted in incapacitating injuries, and **twelve** resulted in non-incapacitating injuries. See attached Crash Summary and output from RoadHAT 4.1 in **Attachment A.**

2022-2024 Crash Data - analyzed as **City Arterial Intersection One AADT** I_{CC} = 1.39, I_{CF} = 1.82

Alternatives & Recommendations

Near-Term

Near-term solutions will include:

Maintenance of the existing striping at the intersection, especially for the minor approaches.

Conversion to protected-only phasing with new signal heads & reflective backplates.

Long-Term

The long-term recommended improvement for the intersection will be to restrict and simplify access to the local businesses along the two streets. A schematic of the proposed improvements is in Attachment E.

Future Consideration

IMPO staff noted that they intend to study the Keystone Avenue corridor from I-70 to Fall Creek Parkway through a SS4A planning study. Considerations of intersection type (i.e. roundabout or traditional intersection improvements) at the major intersections should be included along with analyzing the number of lanes on Keystone Avenue in the Corridor Study. Access control and speed management should be considered as alternatives analyzed in this study. This will set up future success for the corridor through reimagining the roadway to provide space for all road users to safely traverse the Keystone Avenue corridor.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Detailed cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation

Construction	$167,850
Preliminary Engineering (15%)	$25,200
Utility Allowance (5%)	$8,400
Right of Way	$0
Grand Total	$201,450

Long-Term Recommendation

Construction	$267,570
Preliminary Engineering (15%)	$40,200
Utility Allowance (5%)	$13,400
Right of Way	$0
Grand Total	$321,170

Project Score: (for INDOT use)

Safety Program Score =

Miscellaneous Notes:

Attachments:

Attachment A: Preliminary Findings Report
Attachment B: Traffic Counts
Attachment C: Traffic Analysis
Attachment D: Virtual Meeting Minutes & Field Check Minutes
Attachment E: Cost Estimates & Schematics

ATTACHMENT A

Preliminary Findings Report

PRELIMINARY FINDINGS

Safety Analysis at Keystone Avenue at 30th Street

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Keystone Avenue & 30th Street (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (Icc) and crash frequency (Icf) for the Study Area using RoadHat 4.1.

68 crashes were identified within the Study Area. Three of those reported crashes resulted in incapacitating injuries. The three incapacitating injury crashes were reported as a rear end, right angle and left turn crash types Other notable results near the Study Area include:

- 38% of the reported crashes at the intersection were Rear End crashes. Fourteen of the Rear End crashes occurred in the southbound direction on Keystone Parkway.
- 57% of reported crashes occurred during Off-Peak travel times. 13% of reported crashes occurred during the morning peak hours (6am-9am), and 29% during the evening peak hours (4pm-7pm).
- 62% of reported crashes occurred in daylight hours and 36% in low light conditions. The remaining crashes listed lighting conditions as "Unknown" in the police report.
- 23% of reported crashes occurred in wet roadway surface conditions. The remaining of reported crashes occurred on a dry roadway surface.
- 74% of reported crashes occurred when the weather conditions were clear. The remaining 26% of reported crashes occurred on cloudy, rainy, or snowy days.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

Crash Data Summary
Keystone Avenue & 30th Street

2022 - 2024 Crash Summary	
TOTAL CRASHES	68
TOTAL DEAD	0
TOTAL INJURED	21
PROPERTY DAMAGE ONLY	53
NON-INCAPACITATING	12
INCAPACITATING	3
FATAL	0

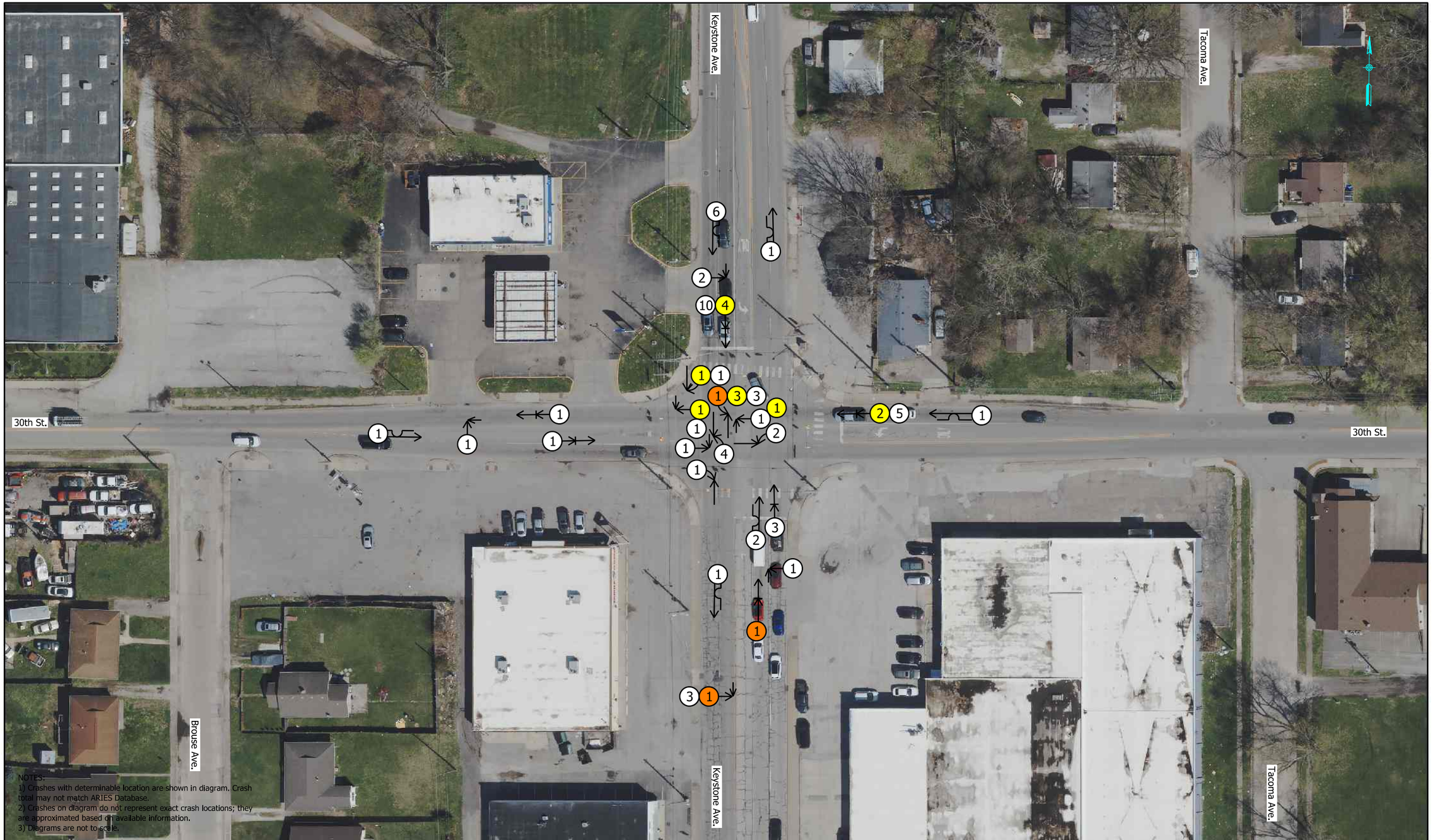
Summary of Primary Factors per Manner of Collision	Crashes	Percentage
BACKING CRASH	**1**	**1%**
UNSAFE BACKING	1	
LEFT TURN	**14**	**21%**
DISREGARD SIGNAL/REG SIGN	1	
FAILURE TO MAINTAIN LANE	1	
FAILURE TO YIELD RIGHT OF WAY	11	
IMPROPER TURNING	1	
REAR END	**26**	**38%**
BRAKE FAILURE OR DEFECTIVE	2	
DRIVER DISTRACTED	1	
FOLLOWING TOO CLOSELY	18	
IMPROPER LANE USAGE	1	
UNSAFE SPEED	4	
RIGHT ANGLE	**13**	**19%**
ACCELERATOR FAILURE OR DEFECTIVE	1	
DISREGARD SIGNAL/REG SIGN	3	
FAILURE TO YIELD RIGHT OF WAY	8	
OTHER (ENVIRONMENTAL)	1	
RIGHT TURN	**2**	**3%**
IMPROPER TURNING	1	
UNSAFE SPEED	1	
SAME DIRECTION SIDESWIPE	**12**	**18%**
DRIVER DISTRACTED	1	
FAILURE TO MAINTAIN LANE	2	
IMPROPER LANE USAGE	1	
IMPROPER PASSING	1	
IMPROPER TURNING	2	
UNSAFE LANE MOVEMENT	5	
Total Crashes	**68**	**100%**

Summary of Crashes per Time of Day	Crashes	Percent
Peak AM (6:00-9:00 AM)	9	13%
Peak PM (4:00-7:00PM)	20	29%
Off Peak	39	57%
Total Crashes	**68**	**100%**

Summary of Crashes per Light Condition	Crashes	Percent
DARK (LIGHTED)	18	26%
DARK (NOT LIGHTED)	3	4%
DAWN/DUSK	4	6%
DAYLIGHT	42	62%
UNKNOWN	1	1%
Total Crashes	**68**	**100%**

Summary of Crashes per Surface Condition				
Manner of Collision	DRY	SNOW/SLUSH	WET	Total Crashes
BACKING CRASH			1	1
LEFT TURN	10		4	14
REAR END	21	1	4	26
RIGHT ANGLE	11		2	13
RIGHT TURN			2	2
SAME DIRECTION SIDESWIPE	10		2	12
Total Crashes	**52**	**1**	**15**	**68**

Summary of Weather Conditions					
Manner of Collision	CLEAR	CLOUDY	RAIN	SNOW	Total Crashes
BACKING CRASH		1			1
LEFT TURN	9	1	4		14
REAR END	20	4		2	26
RIGHT ANGLE	12	1			13
RIGHT TURN			2		2
SAME DIRECTION SIDESWIPE	9	1	2		12
Total Crashes	**50**	**8**	**8**	**2**	**68**



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LEGEND

- PROPERTY DAMAGE ONLY
- NON-INCAPACITATING INJURY
- INCAPACITATING INJURY
- FATALITY
- VEHICLE PATH
- U-TURNING VEHICLE PATH
- BICYCLE PATH
- PEDESTRIAN PATH
- FIXED OBJECT
- OFF ROAD
- ROLLOVER
- LEFT TURN
- RIGHT TURN
- ANGLE
- REAR-END
- HEAD-ON
- SIDESWIPE
- OTHER

Year	K	A	BC	O	All
2022	0	0	2	16	18
2023	0	3	5	19	27
2024	0	0	5	18	23

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: MDR DRAWN: EMW

CHECKED: _____ CHECKED: _____

INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION

KEYSTONE AVENUE AT 30TH STREET CRASH DIAGRAM

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGN VEHICLE
N/A	WB-50
SURVEY BOOK	SHEETS
	of
CONTRACT	PROJECT
R-XXXXX	XXXXXX

Intersection Images

Keystone Avenue & 30th Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

INDOT District: Greenfield County: Marion City/Town: Indianapolis



West Leg – Looking West



West Leg – Looking East



East Leg – Looking West



East Leg – Looking East



South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Imagery provided by Google Earth

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue at 30th Street	
GIS		
Post		
Analyst	VanVleet	
Date	4/24/2026	

INPUT	
Road Facility Type	City Arterial Intersection One AADT
Busiest Road AADT (veh/day)	31444
Crossing Road Principal Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Arterial Indicator (1 if present, 0 otherwise)	1
Crossing Road Major Collector Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	12
Property Damage Only Crashes	53
Route or Road Type	City Arterial Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.448
Non-Incapacitating and Possible Injury Crashes	1.24
Property Damage Only Crashes	6.06
All Crashes	7.76
Index of Crash Frequency	**1.82**
Index of Crash Cost	**1.39**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue at 30th Street	
GIS		
Post		
Analyst	VanVleet	
Date	4/24/2026	

Comments: AADT from TCDS

ATTACHMENT B

Traffic Counts

Keystone Ave & 30th St - TMC

Thu May 11, 2023
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1064493, Location: 39.810739, -86.121587

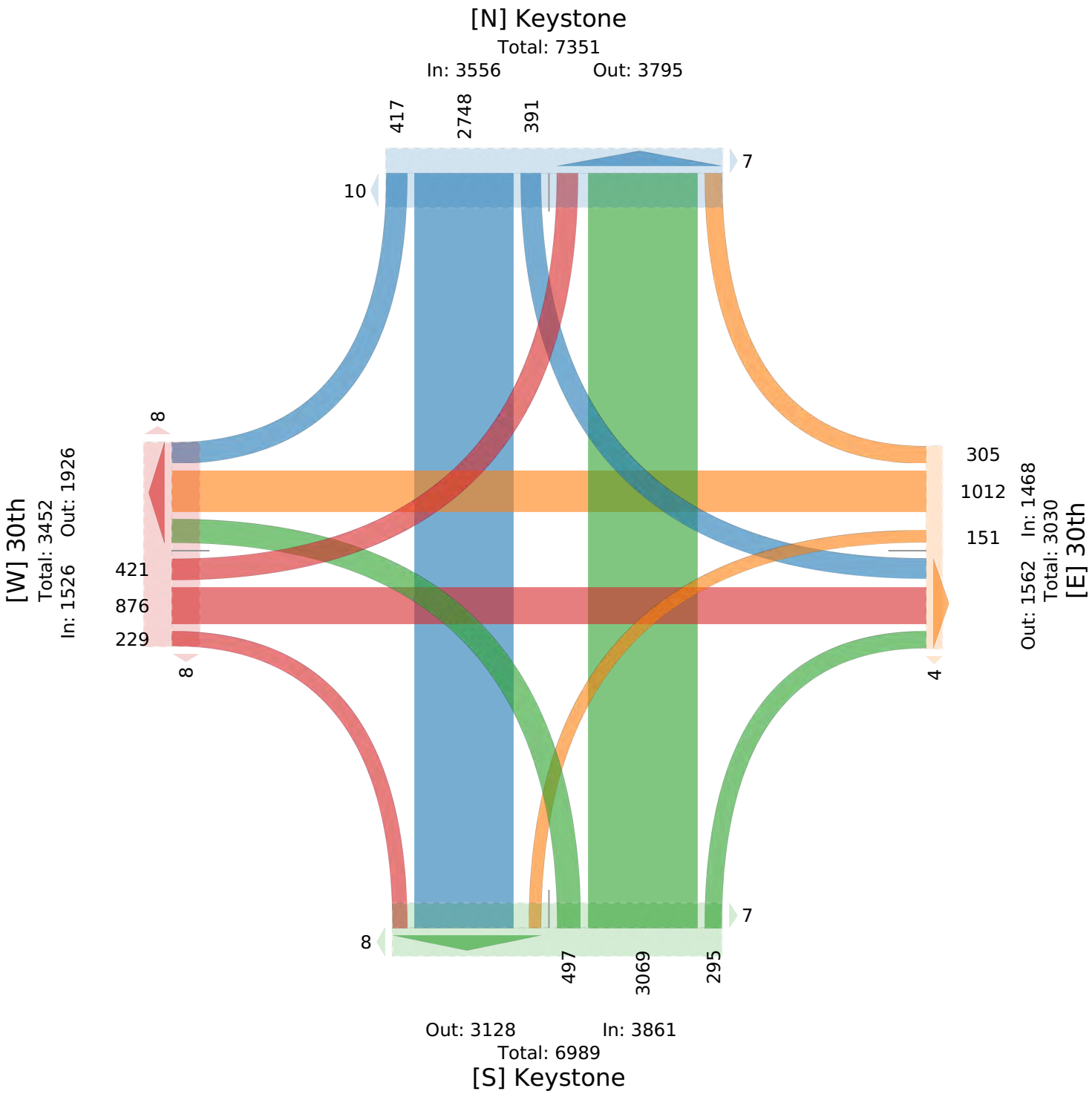
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	30th						30th						Keystone						Keystone						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2023-05-11 7:00AM	9	30	13	0	**52**	0	6	39	18	0	**63**	0	20	160	10	0	**190**	0	12	113	3	0	**128**	0	**433**
7:15AM	17	24	7	0	**48**	0	8	35	11	0	**54**	0	19	179	10	0	**208**	0	16	153	8	0	**177**	1	**487**
7:30AM	28	30	14	0	**72**	0	6	58	20	0	**84**	0	31	215	12	0	**258**	0	20	177	22	0	**219**	2	**633**
7:45AM	19	28	7	0	**54**	0	10	38	18	0	**66**	0	29	189	16	0	**234**	0	23	174	24	0	**221**	0	**575**
Hourly Total	73	112	41	0	**226**	0	30	170	67	0	**267**	0	99	743	48	0	**890**	0	71	617	57	0	**745**	3	**2128**
8:00AM	15	34	11	0	**60**	0	6	59	16	0	**81**	0	23	132	9	0	**164**	0	17	177	27	0	**221**	0	**526**
8:15AM	19	28	19	0	**66**	1	6	70	20	0	**96**	0	19	154	10	0	**183**	3	18	138	32	0	**188**	2	**533**
8:30AM	25	37	8	0	**70**	0	11	75	23	0	**109**	0	23	137	6	0	**166**	0	25	167	16	0	**208**	0	**553**
8:45AM	21	42	13	0	**76**	1	14	65	21	0	**100**	0	18	179	13	0	**210**	6	9	137	20	0	**166**	3	**552**
Hourly Total	80	141	51	0	**272**	2	37	269	80	0	**386**	0	83	602	38	0	**723**	9	69	619	95	0	**783**	5	**2164**
4:00PM	35	81	28	0	**144**	4	8	71	19	0	**98**	0	37	239	23	0	**299**	0	29	176	27	0	**232**	2	**773**
4:15PM	36	89	8	0	**133**	1	8	59	17	0	**84**	0	29	231	17	0	**277**	2	43	202	29	0	**274**	0	**768**
4:30PM	32	60	18	0	**110**	0	7	61	12	0	**80**	1	37	238	24	0	**299**	3	20	185	34	0	**239**	5	**728**
4:45PM	35	56	16	0	**107**	1	6	84	20	0	**110**	0	43	227	28	0	**298**	0	36	179	23	0	**238**	0	**753**
Hourly Total	138	286	70	0	**494**	6	29	275	68	0	**372**	1	146	935	92	0	**1173**	5	128	742	113	0	**983**	7	**3022**
5:00PM	32	82	17	0	**131**	2	15	80	16	0	**111**	0	43	218	19	0	**280**	0	25	174	31	0	**230**	0	**752**
5:15PM	32	92	17	0	**141**	3	12	63	25	0	**100**	3	40	198	38	0	**276**	1	37	209	35	0	**281**	1	**798**
5:30PM	27	77	14	0	**118**	3	18	78	24	0	**120**	0	44	178	29	0	**251**	0	29	203	47	0	**279**	1	**768**
5:45PM	39	86	19	0	**144**	0	10	77	25	0	**112**	0	42	195	31	0	**268**	0	32	184	39	0	**255**	0	**779**
Hourly Total	130	337	67	0	**534**	8	55	298	90	0	**443**	3	169	789	117	0	**1075**	1	123	770	152	0	**1045**	2	**3097**
Total	421	876	229	0	**1526**	16	151	1012	305	0	**1468**	4	497	3069	295	0	**3861**	15	391	2748	417	0	**3556**	17	**10411**
% Approach	27.6%	57.4%	15.0%	0%	**-**	-	10.3%	68.9%	20.8%	0%	**-**	-	12.9%	79.5%	7.6%	0%	**-**	-	11.0%	77.3%	11.7%	0%	**-**	-	-
% Total	4.0%	8.4%	2.2%	0%	**14.7%**	-	1.5%	9.7%	2.9%	0%	**14.1%**	-	4.8%	29.5%	2.8%	0%	**37.1%**	-	3.8%	26.4%	4.0%	0%	**34.2%**	-	-
Lights	407	842	215	0	**1464**	-	144	983	295	0	**1422**	-	466	2955	288	0	**3709**	-	383	2647	404	0	**3434**	-	10029
% Lights	96.7%	96.1%	93.9%	0%	**95.9%**	-	95.4%	97.1%	96.7%	0%	**96.9%**	-	93.8%	96.3%	97.6%	0%	**96.1%**	-	98.0%	96.3%	96.9%	0%	**96.6%**	-	96.3%
Articulated Trucks	0	2	1	0	**3**	-	0	1	0	0	**1**	-	2	14	0	0	**16**	-	0	7	0	0	**7**	-	27
% Articulated Trucks	0%	0.2%	0.4%	0%	**0.2%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.4%	0.5%	0%	0%	**0.4%**	-	0%	0.3%	0%	0%	**0.2%**	-	0.3%
Buses and Single-Unit Trucks	14	32	13	0	**59**	-	7	28	10	0	**45**	-	29	100	7	0	**136**	-	8	94	13	0	**115**	-	355
% Buses and Single-Unit Trucks	3.3%	3.7%	5.7%	0%	**3.9%**	-	4.6%	2.8%	3.3%	0%	**3.1%**	-	5.8%	3.3%	2.4%	0%	**3.5%**	-	2.0%	3.4%	3.1%	0%	**3.2%**	-	3.4%
Pedestrians	-	-	-	-	-	16	-	-	-	-	-	4	-	-	-	-	-	11	-	-	-	-	-	16	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	73.3%	-	-	-	-	-	94.1%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	26.7%	-	-	-	-	-	5.9%	-

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

Keystone Ave & 30th St - TMC
Thu May 11, 2023
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1064493, Location: 39.810739, -86.121587

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



Keystone Ave & 30th St - TMC

Thu May 11, 2023
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1064493, Location: 39.810739, -86.121587

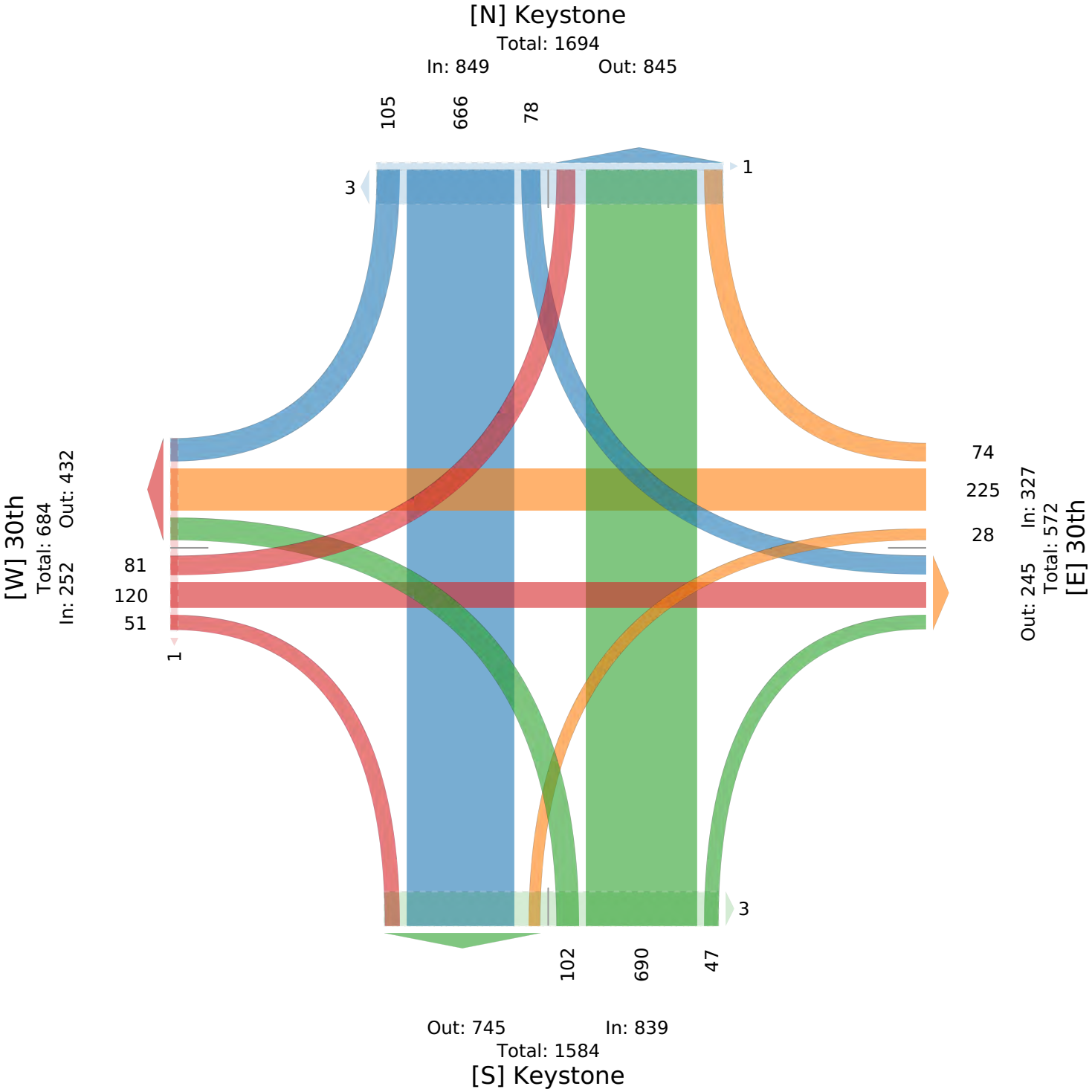
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	30th						30th						Keystone						Keystone						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2023-05-11 7:30AM	28	30	14	0	**72**	0	6	58	20	0	**84**	0	31	215	12	0	**258**	0	20	177	22	0	**219**	2	**633**
7:45AM	19	28	7	0	**54**	0	10	38	18	0	**66**	0	29	189	16	0	**234**	0	23	174	24	0	**221**	0	**575**
8:00AM	15	34	11	0	**60**	0	6	59	16	0	**81**	0	23	132	9	0	**164**	0	17	177	27	0	**221**	0	**526**
8:15AM	19	28	19	0	**66**	1	6	70	20	0	**96**	0	19	154	10	0	**183**	3	18	138	32	0	**188**	2	**533**
Total	81	120	51	0	**252**	1	28	225	74	0	**327**	0	102	690	47	0	**839**	3	78	666	105	0	**849**	4	**2267**
% Approach	32.1%	47.6%	20.2%	0%	**-**	-	8.6%	68.8%	22.6%	0%	**-**	-	12.2%	82.2%	5.6%	0%	**-**	-	9.2%	78.4%	12.4%	0%	**-**	-	-
% Total	3.6%	5.3%	2.2%	0%	**11.1%**	-	1.2%	9.9%	3.3%	0%	**14.4%**	-	4.5%	30.4%	2.1%	0%	**37.0%**	-	3.4%	29.4%	4.6%	0%	**37.5%**	-	-
PHF	0.723	0.882	0.671	-	**0.875**	-	0.700	0.804	0.925	-	**0.852**	-	0.823	0.802	0.734	-	**0.813**	-	0.848	0.941	0.820	-	**0.960**	-	0.895
Lights	78	116	50	0	**244**	-	28	213	73	0	**314**	-	90	643	47	0	**780**	-	77	634	102	0	**813**	-	2151
% Lights	96.3%	96.7%	98.0%	0%	**96.8%**	-	100%	94.7%	98.6%	0%	**96.0%**	-	88.2%	93.2%	100%	0%	**93.0%**	-	98.7%	95.2%	97.1%	0%	**95.8%**	-	94.9%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1	5	0	0	**6**	-	0	3	0	0	**3**	-	9
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	1.0%	0.7%	0%	0%	**0.7%**	-	0%	0.5%	0%	0%	**0.4%**	-	0.4%
Buses and Single-Unit Trucks	3	4	1	0	**8**	-	0	12	1	0	**13**	-	11	42	0	0	**53**	-	1	29	3	0	**33**	-	107
% Buses and Single-Unit Trucks	3.7%	3.3%	2.0%	0%	**3.2%**	-	0%	5.3%	1.4%	0%	**4.0%**	-	10.8%	6.1%	0%	0%	**6.3%**	-	1.3%	4.4%	2.9%	0%	**3.9%**	-	4.7%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-

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

Keystone Ave & 30th St - TMC
Thu May 11, 2023
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1064493, Location: 39.810739, -86.121587

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



Keystone Ave & 30th St - TMC

Thu May 11, 2023
PM Peak (5 PM - 6 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1064493, Location: 39.810739, -86.121587

