Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

March 16th, 2020

CIRCULAR LETTER 2020-07

FY 2022 LOCAL HIGHWAY SAFETY IMPROVEMENT PROGRAM

COUNTY ENGINEERS / SUPERINTENDENTS OF HIGHWAYS
MUNICIPAL ENGINEERS / PUBLIC WORKS DIRECTORS / MAYORS
METROPOLITAN PLANNING ORGANIZATIONS – DIRECTORS
TOWNSHIP HIGHWAY COMMISSIONERS
CONSULTING ENGINEERS

The Illinois Department of Transportation is requesting candidate projects for the Highway Safety Improvement Program (HSIP) that will be initiated in FY 2022. Applications for this funding program will be received through Friday, May 8th, 2020 at 5:00 PM ET, and announcement of the selected projects for funding will be made during the week of July 27th, 2020.

HSIP has a goal of achieving a significant reduction in traffic fatalities and serious injuries on all public roads. Fatal and serious injury crashes associated with roadway departures, intersections, and pedestrians are high priority emphasis areas based on the current Illinois Strategic Highway Safety Plan.

Strong consideration will be given to specific safety strategies that offer significant benefit to the reduction of fatal and serious injury crashes. The key is to identify the issue(s) contributing to the fatal and serious injury crashes and how the safety strategy will address these issues. Please note if the roadway(s) you are improving is a rural major collector, rural minor collector, or rural local roads, they will potentially qualify as a High Risk Rural Road (HRRR) project and are encouraged to be submitted. Please contact your applicable IDOT District Local Roads and Streets office for further assistance and to coordinate HSIP applications.

HSIP funds may also be used for system-wide, systemic, safety improvements. These may include items such as signage, pavement markings, rumble strips, chevrons, guardrail improvements / upgrades, guardrail end terminal upgrades, etc. FHWA also provides guidance on systemic approach which can be found here. The funding limitation on guardrail improvements / upgrades and guardrail end treatments will be a maximum of $1,000,000 of federal HSIP funds (plus the ten (10) percent local match) per local public agency per fiscal year. Please note that more effective countermeasures other than guardrails are preferred and will be favorably considered.

Projects with a benefit to cost ratio less than one **(B/C < 1)** may be submitted for consideration. These may be project locations that do not have a fatal crash, but the crash data would support the likelihood of a future fatal or serious injury crash. The project narrative should be used in these cases to explain the proactive countermeasures that will be used at the project location.

The Department intends to add a FY 2022 local increment to the HSIP when we develop the FY2022- 2027 proposed Multi-Year Highway Improvement Program.

The anticipated funding level is approximately $16 million for FY 2022. The federal funding level per project is a maximum 90 percent of the total eligible improvement cost for the project with the local public agency responsible for the ten (10) percent matching funds and any non-participating items. All phases of a safety improvement project are eligible for this program, including preliminary engineering, design, construction and construction engineering. Right-of-way costs are typically not eligible to be covered by this funding program. Local public agencies shall obligate these funds within two (2) years of the fiscal year for which they are announced, or funds will be rescinded.

HSIP funds may be used for a total reconstruction or also to address safety issues without completely reconstructing entire roadway segments or intersections to the latest policies and standards. Several resources have been developed to aid local public agencies in identifying locations and emphasis areas. These include county emphasis area tables, heat maps, data trees, pedestrian corridors, top 50 curves, and the 2017 Local Safety Tier List. These resources should be used to develop your HSIP application.

Please also note the usefulness of the Safety Tiers. The Safety Tiers are broken out in different categories such as Critical/5%, High, Medium, Low and Minimal for both intersection and segment locations. Safety Tiers allow transportation officials to understand relative performance of a location compared to similar types of roadways or intersections. For example, a rural 2-lane roadway segment would be compared to other similar types of rural 2-lane roadways statewide and would not be compared to an urban multi-lane facility. The Safety Tiers allow more locations to be identified and analyzed for similar roadway features and potential crash trends. Attached is the memorandum entitled "*Guidelines for Local Agencies in Using the 2017 Local System Safety Tier Analysis Results*."

The local HSIP application form is attached along with the benefit to cost ratio spreadsheet. Each candidate project must have a completed application form, benefit to cost ratio form, raw crash data in an Excel spreadsheet, project location map, photographs of the project location, estimated project cost breakdown (including contingencies and non-participating items), estimated project timeline, and a project narrative describing the details of the project.

The project narrative should be a brief one to two pages summary of the project history, crash locations, and desired safety improvements. The project narrative should not include information on every aspect of every crash on the project, every aspect of the desired improvement, or letters of support from other entities concerned about the project.

The application form should be completed with as much information as possible about the subject project. The crash table should be completely filled in with crash totals or zeros if no crash types were present. The estimated project cost should be the total cost for the completed project. If a lesser amount should be used to calculate the HSIP funding (due to contingencies and non-participating items), please indicate this reduced amount on the application form.

The project location map should include information as to where all crashes occurred within the project limits during the crash evaluation period. The estimated project timeline should include information on time requirements for Phase I engineering, Phase II design, a target letting date, and an estimated construction completion date.