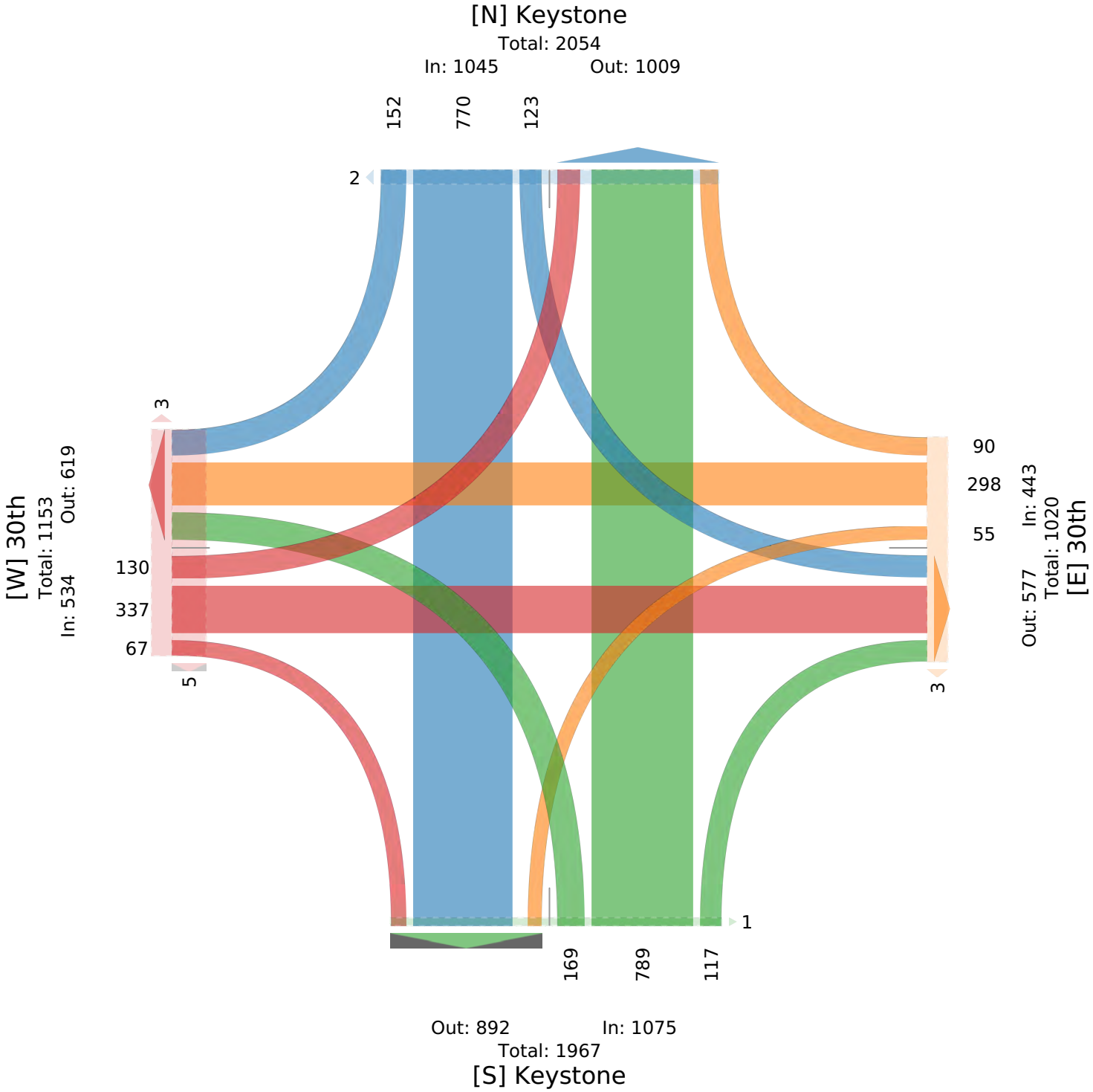
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	30th						30th						Keystone						Keystone						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2023-05-11 5:00PM	32	82	17	0	**131**	2	15	80	16	0	**111**	0	43	218	19	0	**280**	0	25	174	31	0	**230**	0	**752**
5:15PM	32	92	17	0	**141**	3	12	63	25	0	**100**	3	40	198	38	0	**276**	1	37	209	35	0	**281**	1	**798**
5:30PM	27	77	14	0	**118**	3	18	78	24	0	**120**	0	44	178	29	0	**251**	0	29	203	47	0	**279**	1	**768**
5:45PM	39	86	19	0	**144**	0	10	77	25	0	**112**	0	42	195	31	0	**268**	0	32	184	39	0	**255**	0	**779**
Total	130	337	67	0	**534**	8	55	298	90	0	**443**	3	169	789	117	0	**1075**	1	123	770	152	0	**1045**	2	**3097**
% Approach	24.3%	63.1%	12.5%	0%	**-**	-	12.4%	67.3%	20.3%	0%	**-**	-	15.7%	73.4%	10.9%	0%	**-**	-	11.8%	73.7%	14.5%	0%	**-**	-	-
% Total	4.2%	10.9%	2.2%	0%	**17.2%**	-	1.8%	9.6%	2.9%	0%	**14.3%**	-	5.5%	25.5%	3.8%	0%	**34.7%**	-	4.0%	24.9%	4.9%	0%	**33.7%**	-	-
PHF	0.833	0.916	0.882	-	**0.927**	-	0.764	0.931	0.900	-	**0.923**	-	0.960	0.905	0.770	-	**0.960**	-	0.831	0.921	0.809	-	**0.930**	-	0.970
Lights	129	329	66	0	**524**	-	54	295	90	0	**439**	-	162	781	113	0	**1056**	-	122	752	149	0	**1023**	-	3042
% Lights	99.2%	97.6%	98.5%	0%	**98.1%**	-	98.2%	99.0%	100%	0%	**99.1%**	-	95.9%	99.0%	96.6%	0%	**98.2%**	-	99.2%	97.7%	98.0%	0%	**97.9%**	-	98.2%
Articulated Trucks	0	2	0	0	**2**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	1	0	0	**1**	-	5
% Articulated Trucks	0%	0.6%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.2%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.2%
Buses and Single-Unit Trucks	1	6	1	0	**8**	-	1	3	0	0	**4**	-	7	6	4	0	**17**	-	1	17	3	0	**21**	-	50
% Buses and Single-Unit Trucks	0.8%	1.8%	1.5%	0%	**1.5%**	-	1.8%	1.0%	0%	0%	**0.9%**	-	4.1%	0.8%	3.4%	0%	**1.6%**	-	0.8%	2.2%	2.0%	0%	**2.0%**	-	1.6%
Pedestrians	-	-	-	-	-	8	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

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

Keystone Ave & 30th St - TMC
Thu May 11, 2023
PM Peak (5 PM - 6 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1064493, Location: 39.810739, -86.121587

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



Leg			30th					30th					Keystone					Keystone				
Direction			Eastbound					Westbound					Northbound					Southbound				
Start Time	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
2023-05-11 07:30:00	28	30	14	0	**72**	6	58	20	0	**84**	31	215	12	0	**258**	20	177	22	0	**219**	**633**
2023-05-11 07:45:00	19	28	7	0	**54**	10	38	18	0	**66**	29	189	16	0	**234**	23	174	24	0	**221**	**575**
2023-05-11 08:00:00	15	34	11	0	**60**	6	59	16	0	**81**	23	132	9	0	**164**	17	177	27	0	**221**	**526**
2023-05-11 08:15:00	19	28	19	0	**66**	6	70	20	0	**96**	19	154	10	0	**183**	18	138	32	0	**188**	**533**
Grand Total	81	120	51	0	**252**	28	225	74	0	**327**	102	690	47	0	**839**	78	666	105	0	**849**	**2267**
% Approach	32.1%	47.6%	20.2%	0.0%		8.6%	68.8%	22.6%	0.0%		12.2%	82.2%	5.6%	0.0%		9.2%	78.4%	12.4%	0.0%		
% Total	3.6%	5.3%	2.2%	0.0%	**11.1%**	1.2%	9.9%	3.3%	0.0%	**14.4%**	4.5%	30.4%	2.1%	0.0%	**37.0%**	3.4%	29.4%	4.6%	0.0%	**37.5%**	
PHF (7:30 AM - 8:30 AM)	0.723	0.882	0.671	0	**0.875**	0.7	0.804	0.925	0	**0.852**	0.823	0.802	0.734	0	**0.813**	0.848	0.941	0.82	0	**0.96**	**0.895**
Lights	78	116	50	0	**244**	28	213	73	0	**314**	90	643	47	0	**780**	77	634	102	0	**813**	**2151**
% Lights	96.3%	96.7%	98.0%	0.0%	**96.8%**	100.0%	94.7%	98.6%	0.0%	**96.0%**	88.2%	93.2%	100.0%	0.0%	**93.0%**	98.7%	95.2%	97.1%	0.0%	**95.8%**	**94.9%**
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	1	5	0	0	**6**	0	3	0	0	**3**	**9**
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	1.0%	0.7%	0.0%	0.0%	**0.7%**	0.0%	0.5%	0.0%	0.0%	**0.4%**	**0.4%**
Buses and Single-Unit Trucks	3	4	1	0	**8**	0	12	1	0	**13**	11	42	0	0	**53**	1	29	3	0	**33**	**107**
% Buses and Single-Unit Trucks	3.7%	3.3%	2.0%	0.0%	**3.2%**	0.0%	5.3%	1.4%	0.0%	**4.0%**	10.8%	6.1%	0.0%	0.0%	**6.3%**	1.3%	4.4%	2.9%	0.0%	**3.9%**	**4.7%**

Thursday			Eastbound					Westbound					Northbound					Southbound			
	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	75	112	47	0	234	26	209	69	0	304	95	641	44	0	780	72	619	98	0	789	2,107
Heavy %)	4.0%	3.6%	2.1%	0.0%	3.4%	0.0%	5.7%	1.4%	0.0%	4.3%	12.6%	7.3%	0.0%	0.0%	7.6%	1.4%	5.2%	3.1%	0.0%	4.6%	
Adjusted Total (2048)	85	126	54	0	265	29	237	78	0	344	107	726	49	0	883	82	701	111	0	894	2,386

Season Adj. Factor	Weekday Adj. Factor	Growth Rate	0.50%
Keystone 0.958	Keystone 0.970	Design Year	2048
30th 0.958	30th 0.970	Growth Factor	1.13

Leg		30th					30th					Keystone					Keystone					
Direction		Eastbound					Westbound					Northbound					Southbound					
Start Time	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
2023-05-11 17:00:00	32	82	17	0	**131**	15	80	16	0	**111**	43	218	19	0	**280**	25	174	31	0	**230**	**752**
2023-05-11 17:15:00	32	92	17	0	**141**	12	63	25	0	**100**	40	198	38	0	**276**	37	209	35	0	**281**	**798**
2023-05-11 17:30:00	27	77	14	0	**118**	18	78	24	0	**120**	44	178	29	0	**251**	29	203	47	0	**279**	**768**
2023-05-11 17:45:00	39	86	19	0	**144**	10	77	25	0	**112**	42	195	31	0	**268**	32	184	39	0	**255**	**779**
Grand Total	130	337	67	0	**534**	55	298	90	0	**443**	169	789	117	0	**1075**	123	770	152	0	**1045**	**3097**
% Approach	24.3%	63.1%	12.5%	0.0%		12.4%	67.3%	20.3%	0.0%		15.7%	73.4%	10.9%	0.0%		11.8%	73.7%	14.5%	0.0%		
% Total	4.2%	10.9%	2.2%	0.0%	**17.2%**	1.8%	9.6%	2.9%	0.0%	**14.3%**	5.5%	25.5%	3.8%	0.0%	**34.7%**	4.0%	24.9%	4.9%	0.0%	**33.7%**	
PHF (5 PM - 6 PM)	0.833	0.916	0.882	0	**0.927**	0.764	0.931	0.9	0	**0.923**	0.96	0.905	0.77	0	**0.96**	0.831	0.921	0.809	0	**0.93**	**0.97**
Lights	129	329	66	0	**524**	54	295	90	0	**439**	162	781	113	0	**1056**	122	752	149	0	**1023**	**3042**
% Lights	99.2%	97.6%	98.5%	0.0%	**98.1%**	98.2%	99.0%	100.0%	0.0%	**99.1%**	95.9%	99.0%	96.6%	0.0%	**98.2%**	99.2%	97.7%	98.0%	0.0%	**97.9%**	**98.2%**
Articulated Trucks	0	2	0	0	**2**	0	0	0	0	**0**	0	2	0	0	**2**	0	1	0	0	**1**	**5**
% Articulated Trucks	0.0%	0.6%	0.0%	0.0%	**0.4%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.3%	0.0%	0.0%	**0.2%**	0.0%	0.1%	0.0%	0.0%	**0.1%**	**0.2%**
Buses and Single-Unit Trucks	1	6	1	0	**8**	1	3	0	0	**4**	7	6	4	0	**17**	1	17	3	0	**21**	**50**
% Buses and Single-Unit Trucks	0.8%	1.8%	1.5%	0.0%	**1.5%**	1.8%	1.0%	0.0%	0.0%	**0.9%**	4.1%	0.8%	3.4%	0.0%	**1.6%**	0.8%	2.2%	2.0%	0.0%	**2.0%**	**1.6%**

Thursday	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	121	313	62	0	496	51	277	84	0	412	157	733	109	0	999	114	716	141	0	971	2,878
Heavy %)	0.8%	2.6%	1.6%	0.0%	2.0%	2.0%	1.1%	0.0%	0.0%	1.0%	4.5%	1.1%	3.7%	0.0%	1.9%	0.9%	2.5%	2.1%	0.0%	2.3%	
Adjusted Total (2048)	137	355	71	0	562	58	314	95	0	466	178	831	123	0	1132	129	811	160	0	1100	3,260

Season Adj. Factor	Weekday Adj. Factor	Growth Rate	0.50%
Keystone 0.958	Keystone 0.970	Design Year	2048
30th 0.958	30th 0.970	Growth Factor	1.13

ATTACHMENT C

Traffic Analysis

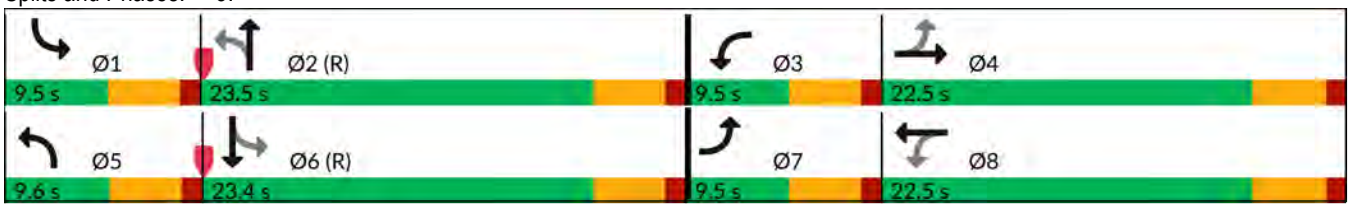
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	126	54	26	209	69	95	641	44	72	619	98
Future Volume (vph)	85	126	54	26	209	69	95	641	44	72	619	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	115		0	200		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	150			200			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.955			0.963			0.990			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1755	0	1805	1747	0	1597	3354	0	1787	3375	0
Flt Permitted	0.344			0.632			0.204			0.231		
Satd. Flow (perm)	628	1755	0	1201	1747	0	343	3354	0	435	3375	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			25			11			27	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1338			1331			1348			1345	
Travel Time (s)		26.1			25.9			26.3			26.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	2%	0%	6%	1%	13%	7%	0%	1%	5%	3%
Adj. Flow (vph)	94	140	60	29	232	77	106	712	49	80	688	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	94	200	0	29	309	0	106	761	0	80	797	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.5	22.5		9.5	22.5		9.6	23.5		9.5	23.4	
Total Split (%)	14.6%	34.6%		14.6%	34.6%		14.8%	36.2%		14.6%	36.0%	
Maximum Green (s)	5.0	18.0		5.0	18.0		5.1	19.0		5.0	18.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	20.8	18.8		19.0	15.0		30.0	25.2		29.7	25.0	
Actuated g/C Ratio	0.32	0.29		0.29	0.23		0.46	0.39		0.46	0.38	
v/c Ratio	0.32	0.37		0.07	0.73		0.38	0.58		0.25	0.60	
Control Delay (s/veh)	15.6	17.2		12.0	31.7		15.1	20.7		12.5	21.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	15.6	17.2		12.0	31.7		15.1	20.7		12.5	21.0	
LOS	B	B		B	C		B	C		B	C	
Approach Delay (s/veh)		16.7			30.0			20.0			20.3	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)	23	43		7	102		22	141		16	146	
Queue Length 95th (ft)	47	105		20	173		51	#203		40	#220	
Internal Link Dist (ft)		1258			1251			1268			1265	
Turn Bay Length (ft)	100			115			200			150		
Base Capacity (vph)	285	573		396	501		273	1305		318	1313	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.33	0.35		0.07	0.62		0.39	0.58		0.25	0.61	

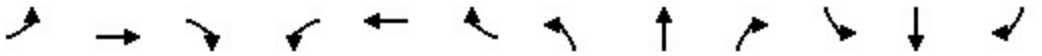
Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 21.1		Intersection LOS: C	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3:



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	355	71	58	314	95	178	831	123	129	811	160
Future Volume (vph)	137	355	71	58	314	95	178	831	123	129	811	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	115		0	200		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	150			200			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.975			0.965			0.981			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1801	0	1770	1820	0	1719	3493	0	1787	3423	0
Flt Permitted	0.189			0.219			0.138			0.148		
Satd. Flow (perm)	356	1801	0	408	1820	0	250	3493	0	278	3423	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			19			23			31	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1338			1331			1348			1345	
Travel Time (s)		26.1			25.9			26.3			26.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	2%	2%	1%	0%	5%	1%	4%	1%	3%	2%
Adj. Flow (vph)	141	366	73	60	324	98	184	857	127	133	836	165
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	439	0	60	422	0	184	984	0	133	1001	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

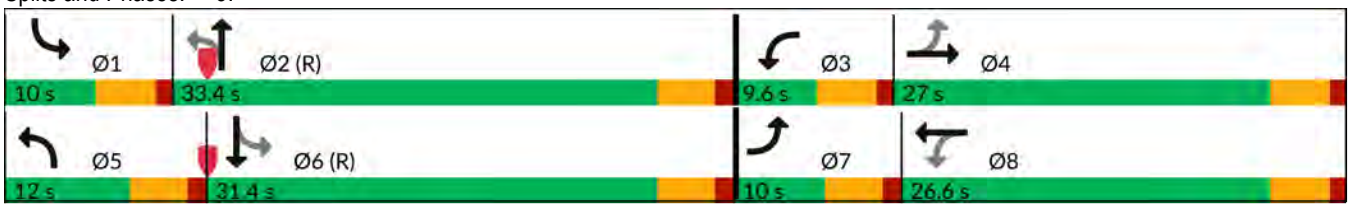


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	10.0	27.0		9.6	26.6		12.0	33.4		10.0	31.4	
Total Split (%)	12.5%	33.8%		12.0%	33.3%		15.0%	41.8%		12.5%	39.3%	
Maximum Green (s)	5.5	22.5		5.1	22.1		7.5	28.9		5.5	26.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	27.6	23.2		26.0	20.9		37.5	29.9		33.8	28.1	
Actuated g/C Ratio	0.35	0.29		0.33	0.26		0.47	0.37		0.42	0.35	
v/c Ratio	0.64	0.82		0.27	0.86		0.72	0.74		0.59	0.81	
Control Delay (s/veh)	31.6	41.6		18.4	46.0		31.3	25.7		24.3	30.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	31.6	41.6		18.4	46.0		31.3	25.7		24.3	30.3	
LOS	C	D		B	D		C	C		C	C	
Approach Delay (s/veh)		39.2			42.6			26.7			29.6	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	45	201		18	188		50	220		35	235	
Queue Length 95th (ft)	#86	#362		41	#338		#136	293		#80	#344	
Internal Link Dist (ft)		1258			1251			1268			1265	
Turn Bay Length (ft)	100			115			200			150		
Base Capacity (vph)	220	531		219	516		255	1320		225	1221	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.64	0.83		0.27	0.82		0.72	0.75		0.59	0.82	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay (s/veh): 32.1		Intersection LOS: C	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3:



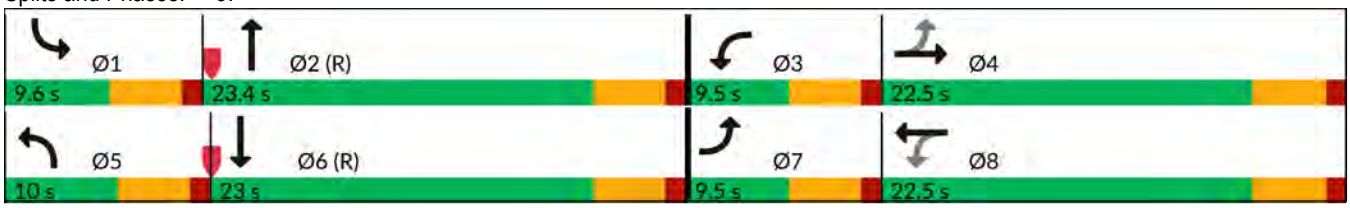
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	126	54	26	209	69	95	641	44	72	619	98
Future Volume (vph)	85	126	54	26	209	69	95	641	44	72	619	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	115		0	200		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	150			200			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.955			0.963			0.990			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1755	0	1805	1747	0	1597	3354	0	1787	3375	0
Flt Permitted	0.344			0.632			0.950			0.950		
Satd. Flow (perm)	628	1755	0	1201	1747	0	1597	3354	0	1787	3375	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			25			11			27	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1338			1331			1348			1345	
Travel Time (s)		26.1			25.9			26.3			26.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	2%	0%	6%	1%	13%	7%	0%	1%	5%	3%
Adj. Flow (vph)	94	140	60	29	232	77	106	712	49	80	688	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	94	200	0	29	309	0	106	761	0	80	797	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8								
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	9.5	22.5		9.5	22.5		10.0	23.4		9.6	23.0	
Total Split (%)	14.6%	34.6%		14.6%	34.6%		15.4%	36.0%		14.8%	35.4%	
Maximum Green (s)	5.0	18.0		5.0	18.0		5.5	18.9		5.1	18.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	20.8	18.8		19.0	15.0		6.9	24.9		6.1	24.3	
Actuated g/C Ratio	0.32	0.29		0.29	0.23		0.11	0.38		0.09	0.37	
v/c Ratio	0.32	0.37		0.07	0.73		0.62	0.58		0.47	0.62	
Control Delay (s/veh)	15.6	17.2		12.0	31.7		49.1	21.0		40.2	21.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	15.6	17.2		12.0	31.7		49.1	21.0		40.2	21.9	
LOS	B	B		B	C		D	C		D	C	
Approach Delay (s/veh)		16.7			30.0			24.5			23.6	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)	23	43		7	102		40	142		30	148	
Queue Length 95th (ft)	47	105		20	173		#120	#205		#85	#236	
Internal Link Dist (ft)		1258			1251			1268			1265	
Turn Bay Length (ft)	100			115			200			150		
Base Capacity (vph)	285	573		396	501		170	1291		167	1277	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.33	0.35		0.07	0.62		0.62	0.59		0.48	0.62	

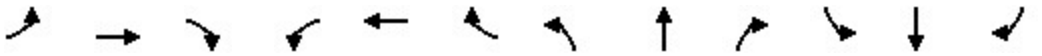
Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 24.0		Intersection LOS: C	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3:



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	355	71	58	314	95	178	831	123	129	811	160
Future Volume (vph)	137	355	71	58	314	95	178	831	123	129	811	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	115		0	200		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	150			200			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.975			0.965			0.981			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1801	0	1770	1820	0	1719	3493	0	1787	3423	0
Flt Permitted	0.158			0.195			0.950			0.950		
Satd. Flow (perm)	297	1801	0	363	1820	0	1719	3493	0	1787	3423	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			16			20			28	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1338			1331			1348			1345	
Travel Time (s)		26.1			25.9			26.3			26.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	3%	2%	2%	1%	0%	5%	1%	4%	1%	3%	2%
Adj. Flow (vph)	141	366	73	60	324	98	184	857	127	133	836	165
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	439	0	60	422	0	184	984	0	133	1001	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	

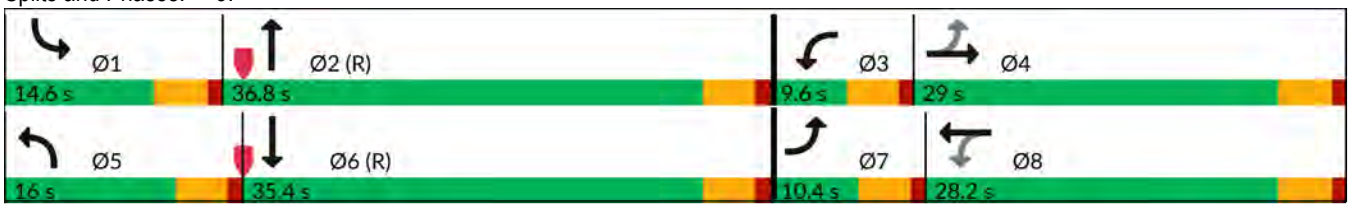


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8								
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	10.4	29.0		9.6	28.2		16.0	36.8		14.6	35.4	
Total Split (%)	11.6%	32.2%		10.7%	31.3%		17.8%	40.9%		16.2%	39.3%	
Maximum Green (s)	5.9	24.5		5.1	23.7		11.5	32.3		10.1	30.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	30.1	25.4		27.8	22.7		11.3	33.8		9.6	32.1	
Actuated g/C Ratio	0.33	0.28		0.31	0.25		0.13	0.38		0.11	0.36	
v/c Ratio	0.71	0.85		0.31	0.89		0.85	0.74		0.70	0.80	
Control Delay (s/veh)	42.5	47.6		22.7	54.5		72.7	28.5		58.9	32.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	42.5	47.6		22.7	54.5		72.7	28.5		58.9	32.2	
LOS	D	D		C	D		E	C		E	C	
Approach Delay (s/veh)		46.4			50.6			35.5			35.4	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	53	233		22	220		104	253		74	265	
Queue Length 95th (ft)	#117	#406		47	#385		#219	330		#153	#350	
Internal Link Dist (ft)		1258			1251			1268			1265	
Turn Bay Length (ft)	100			115			200			150		
Base Capacity (vph)	196	516		191	491		219	1323		200	1237	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.72	0.85		0.31	0.86		0.84	0.74		0.67	0.81	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay (s/veh): 39.5		Intersection LOS: D	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3:



ATTACHMENT D

Virtual Meeting Minutes & Field Check Minutes

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

BURGESS & NIPLE

251 North Illinois Street | Capital Center Suite 920 | Indianapolis, IN 46204 | 317.237.2760

Project: **IMPO Safety On-Call** **Date: June 5, 2026**
Location: **Keystone Avenue at 30th Street**
Marion County

Attendees

Jill Palmer	Indianapolis DPW	Jeremy VanVleet	Burgess & Niple
Jason Bowers	Indianapolis DPW	Micah Reynolds	Burgess & Niple
Jamey McPherson	Indianapolis DPW		
Andrea Miller	Indy MPO		
Jennifer Dunn	Indy MPO		

Field Check Observations

The field check attendees met on the east side of Keystone Avenue on Monday, April 27th, 2026, at approximately 9:30AM. The existing intersection is a four-leg, signalized intersection. While at the field check, it was noted that the sidewalks along Keystone Avenue are right against the travel lane, which makes walking along the sidewalk a little uncomfortable. Vehicles on Keystone Avenue seemed to be traveling quite fast, and likely over the posted speed limit of 35mph.

It was brought to the group's attention that the IMPO intends to study the Keystone Avenue corridor wholistically as part of a Safe Streets for All (SS4A) Grant, where it may be a good candidate for a conversion to a roundabout. There are also several drives in the immediate area of the intersection, leading to complicated and confusing access.

Jeremy then discussed with the group the existing safety performance at the intersection. The crash history indicated that there is a significant crash pattern of right angle and left turn crashes at the intersection. The RoadHAT analysis results showed an I_{CF} of 1.82 and an I_{CC} of 1.39 which indicate the intersection is performing worse than expected.

After reviewing the traffic and safety analysis and while watching traffic at the site, the group decided on options that should be analyzed further.

- In the short term, pavement markings at the intersection (especially at the minor approaches), should be refreshed using the wider 6" pavement markings. Conversion to protected-only left turning with new signal backplates and updated signal heads should also be considered. Providing offset for left turns on the minor approaches should be considered.
- In the long term, access should be more restricted to simplify movements at the intersection and its immediate area. If possible, utility poles could be moved away from the intersection. Depending on the results of the corridor-wide study for Keystone Avenue, this could be a good candidate for roundabout conversion.

These alternatives will be analyzed, and results will be shared and discussed further.