To aid in the application process, an example of a concise, successfully completed application is attached. Please refer to this example as you complete the paperwork required for the FY 2022 HSIP application. Also note that the Bureau of Safety Programs & Engineering will be providing a webinar on April 8th from 9:00 AM to 10: AM to discuss how to submit a good quality application. Information on how to join the live webinar is available in the NOFO.

In addition, under the Grant Accountability and Transparency Act (GATA), each candidate project must also complete the Uniform Application for State Grant Assistance, a Uniform Grant Budget Template, a Programmatic Risk Assessment Questionnaire, and a Conflict of Interest Form which are also attached.

The Illinois Department of Transportation (IDOT) provided a Notice of Funding Opportunity (NOFO) on March 13th, 2020. This Funding Opportunity Number is 22-1004-01 and the program is listed in the Catalog of State Financial Assistance (CSFA) as 494-00-1004

The HSIP website contains additional information on the IDOT HSIP Policy and analysis tools which may be used to guide the applicant through the application process.

In summary, each candidate application submittal should contain the following information:

1. Cover Letter
2. BSPE HS1 – Application form
3. Benefit to Cost Ratio form
4. Raw crash data in Excel spreadsheet
5. Project location map
6. Project photographs
7. Estimated project cost breakdown
8. Project timeline
9. Project narrative
10. Uniform Application for State Grant Assistance
11. Uniform Grant Budget Template
12. Programmatic Risk Assessment Questionnaire
13. Conflict of Interest Form

Completed applications should be sent electronically to the appropriate District Local Roads and Streets Engineer by Friday May 8th, 2020. Questions concerning the Local HSIP may be directed to Mr. Stephane B. Seck-Birhame, Local Program Development Engineer, by telephone at (217) 782-3972 or by email at Bablibile.Seck@illinois.gov

Sincerely,

Stephane B. Seck-Birhame, P.E., PTOE
Acting Engineer of Local Roads and Streets

SSB/
Attachments

cc: Alan Ho, FHWA – Illinois Division
Matt Magalis, IDOT Office of Finance & Administration
Cindy Watters, IDOT Bureau of Safety Programs and Engineering
Duane Ratermann, Illinois Association of County Engineers
Brad Cole, Illinois Municipal League
Bryan Smith, Township Officials of Illinois
Donald Goad, Township Highway Commissioners of Illinois

Illinois Department of Transportation

HSIP Candidate Form

FY

ID:	**Contract:**	**Award Date:**	**Completion Date:**
District:	**County:**		**City:**
Key route:	**Marked route:**		
Road Name:	**Intersecting Roadway:** N/A ☐		
Length: ☐ N/A		**Mile station:** to	

Location Description:

☐ **Rural**	☐ **Urban**	**Lanes:**	
AADT(Segment):	**Total Entering AADT (Intersection):**		**Speed Limit:** mph
Friction Test Results:	☐ N/A	**Lighting Present:** ☐ Y ☐ N	

CHSP Emphasis Area(s): ☐ District Documentation ☐ Systematic Improvements ☐ N/A

Peer Group: ☐ N/A

Other:

Crashes Details

Year	Total Crashes	Fatal Crashes	Fatalities	A-Injury Crashes	A-Injuries	B-Injury Crashes	B-Injuries	C-Injury Crashes	C-Injuries	PDO	Wet-Weather Crashes	Darkness (Not lighted) Crashes
Total												

Location Description:

Problem Description:

Previous Safety Improvements:

Collision Diagram: ☐ Y ☐ N **Images:** ☐ Y ☐ N

Predominant Crash Types:

Proposed Improvement(s):

Estimated Project Cost ($000's): $ **Benefit-Cost Ratio:**

Local Projects:

Annual Fatal Crash Rate (Fatal Crashes/100 Miles): **Annual A-Injury Crash Rate (A-Injury Crashes/100 Miles):**

Local Roads Rural Functional Class:

Approved: **Central HSIP Approval Date:**

Signed:
State Safety Engineer

Funding: ☐ HSIP ☐ HRRR ☐ RAIL

Comment:

Distribution: ☐ OPP ☐ District ☐ BSPE ☐ LRS ☐ BDE

Guidelines for Local Agencies in Using the 2017 Local System Safety Tier Analysis Results

PREPARED FOR:	Illinois Department of Transportation, Bureau of Safety Programs and Engineering
PREPARED BY:	CH2M HILL, Inc. (CH2M)
DATE:	January 19, 2018

1.0 Introduction

The Illinois Department of Transportation (IDOT) conducted a safety tier analysis for the local system in 2017, and assigned the safety road index (SRI) for roadway segments and intersections. The local system safety tier analysis focuses on segments under the jurisdiction of county, township, municipality, or private sector, and the intersected points between them. The safety tier categorizes roadway segments and intersections into different SRIs based on their potential for safety improvements, providing a rating for relative comparison. The safety tier analysis results can help local agencies incorporate safety into their transportation management process and be used to identify locations for safety improvements. The 2017 local system safety tier analysis results are provided in the following file formats:

- Microsoft Excel file for all local intersections
- Microsoft Excel file for local intersections with critical SRI ratings
- Microsoft Excel file for all local segments
- Microsoft Excel file for local segments with critical SRI ratings
- Microsoft Access file for all local intersections and local intersections with critical SRI ratings
- Microsoft Access file for all local segments and local segments with critical SRI ratings
- PDF files of maps by county for all local intersections
- PDF files of maps by county for all local segments
- KMZ file for local intersections with critical, high, and medium SRI ratings
- KMZ file for local segments with critical, high, and medium SRI ratings

The technical memorandum summarizes the local system safety tier analysis results provided in the above-listed files, and presents guidelines for local agencies on how to use the safety tier analysis results.

2.0 Safety Tier Analysis Results

The local system safety tier analysis results are provided as Microsoft Excel files, Microsoft Access files, PDF maps, and KMZ files for diversified application scenarios and personalized users. The following subsections summarize results provided by the different files, as well as instructions for using the analysis results.

2.1 Safety Tier Analysis Results in Microsoft Excel Files

The Microsoft Excel files provide the safety tier analysis results for local intersections and segments. The results are provided in separate rows for individual intersections and segments.

2.1.1 Intersections

For each intersection, the following information is provided in the Microsoft Excel spreadsheet:

- Roadway inventory number and intersection mile station

- Intersection X and Y coordinates
- Major and minor road average annual daily traffic
- Major and minor road name
- Intersection peer group (both code and text)
- Intersection number of legs
- County (both text and code) and IDOT district where the intersection is located
- Intersection SRI rating
- Intersection ID and SRI flag (only for intersections with critical SRI ratings)
- Intersection K (fatal) and KAB (fatal, incapacitating, and non-incapacitating) crash rate (per hundred million equivalent vehicles)
- Intersection weighted potential for safety improvements (PSI)
- Number of K, A (incapacitating), B (non-incapacitating), KAB and KA (fatal and incapacitating) crashes
- Number of KAB crashes by collision type, emphasis area, and surface condition at time of crashes

The SRI for local segments and intersections is categorized by peer group into critical, high, medium, low, or minimal, based on their PSI from high to low, where “critical” means the location has the highest potential for safety improvements, and “minimal” indicates the location is less likely to have safety benefits from treatments. Figure 2-1 is a screenshot of the safety tier analysis results for local intersections in the Microsoft Excel spreadsheet. Each row represents the analysis results for each local intersection. The same information is also provided for local intersections with critical SRI ratings in a separate Microsoft Excel file.

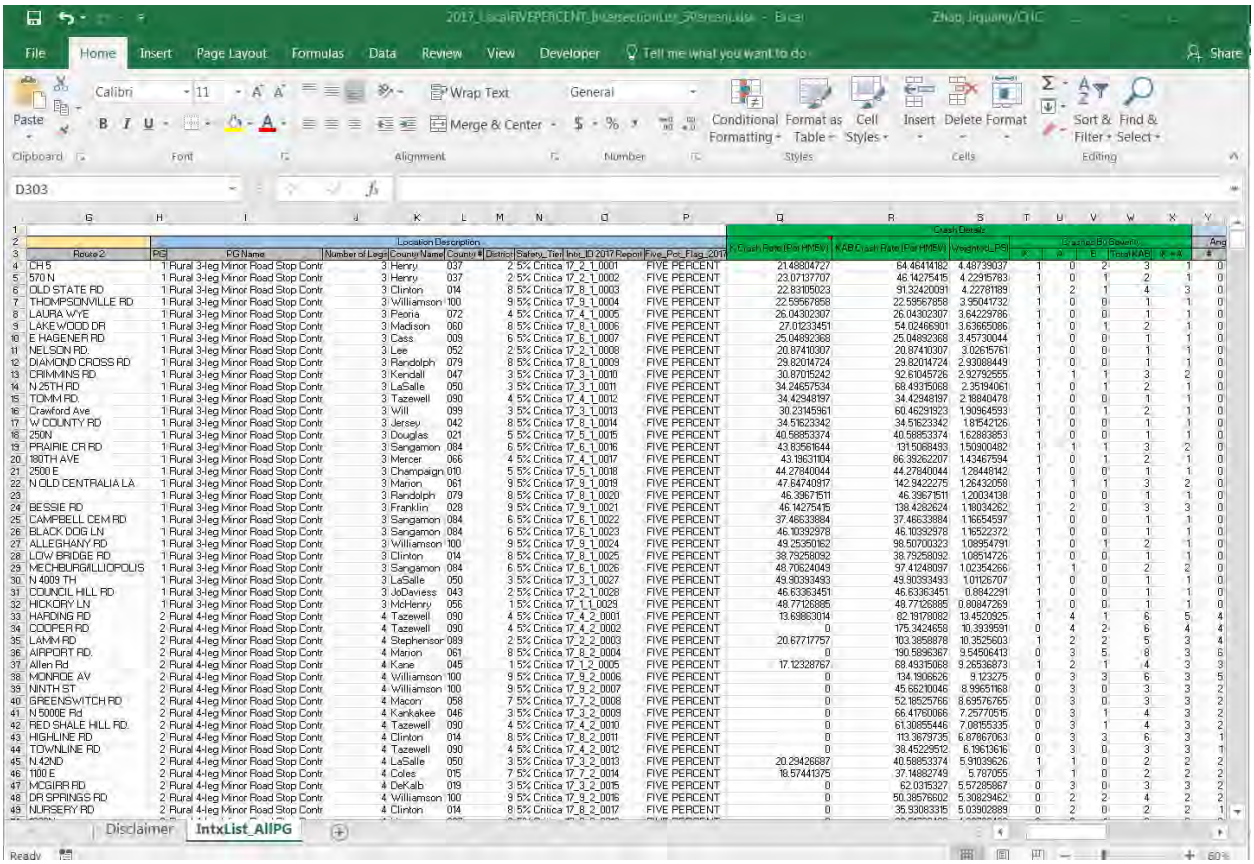


Figure 2-1. Screenshot of Safety Tier Analysis Results for Local Intersections in the Microsoft Excel Spreadsheet

2.1.2 Segments

The following information is provided for local segments in the Microsoft Excel spreadsheet:

- Roadway inventory number
- Roadway segment beginning and ending station
- Segment length
- Annual vehicle mileage travelled (VMT)
- Segment peer group (both text and code)
- County (both text and code) and IDOT district where the segment is located
- Road name
- Segment SRI rating
- Segment ID and SRI flag (only for segments with critical SRI ratings)
- K (per hundred million VMT) and KAB (per million VMT) crash rates
- Roadway segment weighted PSI
- Number of K, A, B, KAB, and KA crashes
- Number of KAB crashes by collision type, emphasis area, and surface condition at time of crashes

Figure 2-2 is a screenshot of safety tier analysis results for local segments in the Microsoft Excel spreadsheet. Each row represents the analysis results for one local segment. It should be mentioned that the safety tier analysis results are presented for the sliding windows created in the safety tier analysis, not the original roadway segments in the Illinois Roadway Information Systems database. Users interested in the sliding window analysis can refer to the IDOT technical memorandum *Network Screening Analysis for the Illinois Local Roadways (Local Safety Tier Process)* for more details. The same information is also provided for local segments with critical SRI ratings in a separate Microsoft Excel file.