ATTACHMENT E

Cost Estimates & Schematics

QUANTITY COST ESTIMATE

IMPO RSAs - Keystone Avenue at 30th Street

Proj 63966

Des N/A

ESTIMATED PROJECT COST	
Total:	$139,870.00
20.0% Contingency:	$27,980.00
ESTIMATED TOTAL:	$167,850.00

ID	Item No.	Description	Quantity	Unit	Unit Price	Item Total
0001	105-06845	CONSTRUCTION ENGINEERING	1.00	LS	$2,500.00	$2,500.00
0002	110-01001	MOBILIZATION AND DEMOBILIZATION	1.00	LS	$5,000.00	$5,000.00
0003	201-52370	CLEARING RIGHT-OF-WAY	1.00	LS	$2,500.00	$2,500.00
0004	205-12108	STORMWATER MANAGEMENT BUDGET	2,500.00	DOL	$1.00	$2,500.00
0005	205-12618	SWQCP PREPARATION	1.00	LS	$2,500.00	$2,500.00
0006	304-12625	HMA PATCHING, FULL DEPTH, TYPE C	25.00	TON	$300.00	$7,500.00
0007	304-12626	HMA PATCHING, PARTIAL DEPTH, TYPE C	30.00	TON	$400.00	$12,000.00
0008	801-06775	MAINTAINING TRAFFIC	1.00	LS	$10,000.00	$10,000.00
0009	802-05702	SIGN POST, SQUARE, TYPE 2, REINFORCED ANCHOR BASE	20.00	LFT	$35.00	$700.00
0010	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	6.00	SFT	$45.00	$270.00
0011	805-01300	TRAFFIC SIGNAL EQUIPMENT, REMOVE	8.00	EACH	$3,500.00	$28,000.00
0012	805-08487	BACKPLATE, SIGNAL	10.00	EACH	$1,200.00	$12,000.00
0013	805-78205	TRAFFIC SIGNAL HEAD, NO. 3 SECTION, 12 IN.	10.00	EACH	$1,500.00	$15,000.00
0014	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	420.00	LFT	$15.00	$6,300.00
0015	808-11650	LINE, THERMOPLASTIC, DOTTED, WHITE, 6 IN.	70.00	LFT	$5.00	$350.00
0016	808-12032	GROOVING FOR PAVEMENT MARKINGS	2,270.00	LFT	$7.50	$17,025.00
0017	808-75043	LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN.	1,150.00	LFT	$5.00	$5,750.00
0018	808-75247	LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN.	1,050.00	LFT	$5.00	$5,250.00
0019	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	115.00	LFT	$15.00	$1,725.00
0020	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	8.00	EACH	$250.00	$2,000.00
0021	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	4.00	EACH	$250.00	$1,000.00
		Total				$167,850.00
		Preliminary Engineering (15%)				$25,200.00
		Utility Allowance (5%)				$8,400.00
		Right of Way				$0.00
		Grand Total				$201,450.00

Prepared By: _____ Date: _____ Checked By: _____ Date: _____

QUANTITY COST ESTIMATE

IMPO RSAs - Keystone Avenue at 30th Street

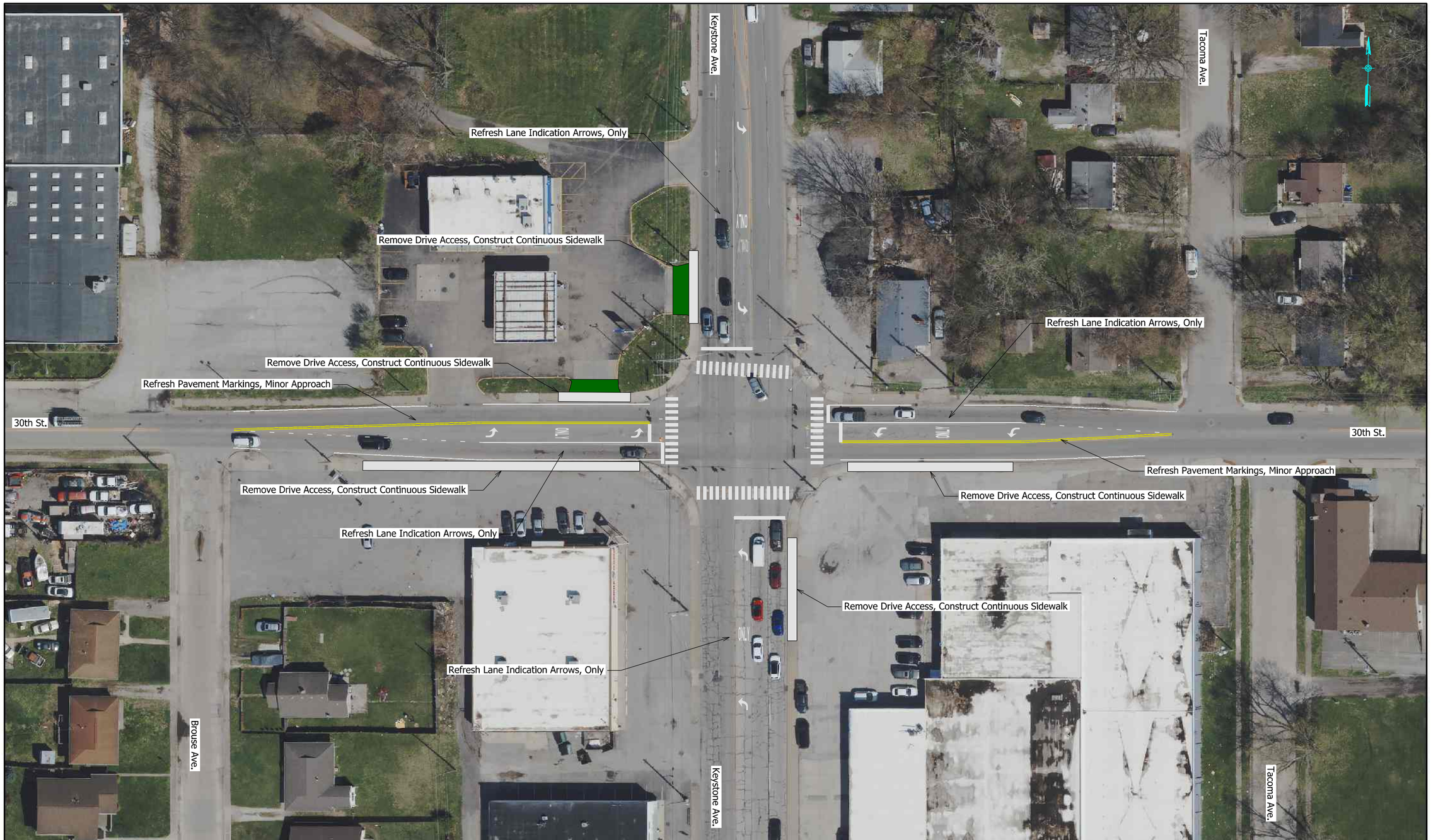
Proj 63966

Des N/A

ESTIMATED PROJECT COST	
Total:	$222,970.00
20.0% Contingency:	$44,600.00
ESTIMATED TOTAL:	$267,570.00

ID	Item No.	Description	Quantity	Unit	Unit Price	Item Total
0001	105-06845	CONSTRUCTION ENGINEERING	1.00	LS	$5,000.00	$5,000.00
0002	110-01001	MOBILIZATION AND DEMOBILIZATION	1.00	LS	$10,000.00	$10,000.00
0003	201-52370	CLEARING RIGHT-OF-WAY	1.00	LS	$5,000.00	$5,000.00
0004	202-93615	CONCRETE, REMOVE	70.00	SYS	$40.00	$2,800.00
0005	205-12108	STORMWATER MANAGEMENT BUDGET	2,500.00	DOL	$1.00	$2,500.00
0006	205-12618	SWQCP PREPARATION	1.00	LS	$2,500.00	$2,500.00
0007	207-08264	SUBGRADE TREATMENT, TYPE II	320.00	SYS	$50.00	$16,000.00
0008	304-12625	HMA PATCHING, FULL DEPTH, TYPE C	25.00	TON	$300.00	$7,500.00
0009	304-12626	HMA PATCHING, PARTIAL DEPTH, TYPE C	30.00	TON	$400.00	$12,000.00
0010	604-06070	SIDEWALK, CONCRETE	320.00	SYS	$165.00	$52,800.00
0011	621-06574	SODDING	70.00	SYS	$50.00	$3,500.00
0012	801-06775	MAINTAINING TRAFFIC	1.00	LS	$20,000.00	$20,000.00
0013	802-05702	SIGN POST, SQUARE, TYPE 2, REINFORCED ANCHOR BASE	20.00	LFT	$35.00	$700.00
0014	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	6.00	SFT	$45.00	$270.00
0015	805-01300	TRAFFIC SIGNAL EQUIPMENT, REMOVE	8.00	EACH	$3,500.00	$28,000.00
0016	805-78205	TRAFFIC SIGNAL HEAD, NO. 3 SECTION, 12 IN.	10.00	EACH	$1,500.00	$15,000.00
0017	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	420.00	LFT	$15.00	$6,300.00
0018	808-11650	LINE, THERMOPLASTIC, DOTTED, WHITE, 6 IN.	70.00	LFT	$5.00	$350.00
0019	808-12032	GROOVING FOR PAVEMENT MARKINGS	2,270.00	LFT	$7.50	$17,025.00
0020	808-75043	LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN.	1,150.00	LFT	$5.00	$5,750.00
0021	808-75247	LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN.	1,050.00	LFT	$5.00	$5,250.00
0022	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	115.00	LFT	$15.00	$1,725.00
0023	808-75320	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, LANE INDICATION ARROW	8.00	EACH	$250.00	$2,000.00
0024	808-75325	PAVEMENT MESSAGE MARKING, THERMOPLASTIC, ONLY	4.00	EACH	$250.00	$1,000.00
		Total				$267,570.00
		Preliminary Engineering (15%)				$40,200.00
		Utility Allowance (5%)				$13,400.00
		Right of Way				$0.00
		Grand Total				$321,170.00

Prepared By: _____ Date: _____ Checked By: _____ Date: _____



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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MDR DRAWN: EMW

CHECKED: _____ CHECKED: _____

INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION

KEYSTONE AVENUE AT 30TH STREET
CONCEPT DRAWING

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGN VEHICLE
N/A	WB-50
SURVEY BOOK	SHEETS
	of
CONTRACT	PROJECT
R-XXXXX	XXXXXXX

RoadHAT 4D

Economic Evaluation - Form F5

Page 1/2

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue & 30th Street	
Marion County		
GIS		
Post		
Analyst	Elaina Wahlman	
Date	6/18/2026	

INPUT	
Alternative	Long-term recomendation
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	12
Property Damage Only Crashes	53
Route Type	City Arterial Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Present Year (yyyy)	2026
Implementation Year (yyyy)	2050
Inflation Rate (%)	2
Interest Rate (%)	4
Annual Traffic Growth Rate (%)	2
Total Traffic Growth Factor (%)	1.127
Future Traffic Growth Period (years)	24
Countermeasure 1	
Countermeasure Description	Restrict and simplify access to the local businesses along the two streets.
Crash Reduction Factors (%)	
Fatal and Incapacitating Injury Crashes	5.1
Non-Incapacitating and Possible Injury Crashes	5.1
Property Damage Only Crashes	16.5

RoadHAT 4D

Economic Evaluation - Form F5

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue & 30th Street	
Marion County		
GIS		
Post		
Analyst	Elaina Wahlman	
Date	6/18/2026	

Number of Target Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	3
Non-Incapacitating and Possible Injury Crashes	12
Property Damage Only Crashes	53
Countermeasure Service Life (years)	25
Countermeasure Capital Cost ($)	201450
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0
OUTPUT	
Total Crashes Saved	5.411
FI Crashes Saved	0.087
NI Crashes Saved	0.348
PDO Crashes Saved	4.976
Equivalent Annual Benefit ($)	132,486
Equivalent Annual Cost ($)	5,031
Present Worth Benefit ($)	3,312,153
Present Worth Cost ($)	125,767
Net Annual Benefit ($)	**127,455**
Present Worth Net Benefit ($)	**3,186,386**
Benefit-Cost Ratio	**26.34**

Comments: Long term solution: Restrict and simplify access to the local businesses along the two streets

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/19/2026
Des. No.:	N/A

Reviewer Information:		Agency/Firm Name:	Burgess & Niple
Primary Author:	Micah Reynolds, PE, RSP_{2I}	Agency:	Indianapolis Metropolitan Planning Organization
Phone Numbers:	(260) 452-7171	Email Address:	micah.reynolds@burgessniple.com

Purpose of Review:

Burgess & Niple was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Keystone Avenue		District: Greenfield		City: Indianapolis		County: Marion
Lat & Long (BOP):	39.805267	-86.121527	Lat & Long (EOP):	39.805267	-86.121527	Inside Urban Area Boundary: Yes
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit		

Location: The intersection of Keystone Avenue & 32nd Street

Existing Conditions:

The Keystone Avenue & 32nd Street intersection is an unsignalized three-leg intersection with stop control on the 32nd Street approach. 32nd Street is a two-lane roadway at the intersection. Keystone Avenue is a 4-lane roadway at the intersection. There are two southbound and two northbound lanes along Keystone Avenue. Bus stops are present on both sides of Keystone Avenue just south of the 32nd Street intersection. The posted speed limit on Keystone Avenue at the intersection is 35 MPH. There is no posted speed on 32nd Street. IMPO Replica data indicates that northbound Keystone 85th percentile speeds are 46.0 MPH while 95th percentile (outlier speeds) was observed to be 50.0 MPH. Southbound speeds through the intersection are 47.0 MPH for the 85th percentile and 51.0 MPH for the 95th percentile speeds.

There doesn't appear to be significant geometric deficiencies that are contributing to the crashes that are occurring. There is significant pedestrian traffic that attempts to cross Keystone Avenue at this location, and unfortunately one person was killed riding their bicycle along the sidewalk before tragically falling into the travel lane.

Sidewalk is located at the study intersection along Keystone Avenue and on 32nd Street. There is no buffer between the roadway and the sidewalk, which can be unnerving at times for anybody walking along the sidewalk.

Located in each quadrant of the intersection are:

- NW Quadrant: Private residence
- SW Quadrant: Private residence
- SE Quadrant: Church
- NE Quadrant: Private residence

Burgess & Niple held a field check with the representatives from the IMPO and City of Indianapolis DPW on April 27, 2026, to discuss some near-term and long-term solutions and build consensus around a series of countermeasures for Burgess & Niple to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Prior to the field check, B&N set up Miovision cameras to record driver and pedestrian behaviors. The surveillance video was studied for a 24-hour period. There was notable pedestrian activity at this intersection. However, there were seven pedestrians that completed midblock crossings. There were also three pedestrians that took unacceptable gaps in traffic and had to run to safely cross Keystone Avenue. There were four cyclists that crossed mid-block and one cyclist that traveled southbound in the northbound travel lanes of Keystone Avenue. There were also several vehicles that backed out of their driveways onto Keystone Avenue which caused traffic to slow or stop. The still photo observations are available in Attachment F.

Traffic Operations:

Mobility/Congestion Performance: According to 14-hour traffic count data collected on March 5th, 2026, the AM Peak features the highest volumes. For the AM Peak, eastbound traffic entering the intersection is **five,** westbound traffic entering the intersection is **eight**, northbound traffic entering the intersection is **1,092**, and southbound traffic entering the intersection is **1,211**. These counts were adjusted using INDOT's standard Adjustment Factors, and the adjusted counts can be viewed in the traffic data in **Attachment B**. Design year volumes were forecasted from the original count data using a 0.5% per year growth rate to determine 2048 traffic volumes, and yield results that show delays from the minor approach are not to be expected, even if the intersection still allowed left turns.

	Eastbound		Northbound		Southbound	
Alternative	LOS	Delay	LOS	Delay	LOS	Delay
AM Peak - 2048	B	14.2	A	0.2	A	0.0
PM Peak - 2048	B	13.3	A	0.6	A	0.0

Safety Performance / Crash Analysis: According to available crash data, there were **twenty** crashes associated with the study area from January 1, 2022, to December 31, 2024. Of those crashes, **two** resulted in fatality **and one** resulted in incapacitating injuries. See attached Crash Summary, crash diagram and RoadHAT 4.1 report in **Attachment A.**

2022-2024 Crash Data - analyzed as **City Arterial Intersection One AADT** I_{CC} = 1.16, I_{CF} = 0.96

Alternatives & Recommendations

Near-Term

Near-term solutions will include:

Long-Term

The long-term recommended improvement for the intersection will be to convert the minor approach to be right-in-right-out only by adding a channelizing device in the center of 32nd Street as well as a small 6" curb in the median of Keystone Avenue. In addition to the RIRO conversion, a crosswalk with HAWK should also be implemented.

Future Consideration

IMPO staff noted that they intend to study the Keystone Avenue corridor from I-70 to Fall Creek Parkway through a SS4A planning study. Considerations of intersection type (i.e. roundabout or traditional intersection improvements) at the major intersections should be included along with analyzing the number of lanes on Keystone Avenue in the Corridor Study. Access control and speed management should be considered as alternatives analyzed in this study. This will set up future success for the corridor through reimagining the roadway to provide space for all road users to safely traverse the Keystone Avenue corridor.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Detailed cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation	
Construction	$
Preliminary Engineering (15%)	$
Utility Allowance (5%)	$
Right of Way	$
Grand Total	$

Long-Term Recommendation	
Construction	$298,000
Preliminary Engineering (15%)	$44,700
Utility Allowance (5%)	$14,900
Right of Way	$0
Grand Total	$357,600

Project Score: (for INDOT use)
Safety Program Score =
Miscellaneous Notes:
Attachments:
Attachment A: Preliminary Findings Report **Attachment B:** Traffic Counts **Attachment C:** Traffic Analysis **Attachment D:** Virtual Meeting Minutes & Field Check Minutes **Attachment E:** Cost Estimates & Schematics **Attachment F:** Near Miss Analysis

ATTACHMENT A

Preliminary Findings Report

PRELIMINARY FINDINGS

Safety Analysis at Keystone Avenue & 32nd Street

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Keystone Avenue & 32nd Street (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (Icc) and crash frequency (Icf) for the Study Area using RoadHat 4.1.

9 crashes were identified within the Study Area. Two of those reported crashes resulted in incapacitating injuries, and one resulted in a fatality. Both incapacitating injury crashes were reported as Ran Off Road crashes when traveling southbound along Fall Creek Parkway and struck a tree. The fatal crash occurred when a westbound vehicle turning onto 32nd Street did not yield to a southbound vehicle on Fall Creek Parkway. Other notable results near the Study Area include:

- 44% of the reported crashes at the intersection were Rear End Crashes and 33% were Same Direction Sideswipe Crashes. There were two fatal crashes at this location. One with a bicycle and the other was a head on collision.
- 56% of reported crashes occurred during Off-Peak travel times. 44% of the crashes occurred during the evening peak hours (4pm-7pm).
- 78% of reported crashes occurred in daylight hours and 22% occurred in low light conditions.
- 67% of reported crashes occurred when the weather conditions were clear. The remaining 33% of reported crashes occurred during rain/snow conditions.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

Crash Data Summary
Keystone Avenue & 32nd Street

2022 - 2024 Crash Summary	
TOTAL CRASHES	9
TOTAL DEAD	2
TOTAL INJURED	3
PROPERTY DAMAGE ONLY	6
NON-INCAPACITATING	1
INCAPACITATING	2
FATAL	2

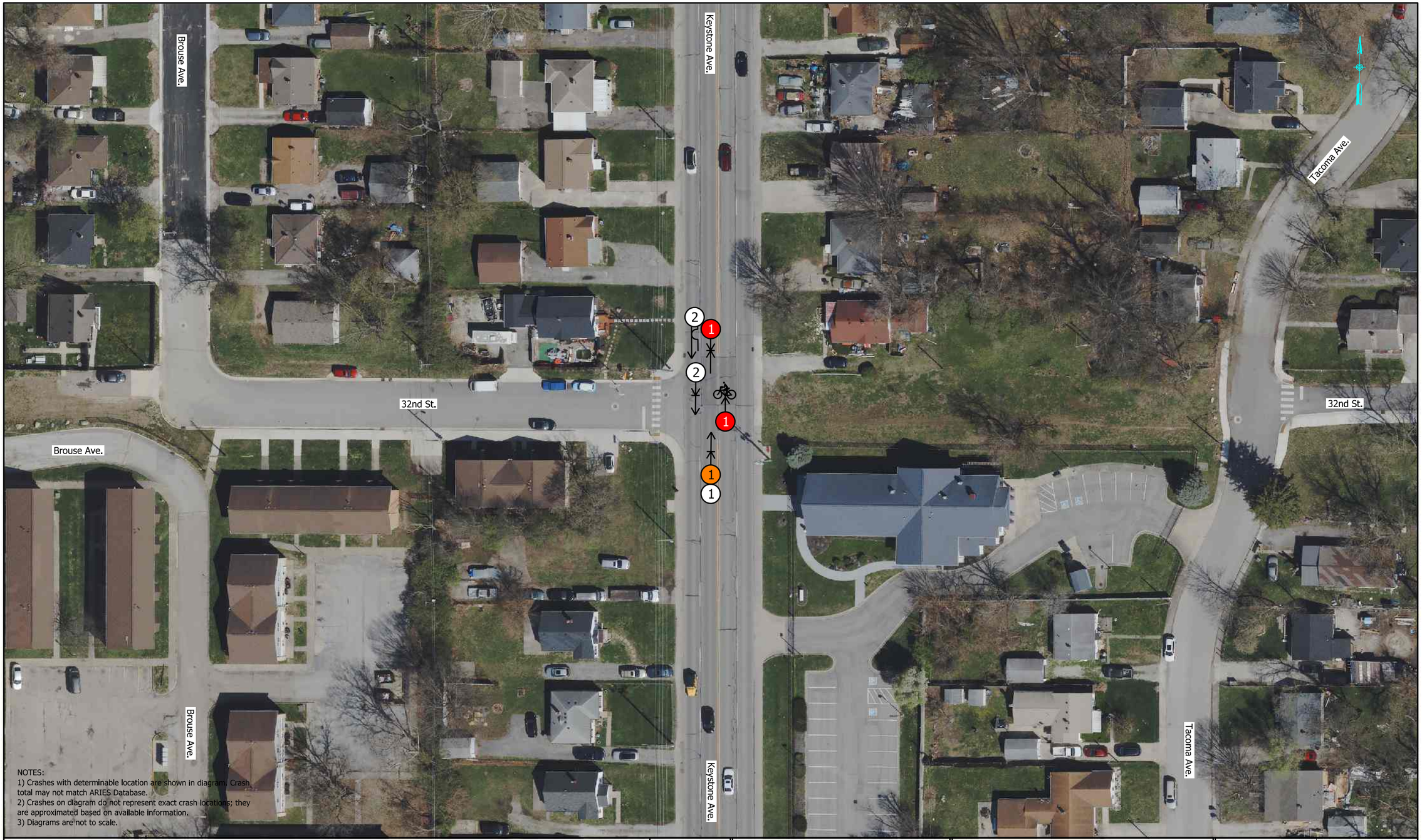
Summary of Primary Factors per Manner of Collision	Crashes	Percent
HEAD ON	**1**	**11%**
LEFT OF CENTER	1	
PEDALCYCLE	**1**	**11%**
PEDESTRIAN ACTION	1	
REAR END	**4**	**44%**
FOLLOWING TOO CLOSELY	2	
UNSAFE SPEED	2	
SAME DIRECTION SIDESWIPE	**3**	**33%**
FAILURE TO YIELD RIGHT OF WAY	1	
IMPROPER LANE USAGE	2	
Grand Total	**9**	**100%**

Summary of Crashes per Time of Day	Crashes	Percent
Off Peak	5	56%
Peak PM (4:00-7:00 PM)	4	44%
Total Crashes	**9**	**100%**

Summary of Crashes per Light Condition	Crashes	Percent
DARK (LIGHTED)	2	22%
DAYLIGHT	7	78%
Total Crashes	**9**	**100%**

Summary of Crashes per Surface Condition			
Manner of Collision	DRY	WET	Total Crashes
HEAD ON	1		1
PEDALCYCLE	1		1
REAR END	2	2	4
SAME DIRECTION SIDESWIPE	3		3
Total Crashes	**7**	**2**	**9**

Summary of Weather Conditions				
Manner of Collision	**BLOWING SAND/SOIL/SNOW**	**CLEAR**	**RAIN**	**Total Crashes**
HEAD ON		1		1
PEDALCYCLE	1			1
REAR END		2	2	4
SAME DIRECTION SIDESWIPE		3		3
Total Crashes	**1**	**6**	**2**	**9**



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LEGEND

- PROPERTY DAMAGE ONLY
- NON-INCAPACITATING INJURY
- INCAPACITATING INJURY
- FATALITY
- VEHICLE PATH
- U-TURNING VEHICLE PATH
- BICYCLE PATH
- PEDESTRIAN PATH
- FIXED OBJECT
- OFF ROAD
- ROLLOVER
- LEFT TURN
- RIGHT TURN
- ANGLE
- REAR-END
- HEAD-ON
- SIDESWIPE
- OTHER

Year	K	A	BC	O	All
2022	0	0	0	1	1
2023	1	1	0	1	3
2024	1	0	0	4	5

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: MDR DRAWN: EMW
CHECKED: CHECKED:

INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION

KEYSTONE AVENUE AT 32ND STREET
CRASH DIAGRAM

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGN VEHICLE
N/A	WB-50
SURVEY BOOK	SHEETS
	of
CONTRACT	PROJECT
R-XXXXX	XXXXXXX

Intersection Images

Keystone Avenue & 32nd Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

INDOT District: Greenfield County: Marion City/Town: Indianapolis



West Leg – Looking West



West Leg – Looking East

No East Leg at this Intersection

East Leg – Looking West

No East Leg at this Intersection

East Leg – Looking East



South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Imagery provided by Google Earth

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue at 32nd Street	
GIS		
Post		
Analyst	VanVleet	
Date	4/24/2026	

INPUT	
Road Facility Type	City Arterial Intersection One AADT
Busiest Road AADT (veh/day)	28427
Crossing Road Principal Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major Collector Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	1
Property Damage Only Crashes	6
Route or Road Type	City Arterial Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.094
Non-Incapacitating and Possible Injury Crashes	0.23
Property Damage Only Crashes	1.04
All Crashes	1.37
Index of Crash Frequency	**0.96**
Index of Crash Cost	**1.16**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue at 32nd Street	
GIS		
Post		
Analyst	VanVleet	
Date	4/24/2026	

Comments: AADT from INDOT TCDS

ATTACHMENT B

Traffic Counts

32nd St & Keystone - TMC

Thu Mar 5, 2026
Full Length (7 AM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383450, Location: 39.814435, -86.121656

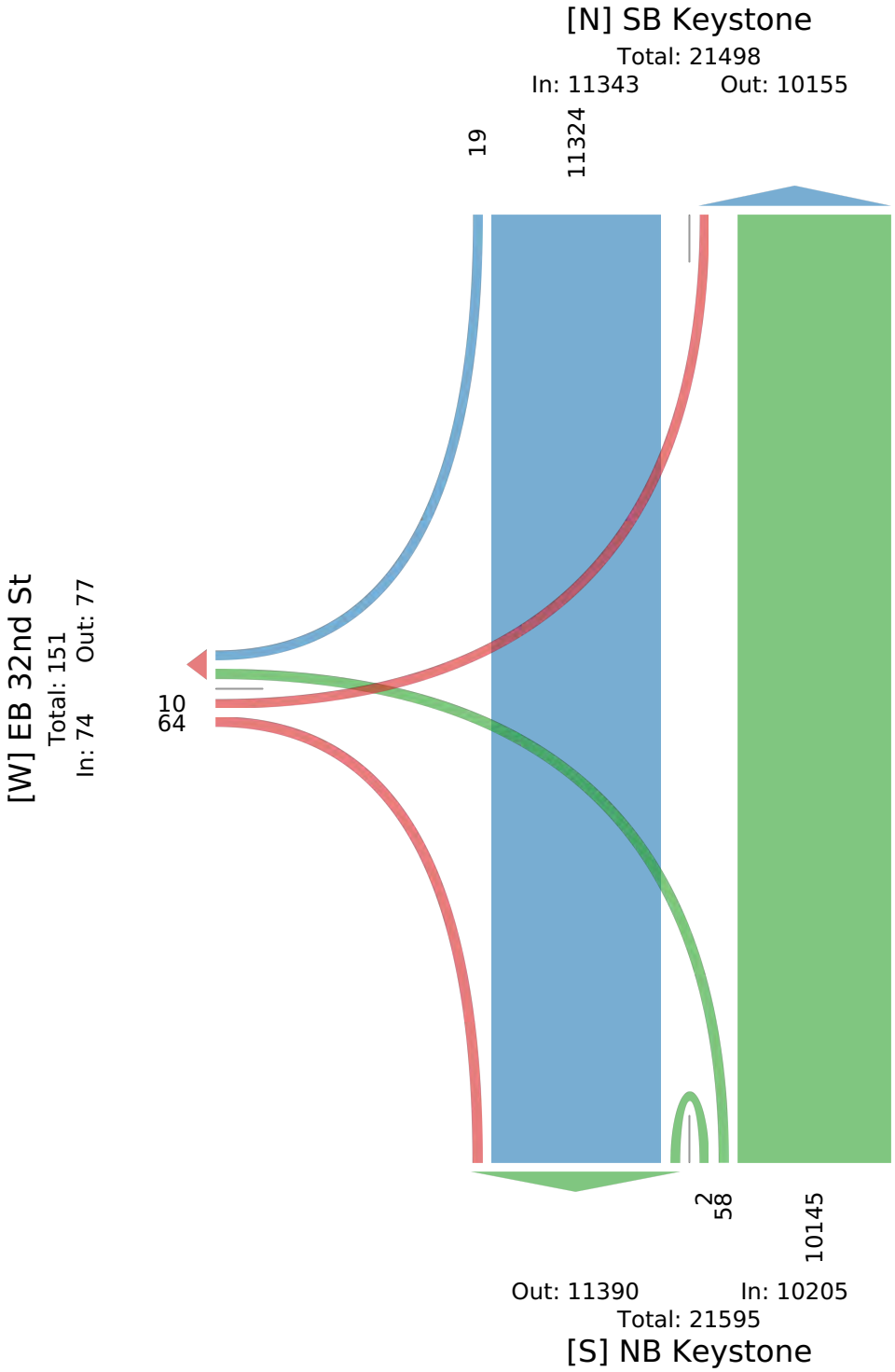
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 32nd St Eastbound				NB Keystone Northbound				SB Keystone Southbound				
Time	L	R	U	App	L	T	U	App	T	R	U	App	Int
2026-03-05 7:00AM	0	2	0	**2**	0	221	0	**221**	228	1	0	**229**	**452**
7:15AM	0	0	0	**0**	0	269	0	**269**	291	0	0	**291**	**560**
7:30AM	0	3	0	**3**	1	284	0	**285**	321	0	0	**321**	**609**
7:45AM	0	2	0	**2**	1	232	0	**233**	309	1	0	**310**	**545**
Hourly Total	0	7	0	**7**	2	1006	0	**1008**	1149	2	0	**1151**	**2166**
8:00AM	0	0	0	**0**	1	259	1	**261**	290	1	0	**291**	**552**
8:15AM	0	1	0	**1**	1	292	0	**293**	285	0	0	**285**	**579**
8:30AM	0	2	0	**2**	0	250	0	**250**	298	0	0	**298**	**550**
8:45AM	1	4	0	**5**	3	223	0	**226**	247	2	0	**249**	**480**
Hourly Total	1	7	0	**8**	5	1024	1	**1030**	1120	3	0	**1123**	**2161**
9:00AM	0	2	0	**2**	1	208	0	**209**	217	1	0	**218**	**429**
9:15AM	0	0	0	**0**	0	191	0	**191**	262	1	0	**263**	**454**
9:30AM	0	1	0	**1**	2	160	0	**162**	223	0	0	**223**	**386**
9:45AM	1	1	0	**2**	0	189	0	**189**	228	1	0	**229**	**420**
Hourly Total	1	4	0	**5**	3	748	0	**751**	930	3	0	**933**	**1689**
10:00AM	0	1	0	**1**	1	177	0	**178**	241	0	0	**241**	**420**
10:15AM	0	0	0	**0**	0	185	0	**185**	184	0	0	**184**	**369**
10:30AM	1	0	0	**1**	0	181	0	**181**	192	1	0	**193**	**375**
10:45AM	0	2	0	**2**	2	176	0	**178**	224	1	0	**225**	**405**
Hourly Total	1	3	0	**4**	3	719	0	**722**	841	2	0	**843**	**1569**
11:00AM	0	0	0	**0**	0	175	0	**175**	206	0	0	**206**	**381**
11:15AM	0	2	0	**2**	1	182	0	**183**	193	1	0	**194**	**379**
11:30AM	0	1	0	**1**	1	192	0	**193**	171	0	0	**171**	**365**
11:45AM	0	3	0	**3**	1	223	0	**224**	208	0	0	**208**	**435**
Hourly Total	0	6	0	**6**	3	772	0	**775**	778	1	0	**779**	**1560**
12:00PM	1	1	0	**2**	1	190	1	**192**	206	1	0	**207**	**401**
12:15PM	0	1	0	**1**	0	166	0	**166**	214	0	0	**214**	**381**
12:30PM	1	1	0	**2**	0	177	0	**177**	224	0	0	**224**	**403**
12:45PM	2	3	0	**5**	0	172	0	**172**	190	0	0	**190**	**367**
Hourly Total	4	6	0	**10**	1	705	1	**707**	834	1	0	**835**	**1552**
1:00PM	0	1	0	**1**	2	173	0	**175**	208	0	0	**208**	**384**
1:15PM	0	0	0	**0**	4	158	0	**162**	217	1	0	**218**	**380**
1:30PM	0	0	0	**0**	1	191	0	**192**	202	1	0	**203**	**395**
1:45PM	0	1	0	**1**	0	169	0	**169**	236	0	0	**236**	**406**
Hourly Total	0	2	0	**2**	7	691	0	**698**	863	2	0	**865**	**1565**
2:00PM	0	4	0	**4**	0	201	0	**201**	194	1	0	**195**	**400**
2:15PM	0	1	0	**1**	1	173	0	**174**	229	0	0	**229**	**404**
2:30PM	0	2	0	**2**	3	246	0	**249**	252	1	0	**253**	**504**
2:45PM	0	2	0	**2**	0	197	0	**197**	236	0	0	**236**	**435**
Hourly Total	0	9	0	**9**	4	817	0	**821**	911	2	0	**913**	**1743**
3:00PM	0	1	0	**1**	1	226	0	**227**	257	0	0	**257**	**485**
3:15PM	0	0	0	**0**	1	236	0	**237**	250	0	0	**250**	**487**
3:30PM	0	1	0	**1**	4	239	0	**243**	257	1	0	**258**	**502**
3:45PM	0	1	0	**1**	1	251	0	**252**	270	0	0	**270**	**523**
Hourly Total	0	3	0	**3**	7	952	0	**959**	1034	1	0	**1035**	**1997**
4:00PM	0	3	0	**3**	6	256	0	**262**	277	1	0	**278**	**543**
4:15PM	0	1	0	**1**	6	250	0	**256**	252	1	0	**253**	**510**
4:30PM	0	4	0	**4**	2	240	0	**242**	263	0	0	**263**	**509**
4:45PM	0	0	0	**0**	2	242	0	**244**	280	0	0	**280**	**524**
Hourly Total	0	8	0	**8**	16	988	0	**1004**	1072	2	0	**1074**	**2086**
5:00PM	0	2	0	**2**	1	243	0	**244**	233	0	0	**233**	**479**
5:15PM	1	1	0	**2**	0	251	0	**251**	264	0	0	**264**	**517**
5:30PM	1	0	0	**1**	0	244	0	**244**	224	0	0	**224**	**469**

Leg Direction	EB 32nd St Eastbound				NB Keystone Northbound				SB Keystone Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
5:45PM	0	2	0	**2**	0	219	0	**219**	212	0	0	**212**	**433**
Hourly Total	2	5	0	**7**	1	957	0	**958**	933	0	0	**933**	**1898**
6:00PM	1	1	0	**2**	1	194	0	**195**	226	0	0	**226**	**423**
6:15PM	0	0	0	**0**	2	190	0	**192**	243	0	0	**243**	**435**
6:30PM	0	1	0	**1**	2	196	0	**198**	188	0	0	**188**	**387**
6:45PM	0	2	0	**2**	1	186	0	**187**	202	0	0	**202**	**391**
Hourly Total	1	4	0	**5**	6	766	0	**772**	859	0	0	**859**	**1636**
Total	10	64	0	**74**	58	10145	2	**10205**	11324	19	0	**11343**	**21622**
% Approach	13.5%	86.5%	0%	**-**	0.6%	99.4%	0%	**-**	99.8%	0.2%	0%	**-**	-
% Total	0%	0.3%	0%	**0.3%**	0.3%	46.9%	0%	**47.2%**	52.4%	0.1%	0%	**52.5%**	-
Lights	9	64	0	**73**	53	9759	2	**9814**	10897	17	0	**10914**	20801
% Lights	90.0%	100%	0%	**98.6%**	91.4%	96.2%	100%	**96.2%**	96.2%	89.5%	0%	**96.2%**	96.2%
Articulated Trucks	0	0	0	**0**	0	61	0	**61**	55	0	0	**55**	116
% Articulated Trucks	0%	0%	0%	**0%**	0%	0.6%	0%	**0.6%**	0.5%	0%	0%	**0.5%**	0.5%
Buses and Single-Unit Trucks	1	0	0	**1**	5	325	0	**330**	372	2	0	**374**	705
% Buses and Single-Unit Trucks	10.0%	0%	0%	**1.4%**	8.6%	3.2%	0%	**3.2%**	3.3%	10.5%	0%	**3.3%**	3.3%

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

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



32nd St & Keystone - TMC

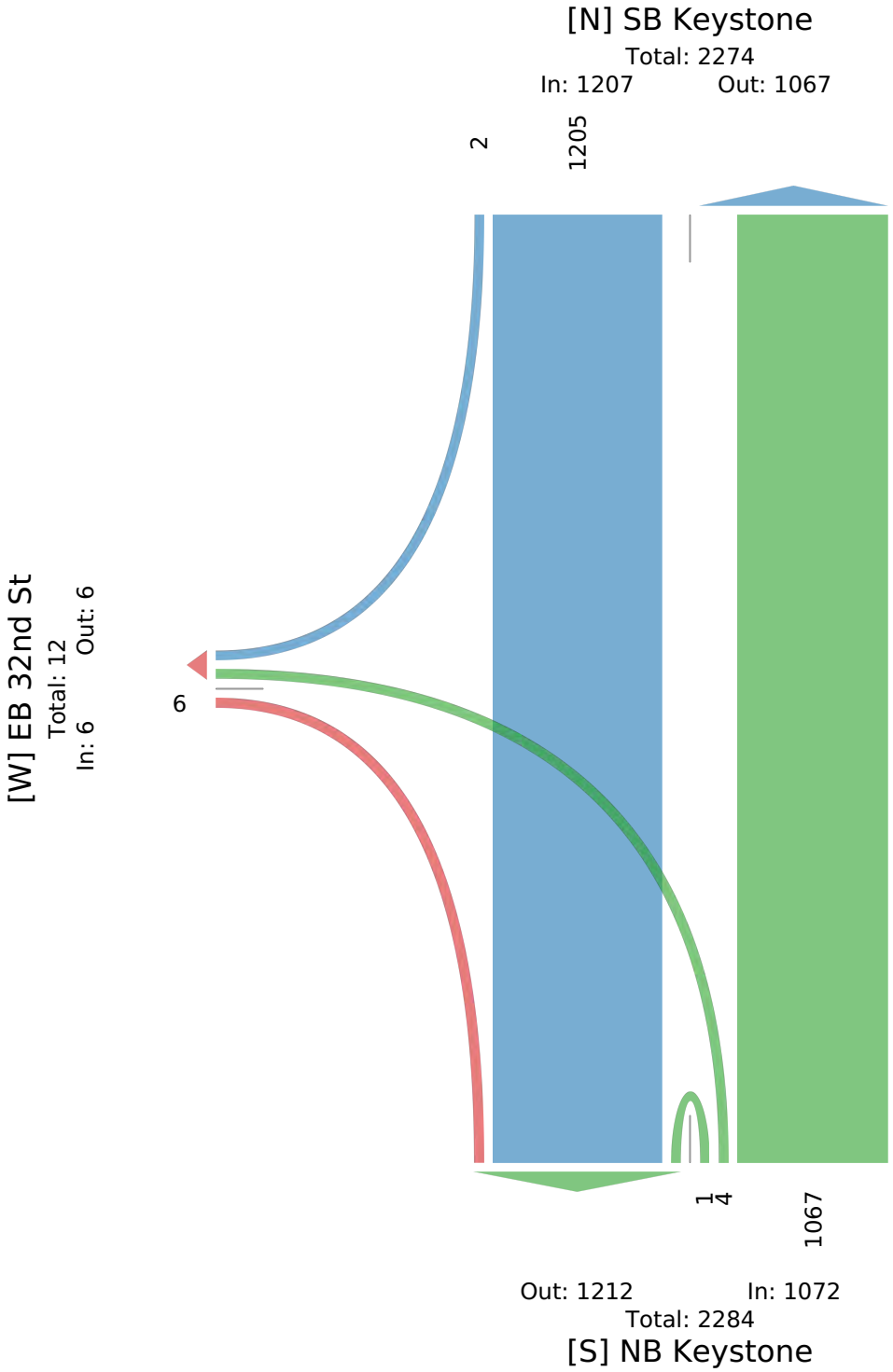
Thu Mar 5, 2026
AM Peak (7:30 AM - 8:30 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383450, Location: 39.814435, -86.121656

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 32nd St Eastbound				NB Keystone Northbound				SB Keystone Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2026-03-05 7:30AM	0	3	0	**3**	1	284	0	**285**	321	0	0	**321**	**609**
7:45AM	0	2	0	**2**	1	232	0	**233**	309	1	0	**310**	**545**
8:00AM	0	0	0	**0**	1	259	1	**261**	290	1	0	**291**	**552**
8:15AM	0	1	0	**1**	1	292	0	**293**	285	0	0	**285**	**579**
Total	0	6	0	**6**	4	1067	1	**1072**	1205	2	0	**1207**	**2285**
% Approach	0%	100%	0%	**-**	0.4%	99.5%	0.1%	**-**	99.8%	0.2%	0%	**-**	-
% Total	0%	0.3%	0%	**0.3%**	0.2%	46.7%	0%	**46.9%**	52.7%	0.1%	0%	**52.8%**	-
PHF	-	0.500	-	**0.500**	1.000	0.914	0.250	**0.915**	0.938	0.500	-	**0.940**	0.938
Lights	0	6	0	**6**	4	1031	1	**1036**	1180	1	0	**1181**	2223
% Lights	0%	100%	0%	**100%**	100%	96.6%	100%	**96.6%**	97.9%	50.0%	0%	**97.8%**	97.3%
Articulated Trucks	0	0	0	**0**	0	6	0	**6**	4	0	0	**4**	10
% Articulated Trucks	0%	0%	0%	**0%**	0%	0.6%	0%	**0.6%**	0.3%	0%	0%	**0.3%**	0.4%
Buses and Single-Unit Trucks	0	0	0	**0**	0	30	0	**30**	21	1	0	**22**	52
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	0%	2.8%	0%	**2.8%**	1.7%	50.0%	0%	**1.8%**	2.3%

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

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



32nd St & Keystone - TMC

Thu Mar 5, 2026
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383450, Location: 39.814435, -86.121656

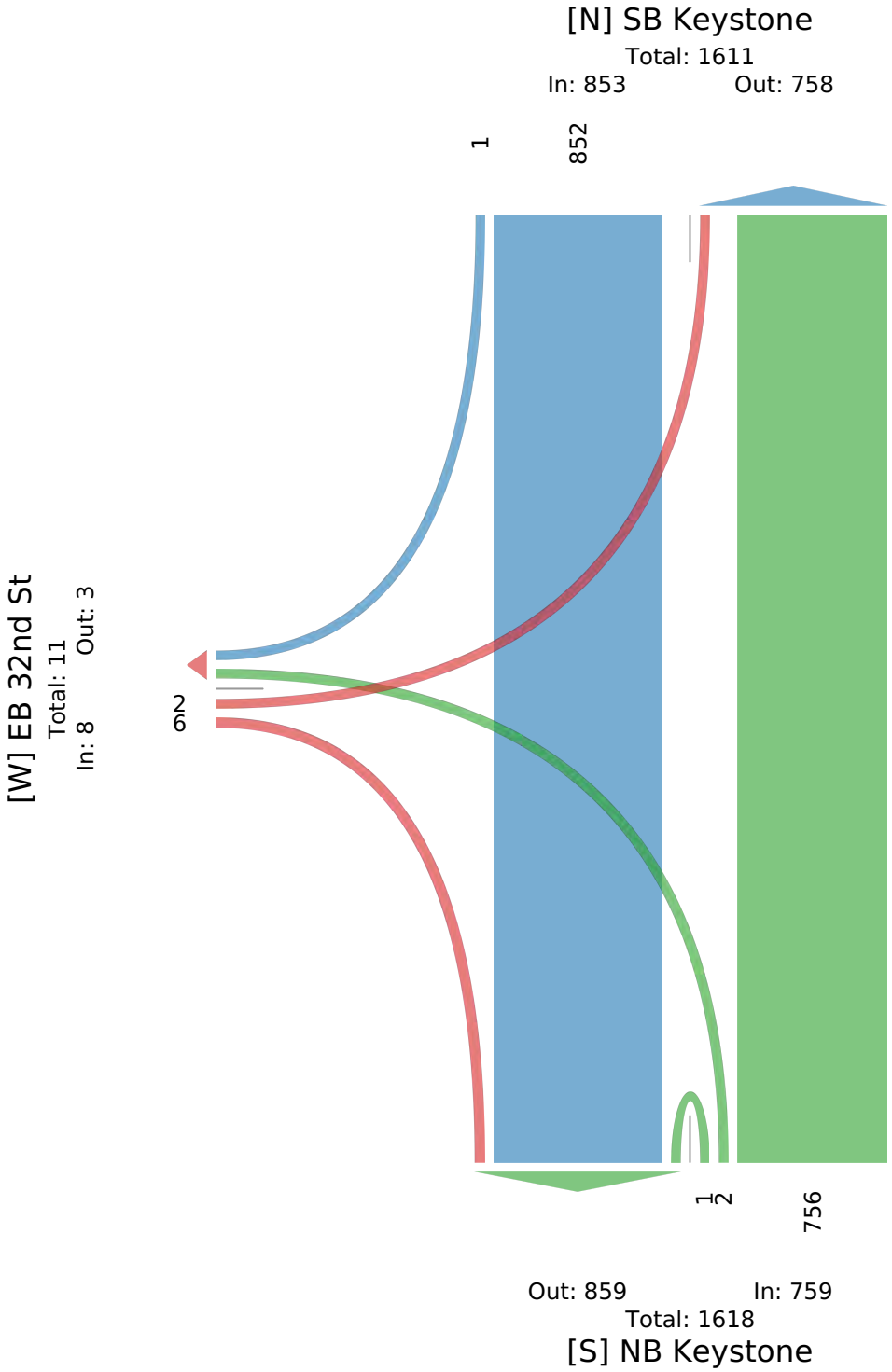
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 32nd St Eastbound				NB Keystone Northbound				SB Keystone Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2026-03-05 11:45AM	0	3	0	**3**	1	223	0	**224**	208	0	0	**208**	**435**
12:00PM	1	1	0	**2**	1	190	1	**192**	206	1	0	**207**	**401**
12:15PM	0	1	0	**1**	0	166	0	**166**	214	0	0	**214**	**381**
12:30PM	1	1	0	**2**	0	177	0	**177**	224	0	0	**224**	**403**
Total	2	6	0	**8**	2	756	1	**759**	852	1	0	**853**	**1620**
% Approach	25.0%	75.0%	0%	**-**	0.3%	99.6%	0.1%	**-**	99.9%	0.1%	0%	**-**	-
% Total	0.1%	0.4%	0%	**0.5%**	0.1%	46.7%	0.1%	**46.9%**	52.6%	0.1%	0%	**52.7%**	-
PHF	0.500	0.500	-	**0.667**	0.500	0.848	0.250	**0.847**	0.951	0.250	-	**0.952**	0.931
Lights	2	6	0	**8**	2	723	1	**726**	816	1	0	**817**	1551
% Lights	100%	100%	0%	**100%**	100%	95.6%	100%	**95.7%**	95.8%	100%	0%	**95.8%**	95.7%
Articulated Trucks	0	0	0	**0**	0	5	0	**5**	6	0	0	**6**	11
% Articulated Trucks	0%	0%	0%	**0%**	0%	0.7%	0%	**0.7%**	0.7%	0%	0%	**0.7%**	0.7%
Buses and Single-Unit Trucks	0	0	0	**0**	0	28	0	**28**	30	0	0	**30**	58
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	0%	3.7%	0%	**3.7%**	3.5%	0%	0%	**3.5%**	3.6%

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

32nd St & Keystone - TMC
Thu Mar 5, 2026
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383450, Location: 39.814435, -86.121656

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



32nd St & Keystone - TMC

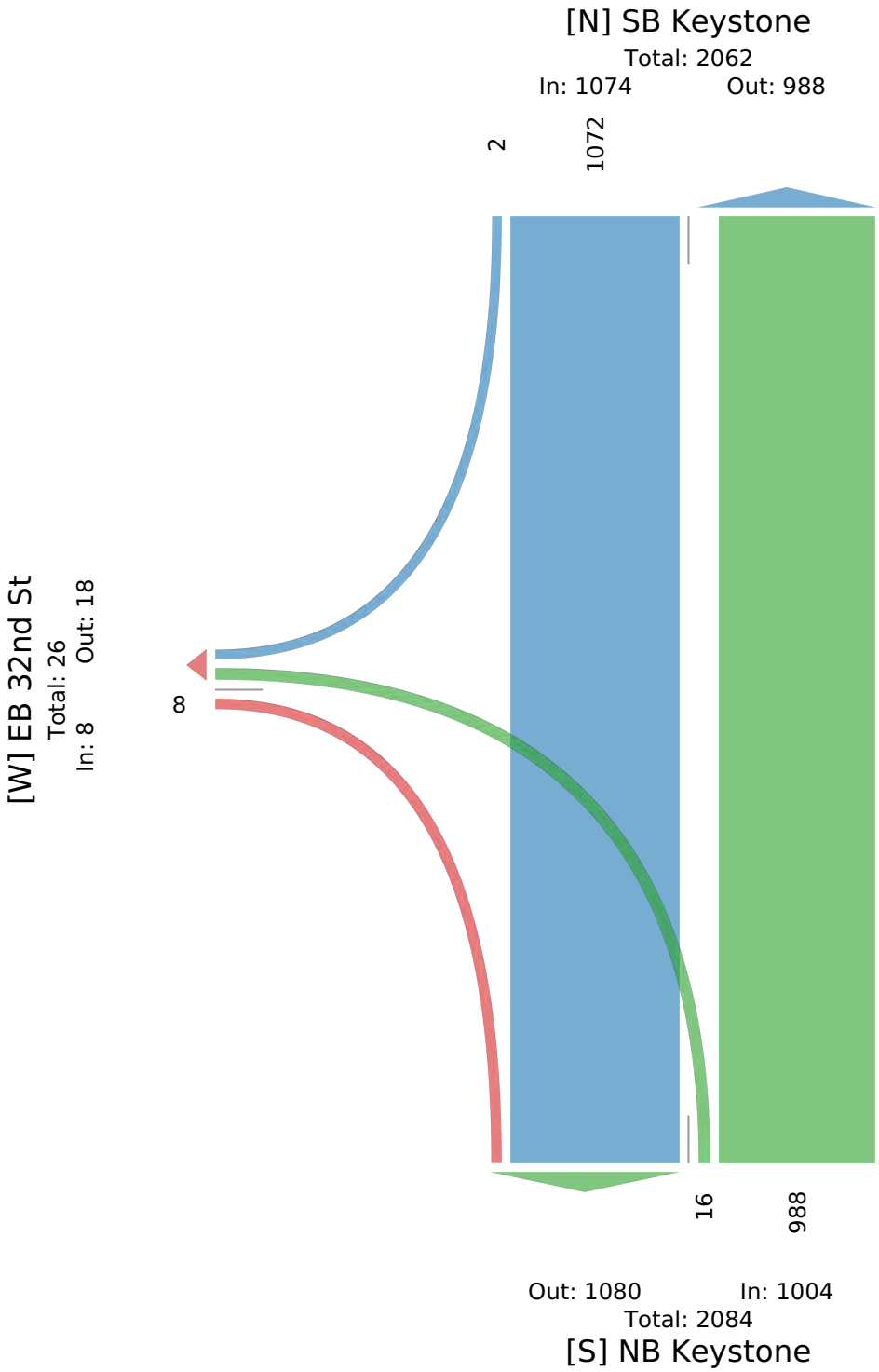
Thu Mar 5, 2026
PM Peak (4 PM - 5 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383450, Location: 39.814435, -86.121656

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 32nd St Eastbound				NB Keystone Northbound				SB Keystone Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2026-03-05 4:00PM	0	3	0	**3**	6	256	0	**262**	277	1	0	**278**	**543**
4:15PM	0	1	0	**1**	6	250	0	**256**	252	1	0	**253**	**510**
4:30PM	0	4	0	**4**	2	240	0	**242**	263	0	0	**263**	**509**
4:45PM	0	0	0	**0**	2	242	0	**244**	280	0	0	**280**	**524**
Total	0	8	0	**8**	16	988	0	**1004**	1072	2	0	**1074**	**2086**
% Approach	0%	100%	0%	**-**	1.6%	98.4%	0%	**-**	99.8%	0.2%	0%	**-**	-
% Total	0%	0.4%	0%	**0.4%**	0.8%	47.4%	0%	**48.1%**	51.4%	0.1%	0%	**51.5%**	-
PHF	-	0.500	-	**0.500**	0.667	0.965	-	**0.958**	0.957	0.500	-	**0.959**	0.960
Lights	0	8	0	**8**	14	973	0	**987**	1038	2	0	**1040**	2035
% Lights	0%	100%	0%	**100%**	87.5%	98.5%	0%	**98.3%**	96.8%	100%	0%	**96.8%**	97.6%
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	2	0	0	**2**	2
% Articulated Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0.2%	0%	0%	**0.2%**	0.1%
Buses and Single-Unit Trucks	0	0	0	**0**	2	15	0	**17**	32	0	0	**32**	49
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	12.5%	1.5%	0%	**1.7%**	3.0%	0%	0%	**3.0%**	2.3%

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

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



Leg	EB 32nd St				NB Keystone				SB Keystone				
Direction	Eastbound				Northbound				Southbound				
Start Time	Left	Right	U-Turn	**Total**	Left	Thru	U-Turn	**Total**	Thru	Right	U-Turn	**Total**	**Int Total**
2026-03-05 07:30:00	0	3	0	**3**	1	284	0	**285**	321	0	0	**321**	**609**
2026-03-05 07:45:00	0	2	0	**2**	1	232	0	**233**	309	1	0	**310**	**545**
2026-03-05 08:00:00	0	0	0	**0**	1	259	1	**261**	290	1	0	**291**	**552**
2026-03-05 08:15:00	0	1	0	**1**	1	292	0	**293**	285	0	0	**285**	**579**
Grand Total	0	6	0	**6**	4	1067	1	**1072**	1205	2	0	**1207**	**2285**
% Approach	0.0%	100.0%	0.0%		0.4%	99.5%	0.1%		99.8%	0.2%	0.0%		
% Total	0.0%	0.3%	0.0%	**0.3%**	0.2%	46.7%	0.0%	**46.9%**	52.7%	0.1%	0.0%	**52.8%**	
PHF (7:30 AM - 8:30 AM)	0	0.5	0	**0.5**	1	0.914	0.25	**0.915**	0.938	0.5	0	**0.94**	**0.938**
Lights	0	6	0	**6**	4	1031	1	**1036**	1180	1	0	**1181**	**2223**
% Lights	0.0%	100.0%	0.0%	**100.0%**	100.0%	96.6%	100.0%	**96.6%**	97.9%	50.0%	0.0%	**97.8%**	**97.3%**
Articulated Trucks	0	0	0	**0**	0	6	0	**6**	4	0	0	**4**	**10**
% Articulated Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.6%	0.0%	**0.6%**	0.3%	0.0%	0.0%	**0.3%**	**0.4%**
Buses and Single-Unit Trucks	0	0	0	**0**	0	30	0	**30**	21	1	0	**22**	**52**
% Buses and Single-Unit Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	2.8%	0.0%	**2.8%**	1.7%	50.0%	0.0%	**1.8%**	**2.3%**

Thursday	Eastbound				Northbound				Southbound				
	Left	Right	U-Turn	**Total**	Left	Thru	U-Turn	**Total**	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	0	6	0	6	4	1,016	1	1,021	1,147	2	0	1,149	2,175
Heavy %)	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	0.0%	3.5%	2.2%	50.0%	0.0%	2.3%	2.9%
Adjusted Total (2048)	0	6	0	6	4	1134	1	1139	1280	2	0	1282	2428

Season Adj. Factor		Weekday Adj. Factor		Growth Rate	0.50%
Keystone	1.016	Keystone	0.937	Design Year	2048
27th	1.016	27th	0.937	Growth Factor	1.12