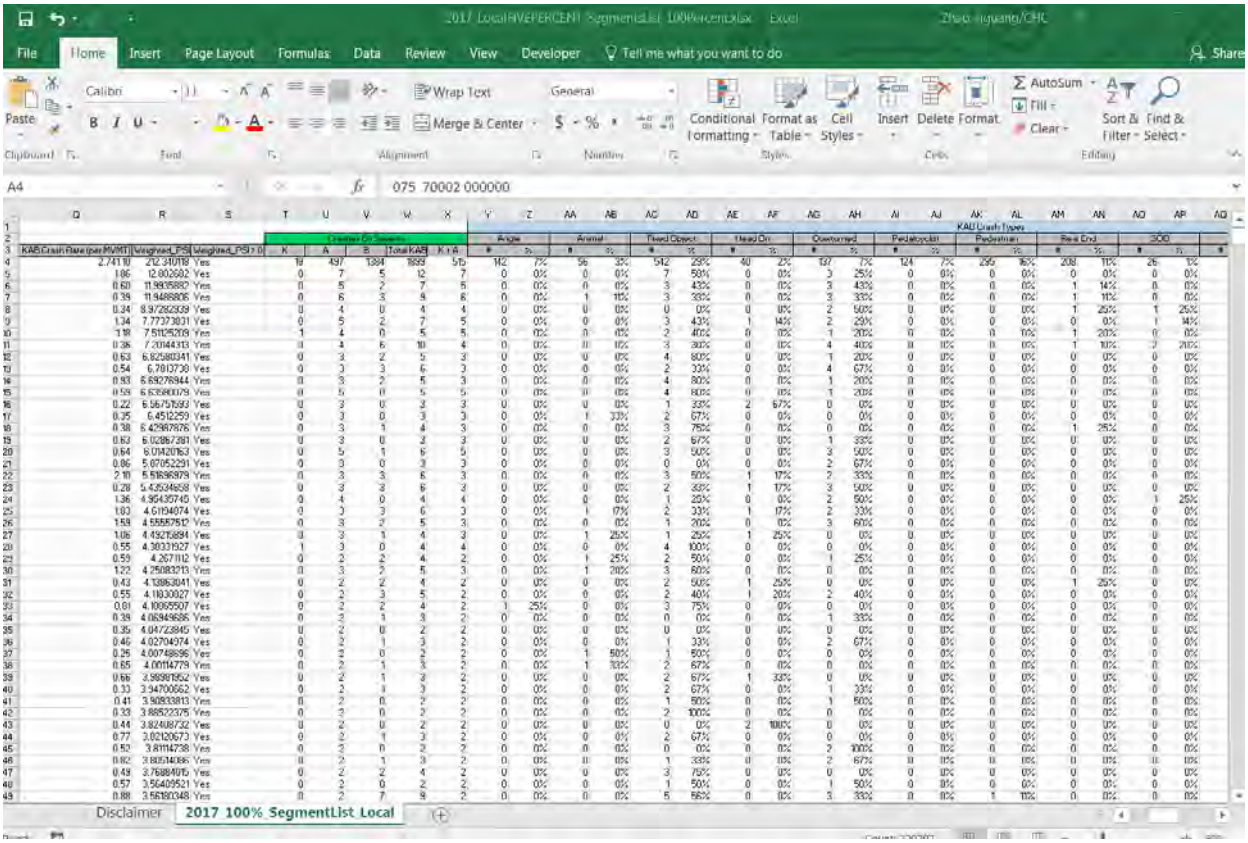


Figure 2-2. Screenshot of Safety Tier Analysis Results for Local Segments in the Microsoft Excel Spreadsheet

2.2 Safety Tier Analysis Results in Microsoft Access Files

The Microsoft Access files also provide the safety tier analysis results for local intersections and segments. The data items provided by the Microsoft Access files are the same items as in the Microsoft Excel spreadsheets. The benefit of Microsoft Access file is that geographic information for roadway segments and intersections can also be provided so that users can easily identify the roadway locations in a geographic information system (GIS) environment. Accordingly, a GIS platform (usually ArcGIS 10 or higher version) is required for reviewing the analysis results.

2.2.1 Intersections

Figure 2-3 is a screenshot of the safety tier analysis results for local intersections in a GIS environment. Users can find the safety tier analysis results for all local intersections in the corresponding attribute table, and they can even zoom to any intersections by clicking on the related row in that table. Two attribute tables are included in the Microsoft Access file, one for all local intersections and the other for local intersections with critical SRI ratings.

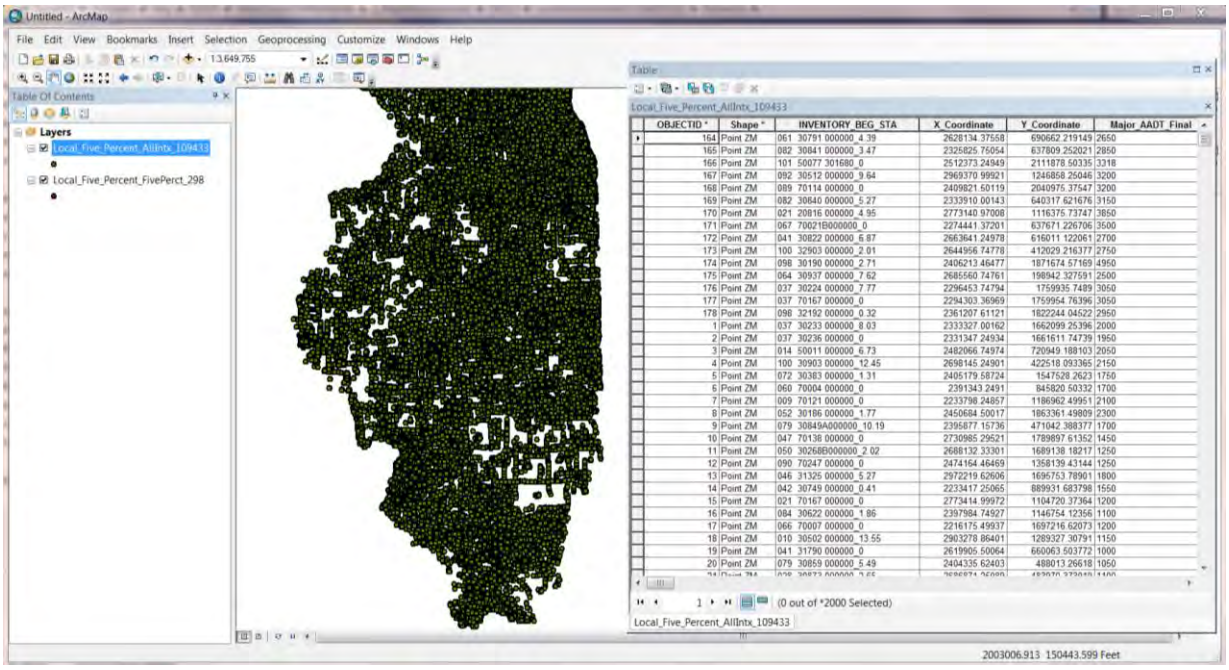


Figure 2-3. Screenshot of the Safety Tier Analysis Results for Local Intersections in the GIS Environment

2.2.2 Segments

Figure 2-4 is a screenshot of the safety tier analysis results for local segments in the GIS environment. As with local intersections, users can check the safety tier analysis results for all local segments in the attribute table. Again, two attribute tables are included in the Microsoft Access file, one for all local segments and the other for local segments with critical SRI ratings.