Leg	EB 32nd St				NB Keystone				SB Keystone				
Direction	Eastbound				Northbound				Southbound				
Start Time	Left	Right	U-Turn	**App Tot**	Left	Thru	U-Turn	**App Tot**	Thru	Right	U-Turn	**App Tot**	**Int Total**
2026-03-05 11:45:00	0	3	0	**3**	1	223	0	**224**	208	0	0	**208**	**435**
2026-03-05 12:00:00	1	1	0	**2**	1	190	1	**192**	206	1	0	**207**	**401**
2026-03-05 12:15:00	0	1	0	**1**	0	166	0	**166**	214	0	0	**214**	**381**
2026-03-05 12:30:00	1	1	0	**2**	0	177	0	**177**	224	0	0	**224**	**403**
Grand Total	2	6	0	**8**	2	756	1	**759**	852	1	0	**853**	**1620**
% Approach	25.0%	75.0%	0.0%		0.3%	99.6%	0.1%		99.9%	0.1%	0.0%		
% Total	0.1%	0.4%	0.0%	**0.5%**	0.1%	46.7%	0.1%	**46.9%**	52.6%	0.1%	0.0%	**52.7%**	
PHF (11:45 AM - 12:45 PM)	0.5	0.5	0	**0.667**	0.5	0.848	0.25	**0.847**	0.951	0.25	0	**0.952**	**0.931**
Lights	2	6	0	**8**	2	723	1	**726**	816	1	0	**817**	**1551**
% Lights	100.0%	100.0%	0.0%	**100.0%**	100.0%	95.6%	100.0%	**95.7%**	95.8%	100.0%	0.0%	**95.8%**	**95.7%**
Articulated Trucks	0	0	0	**0**	0	5	0	**5**	6	0	0	**6**	**11**
% Articulated Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.7%	0.0%	**0.7%**	0.7%	0.0%	0.0%	**0.7%**	**0.7%**
Buses and Single-Unit Trucks	0	0	0	**0**	0	28	0	**28**	30	0	0	**30**	**58**
% Buses and Single-Unit Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	3.7%	0.0%	**3.7%**	3.5%	0.0%	0.0%	**3.5%**	**3.6%**

	Season Adj. Factor		Weekday Adj. Factor		Growth Rate	0.50%
	Keystone	1.016	Keystone	0.937	Design Year	2048
	27th	1.016	27th	0.937	Growth Factor	1.12

Thursday	Eastbound				Northbound				Southbound				
	Left	Right	U-Turn	**Total**	Left	Thru	U-Turn	**Total**	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	2	6	0	8	2	720	1	723	811	1	0	812	1,542
Heavy %)	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%	0.0%	4.6%	4.4%	0.0%	0.0%	4.4%	4.5%
Adjusted Total (2048)	2	6	0	8	2	803	1	806	905	1	0	906	1721

Leg	EB 32nd St				NB Keystone				SB Keystone				
Direction	Eastbound				Northbound				Southbound				
Start Time	Left	Right	U-Turn	App Tot	Left	Thru	U-Turn	App Tot	Thru	Right	U-Turn	App Tot	Int Total
2026-03-05 16:00:00	0	3	0	**3**	6	256	0	**262**	277	1	0	**278**	**543**
2026-03-05 16:15:00	0	1	0	**1**	6	250	0	**256**	252	1	0	**253**	**510**
2026-03-05 16:30:00	0	4	0	**4**	2	240	0	**242**	263	0	0	**263**	**509**
2026-03-05 16:45:00	0	0	0	**0**	2	242	0	**244**	280	0	0	**280**	**524**
Grand Total	0	8	0	**8**	16	988	0	**1004**	1072	2	0	**1074**	**2086**
% Approach	0.0%	100.0%	0.0%		1.6%	98.4%	0.0%		99.8%	0.2%	0.0%		
% Total	0.0%	0.4%	0.0%	**0.4%**	0.8%	47.4%	0.0%	**48.1%**	51.4%	0.1%	0.0%	**51.5%**	
PHF (4 PM - 5 PM)	0	0.5	0	**0.5**	0.667	0.965	0	**0.958**	0.957	0.5	0	**0.959**	**0.96**
Lights	0	8	0	**8**	14	973	0	**987**	1038	2	0	**1040**	**2035**
% Lights	0.0%	100.0%	0.0%	**100.0%**	87.5%	98.5%	0.0%	**98.3%**	96.8%	100.0%	0.0%	**96.8%**	**97.6%**
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	2	0	0	**2**	**2**
% Articulated Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.2%	0.0%	0.0%	**0.2%**	**0.1%**
Buses and Single-Unit Trucks	0	0	0	**0**	2	15	0	**17**	32	0	0	**32**	**49**
% Buses and Single-Unit Trucks	0.0%	0.0%	0.0%	**0.0%**	12.5%	1.5%	0.0%	**1.7%**	3.0%	0.0%	0.0%	**3.0%**	**2.3%**

Thursday	Eastbound				Northbound				Southbound				
	Left	Right	U-Turn	**Total**	Left	Thru	U-Turn	**Total**	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	0	8	0	8	15	941	0	956	1,021	2	0	1,022	1,986
Heavy %)	0.0%	0.0%	0.0%	0.0%	13.3%	1.6%	0.0%	1.8%	3.3%	0.0%	0.0%	3.3%	2.6%
Adjusted Total (2048)	0	8	0	8	17	1050	0	1067	1139	2	0	1141	2216

Season Adj. Factor		Weekday Adj. Factor		Growth Rate	0.50%
Keystone	1.016	Keystone	0.937	Design Year	2048
27th	1.016	27th	0.937	Growth Factor	1.12

ATTACHMENT C

Traffic Analysis

HCS Two-Way Stop-Control Report

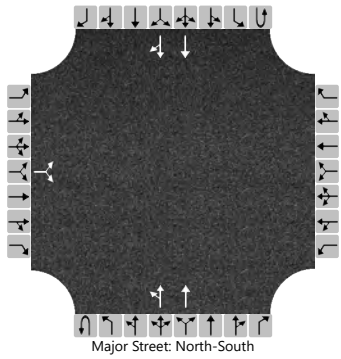
General Information

Analyst	Micah Reynolds
Agency/Co.	Burgess & Niple
Date Performed	5/12/2026
Analysis Year	2048
Time Analyzed	AM Peak (7:30-8:30am)
Intersection Orientation	North-South
Project Description	Keystone Avenue at 32nd Street

Site Information

Intersection	Keystone & 32nd
Jurisdiction	IMPO
East/West Street	32nd Street
North/South Street	Keystone Avenue
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	2	0
Configuration			LR							LT	T				T	TR
Volume (veh/h)		0		6						5	1134				1280	2
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)		7.5		6.9						4.1						
Critical Headway (sec)		6.80		6.90						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							5						
Capacity, c (veh/h)			397							510						
v/c Ratio			0.02							0.01						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
95% Queue Length, Q_{95} (ft)			0.0							0.0						
Control Delay (s/veh)			14.2							12.1	0.2					
Level of Service (LOS)			B							B	A					
Approach Delay (s/veh)		14.2								0.2						
Approach LOS		B								A						

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HCS Two-Way Stop-Control Report

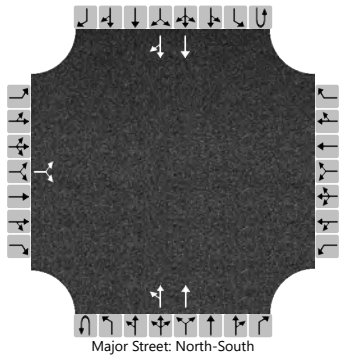
General Information

Analyst	Micah Reynolds
Agency/Co.	Burgess & Niple
Date Performed	5/12/2026
Analysis Year	2048
Time Analyzed	PM Peak (4:00-5:00pm)
Intersection Orientation	North-South
Project Description	Keystone Avenue at 32nd Street

Site Information

Intersection	Keystone & 32nd
Jurisdiction	IMPO
East/West Street	32nd Street
North/South Street	Keystone Avenue
Peak Hour Factor	0.96
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	2	0	0	0	2	0
Configuration			LR							LT	T				T	TR
Volume (veh/h)		0		8						17	1050				1139	2
Percent Heavy Vehicles (%)		0		0						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.80		6.90						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.21						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			8							18						
Capacity, c (veh/h)			453							589						
v/c Ratio			0.02							0.03						
95% Queue Length, Q_{95} (veh)			0.1							0.1						
95% Queue Length, Q_{95} (ft)			2.5							2.5						
Control Delay (s/veh)			13.1							11.3	0.5					
Level of Service (LOS)			B							B	A					
Approach Delay (s/veh)		13.1								0.6						
Approach LOS		B								A						

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ATTACHMENT D

Virtual Meeting Minutes & Field Check Minutes

CORRADINO LLC
200 S. Meridian St. Suite 330
Indianapolis, IN 46225

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

BURGESS & NIPLE

251 North Illinois Street | Capital Center Suite 920 | Indianapolis, IN 46204 | 317.237.2760

Project: **IMPO Safety On-Call** **Date: June 8, 2026**
Location: **Keystone Avenue at 32nd Street**
Marion County

Attendees

Jill Palmer	Indianapolis DPW	Jeremy VanVleet	Burgess & Niple
Jason Bowers	Indianapolis DPW	Micah Reynolds	Burgess & Niple
Jamey McPherson	Indianapolis DPW		
Andrea Miller	Indy MPO		
Jennifer Dunn	Indy MPO		

Field Check Observations

The field check attendees met on the west side of Keystone Avenue on Monday, April 27th, 2026, at approximately 10:000AM. The existing intersection is a three-leg intersection with stop control on the minor (eastbound) approach. While at the field check, it was noted that the sidewalks along Keystone Avenue are right against the travel lane, which makes walking along the sidewalk uncomfortable. Vehicles on Keystone Avenue seemed to be traveling quite fast, and likely over the posted speed limit of 35mph.

It was brought to the group's attention that the IMPO intends to study the Keystone Avenue corridor wholistically as part of a Safe Streets for All (SS4A) Grant. There is also a school being reconstructed a little bit south of the intersection, where it may be worth considering adding a crosswalk.

Jeremy then discussed with the group the existing safety performance at the intersection. The crash history indicated that there is a significant crash pattern of rear end crashes at the intersection, but there was also one bicyclist fatality. The RoadHAT analysis results showed an I_{CF} of 0.96 and an I_{CC} of 1.16 which indicate the intersection is performing worse than expected.

After reviewing the traffic and safety analysis and while watching traffic at the site, the group decided on options that should be analyzed further.

- In the short term, pavement markings at the intersection (especially at the minor approach), should be refreshed using the wider 6" pavement markings.
- In the long term, access should be more restricted and converted to right-in-right-out only. This will help alleviate the potential for rear end crashes, which tend to happen when a car is waiting for a gap to turn left.

These alternatives will be analyzed, and results will be shared and discussed further.

ATTACHMENT E

Cost Estimates & Schematics

QUANTITY COST ESTIMATE

IMPO RSAs - Keystone Avenue at 32nd Street

Proj 63966

Des N/A

ESTIMATED PROJECT COST	
Total:	$248,330.00
20.0% Contingency:	$49,670.00
ESTIMATED TOTAL:	$298,000.00

ID	Item No.	Description	Quantity	Unit	Unit Price	Item Total
0001	105-06845	CONSTRUCTION ENGINEERING	1.00	LS	$7,500.00	$7,500.00
0002	110-01001	MOBILIZATION AND DEMOBILIZATION	1.00	LS	$15,000.00	$15,000.00
0003	201-52370	CLEARING RIGHT-OF-WAY	1.00	LS	$7,500.00	$7,500.00
0004	205-12108	STORMWATER MANAGEMENT BUDGET	2,500.00	DOL	$1.00	$2,500.00
0005	205-12618	SWQCP PREPARATION	1.00	LS	$2,500.00	$2,500.00
0006	207-08264	SUBGRADE TREATMENT, TYPE II	20.00	SYS	$50.00	$1,000.00
0007	304-12625	HMA PATCHING, FULL DEPTH, TYPE C	25.00	TON	$300.00	$7,500.00
0008	304-12626	HMA PATCHING, PARTIAL DEPTH, TYPE C	30.00	TON	$400.00	$12,000.00
0009	604-06070	SIDEWALK, CONCRETE	20.00	SYS	$165.00	$3,300.00
0010	604-08086	CURB RAMP, CONCRETE	20.00	SYS	$250.00	$5,000.00
0011	604-12083	DETECTABLE WARNING SURFACES	20.00	SYS	$300.00	$6,000.00
0012	605-06215	CENTER CURB, D CONCRETE	200.00	LFT	$200.00	$40,000.00
0013	605-06255	CENTER CURB, D CONCRETE	11.00	SYS	$1,000.00	$11,000.00
0014	801-06775	MAINTAINING TRAFFIC	1.00	LS	$30,000.00	$30,000.00
0015	802-05702	SIGN POST, SQUARE, TYPE 2, REINFORCED ANCHOR BASE	20.00	LFT	$35.00	$700.00
0016	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	6.00	SFT	$45.00	$270.00
0017	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	2.00	EACH	$1,000.00	$2,000.00
0018	805-11376	SIGNAL CANTILEVER STRUCTURE, SINGLE ARM 30 FT	2.00	EACH	$30,000.00	$60,000.00
0019	805-11383	SIGNAL CANTILEVER STRUCTURE, DRILLED SHAFT FOUNDATION, TYPE A	2.00	EACH	$7,500.00	$15,000.00
0020	805-11496	PEDESTRIAN HYBRID BEACON	4.00	EACH	$2,000.00	$8,000.00
0021	805-11817	PEDESTRIAN PUSH BUTTON, APS	2.00	EACH	$2,000.00	$4,000.00
0022	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	220.00	LFT	$15.00	$3,300.00
0023	808-12032	GROOVING FOR PAVEMENT MARKINGS	300.00	LFT	$7.50	$2,250.00
0024	808-75043	LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN.	30.00	LFT	$5.00	$150.00
0025	808-75247	LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN.	210.00	LFT	$5.00	$1,050.00
0026	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	54.00	LFT	$15.00	$810.00
		Total				$298,000.00
		Preliminary Engineering (15%)				$44,700.00
		Utility Allowance (5%)				$14,900.00
		Right of Way				$0.00
		Grand Total				$357,600.00



B&N
burgessniple.com

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MDR | DRAWN: EMW

CHECKED: _____ | CHECKED: _____

INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION

KEYSTONE AVENUE AT 32ND STREET
CONCEPT DRAWING

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGN VEHICLE
N/A	WB-50
SURVEY BOOK	SHEETS
	of
CONTRACT	PROJECT
R-XXXXX	XXXXXXX

RoadHAT 4D

Economic Evaluation - Form F5

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue & 32nd Street	
Marion County		
GIS		
Post		
Analyst	Elaina Wahlman	
Date	6/18/2026	

INPUT	
Alternative	Long-term recomendation
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	41
Property Damage Only Crashes	6
Route Type	City Arterial Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Present Year (yyyy)	2026
Implementation Year (yyyy)	2050
Inflation Rate (%)	2
Interest Rate (%)	4
Annual Traffic Growth Rate (%)	2
Total Traffic Growth Factor (%)	1.127
Future Traffic Growth Period (years)	24
Countermeasure 1	
Countermeasure Description	Add enhanced pedestrian crossing with a pedestrian hybrid beacon with push buttons.
Crash Reduction Factors (%)	
Fatal and Incapacitating Injury Crashes	19.2
Non-Incapacitating and Possible Injury Crashes	19.2
Property Damage Only Crashes	11.7

RoadHAT 4D

Economic Evaluation - Form F5

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue & 32nd Street	
Marion County		
GIS		
Post		
Analyst	Elaina Wahlman	
Date	6/18/2026	

Number of Target Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	41
Property Damage Only Crashes	6
Countermeasure Service Life (years)	25
Countermeasure Capital Cost ($)	178800
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0
Countermeasure 2	
Countermeasure Description	Construct a 6" centerline curb to convert the intersection to right-in-right-out
Crash Reduction Factors (%)	
Fatal and Incapacitating Injury Crashes	45
Non-Incapacitating and Possible Injury Crashes	45
Property Damage Only Crashes	45
Number of Target Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	2
Non-Incapacitating and Possible Injury Crashes	41
Property Damage Only Crashes	6
Countermeasure Service Life (years)	25
Countermeasure Capital Cost ($)	178800
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0
OUTPUT	
Total Crashes Saved	15.349
FI Crashes Saved	0.632
NI Crashes Saved	12.961
PDO Crashes Saved	1.756

RoadHAT 4D

Economic Evaluation - Form F5

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue & 32nd Street	
Marion County		
GIS		
Post		
Analyst	Elaina Wahlman	
Date	6/18/2026	

Equivalent Annual Benefit ($)	1,577,436
Equivalent Annual Cost ($)	8,930
Present Worth Benefit ($)	39,435,909
Present Worth Cost ($)	223,254
Net Annual Benefit ($)	**1,568,506**
Present Worth Net Benefit ($)	**39,212,655**
Benefit-Cost Ratio	**176.64**

Comments: Long term solution: Construct an enhanced pedestrian crossing with a pedestrian hybrid beacon with push buttons. Construct a 6" centerline curb to convert the intersection ro right-in-right-out.

ATTACHMENT F

Near Miss Analysis

12 AM – No Instances

1 AM – No Instances

2 AM – No Instances

3 AM – No Instances

4 AM – No Instances

5 AM – No Instances

6 AM – 2 Instances

06:36:46 Pedestrian running to cross traffic lanes.



06:38:12 Pedestrian running to cross traffic lanes.



7 AM – No Instances

8 AM – 3 Instances

08:07:45 Cyclist completing midblock crossing.



08:32:44 Pedestrian running to cross traffic.



08:57:00 Pedestrian completing midblock crossing.



9 AM – No Instances

10 AM – No Instances

11 AM – No Instances

12 PM – 1 Instance

12:00:35 Pedestrians completing midblock crossing.



1 PM – 1 Instance

13:13:47 Cyclist traveling wrong way on road.



2 PM – 1 Instance

14:35:48 Pedestrians standing in road waiting for vehicle to pass.



3 PM – No Instances

4 PM – 1 Instance

16:16:14 Cyclist completing midblock crossing.



5 PM – 1 Instance

17:17:52 Pedestrian completing midblock crossing.



6 PM – No Instances

7 PM – 3 Instances

19:20:14 Vehicle backing out into roadway.



19:21:35 Cyclist completing midblock crossing.



19:45:34 Pedestrian completing midblock crossing.



8 PM – No Instances

9 PM – 2 Instances

21:22:07 Cyclist completing midblock crossing.



21:23:52 Pedestrian completing midblock crossing.



10 PM – No Instances

11 PM – No Instances

ABBREVIATED ENGINEERING REVIEW FOR TRAFFIC SAFETY

Date:	6/19/2026
Des. No.:	N/A

Reviewer Information:		Agency/Firm Name:	Burgess & Niple
Primary Author:	Micah Reynolds, PE, RSP_{2I}	Agency:	Indianapolis Metropolitan Planning Organization
Phone Numbers:	(260) 452-7171	Email Address:	micah.reynolds@burgessniple.com

Purpose of Review:

Burgess & Niple was hired by the Indianapolis MPO (IMPO) to conduct a series of roadway safety audits at preselected intersections within its urbanized area. The goal was to identify existing safety issues and recommend near-term and long-term improvements to address them. Improvements may range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements, including intersection upgrades, multimodal infrastructure, and upgraded traffic signals, as needed. This form is suitable for Level 1 review. Of the three available levels of engineering review, this represents the least refined, lowest-intensity degree of analysis, development of essential project intent (outline of the certified course of action), scoring, and process documentation.

Project Location:

Route: Keystone Avenue		District: Greenfield		City: Indianapolis			County: Marion
Lat & Long (BOP):	39.805267	-86.121536	Lat & Long (EOP):	39.805267	-86.121536	Inside Urban Area Boundary: Yes	
IMPO: Indianapolis Metropolitan Planning Organization				Project Type: Roadway Safety Audit			

Location: The intersection of Keystone Avenue & 36th Street

Existing Conditions:

The Keystone Avenue & 36th Street intersection is an unsignalized four-leg intersection with stop control on the 36th Street approaches. 36th Street is a two-lane roadway at the intersection. Keystone Avenue is a 4-lane roadway at the intersection. There are two southbound and two northbound lanes along Keystone Avenue. Bus stops are present on both sides of Keystone Avenue just south of this intersection. The posted speed limit on Keystone Avenue at the intersection is 35 MPH. There is no posted speed on 36th Street. IMPO Replica data indicates that northbound Keystone 85th percentile speeds are 41.5 MPH while 95th percentile (outlier speeds) was observed to be 45.5 MPH. Southbound speeds through the intersection are 40.5 MPH for the 85th percentile and 44.5 MPH for the 95th percentile speeds.

There doesn't appear to be significant geometric deficiencies that are contributing to the crashes that are occurring. There is significant pedestrian traffic that attempts to cross Keystone Avenue at this location, and unfortunately one person was killed attempting to cross.

Sidewalk is located at the study intersection along Keystone Avenue and on both sides of the east leg of 36th Street. There is no buffer between the roadway and the sidewalk, which can be unnerving at times for anybody walking along the sidewalk.

Located in each quadrant of the intersection are:

- NW Quadrant: Empty lot.
- SW Quadrant: Private residence.
- SE Quadrant: Private residence.
- NE Quadrant: Private residence.

Burgess & Niple held a field check with the representatives from the IMPO and City of Indianapolis DPW on April 27, 2026, to discuss some near-term and long-term solutions and build consensus around a series of countermeasures for Burgess & Niple to cost as part of the final recommendations. The field check meeting minutes are available in **Attachment D**.

Prior to the field check, B&N set up Miovision cameras to record driver and pedestrian behaviors. The surveillance video was studied for a 24-hour period. There was notable pedestrian activity at this intersection and most of the pedestrians did not obey traffic laws. 32 pedestrians were recorded crossing midblock. There were three cyclists that were traveling southbound in the northbound travel lanes of Keystone Ave. When vehicles on Keystone tried to turn onto 36th Street, vehicles would swerve around or cut other vehicles off. Vehicles on 36th Street would encroach in the Keystone Ave travel lanes when waiting to turn left. The still photo observations are available in Attachment F.

Traffic Operations:

Mobility/Congestion Performance: According to 14-hour traffic count data collected on March 5th, 2026, the AM Peak features the highest volumes. For the AM Peak, eastbound traffic entering the intersection is **ten,** westbound traffic entering the intersection is **eighteen**, northbound traffic entering the intersection is **1,107**, and southbound traffic entering the intersection is **1,136**. These counts were adjusted using INDOT's standard Adjustment Factors, and the adjusted counts can be viewed in the traffic data in **Attachment B**. The attached HCS analysis illustrates that vehicles may struggle to find gaps during peak times, both currently and in the future design year (2048). Design year volumes were forecasted from the original count data using a 0.5% per year growth rate to determine 2048 traffic volumes.

	Eastbound		Westbound		Northbound		Southbound	
Alternative	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
AM Peak - 2026	F	92.6	D	30.0	A	0.0	A	0.1
PM Peak - 2026	F	62.4	D	34.3	A	0.0	A	0.3
AM Peak - 2048	F	151.2	E	37.9	A	0.0	A	0.1
PM Peak - 2048	F	98.7	E	45.9	A	0.0	A	0.3

Safety Performance / Crash Analysis: According to available crash data, there were **40** crashes associated with the study area from January 1, 2022, to December 31, 2024. Of those crashes, **one** resulted in fatality, **nine** resulted in incapacitating injuries, and **five** resulted in non-incapacitating injuries. See attached Crash Summary, crash diagram and RoadHAT 4.1 report in **Attachment A.**

2022-2024 Crash Data - analyzed as **City Arterial Intersection One AADT** I_{CC} = 3.39, I_{CF} = 4.75

Alternatives & Recommendations

Near-Term

Near-term solutions will include:

Maintenance of the existing striping at the intersection, especially for the minor approaches, which are unmarked.

Long-Term

The long-term recommended improvement for the intersection will be to construct an enhanced pedestrian crossing with a pedestrian hybrid beacon. A schematic of the pedestrian crossing is in Attachment E.

Future Consideration

IMPO staff noted that they intend to study the Keystone Avenue corridor from I-70 to Fall Creek Parkway through a SS4A planning study. Considerations of intersection type (i.e. roundabout or traditional intersection improvements) at the major intersections should be included along with analyzing the number of lanes on Keystone Avenue in the Corridor Study. Access control and speed management should be considered as alternatives analyzed in this study. This will set up future success for the corridor through reimagining the roadway to provide space for all road users to safely traverse the Keystone Avenue corridor.

Near-Term & Long-Term Cost Estimates for the Proposed Safety Improvements

Detailed cost estimates for the near- and long-term improvements are available in **Attachment E.**

Near-Term Recommendation

Construction	$138,215
Preliminary Engineering (15%)	$20,800
Utility Allowance (5%)	$7,000
Right of Way	$0
Grand Total	$166,015

Long-Term Recommendation

Construction	$297,990
Preliminary Engineering (15%)	$40,200
Utility Allowance (5%)	$13,400
Right of Way	$0
Grand Total	$321,590

Project Score: (for INDOT use)
Safety Program Score =
Miscellaneous Notes:
Attachments:
Attachment A: Preliminary Findings Report **Attachment B:** Traffic Counts **Attachment C:** Traffic Analysis **Attachment D:** Virtual Meeting Minutes & Field Check Minutes **Attachment E:** Cost Estimates & Schematics **Attachment F:** Near Miss Analysis

ATTACHMENT A

Preliminary Findings Report

PRELIMINARY FINDINGS

Safety Analysis at Keystone Avenue & 36th St.

Report Prepared for: IMPO & Indianapolis DPW

1. Safety Analysis

A crash data analysis was completed for the intersection of Keystone Avenue & 36th Street (Study Area) in Indianapolis, IN. Before beginning the crash analysis, the project team followed these steps to clean the data:

- Received 2022-2024 crash data from the IMPO. Serious Injury and Fatal crashes had been cleaned by IMPO staff.
- Placed a 250' buffer around the Study Area to identify reported crashes near the intersection.
- Reviewed the police reports for each crash record identified within the 250' buffer.
- Identified and removed any crash records from the analysis that involved a collision with an animal in the roadway or occurred in a parking lot near the intersection or occurred at a different intersection entirely.
- Reviewed the description in the reports to confirm the selected Manner of Collision & Crash Severity accurately reflected how the police officer described the crash.
- Exported the results from ArcGIS Pro into MS Excel.
- Created a collision diagram of the Study Area as well as summary tables of the crash records.
- Developed a crash cost (I_{CC}) and crash frequency (I_{CF}) for the Study Area using RoadHat 4.1.

40 crashes were identified within the Study Area. Nine (9) of those reported crashes resulted in incapacitating injuries, and one (1) resulted in a fatality. Most of the incapacitating injury crashes were reported as Right Angle crashes. The fatal crash, as well as one of the incapacitating injury crashes occurred when pedestrians were hit by a southbound vehicle on Keystone Avenue. Other notable results near the Study Area include:

- 27.5% of crashes that occurred were right angle crashes, 22.5% were rear end crashes, and 22.5% were same direction sideswipe crashes.
- 52.5% of reported crashes occurred during Off-Peak travel times. 22.5% of reported crashes occurred during the morning peak hours (6am-9am), and 25% during the evening peak hours (4pm-7pm).
- 80% of reported crashes occurred in daylight hours and 15% in dark (lighted) conditions. The remaining 5% of crashes listed lighting conditions as "Dawn/Dusk" in the police report.
- 7.5% of reported crashes occurred in wet roadway surface conditions. The remaining 92.5% of reported crashes occurred on a dry roadway surface.
- 90% of reported crashes occurred when the weather conditions were clear. The remaining 10% of reported crashes occurred on cloudy (7.5%) or rainy (2.5%) days.

Attached are the crash summary tables, a collision diagram, images of the intersection, and the results of the RoadHAT 4.1 analysis.

Crash Data Summary
Keystone Avenue & 36th Street

2022-2024 Crash Summary	
TOTAL CRASHES	40
TOTAL INJURIES	1
PROPERTY DAMAGE ONLY	18
POSSIBLE INJURY	25
NON-INCAPACITATING	5
INCAPACITATING	9
FATAL	1

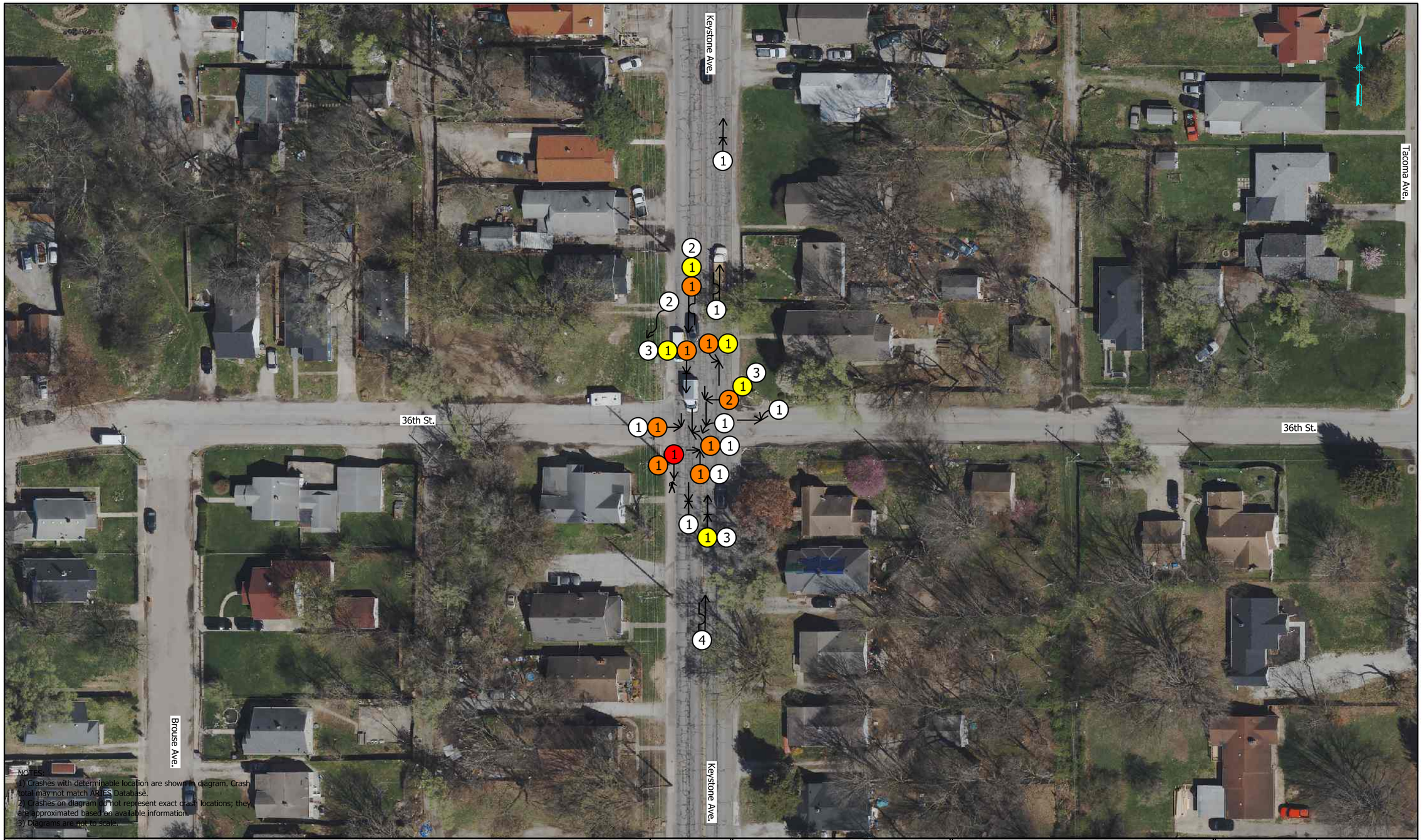
Summary of Primary Factors per Manner of Collision		
Primary Factors per Manner of Collision	**Crashes**	**Percent**
LEFT TURN	6	15.0%
FAILURE TO YIELD RIGHT OF WAY	6	
OPPOSITE DIRECTION SIDESWIPE	1	2.5%
IMPROPER LANE USAGE	1	
PEDESTRIAN	2	5.0%
PEDESTRIAN ACTION	2	
RAN OFF ROAD	2	5.0%
OTHER	1	
UNSAFE SPEED	1	
REAR END	9	22.5%
FAILURE TO YIELD RIGHT OF WAY	1	
FOLLOWING TOO CLOSELY	7	
UNSAFE SPEED	1	
RIGHT ANGLE	11	27.5%
DISREGARD SIGNAL/REG SIGN	2	
FAILURE TO YIELD RIGHT OF WAY	9	
SAME DIRECTION SIDESWIPE	9	22.5%
IMPROPER LANE USAGE	7	
OVERSIZE/OVERWEIGHT LOAD	1	
UNSAFE SPEED	1	
Grand Total	40	**100%**

Summary of Crashes per Time of Day		
Time of Day	**Crashes**	**Percent**
Peak AM (6:00-9:00 AM)	9	22.5%
Peak PM (4:00-7:00 PM)	10	25.0%
Off Peak	21	52.5%
Total Crashes	**40**	**100%**

Summary of Crashes per Light Conditions		
Light Conditions	**Crashes**	**Percent**
DAWN/DUSK	2	5.0%
DARK (LIGHTED)	6	15.0%
DAYLIGHT	32	80.0%
Total Crashes	**40**	**100%**

Summary of Roadway Surface Conditions			
Manner of Collision	**DRY**	**WET**	**Total Crashes**
LEFT TURN	5	1	6
OPPOSITE DIRECTION SIDESWIPE	1		1
PEDESTRIAN	2		2
RAN OFF ROAD	2		2
REAR END	8	1	9
RIGHT ANGLE	10	1	11
SAME DIRECTION SIDESWIPE	9		9
Total Crashes	**37**	**3**	**40**

Summary of Weather Conditions				
Manner of Collision	**CLEAR**	**CLOUDY**	**RAIN**	**Total Crashes**
LEFT TURN	6			6
OPPOSITE DIRECTION SIDESWIPE	1			1
PEDESTRIAN	2			2
RAN OFF ROAD	2			2
REAR END	7	1	1	9
RIGHT ANGLE	10	1		11
SAME DIRECTION SIDESWIPE	8	1		9
Total Crashes	**36**	**3**	**1**	**40**



NOTES:
1) Crashes with determinable location are shown in diagram. Crash total may not match ARIES Database.
2) Crashes on diagram do not represent exact crash locations; they are approximated based on available information.
3) Diagrams are not to scale.

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LEGEND

- PROPERTY DAMAGE ONLY
- NON-INCAPACITATING INJURY
- INCAPACITATING INJURY
- FATALITY
- VEHICLE PATH
- U-TURNING VEHICLE PATH
- BICYCLE PATH
- PEDESTRIAN PATH
- FIXED OBJECT
- OFF ROAD
- ROLLOVER
- LEFT TURN
- RIGHT TURN
- ANGLE
- REAR-END
- HEAD-ON
- SIDESWIPE
- OTHER

Year	K	A	BC	O	All
2022	1	2	1	14	18
2023	0	3	3	8	14
2024	0	4	1	3	8

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MDR DRAWN: EMW

CHECKED: _____ CHECKED: _____

INDIANA DEPARTMENT OF TRANSPORTATION

KEYSTONE AVENUE AT 36TH STREET
CRASH DIAGRAM

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGN VEHICLE
N/A	WB-50
SURVEY BOOK	SHEETS
	of
CONTRACT	PROJECT
R-XXXXX	XXXXXXX

Appendix B - 511

Intersection Images

Keystone Avenue & 36th Street

Study Period: 1/1/2022 to 12/31/2024 Location: Indianapolis

INDOT District: Greenfield County: Marion City/Town: Indianapolis



West Leg – Looking West



West Leg – Looking East



East Leg – Looking West



East Leg – Looking East



South Leg – Looking South



South Leg – Looking North



North Leg – Looking South



North Leg – Looking North

Imagery provided by Google Earth

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue at 36th Street	
GIS		
Post		
Analyst	Micah Reynolds, PE, RSP2I	
Date	4/24/2026	

INPUT	
Road Facility Type	City Arterial Intersection One AADT
Busiest Road AADT (veh/day)	28427
Crossing Road Principal Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Arterial Indicator (1 if present, 0 otherwise)	0
Crossing Road Major Collector Indicator (1 if present, 0 otherwise)	0
Crossing Road Minor Collector Indicator (1 if present, 0 otherwise)	0
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	10
Non-Incapacitating and Possible Injury Crashes	5
Property Damage Only Crashes	25
Route or Road Type	City Arterial Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
OUTPUT	
Expected Crash Frequency (crash/year)	
Fatal and Incapacitating Injury Crashes	0.094
Non-Incapacitating and Possible Injury Crashes	0.23
Property Damage Only Crashes	1.04
All Crashes	1.37
Index of Crash Frequency	**4.75**
Index of Crash Cost	**3.39**

RoadHAT 4D

Index of Crash Frequency and Cost - Form F1

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue at 36th Street	
GIS		
Post		
Analyst	Micah Reynolds, PE, RSP2I	
Date	4/24/2026	

Comments: AADT from INDOT TCDS

ATTACHMENT B

Traffic Counts

36th St & Keystone - TMC

Thu Mar 5, 2026
Full Length (7 AM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383445, Location: 39.821835, -86.121706

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

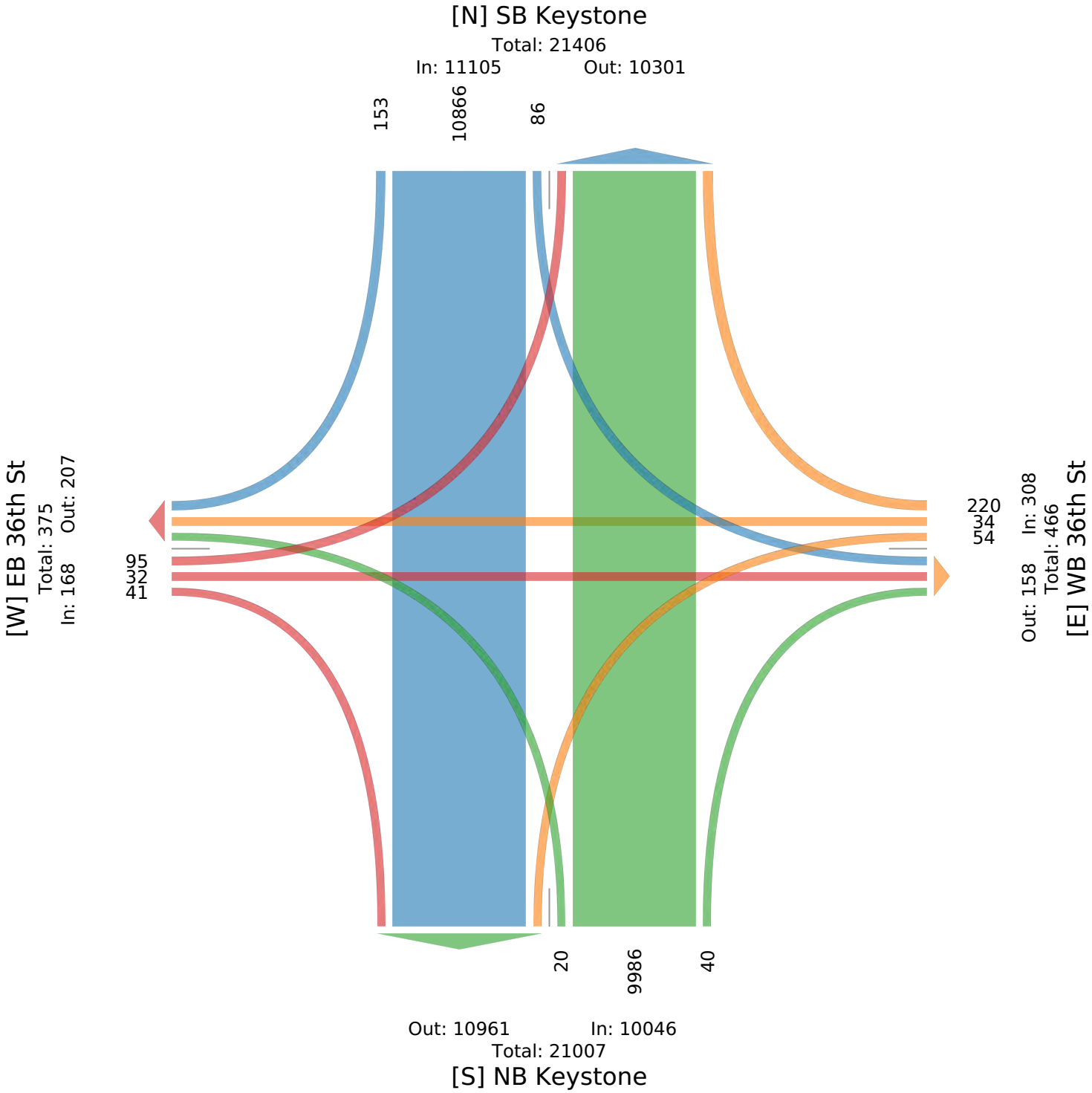
Leg / Direction	EB 36th St Eastbound					WB 36th St Westbound					NB Keystone Northbound					SB Keystone Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2026-03-05 7:00AM	1	0	0	0	**1**	0	0	2	0	**2**	0	214	0	0	**214**	0	217	1	0	**218**	**435**
7:15AM	0	0	0	0	**0**	0	0	6	0	**6**	0	261	0	0	**261**	2	305	2	0	**309**	**576**
7:30AM	3	0	0	0	**3**	0	0	5	0	**5**	0	280	0	0	**280**	0	303	1	0	**304**	**592**
7:45AM	3	1	0	0	**4**	0	1	4	0	**5**	0	259	1	0	**260**	1	264	5	0	**270**	**539**
Hourly Total	7	1	0	0	**8**	0	1	17	0	**18**	0	1014	1	0	**1015**	3	1089	9	0	**1101**	**2142**
8:00AM	3	0	0	0	**3**	2	1	2	0	**5**	1	271	0	0	**272**	1	275	7	0	**283**	**563**
8:15AM	0	0	0	0	**0**	0	0	3	0	**3**	0	295	0	0	**295**	1	276	2	0	**279**	**577**
8:30AM	2	0	2	0	**4**	1	1	3	0	**5**	0	275	0	0	**275**	1	262	3	0	**266**	**550**
8:45AM	1	0	0	0	**1**	0	1	5	0	**6**	0	246	0	0	**246**	3	243	2	0	**248**	**501**
Hourly Total	6	0	2	0	**8**	3	3	13	0	**19**	1	1087	0	0	**1088**	6	1056	14	0	**1076**	**2191**
9:00AM	0	0	3	0	**3**	1	1	5	0	**7**	1	225	1	0	**227**	0	207	2	0	**209**	**446**
9:15AM	1	0	1	0	**2**	4	1	3	0	**8**	0	189	1	0	**190**	1	244	4	0	**249**	**449**
9:30AM	6	3	0	0	**9**	1	0	6	0	**7**	0	198	0	0	**198**	0	205	2	0	**207**	**421**
9:45AM	4	0	0	0	**4**	0	0	2	0	**2**	0	191	0	0	**191**	3	219	4	0	**226**	**423**
Hourly Total	11	3	4	0	**18**	6	2	16	0	**24**	1	803	2	0	**806**	4	875	12	0	**891**	**1739**
10:00AM	2	0	1	0	**3**	0	1	4	0	**5**	0	189	3	0	**192**	1	224	2	0	**227**	**427**
10:15AM	0	0	0	0	**0**	1	0	3	0	**4**	1	184	4	0	**189**	1	182	1	0	**184**	**377**
10:30AM	7	0	0	0	**7**	2	1	4	0	**7**	0	170	2	0	**172**	1	181	3	0	**185**	**371**
10:45AM	4	0	1	0	**5**	1	0	6	0	**7**	1	197	0	0	**198**	0	207	1	0	**208**	**418**
Hourly Total	13	0	2	0	**15**	4	2	17	0	**23**	2	740	9	0	**751**	3	794	7	0	**804**	**1593**
11:00AM	3	0	1	0	**4**	0	2	4	0	**6**	2	167	1	0	**170**	0	191	1	0	**192**	**372**
11:15AM	1	2	0	0	**3**	0	0	8	0	**8**	0	209	0	0	**209**	1	177	2	0	**180**	**400**
11:30AM	0	0	2	0	**2**	0	2	2	0	**4**	1	187	3	0	**191**	2	170	6	0	**178**	**375**
11:45AM	1	2	1	0	**4**	1	1	5	0	**7**	2	202	1	0	**205**	1	197	2	0	**200**	**416**
Hourly Total	5	4	4	0	**13**	1	5	19	0	**25**	5	765	5	0	**775**	4	735	11	0	**750**	**1563**
12:00PM	3	2	0	0	**5**	3	0	7	0	**10**	0	178	1	0	**179**	1	203	5	0	**209**	**403**
12:15PM	2	1	1	0	**4**	3	0	4	0	**7**	0	154	0	0	**154**	2	210	2	0	**214**	**379**
12:30PM	5	0	1	0	**6**	1	0	3	0	**4**	0	195	4	0	**199**	1	204	3	0	**208**	**417**
12:45PM	2	3	0	0	**5**	1	1	1	0	**3**	1	176	0	0	**177**	1	177	3	0	**181**	**366**
Hourly Total	12	6	2	0	**20**	8	1	15	0	**24**	1	703	5	0	**709**	5	794	13	0	**812**	**1565**
1:00PM	2	0	0	0	**2**	2	0	3	0	**5**	1	159	1	0	**161**	1	200	2	0	**203**	**371**
1:15PM	1	0	0	0	**1**	0	0	3	0	**3**	2	151	0	0	**153**	2	205	2	0	**209**	**366**
1:30PM	2	0	1	0	**3**	1	0	4	0	**5**	0	168	0	0	**168**	1	209	1	0	**211**	**387**
1:45PM	1	0	1	0	**2**	1	1	3	0	**5**	0	157	2	0	**159**	2	216	4	0	**222**	**388**
Hourly Total	6	0	2	0	**8**	4	1	13	0	**18**	3	635	3	0	**641**	6	830	9	0	**845**	**1512**
2:00PM	0	1	0	0	**1**	2	0	2	0	**4**	0	176	1	0	**177**	3	207	3	0	**213**	**395**
2:15PM	0	1	0	0	**1**	2	2	8	0	**12**	0	176	1	0	**177**	0	207	3	0	**210**	**400**
2:30PM	2	2	0	0	**4**	2	0	7	0	**9**	1	221	1	0	**223**	2	245	2	0	**249**	**485**
2:45PM	1	1	2	0	**4**	3	0	4	0	**7**	1	186	1	0	**188**	0	218	3	0	**221**	**420**
Hourly Total	3	5	2	0	**10**	9	2	21	0	**32**	2	759	4	0	**765**	5	877	11	0	**893**	**1700**
3:00PM	3	0	1	0	**4**	2	1	7	0	**10**	0	211	0	0	**211**	2	247	6	0	**255**	**480**
3:15PM	3	0	1	0	**4**	1	1	5	0	**7**	1	207	1	0	**209**	4	230	4	0	**238**	**458**
3:30PM	4	1	1	0	**6**	1	1	3	0	**5**	0	245	1	0	**246**	0	241	1	0	**242**	**499**
3:45PM	3	3	0	0	**6**	1	4	8	0	**13**	0	224	1	0	**225**	2	274	3	0	**279**	**523**
Hourly Total	13	4	3	0	**20**	5	7	23	0	**35**	1	887	3	0	**891**	8	992	14	0	**1014**	**1960**
4:00PM	2	1	0	0	**3**	0	0	6	0	**6**	1	223	1	0	**225**	3	258	4	0	**265**	**499**
4:15PM	0	1	4	0	**5**	2	0	2	0	**4**	0	242	0	0	**242**	5	256	6	0	**267**	**518**
4:30PM	2	1	3	0	**6**	4	1	6	0	**11**	0	220	2	0	**222**	5	249	1	0	**255**	**494**
4:45PM	2	0	2	0	**4**	2	0	7	0	**9**	0	224	0	0	**224**	5	274	2	0	**281**	**518**
Hourly Total	6	3	9	0	**18**	8	1	21	0	**30**	1	909	3	0	**913**	18	1037	13	0	**1068**	**2029**
5:00PM	2	0	0	0	**2**	0	3	7	0	**10**	0	224	0	0	**224**	3	222	5	0	**230**	**466**
5:15PM	4	4	1	0	**9**	0	0	8	0	**8**	1	222	1	0	**224**	6	264	6	0	**276**	**517**
5:30PM	0	2	1	0	**3**	0	0	6	0	**6**	0	232	1	0	**233**	2	212	0	0	**214**	**456**

Leg	EB 36th St					WB 36th St					NB Keystone					SB Keystone					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
5:45PM	2	0	0	0	**2**	4	0	7	0	**11**	1	221	1	0	**223**	4	207	5	0	**216**	**452**
Hourly Total	8	6	2	0	**16**	4	3	28	0	**35**	2	899	3	0	**904**	15	905	16	0	**936**	**1891**
6:00PM	0	0	3	0	**3**	0	3	3	0	**6**	1	190	1	0	**192**	1	228	8	0	**237**	**438**
6:15PM	1	0	4	0	**5**	0	0	7	0	**7**	0	210	1	0	**211**	6	257	2	0	**265**	**488**
6:30PM	4	0	1	0	**5**	0	1	3	0	**4**	0	186	0	0	**186**	0	182	5	0	**187**	**382**
6:45PM	0	0	1	0	**1**	2	2	4	0	**8**	0	199	0	0	**199**	2	215	9	0	**226**	**434**
Hourly Total	5	0	9	0	**14**	2	6	17	0	**25**	1	785	2	0	**788**	9	882	24	0	**915**	**1742**
Total	95	32	41	0	**168**	54	34	220	0	**308**	20	9986	40	0	**10046**	86	10866	153	0	**11105**	**21627**
% Approach	56.5%	19.0%	24.4%	0%	**-**	17.5%	11.0%	71.4%	0%	**-**	0.2%	99.4%	0.4%	0%	**-**	0.8%	97.8%	1.4%	0%	**-**	-
% Total	0.4%	0.1%	0.2%	0%	**0.8%**	0.2%	0.2%	1.0%	0%	**1.4%**	0.1%	46.2%	0.2%	0%	**46.5%**	0.4%	50.2%	0.7%	0%	**51.3%**	-
Lights	91	31	39	0	**161**	53	32	217	0	**302**	18	9625	40	0	**9683**	84	10481	141	0	**10706**	20852
% Lights	95.8%	96.9%	95.1%	0%	**95.8%**	98.1%	94.1%	98.6%	0%	**98.1%**	90.0%	96.4%	100%	0%	**96.4%**	97.7%	96.5%	92.2%	0%	**96.4%**	96.4%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	53	0	0	**53**	0	53	0	0	**53**	106
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0.5%	0%	0%	**0.5%**	0%	0.5%	0%	0%	**0.5%**	0.5%
Buses and Single-Unit Trucks	4	1	2	0	**7**	1	2	3	0	**6**	2	308	0	0	**310**	2	332	12	0	**346**	669
% Buses and Single-Unit Trucks	4.2%	3.1%	4.9%	0%	**4.2%**	1.9%	5.9%	1.4%	0%	**1.9%**	10.0%	3.1%	0%	0%	**3.1%**	2.3%	3.1%	7.8%	0%	**3.1%**	3.1%

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

36th St & Keystone - TMC
Thu Mar 5, 2026
Full Length (7 AM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383445, Location: 39.821835, -86.121706

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



36th St & Keystone - TMC

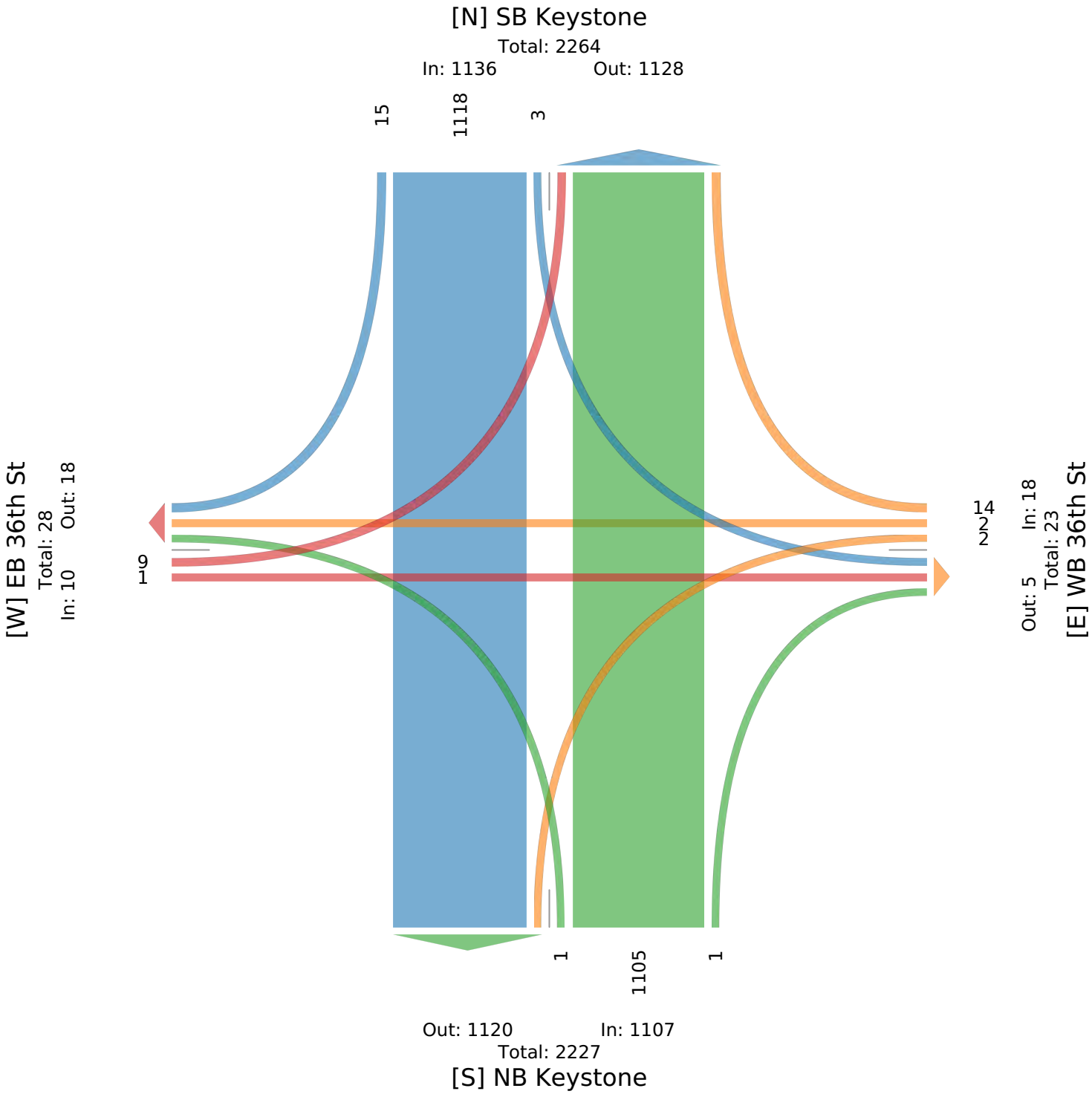
Thu Mar 5, 2026
AM Peak (7:30 AM - 8:30 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383445, Location: 39.821835, -86.121706

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 36th St Eastbound					WB 36th St Westbound					NB Keystone Northbound					SB Keystone Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-03-05 7:30AM	3	0	0	0	**3**	0	0	5	0	**5**	0	280	0	0	**280**	0	303	1	0	**304**	**592**
7:45AM	3	1	0	0	**4**	0	1	4	0	**5**	0	259	1	0	**260**	1	264	5	0	**270**	**539**
8:00AM	3	0	0	0	**3**	2	1	2	0	**5**	1	271	0	0	**272**	1	275	7	0	**283**	**563**
8:15AM	0	0	0	0	**0**	0	0	3	0	**3**	0	295	0	0	**295**	1	276	2	0	**279**	**577**
Total	9	1	0	0	**10**	2	2	14	0	**18**	1	1105	1	0	**1107**	3	1118	15	0	**1136**	**2271**
% Approach	90.0%	10.0%	0%	0%	**-**	11.1%	11.1%	77.8%	0%	**-**	0.1%	99.8%	0.1%	0%	**-**	0.3%	98.4%	1.3%	0%	**-**	-
% Total	0.4%	0%	0%	0%	**0.4%**	0.1%	0.1%	0.6%	0%	**0.8%**	0%	48.7%	0%	0%	**48.7%**	0.1%	49.2%	0.7%	0%	**50.0%**	-
PHF	0.750	0.250	-	-	**0.625**	0.250	0.500	0.700	-	**0.900**	0.250	0.936	0.250	-	**0.938**	0.750	0.922	0.536	-	**0.934**	0.959
Lights	8	1	0	0	**9**	2	2	14	0	**18**	1	1071	1	0	**1073**	3	1096	12	0	**1111**	2211
% Lights	88.9%	100%	0%	0%	**90.0%**	100%	100%	100%	0%	**100%**	100%	96.9%	100%	0%	**96.9%**	100%	98.0%	80.0%	0%	**97.8%**	97.4%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	7	0	0	**7**	0	4	0	0	**4**	11
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0.6%	0%	0%	**0.6%**	0%	0.4%	0%	0%	**0.4%**	0.5%
Buses and Single-Unit Trucks	1	0	0	0	**1**	0	0	0	0	**0**	0	27	0	0	**27**	0	18	3	0	**21**	49
% Buses and Single-Unit Trucks	11.1%	0%	0%	0%	**10.0%**	0%	0%	0%	0%	**0%**	0%	2.4%	0%	0%	**2.4%**	0%	1.6%	20.0%	0%	**1.8%**	2.2%

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

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



36th St & Keystone - TMC

Thu Mar 5, 2026
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383445, Location: 39.821835, -86.121706