2.3 Safety Tier Analysis Results in KMZ Files

Many state and local agencies still do not have access to a GIS platform or are not experienced in applying the tool in their engineering practices. The provided KMZ files allow users to locate the local segments and intersections outside of a GIS platform. Google Earth is required to open the KMZ files.

2.3.1 Intersections

For file size limitation, only intersections with critical, high, and medium SRI ratings are included in the KMZ file. In the KMZ file, users are directed to the intersection after clicking the intersection ID on the left side. The detailed intersection safety tier information is visible in a pop-up view, as shown in

Figure 2-5. For convenience, users can place their cursors on the file name in the list on the left side of the screen, and sort the list from A to Z, to more easily locate the intersection under investigation.

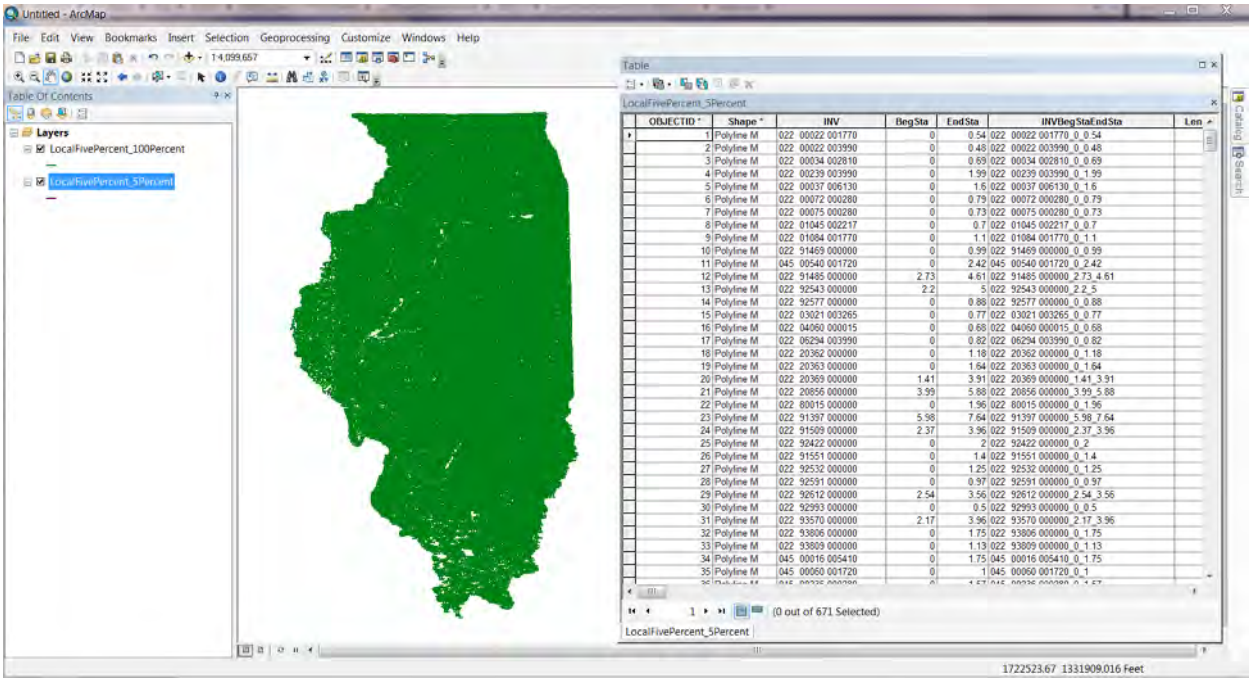


Figure 2-4. Screenshot of the Safety Tier Analysis Results for Local Segments in the GIS Environment