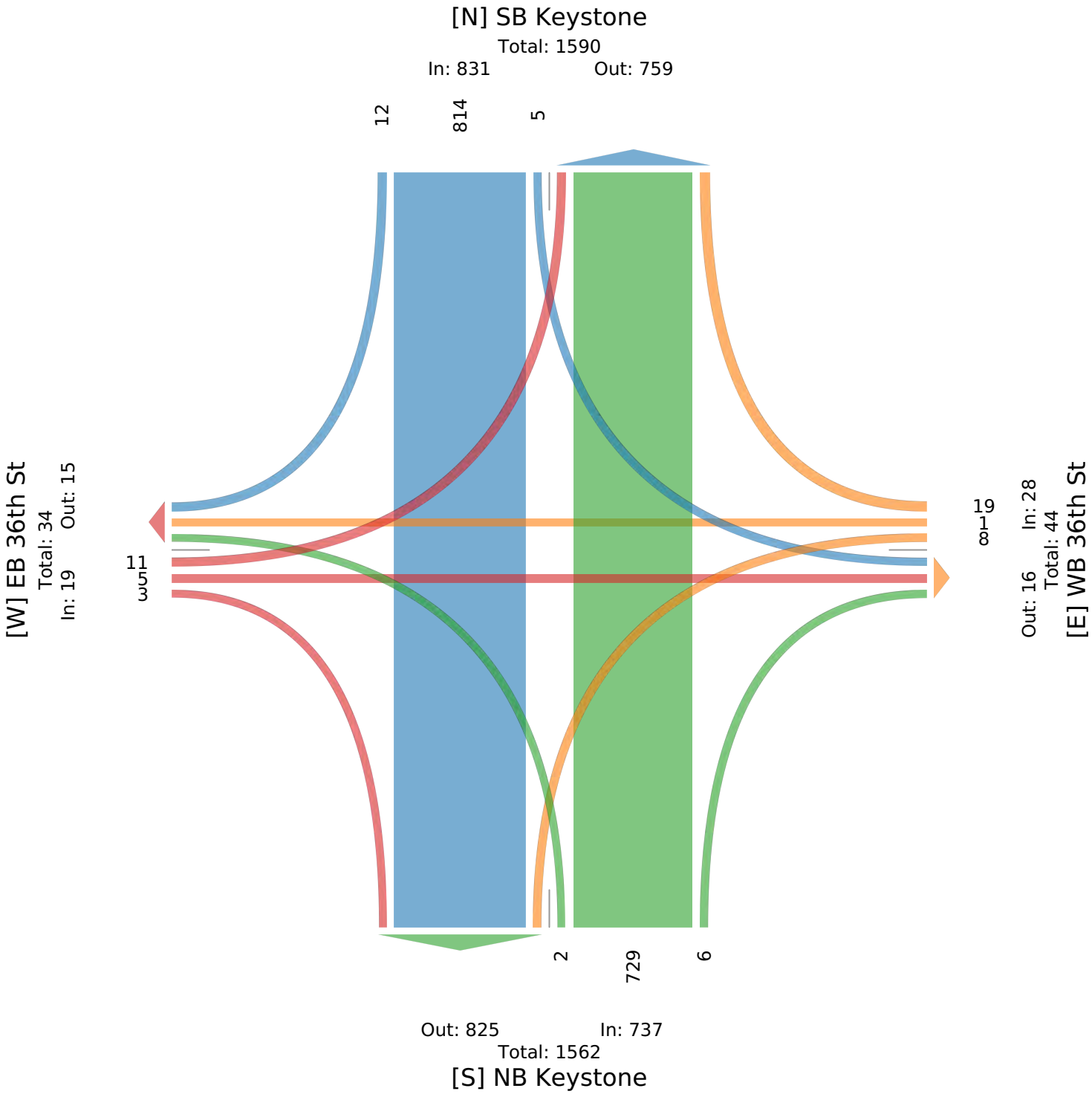
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 36th St Eastbound					WB 36th St Westbound					NB Keystone Northbound					SB Keystone Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-03-05 11:45AM	1	2	1	0	**4**	1	1	5	0	**7**	2	202	1	0	**205**	1	197	2	0	**200**	**416**
12:00PM	3	2	0	0	**5**	3	0	7	0	**10**	0	178	1	0	**179**	1	203	5	0	**209**	**403**
12:15PM	2	1	1	0	**4**	3	0	4	0	**7**	0	154	0	0	**154**	2	210	2	0	**214**	**379**
12:30PM	5	0	1	0	**6**	1	0	3	0	**4**	0	195	4	0	**199**	1	204	3	0	**208**	**417**
Total	11	5	3	0	**19**	8	1	19	0	**28**	2	729	6	0	**737**	5	814	12	0	**831**	**1615**
% Approach	57.9%	26.3%	15.8%	0%	**-**	28.6%	3.6%	67.9%	0%	**-**	0.3%	98.9%	0.8%	0%	**-**	0.6%	98.0%	1.4%	0%	**-**	-
% Total	0.7%	0.3%	0.2%	0%	**1.2%**	0.5%	0.1%	1.2%	0%	**1.7%**	0.1%	45.1%	0.4%	0%	**45.6%**	0.3%	50.4%	0.7%	0%	**51.5%**	-
PHF	0.550	0.625	0.750	-	**0.792**	0.667	0.250	0.679	-	**0.700**	0.250	0.902	0.375	-	**0.899**	0.625	0.969	0.600	-	**0.971**	0.968
Lights	11	5	3	0	**19**	7	1	19	0	**27**	2	697	6	0	**705**	5	781	12	0	**798**	1549
% Lights	100%	100%	100%	0%	**100%**	87.5%	100%	100%	0%	**96.4%**	100%	95.6%	100%	0%	**95.7%**	100%	95.9%	100%	0%	**96.0%**	95.9%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	5	0	0	**5**	0	6	0	0	**6**	11
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0.7%	0%	0%	**0.7%**	0%	0.7%	0%	0%	**0.7%**	0.7%
Buses and Single-Unit Trucks	0	0	0	0	**0**	1	0	0	0	**1**	0	27	0	0	**27**	0	27	0	0	**27**	55
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	12.5%	0%	0%	0%	**3.6%**	0%	3.7%	0%	0%	**3.7%**	0%	3.3%	0%	0%	**3.2%**	3.4%

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

36th St & Keystone - TMC
Thu Mar 5, 2026
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383445, Location: 39.821835, -86.121706

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



36th St & Keystone - TMC

Thu Mar 5, 2026
PM Peak (3:30 PM - 4:30 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383445, Location: 39.821835, -86.121706

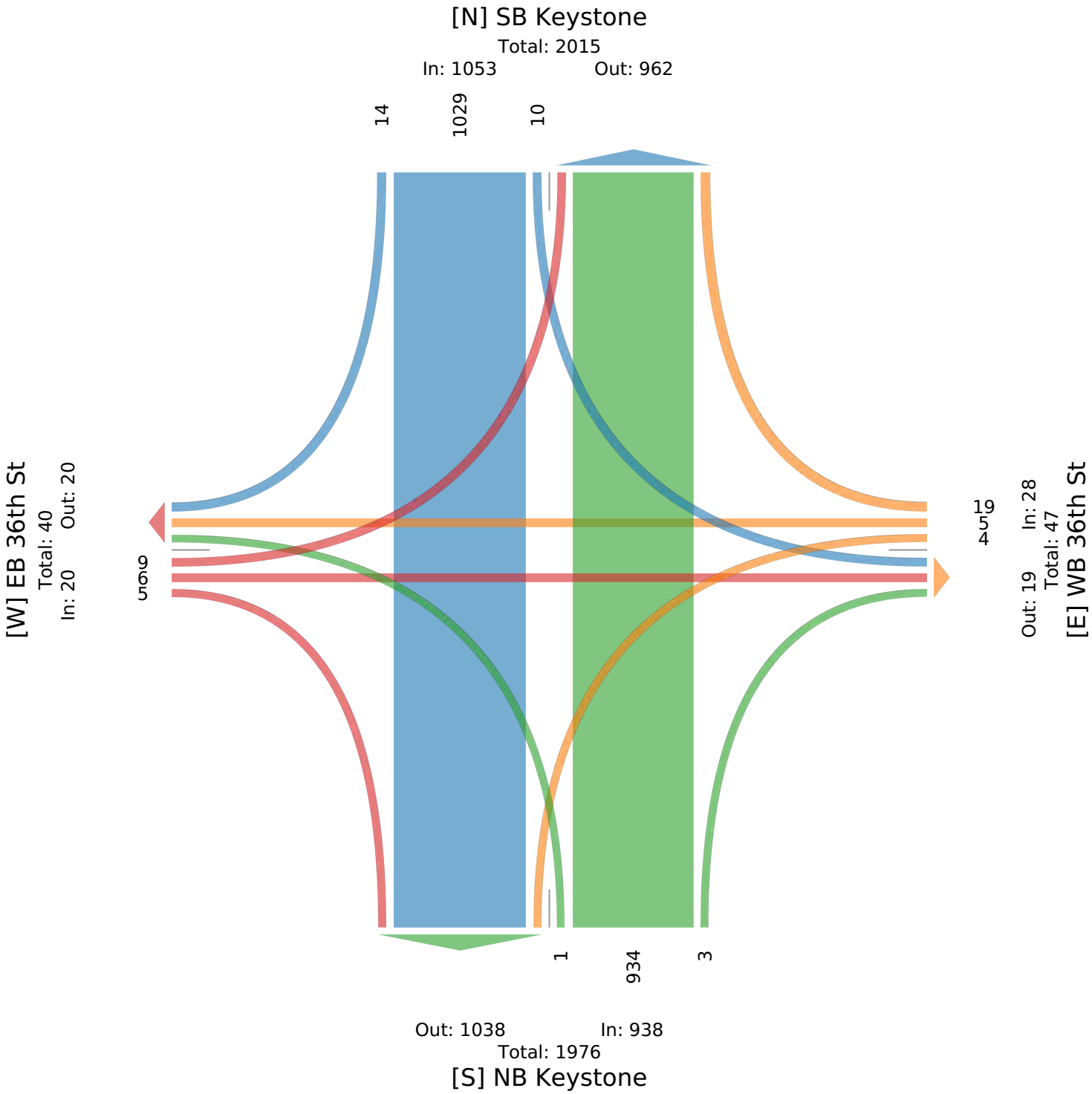
Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US

Leg Direction	EB 36th St Eastbound					WB 36th St Westbound					NB Keystone Northbound					SB Keystone Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2026-03-05 3:30PM	4	1	1	0	**6**	1	1	3	0	**5**	0	245	1	0	**246**	0	241	1	0	**242**	**499**
3:45PM	3	3	0	0	**6**	1	4	8	0	**13**	0	224	1	0	**225**	2	274	3	0	**279**	**523**
4:00PM	2	1	0	0	**3**	0	0	6	0	**6**	1	223	1	0	**225**	3	258	4	0	**265**	**499**
4:15PM	0	1	4	0	**5**	2	0	2	0	**4**	0	242	0	0	**242**	5	256	6	0	**267**	**518**
Total	9	6	5	0	**20**	4	5	19	0	**28**	1	934	3	0	**938**	10	1029	14	0	**1053**	**2039**
% Approach	45.0%	30.0%	25.0%	0%	**-**	14.3%	17.9%	67.9%	0%	**-**	0.1%	99.6%	0.3%	0%	**-**	0.9%	97.7%	1.3%	0%	**-**	-
% Total	0.4%	0.3%	0.2%	0%	**1.0%**	0.2%	0.2%	0.9%	0%	**1.4%**	0%	45.8%	0.1%	0%	**46.0%**	0.5%	50.5%	0.7%	0%	**51.6%**	-
PHF	0.563	0.500	0.313	-	**0.833**	0.500	0.313	0.594	-	**0.538**	0.250	0.953	0.750	-	**0.953**	0.500	0.939	0.583	-	**0.944**	0.975
Lights	9	5	5	0	**19**	4	4	18	0	**26**	1	917	3	0	**921**	10	998	12	0	**1020**	1986
% Lights	100%	83.3%	100%	0%	**95.0%**	100%	80.0%	94.7%	0%	**92.9%**	100%	98.2%	100%	0%	**98.2%**	100%	97.0%	85.7%	0%	**96.9%**	97.4%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	1	0	0	**1**	0	0	0	0	**0**	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0.1%	0%	0%	**0.1%**	0%	0%	0%	0%	**0%**	0%
Buses and Single-Unit Trucks	0	1	0	0	**1**	0	1	1	0	**2**	0	16	0	0	**16**	0	31	2	0	**33**	52
% Buses and Single-Unit Trucks	0%	16.7%	0%	0%	**5.0%**	0%	20.0%	5.3%	0%	**7.1%**	0%	1.7%	0%	0%	**1.7%**	0%	3.0%	14.3%	0%	**3.1%**	2.6%

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

36th St & Keystone - TMC
Thu Mar 5, 2026
PM Peak (3:30 PM - 4:30 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1383445, Location: 39.821835, -86.121706

Provided by: City of Indianapolis
200 E Washington St, Suite 1401, Indianapolis, IN, 46204, US



Leg	EB 36th St					WB 36th St					NB Keystone					SB Keystone					
Direction	Eastbound					Westbound					Northbound					Southbound					
Start Time	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
2026-03-05 07:30:00	3	0	0	0	**3**	0	0	5	0	**5**	0	280	0	0	**280**	0	303	1	0	**304**	**592**
2026-03-05 07:45:00	3	1	0	0	**4**	0	1	4	0	**5**	0	259	1	0	**260**	1	264	5	0	**270**	**539**
2026-03-05 08:00:00	3	0	0	0	**3**	2	1	2	0	**5**	1	271	0	0	**272**	1	275	7	0	**283**	**563**
2026-03-05 08:15:00	0	0	0	0	**0**	0	0	3	0	**3**	0	295	0	0	**295**	1	276	2	0	**279**	**577**
Grand Total	9	1	0	0	**10**	2	2	14	0	**18**	1	1105	1	0	**1107**	3	1118	15	0	**1136**	**2271**
% Approach	90.0%	10.0%	0.0%	0.0%		11.1%	11.1%	77.8%	0.0%		0.1%	99.8%	0.1%	0.0%		0.3%	98.4%	1.3%	0.0%		
% Total	0.4%	0.0%	0.0%	0.0%	**0.4%**	0.1%	0.1%	0.6%	0.0%	**0.8%**	0.0%	48.7%	0.0%	0.0%	**48.7%**	0.1%	49.2%	0.7%	0.0%	**50.0%**	
PHF (7:30 AM - 8:30 AM)	0.75	0.25	0	0	**0.625**	0.25	0.5	0.7	0	**0.9**	0.25	0.936	0.25	0	**0.938**	0.75	0.922	0.536	0	**0.934**	**0.959**
Lights	8	1	0	0	**9**	2	2	14	0	**18**	1	1071	1	0	**1073**	3	1096	12	0	**1111**	**2211**
% Lights	88.9%	100.0%	0.0%	0.0%	**90.0%**	100.0%	100.0%	100.0%	0.0%	**100.0%**	100.0%	96.9%	100.0%	0.0%	**96.9%**	100.0%	98.0%	80.0%	0.0%	**97.8%**	**97.4%**
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	7	0	0	**7**	0	4	0	0	**4**	**11**
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.6%	0.0%	0.0%	**0.6%**	0.0%	0.4%	0.0%	0.0%	**0.4%**	**0.5%**
Buses and Single-Unit Trucks	1	0	0	0	**1**	0	0	0	0	**0**	0	27	0	0	**27**	0	18	3	0	**21**	**49**
% Buses and Single-Unit Trucks	11.1%	0.0%	0.0%	0.0%	**10.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	2.4%	0.0%	0.0%	**2.4%**	0.0%	1.6%	20.0%	0.0%	**1.8%**	**2.2%**

	Season Adj. Factor		Weekday Adj. Factor		Growth Rate	0.50%
	Keystone	1.016	Keystone	0.937	Design Year	2048
	27th	1.016	27th	0.937	Growth Factor	1.12

Thursday	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	9	1	0	0	10	2	2	13	0	17	1	1,052	1	0	1,054	3	1,064	14	0	1,081	2,162
Heavy %)	11.1%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	0.0%	0.0%	3.2%	0.0%	2.1%	21.4%	0.0%	2.3%	
Adjusted Total (2048)	10	1	0	0	11	2	2	15	0	19	1	1174	1	0	1176	3	1188	16	0	1207	2,413

Leg	EB 36th St					WB 36th St					NB Keystone					SB Keystone					
Direction	Eastbound					Westbound					Northbound					Southbound					
Start Time	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
2026-03-05 11:45:00	1	2	1	0	**4**	1	1	5	0	**7**	2	202	1	0	**205**	1	197	2	0	**200**	**416**
2026-03-05 12:00:00	3	2	0	0	**5**	3	0	7	0	**10**	0	178	1	0	**179**	1	203	5	0	**209**	**403**
2026-03-05 12:15:00	2	1	1	0	**4**	3	0	4	0	**7**	0	154	0	0	**154**	2	210	2	0	**214**	**379**
2026-03-05 12:30:00	5	0	1	0	**6**	1	0	3	0	**4**	0	195	4	0	**199**	1	204	3	0	**208**	**417**
Grand Total	11	5	3	0	**19**	8	1	19	0	**28**	2	729	6	0	**737**	5	814	12	0	**831**	**1615**
% Approach	57.9%	26.3%	15.8%	0.0%		28.6%	3.6%	67.9%	0.0%		0.3%	98.9%	0.8%	0.0%		0.6%	98.0%	1.4%	0.0%		
% Total	0.7%	0.3%	0.2%	0.0%	**1.2%**	0.5%	0.1%	1.2%	0.0%	**1.7%**	0.1%	45.1%	0.4%	0.0%	**45.6%**	0.3%	50.4%	0.7%	0.0%	**51.5%**	
PHF (11:45 AM - 12:45 PM)	0.55	0.625	0.75	0	**0.792**	0.667	0.25	0.679	0	**0.7**	0.25	0.902	0.375	0	**0.899**	0.625	0.969	0.6	0	**0.971**	**0.968**
Lights	11	5	3	0	**19**	7	1	19	0	**27**	2	697	6	0	**705**	5	781	12	0	**798**	**1549**
% Lights	100.0%	100.0%	100.0%	0.0%	**100.0%**	87.5%	100.0%	100.0%	0.0%	**96.4%**	100.0%	95.6%	100.0%	0.0%	**95.7%**	100.0%	95.9%	100.0%	0.0%	**96.0%**	**95.9%**
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	5	0	0	**5**	0	6	0	0	**6**	**11**
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.7%	0.0%	0.0%	**0.7%**	0.0%	0.7%	0.0%	0.0%	**0.7%**	**0.7%**
Buses and Single-Unit Trucks	0	0	0	0	**0**	1	0	0	0	**1**	0	27	0	0	**27**	0	27	0	0	**27**	**55**
% Buses and Single-Unit Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	12.5%	0.0%	0.0%	0.0%	**3.6%**	0.0%	3.7%	0.0%	0.0%	**3.7%**	0.0%	3.3%	0.0%	0.0%	**3.2%**	**3.4%**

Season Adj. Factor		Weekday Adj. Factor		Growth Rate	0.50%
Keystone	1.016	Keystone	0.937	Design Year	2048
27th	1.016	27th	0.937	Growth Factor	1.12

Thursday

	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	10	5	3	0	18	8	1	18	0	27	2	694	6	0	702	5	775	11	0	791	1,538
Heavy %)	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	0.0%	0.0%	0.0%	3.7%	0.0%	4.6%	0.0%	0.0%	4.6%	0.0%	4.3%	0.0%	0.0%	4.2%	
Adjusted Total (2048)	12	5	3	0	20	8	1	20	0	30	2	774	6	0	783	5	865	13	0	883	1,716

Leg	EB 36th St					WB 36th St					NB Keystone					SB Keystone					
Direction	Eastbound					Westbound					Northbound					Southbound					
Start Time	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
2026-03-05 15:30:00	4	1	1	0	**6**	1	1	3	0	**5**	0	245	1	0	**246**	0	241	1	0	**242**	**499**
2026-03-05 15:45:00	3	3	0	0	**6**	1	4	8	0	**13**	0	224	1	0	**225**	2	274	3	0	**279**	**523**
2026-03-05 16:00:00	2	1	0	0	**3**	0	0	6	0	**6**	1	223	1	0	**225**	3	258	4	0	**265**	**499**
2026-03-05 16:15:00	0	1	4	0	**5**	2	0	2	0	**4**	0	242	0	0	**242**	5	256	6	0	**267**	**518**
Grand Total	9	6	5	0	**20**	4	5	19	0	**28**	1	934	3	0	**938**	10	1029	14	0	**1053**	**2039**
% Approach	45.0%	30.0%	25.0%	0.0%		14.3%	17.9%	67.9%	0.0%		0.1%	99.6%	0.3%	0.0%		0.9%	97.7%	1.3%	0.0%		
% Total	0.4%	0.3%	0.2%	0.0%	**1.0%**	0.2%	0.2%	0.9%	0.0%	**1.4%**	0.0%	45.8%	0.1%	0.0%	**46.0%**	0.5%	50.5%	0.7%	0.0%	**51.6%**	
PHF (3:30 PM - 4:30 PM)	0.563	0.5	0.313	0	**0.833**	0.5	0.313	0.594	0	**0.538**	0.25	0.953	0.75	0	**0.953**	0.5	0.939	0.583	0	**0.944**	**0.975**
Lights	9	5	5	0	**19**	4	4	18	0	**26**	1	917	3	0	**921**	10	998	12	0	**1020**	**1986**
% Lights	100.0%	83.3%	100.0%	0.0%	**95.0%**	100.0%	80.0%	94.7%	0.0%	**92.9%**	100.0%	98.2%	100.0%	0.0%	**98.2%**	100.0%	97.0%	85.7%	0.0%	**96.9%**	**97.4%**
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	1	0	0	**1**	0	0	0	0	**0**	**1**
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.1%	0.0%	0.0%	**0.1%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Buses and Single-Unit Trucks	0	1	0	0	**1**	0	1	1	0	**2**	0	16	0	0	**16**	0	31	2	0	**33**	**52**
% Buses and Single-Unit Trucks	0.0%	16.7%	0.0%	0.0%	**5.0%**	0.0%	20.0%	5.3%	0.0%	**7.1%**	0.0%	1.7%	0.0%	0.0%	**1.7%**	0.0%	3.0%	14.3%	0.0%	**3.1%**	**2.6%**

	Season Adj. Factor		Weekday Adj. Factor		Growth Rate	0.50%
	Keystone	1.016	Keystone	0.937	Design Year	2048
	27th	1.016	27th	0.937	Growth Factor	1.12

Thursday

	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	Left	Thru	Right	U-Turn	**Total**	**Int Total**
Adjusted Total (2026)	9	6	5	0	19	4	5	18	0	27	1	889	3	0	893	10	980	13	0	1,002	1,941
Heavy %)	0.0%	16.7%	0.0%	0.0%	5.3%	0.0%	20.0%	5.6%	0.0%	7.4%	0.0%	1.9%	0.0%	0.0%	1.9%	0.0%	3.2%	15.4%	0.0%	3.3%	
Adjusted Total (2048)	10	6	5	0	21	4	5	20	0	30	1	992	3	0	997	11	1093	15	0	1119	2,167

ATTACHMENT C

Traffic Analysis

HCS Two-Way Stop-Control Report

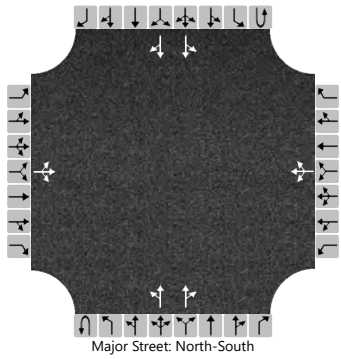
General Information

Analyst	Micah Reynolds
Agency/Co.	Burgess & Niple
Date Performed	5/12/2026
Analysis Year	2026
Time Analyzed	AM Peak (7:30-8:30am)
Intersection Orientation	North-South
Project Description	Keystone Avenue at 36th Street

Site Information

Intersection	Keystone & 36th
Jurisdiction	IMPO
East/West Street	36th Street
North/South Street	Keystone Avenue
Peak Hour Factor	0.96
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
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	2	0	0	0	2	0
Configuration			LTR				LTR			LT		TR		LT		TR
Volume (veh/h)		9	1	0		2	2	13		1	1052	1		3	1064	14
Percent Heavy Vehicles (%)		11	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)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.72	6.50	6.90		7.50	6.50	6.90		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)		3.61	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				18			1				3		
Capacity, c (veh/h)			51				162			629				644		
v/c Ratio			0.20				0.11			0.00				0.00		
95% Queue Length, Q_{95} (veh)			0.7				0.4			0.0				0.0		
95% Queue Length, Q_{95} (ft)			18.9				10.0			0.0				0.0		
Control Delay (s/veh)			92.6				30.0			10.7	0.0			10.6	0.1	
Level of Service (LOS)			F				D			B	A			B	A	
Approach Delay (s/veh)		92.6				30.0				0.0				0.1		
Approach LOS		F				D				A				A		

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HCS Two-Way Stop-Control Report

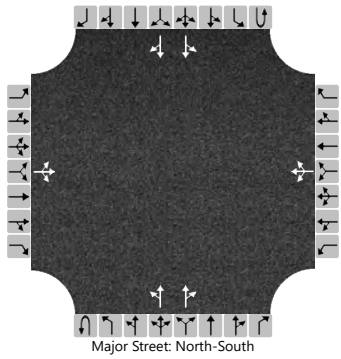
General Information

Analyst	Micah Reynolds
Agency/Co.	Burgess & Niple
Date Performed	5/12/2026
Analysis Year	2026
Time Analyzed	PM Peak (3:30-4:30pm)
Intersection Orientation	North-South
Project Description	Keystone Avenue at 36th Street

Site Information

Intersection	Keystone & 36th
Jurisdiction	IMPO
East/West Street	36th Street
North/South Street	Keystone Avenue
Peak Hour Factor	0.98
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
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	2	0	0	0	2	0
Configuration			LTR				LTR			LT		TR		LT		TR
Volume (veh/h)		9	6	5		4	5	18		1	889	3		10	980	13
Percent Heavy Vehicles (%)		0	17	0		0	20	6		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)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.50	6.84	6.90		7.50	6.90	7.02		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	4.17	3.30		3.50	4.20	3.36		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			20				28			1				10		
Capacity, c (veh/h)			83				150			692				757		
v/c Ratio			0.25				0.18			0.00				0.01		
95% Queue Length, Q_{95} (veh)			0.9				0.6			0.0				0.0		
95% Queue Length, Q_{95} (ft)			23.4				15.9			0.0				0.0		
Control Delay (s/veh)			62.4				34.3			10.2	0.0			9.8	0.2	
Level of Service (LOS)			F				D			B	A			A	A	
Approach Delay (s/veh)	62.4				34.3				0.0				0.3			
Approach LOS	F				D				A				A			

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HCS Two-Way Stop-Control Report

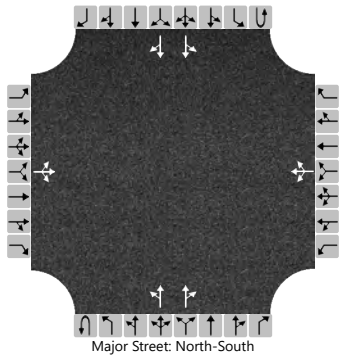
General Information

Analyst	Micah Reynolds
Agency/Co.	Burgess & Niple
Date Performed	5/12/2026
Analysis Year	2048
Time Analyzed	AM Peak (7:30-8:30am)
Intersection Orientation	North-South
Project Description	Keystone Avenue at 36th Street

Site Information

Intersection	Keystone & 36th
Jurisdiction	IMPO
East/West Street	36th Street
North/South Street	Keystone Avenue
Peak Hour Factor	0.96
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
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	2	0	0	0	2	0
Configuration			LTR				LTR			LT		TR		LT		TR
Volume (veh/h)		10	1	0		2	2	15		1	1174	1		3	1188	16
Percent Heavy Vehicles (%)		11	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)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.72	6.50	6.90		7.50	6.50	6.90		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)		3.61	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)			11				20			1				3		
Capacity, c (veh/h)			35				129			562				577		
v/c Ratio			0.33				0.15			0.00				0.01		
95% Queue Length, Q_{95} (veh)			1.1				0.5			0.0				0.0		
95% Queue Length, Q_{95} (ft)			29.7				12.5			0.0				0.0		
Control Delay (s/veh)			151.2				37.9			11.4	0.0			11.3	0.1	
Level of Service (LOS)			F				E			B	A			B	A	
Approach Delay (s/veh)		151.2				37.9				0.0				0.1		
Approach LOS		F				E				A				A		

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HCS Two-Way Stop-Control Report

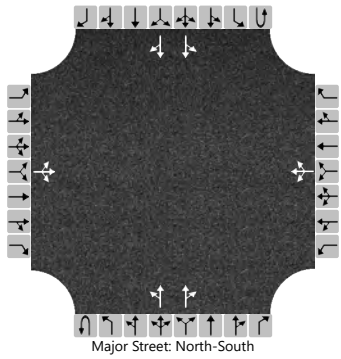
General Information

Analyst	Micah Reynolds
Agency/Co.	Burgess & Niple
Date Performed	5/12/2026
Analysis Year	2048
Time Analyzed	PM Peak (3:30-4:30pm)
Intersection Orientation	North-South
Project Description	Keystone Avenue at 36th Street

Site Information

Intersection	Keystone & 36th
Jurisdiction	IMPO
East/West Street	36th Street
North/South Street	Keystone Avenue
Peak Hour Factor	0.98
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
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	2	0	0	0	2	0
Configuration			LTR				LTR			LT		TR		LT		TR
Volume (veh/h)		10	6	5		4	5	20		1	992	3		11	1093	15
Percent Heavy Vehicles (%)		0	17	0		0	20	6		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)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.50	6.84	6.90		7.50	6.90	7.02		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	4.17	3.30		3.50	4.20	3.36		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21				30			1				11		
Capacity, c (veh/h)			58				117			625				691		
v/c Ratio			0.37				0.25			0.00				0.02		
95% Queue Length, Q_{95} (veh)			1.3				0.9			0.0				0.0		
95% Queue Length, Q_{95} (ft)			33.8				23.9			0.0				0.0		
Control Delay (s/veh)			98.7				45.9			10.8	0.0			10.3	0.2	
Level of Service (LOS)			F				E			B	A			B	A	
Approach Delay (s/veh)	98.7				45.9				0.0				0.3			
Approach LOS	F				E				A				A			

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PM Peak.xtw

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ATTACHMENT D

Virtual Meeting Minutes & Field Check Minutes

CORRADINO LLC
200 S. Meridian St. Suite 330
Indianapolis, IN 46225

Coordination Meeting: Indianapolis DPW RSAs Locations

Date: February 19, 2026
Time: 2:30 - 3:30 pm
Location: MS Teams
Project: Indianapolis MPO 2025-2026 Safety Study

Attendees

Jennifer Dunn, IMPO
Jill Palmer, Indianapolis DPW
Jason Bowers, Indianapolis DPW
LeAndre Level, Indianapolis DPW
James Mark Rinehart, Corradino LLC

Purpose of the Meeting

The purpose of the meeting was to collaboratively identify 10 intersections within Indianapolis to conduct Roadway Safety Audits as part of the IMPO's 2025-2026 Safety Study. All of the intersections reviewed were located along the IMPO's updated regional high injury network (HIN), and ranked based on the number of serious injury and fatal crashes occurring at the intersections.