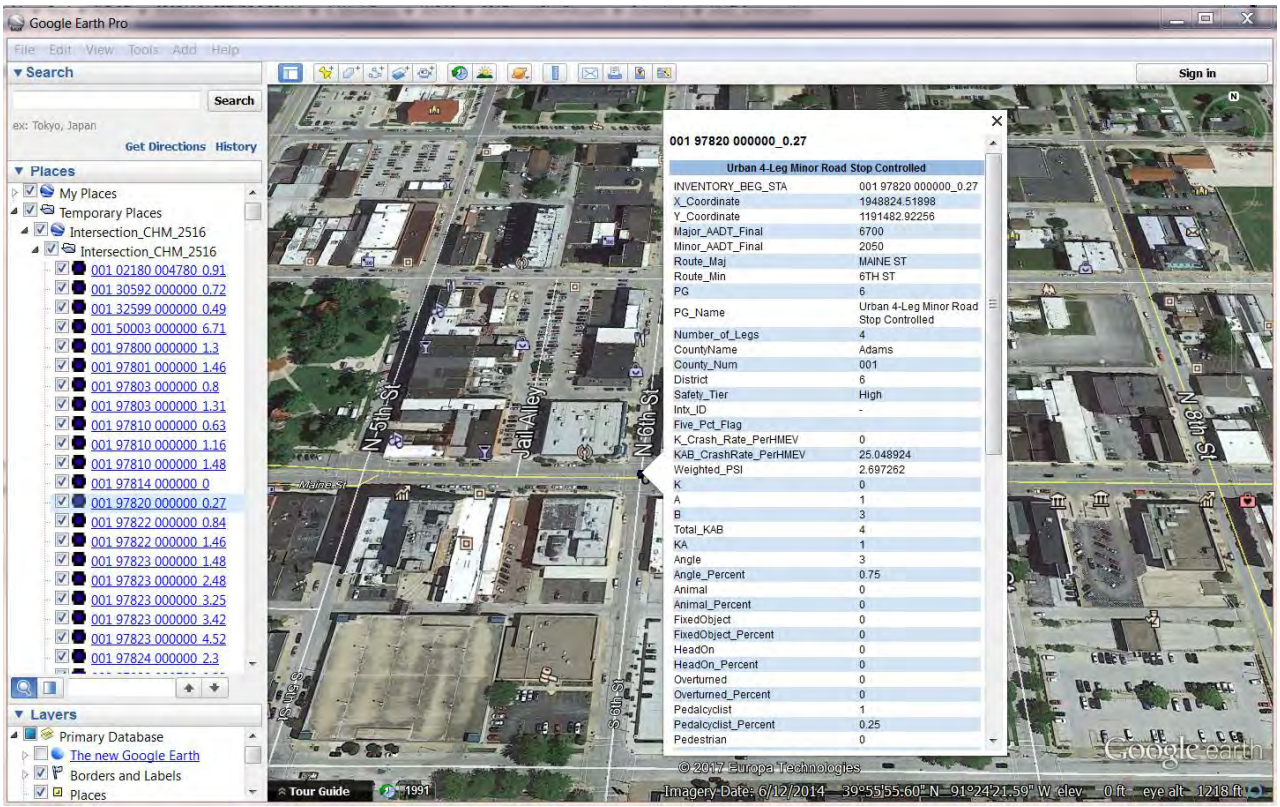


Figure 2-5. Screenshot of the Safety Tier Analysis Results for Local Intersections in KMZ File

2.3.2 Segments

Figure 2-6 is a screenshot of the safety tier analysis results for local segments in KMZ File. As a result of file size limitations, only segments with critical, high, and medium SRI ratings are included in the KMZ file. The KMZ file can help users locate the roadway segments and check relevant information. The data items shown alongside the segment are identical to the data items in the Microsoft Access file.

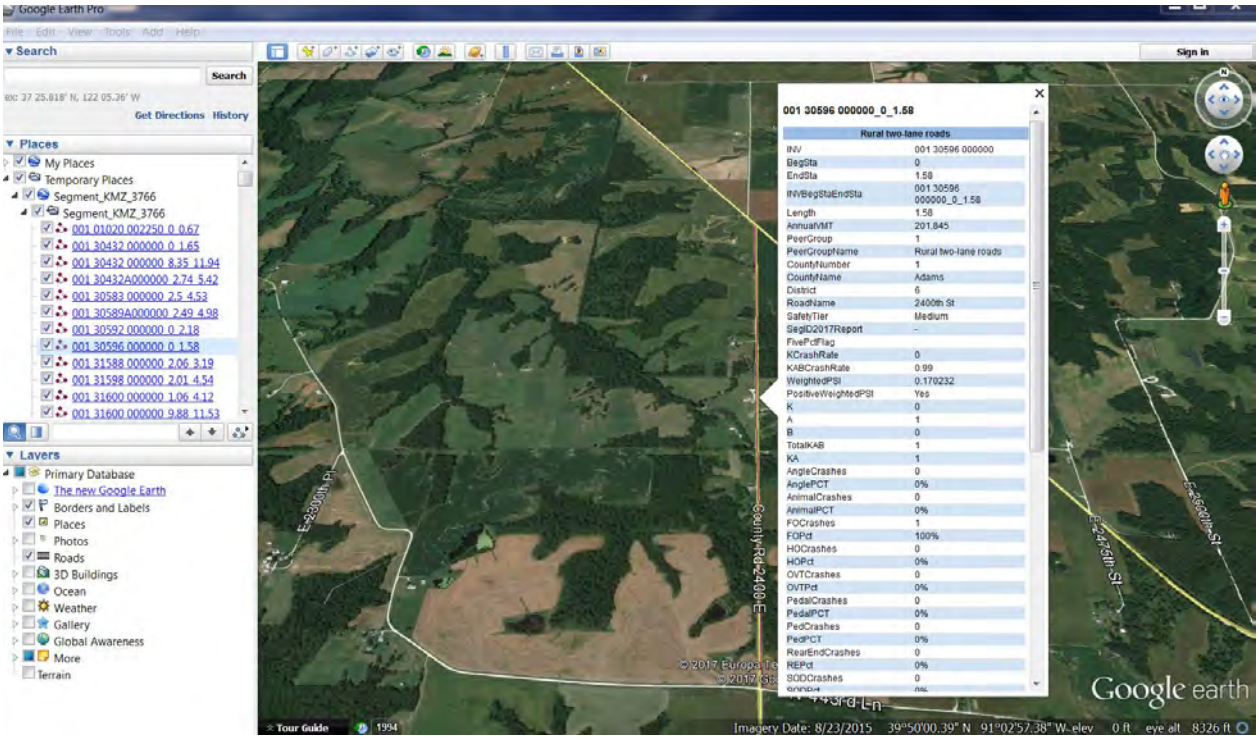


Figure 2-6. Screenshot of the Safety Tier Analysis Results for Local Segments in KMZ File