Corradino staff shared a map of Indianapolis' intersections located on the regional HIN. Indianapolis DPW staff suggested starting with the highest-scoring intersection and moving down the list until 10 intersections were identified. Intersections that scored high, but were not recommended for an RSA, were due to an ongoing construction project at the intersection, a recently completed construction project, a recently completed study at the intersection, or the intersection was owned and maintained by INDOT.

Recommended Intersections

The following intersections were confirmed for inclusion in the 2025-2026 Safety Study:

1. **Michigan Rd & 71st St / Westlane Rd**
    a. High crash history
    b. Significant pedestrian activity
    c. Prior studies completed; RSA still warranted
    d. Strong candidate for pedestrian-focused / near-miss analysis
2. **Michigan Rd & 62nd St**
    a. High-ranking location
    b. Pedestrian activity present (library nearby)
    c. Corridor-based crash concerns
3. **Michigan Rd & 51st St / Grandview Dr**
    a. Known operational issues
    b. Planned signal phase modification pending
    c. Complaints received validating crash data

Note: The intersections along Michigan Road may be best evaluated as a corridor rather than individually. The 71st Street & Westlane Road intersection may also be a good location to do a pedestrian-focused RSA. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

4. **Post Rd & 25th St**
    a. Recent pavement rehabilitation (not safety-focused)
    b. Persistent crash issues
    c. Confirmed for RSA
5. **Post Rd & 21st St**
    a. High crash frequency
    b. Proximity to high school
    c. Pedestrian exposure concerns
    d. INDOT access management project pending between 21st Street & I-70 interchange ramps. The recommendations from the access management project will be considered in the analysis.

Note: The intersections listed along Post Road may be best evaluated as a corridor rather than individually. IMPO and Corradino intend to have a follow-up meeting to discuss further.

6. **Keystone Ave & 27th St**
    a. Fatal crashes elevated ranking
    b. Severe crash history
    c. Pedestrian Fatal crashes along the corridor
7. **Keystone Ave & 32nd St**
    a. Crash history consistent with corridor issues
8. **Keystone Ave & 36th St**
    a. Fatal crash history
    b. High-speed corridor conditions
    c. Pedestrian safety concerns

Note: The intersections listed along Keystone Avenue may be best evaluated as a corridor rather than individually. Also, the high volume of pedestrian crashes and activity may make this corridor a good candidate for the pedestrian safety analysis. The IMPO and Corradino intend to have a follow-up meeting to discuss further.

9. **Fall Creek Pkwy & 32nd St**
    a. Geometric and curve-related crash issues.
    b. Consideration of access closure at 32nd
    c. Viewed as “fixable” with potential design solutions.
10. **Fall Creek Pkwy & 30th St**
    a. Part of complex “triangle” with College Ave.
    b. Operational and left-turn conflict issues at the intersection and the nearby intersection between Fall Creek Parkway and College Ave.
    c. The intersection was studied several years ago. There might be some traffic control solutions that could be implemented.

Locations Removed from Consideration

The following were reviewed and excluded from the list of recommended intersections:

1. **30th St. & Shadeland Ave.**
    a. Studied as part of the 2023 IMPO Safety Study.
2. **56th St. & Arlington Ave.**
    a. Recent improvements implemented by Indianapolis DPW.
3. **30th St. & Arlington Ave.**
    a. Indianapolis DPW is currently working on a road diet project along 30th St. They have a corridor project pending for Arlington Ave. as well.
4. **42nd St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
5. **Washington St. & Colorado St.**
    a. The Blue Line BRT corridor is currently under construction.
6. **Washington St. & Post Rd.**
    a. The Blue Line BRT corridor is currently under construction.
    b. The intersection is maintained by INDOT.
7. **County Line Rd. & US 31**
    a. The intersection is maintained by INDOT.
8. **Stop 11 Rd. & Madison Ave.**
    a. Indianapolis DPW recently completed an RSA here.
9. **38th St. & Keystone Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
10. **38th St. & Emerson Ave.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
11. **38th St. & Post Rd.**
    a. The Purple Line was constructed during a three-year crash data window being used for this Safety Study.
12. **Crawfordsville Rd & High School Rd.**
    a. Studied as part of the 2023 IMPO Safety Study.
13. **71st/73rd St. & Georgetown Rd.**
    a. Indianapolis DPW recently completed an RSA here.
14. **21st St. & Shadeland Ave.**
    a. Indianapolis DPW recently completed an RSA here.

Pedestrian & Near-Miss Analysis Candidates

Part of the IMPO Safety Study will be studying locations with a high number of vulnerable roadway users, and/or a history of serious injury or fatal pedestrian/bicycle crashes. The intersections identified during the meeting that could benefit from an enhanced pedestrian/bicycle-focused RSA and near-miss analysis included:

1. Michigan Rd & 71st St. / Westlane Rd.
2. Keystone Ave & 27th St.
3. Keystone Ave & 32nd St.
4. Keystone Ave & 36th St.
5. The Post Road Intersection could potentially be a good candidate, depending on the data.

Note: After the coordination meeting, the IMPO and project team decided to conduct a near-miss analysis only at the intersections along Keystone Ave.

Next Steps

Corradino will hold a follow-up meeting with the IMPO to discuss next steps for the intersections and the best approach for studying the intersections independently or as a corridor. Corradino will also work with the IMPO to develop a timeline for conducting field checks with the Indianapolis DPW.

Indianapolis DPW staff suggested getting the field checks on their calendar 2 months in advance and suggested the following to participate in the field checks:

1. LeAndre Level, Indianapolis DPW
2. Jamey McPherson, Indianapolis DPW (for pedestrian/bicycle-focused areas)
3. Members from Indianapolis DPW's FC Review Team. IMPD has a sitting member who attends field checks or sends an officer in their place.
4. City County Councilmembers, if an RSA is in their District.

BURGESS & NIPLE

251 North Illinois Street | Capital Center Suite 920 | Indianapolis, IN 46204 | 317.237.2760

Project: **IMPO Safety On-Call** **Date: June 8, 2026**
Location: **Keystone Avenue at 36th Street**
Marion County

Attendees

Jill Palmer	Indianapolis DPW	Jeremy VanVleet	Burgess & Niple
Jason Bowers	Indianapolis DPW	Micah Reynolds	Burgess & Niple
Jamey McPherson	Indianapolis DPW		
Andrea Miller	Indy MPO		
Jennifer Dunn	Indy MPO		

Field Check Observations

The field check attendees met on the west side of Keystone Avenue on Monday, April 27th, 2026, at approximately 10:30AM. The existing intersection is a four-leg, minor stop controlled intersection. While at the field check, it was noted that the sidewalks along Keystone Avenue are right against the travel lane, which makes walking along the sidewalk a little scary. Vehicles on Keystone Avenue seemed to be traveling quite fast, and likely over the posted speed limit of 35mph. While observing traffic, the group heard, but did not witness, a sideswipe crash between two southbound vehicles.

It was brought to the group's attention that the IMPO intends to study the Keystone Avenue corridor wholistically as part of a Safe Streets for All (SS4A) Grant.

Jeremy then discussed with the group the existing safety performance at the intersection. The crash history indicated that there is a significant crash pattern of right angle and left turn crashes at the intersection, and there were two pedestrian fatalities. The RoadHAT analysis results showed an I_{CF} of 4.75 and an I_{CC} of 3.39 which indicate the intersection is performing significantly worse than expected.

After reviewing the traffic and safety analysis and while watching traffic at the site, the group decided on options that should be analyzed further.

- In the short term, pavement markings at the intersection (especially at the minor approaches), should be painted or refreshed using the wider 6" pavement markings. A pedestrian crossing with HAWK should be considered on the south side of the intersection, including ADA-compliant ramps. Due to the prevalence of nighttime crashes, additional lighting should also be considered. The placement of stop signs on the minor approaches should be verified.
- In the long term, adding a barrier in the median to prevent traffic from crossing Keystone Avenue should be considered (right-in-right-out).

These alternatives will be analyzed, and results will be shared and discussed further.

ATTACHMENT E

Cost Estimates & Schematics

QUANTITY COST ESTIMATE

IMPO RSAs - Keystone Avenue at 27th Street

Proj 63966

Des N/A

ESTIMATED PROJECT COST	
Total:	$223,320.00
20.0% Contingency:	$44,670.00
ESTIMATED TOTAL:	$267,990.00

ID	Item No.	Description	Quantity	Unit	Unit Price	Item Total
0001	105-06845	CONSTRUCTION ENGINEERING	1.00	LS	$6,250.00	$6,250.00
0002	110-01001	MOBILIZATION AND DEMOBILIZATION	1.00	LS	$12,500.00	$12,500.00
0003	201-52370	CLEARING RIGHT-OF-WAY	1.00	LS	$6,250.00	$6,250.00
0004	205-12108	STORMWATER MANAGEMENT BUDGET	2,500.00	DOL	$1.00	$2,500.00
0005	205-12618	SWQCP PREPARATION	1.00	LS	$2,500.00	$2,500.00
0006	304-12625	HMA PATCHING, FULL DEPTH, TYPE C	25.00	TON	$300.00	$7,500.00
0007	304-12626	HMA PATCHING, PARTIAL DEPTH, TYPE C	30.00	TON	$400.00	$12,000.00
0008	801-06775	MAINTAINING TRAFFIC	1.00	LS	$25,000.00	$25,000.00
0009	802-05702	SIGN POST, SQUARE, TYPE 2, REINFORCED ANCHOR BASE	20.00	LFT	$35.00	$700.00
0010	802-09840	SIGN, SHEET, WITH LEGEND, 0.100 IN. THICKNESS	6.00	SFT	$45.00	$270.00
0011	805-02150	PEDESTRIAN SIGNAL HEAD, COUNTDOWN, 18 IN.	2.00	EACH	$1,000.00	$2,000.00
0012	805-11376	SIGNAL CANTILEVER STRUCTURE, SINGLE ARM 30 FT	2.00	EACH	$30,000.00	$60,000.00
0013	805-11383	SIGNAL CANTILEVER STRUCTURE, DRILLED SHAFT FOUNDATION, TYPE A	2.00	EACH	$7,500.00	$15,000.00
0014	805-11496	PEDESTRIAN HYBRID BEACON	4.00	EACH	$2,000.00	$8,000.00
0015	805-11817	PEDESTRIAN PUSH BUTTON, APS	2.00	EACH	$2,000.00	$4,000.00
0016	807-04744	LIGHTING	1.00	LS	$50,000.00	$50,000.00
0017	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	220.00	LFT	$15.00	$3,300.00
0018	808-12032	GROOVING FOR PAVEMENT MARKINGS	360.00	LFT	$7.50	$2,700.00
0019	808-75043	LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN.	90.00	LFT	$5.00	$450.00
0020	808-75247	LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN.	270.00	LFT	$5.00	$1,350.00
0021	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	70.00	LFT	$15.00	$1,050.00
		Total				$267,990.00
		Preliminary Engineering (15%)				$40,200.00
		Utility Allowance (5%)				$13,400.00
		Right of Way				$0.00
		Grand Total				$321,590.00

QUANTITY COST ESTIMATE

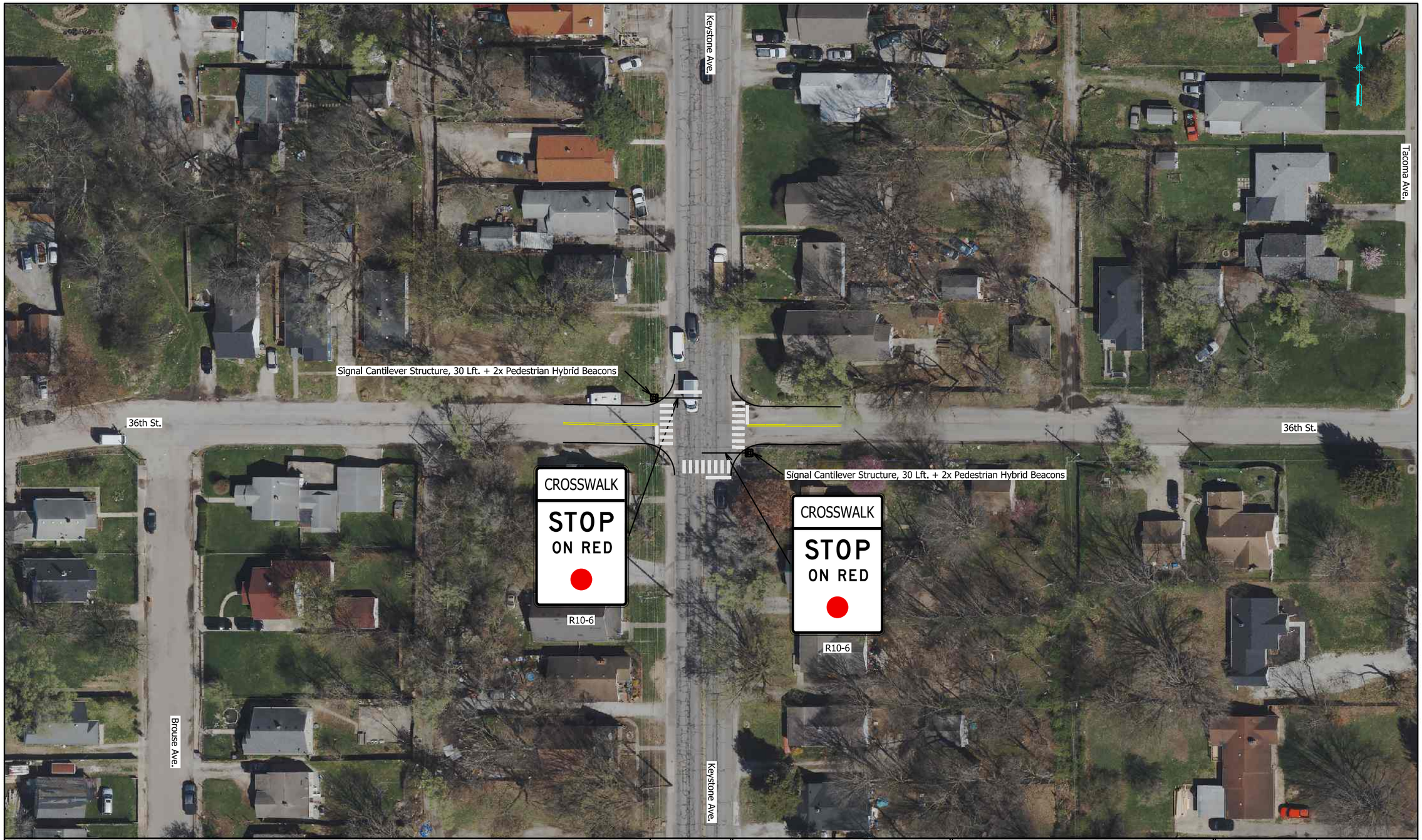
IMPO RSAs - Keystone Avenue at 27th Street

Proj 63966

Des N/A

ESTIMATED PROJECT COST	
Total:	$115,175.00
20.0% Contingency:	$23,040.00
ESTIMATED TOTAL:	$138,215.00

ID	Item No.	Description	Quantity	Unit	Unit Price	Item Total
0001	105-06845	CONSTRUCTION ENGINEERING	1.00	LS	$5,000.00	$5,000.00
0002	110-01001	MOBILIZATION AND DEMOBILIZATION	1.00	LS	$7,500.00	$7,500.00
0003	201-52370	CLEARING RIGHT-OF-WAY	1.00	LS	$5,000.00	$5,000.00
0004	205-12108	STORMWATER MANAGEMENT BUDGET	2,500.00	DOL	$1.00	$2,500.00
0005	205-12618	SWQCP PREPARATION	1.00	LS	$2,500.00	$2,500.00
0006	304-12625	HMA PATCHING, FULL DEPTH, TYPE C	25.00	TON	$300.00	$7,500.00
0007	304-12626	HMA PATCHING, PARTIAL DEPTH, TYPE C	30.00	TON	$400.00	$12,000.00
0008	801-06775	MAINTAINING TRAFFIC	1.00	LS	$15,000.00	$15,000.00
0009	807-04744	LIGHTING	1.00	LS	$50,000.00	$50,000.00
0010	808-03439	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.	220.00	LFT	$15.00	$3,300.00
0011	808-12032	GROOVING FOR PAVEMENT MARKINGS	360.00	LFT	$7.50	$2,700.00
0012	808-75043	LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN.	90.00	LFT	$5.00	$450.00
0013	808-75247	LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN.	270.00	LFT	$5.00	$1,350.00
0014	808-75297	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	25.00	LFT	$15.00	$375.00
		Total				$138,215.00
		Preliminary Engineering (15%)				$20,800.00
		Utility Allowance (5%)				$7,000.00
		Right of Way				$0.00
		Grand Total				$166,015.00



B&N
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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MDR DRAWN: EMW

CHECKED: _____ CHECKED: _____

INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION

KEYSTONE AVENUE AT 36TH STREET
CONCEPT DRAWING

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGN VEHICLE
N/A	WB-50
SURVEY BOOK	SHEETS
	of
CONTRACT	PROJECT
R-XXXXX	XXXXXXX

RoadHAT 4D

Economic Evaluation - Form F5

Page 1/2

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue & 36th Street	
Marion County		
GIS		
Post		
Analyst	Elaina Wahlman	
Date	6/18/2026	

INPUT	
Alternative	Long-term recomendation
Number of Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	10
Non-Incapacitating and Possible Injury Crashes	5
Property Damage Only Crashes	25
Route Type	City Arterial Intersection One AADT
Average Crash Costs ($)	
Fatal and Incapacitating Injury Crashes	1840100
Non-Incapacitating and Possible Injury Crashes	393200
Property Damage Only Crashes	40200
Crash Cost Year (yyyy)	2017
First Year with Crash Data (yyyy)	2022
Last Year with Crash Data (yyyy)	2024
Present Year (yyyy)	2026
Implementation Year (yyyy)	2050
Inflation Rate (%)	2
Interest Rate (%)	4
Annual Traffic Growth Rate (%)	2
Total Traffic Growth Factor (%)	1.127
Future Traffic Growth Period (years)	24
Countermeasure 1	
Countermeasure Description	Add enhanced pedestrian crossing with a pedestrian hybrid beacon with push buttons.
Crash Reduction Factors (%)	
Fatal and Incapacitating Injury Crashes	19.2
Non-Incapacitating and Possible Injury Crashes	19.2
Property Damage Only Crashes	11.7

RoadHAT 4D

Economic Evaluation - Form F5

Settings: Indiana local settings	Version: Version 4.1	
Location	Keystone Avenue & 36th Street	
Marion County		
GIS		
Post		
Analyst	Elaina Wahlman	
Date	6/18/2026	

Number of Target Crashes (crash/period)	
Fatal and Incapacitating Injury Crashes	10
Non-Incapacitating and Possible Injury Crashes	5
Property Damage Only Crashes	25
Countermeasure Service Life (years)	25
Countermeasure Capital Cost ($)	321590
Countermeasure Annual Maintenance Cost ($)	0
Countermeasure Salvage Value ($)	0
OUTPUT	
Total Crashes Saved	3.303
FI Crashes Saved	1.092
NI Crashes Saved	0.546
PDO Crashes Saved	1.664
Equivalent Annual Benefit ($)	628,349
Equivalent Annual Cost ($)	8,031
Present Worth Benefit ($)	15,708,735
Present Worth Cost ($)	200,772
Net Annual Benefit ($)	**620,318**
Present Worth Net Benefit ($)	**15,507,962**
Benefit-Cost Ratio	**78.24**

Comments: Long term solution: Construct an enhanced pedestrian crossing with a pedestrian hybrid beacon with push buttons.

ATTACHMENT F

Near Miss Analysis

12 AM – 2 Instances

00:11:20 Pedestrian walking wrong way on street.



00:56:23 Cyclist traveling wrong way on street.



1 AM – 1 Instance

01:29:19 Pedestrian completing midblock crossing.



2 AM – No Instances

3 AM – 2 Instances

03:28:15 Pedestrian completing midblock crossing.



03:55:11 Vehicle swerves around turning vehicle.



4 AM - 1 Instance

04:13:50 Pedestrians walking wrong way on street.



5 AM – 1 Instance

05:08:53 Vehicle cut off.



6 AM – No Instances

7 AM – 3 Instances

07:26:25 Pedestrians waiting in road to cross.



07:28:04 White SUV over center, swerves back into lane and breaks.



07:41:58 Cyclist traveling wrong way on street.



8 AM – 1 Instance

08:02:25 Pedestrian completing midblock crossing.



9 AM – 5 Instances

09:19:10 Side street vehicle is occupying mainline driving lane.



09:27:50 Pedestrian completing midblock crossing.



09:28:18 Pedestrian completing midblock crossing.



09:42:35 Pedestrian completing midblock crossing.



09:52:15 Side street vehicle encroaching onto mainline.



10 AM – 8 Instances

10:03:43 Red truck weaving.



10:13:25 Side street vehicle swings wide while completing a right turn.



10:16:34 Pedestrian completing midblock crossing.



10:18:00 Pedestrian completing midblock crossing.



10:24:44 Pedestrian completing midblock crossing while running.



10:25:50 Pedestrian completing midblock crossing and left turning vehicle pulled out into the intersection but had to back up.



10:28:59 Pedestrian completing midblock crossing.



10:34:39 Pedestrian completing midblock crossing.

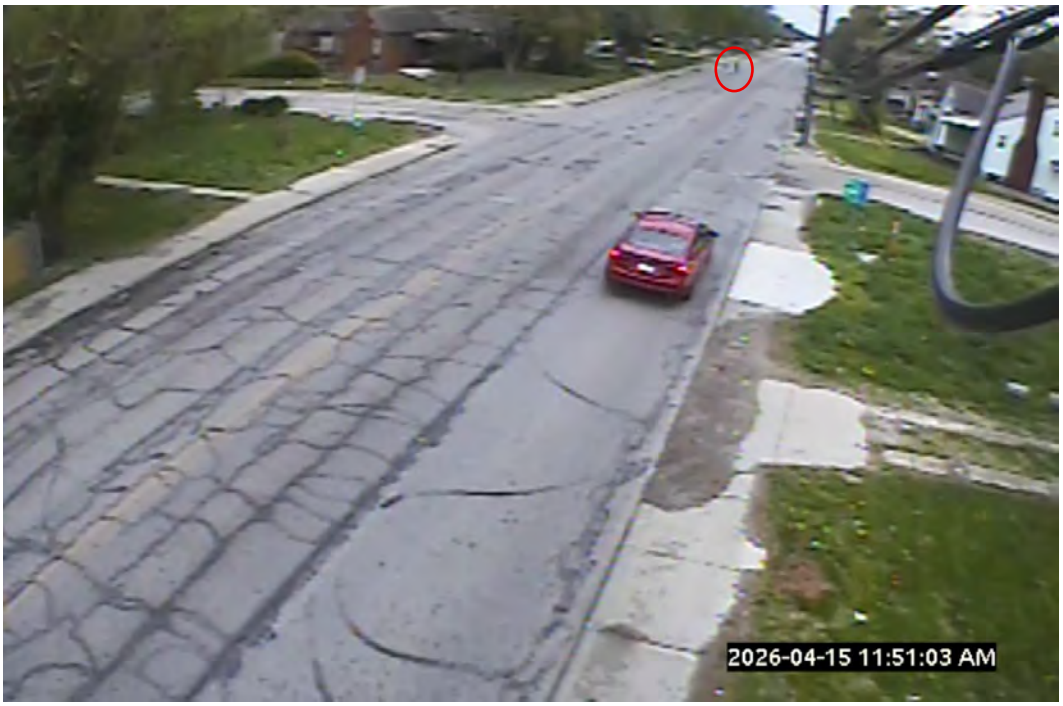


11 AM – 2 Instances

11:38:56 Vehicle in right lane swerves to avoid red vehicle trying to exit driveway.



11:51:03 Pedestrian completing midblock crossing.



12 PM – 1 Instance

12:08:31 Left turning truck has to speed up to avoid collision with oncoming vehicle.



1 PM – 4 Instances

13:12:54 Left turning vehicle pulls out in front of oncoming traffic.



13:24:09 Side street vehicle is occupying mainline driving lane.



13:27:06 Left turning vehicle has to speed up to avoid collision with oncoming traffic.



13:50:57 Side street vehicle pulls out close to mainline vehicle.



2 PM – 4 Instances

14:07:06 Side street vehicle pulls out too close to mainline vehicle.



14:39:27 Pedestrians completing midblock crossing.



14:39:59 Vehicle encroachment on turning vehicle.



14:46:23 Scooter completing midblock crossing in front of vehicle.



3 PM – 2 Instances

15:03:25 Vehicle swerves around left turning vehicle.



15:24:00 Pedestrian completing midblock crossing in front of vehicle.



4 PM – 5 Instances

16:35:31 Vehicle cuts other vehicle off.



16:44:29 Side street vehicle is occupying mainline driving lane.



16:46:17 Pedestrian completing midblock crossing.



16:56:19 Vehicle forced to reverse due to school bus turning.



16:59:30 Side street vehicle is occupying mainline driving lane.



5 PM – 8 Instances

17:04:55 Pedestrian crossing in front of vehicle.



17:08:51 Pedestrian completing midblock crossing.



17:11:46 Side street vehicle is occupying mainline driving lane.



17:18:10 Pedestrian waiting in roadway for vehicle to pass.



17:20:51 Pedestrian completing midblock crossing.



17:22:07 Pedestrian completing midblock crossing.



17:30:57 Pedestrian completing midblock crossing in front of oncoming traffic.



17:33:11 Side street vehicle is occupying mainline driving lane, mainline vehicle has to swerve to avoid collision.



6 PM – 4 Instances

18:00:15 Pedestrian completing midblock crossing.



18:28:30 Side street vehicle illegally passes vehicle and proceeds to cross the street in front of oncoming traffic.



18:48:42 Pedestrian completing midblock crossing.



18:51:14 Vehicle swerves around left turning vehicle.



7 PM – 1 Instance

19:28:46 Pedestrian completing midblock crossing.



8 PM – 2 Instances

20:20:38 Right turning vehicle causes three vehicles to stop suddenly.



20:44:02 Pedestrians completing midblock crossing.



9 PM – 1 Instance

21:47:05 Cyclist swerves onto street in front of vehicle.



10 PM – 2 Instances

22:38:53 Vehicle holding up traffic.



22:42:54 Cyclist traveling wrong way on street.



11 PM – No Instances