2.4 Safety Tier Analysis Results on Maps

To help local agencies use the local system safety tier analysis results, maps are created by county in ArcGIS and printed into PDF files. Two maps are created for each county, one for segments and the other for intersections. In each map, the local segments and intersections are color-coded by their safety tier, and major state routes are plotted on the map for reference. Specifically, IDs are provided for all locations with critical SRI ratings and printed in red. Local agencies can use the map to evaluate the safety performance of all facilities within their jurisdictions and pinpoint the locations with potential for safety improvements.

2.4.1 Intersections

Figure 2-7 is a screenshot of the safety tier analysis results map for local intersections in one county. It should be pointed out that the map is selected for illustration purpose only and does not necessarily indicate any safety concerns for that county. In the map, intersections with different SRI ratings are coded in different colors and point sizes. Specifically, intersections with critical SRI ratings are coded with big red points, and intersection IDs are printed alongside the intersections.

For the selected county, the SRI rating is “minimal” for the majority intersections. The traffic control information for many points is not available or the points are not intersections; therefore, those points are not included in the local intersection safety tier analysis. For those intersections, no SRI ratings are provided.

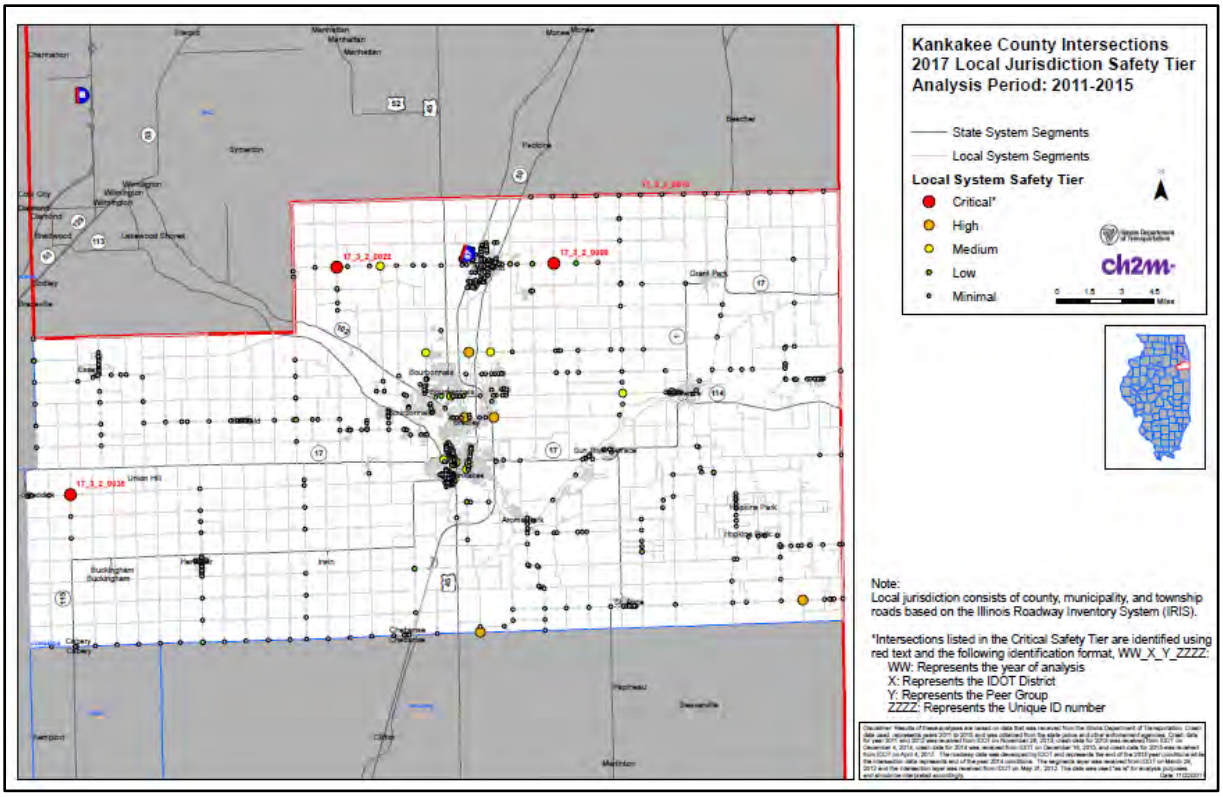


Figure2-7. Screenshot of the Safety Tier Analysis Results for Local Intersections in PDF Map

2.4.2 Segments

Figure 2-8 is a screenshot of the safety tier analysis results map for local segments in one county.

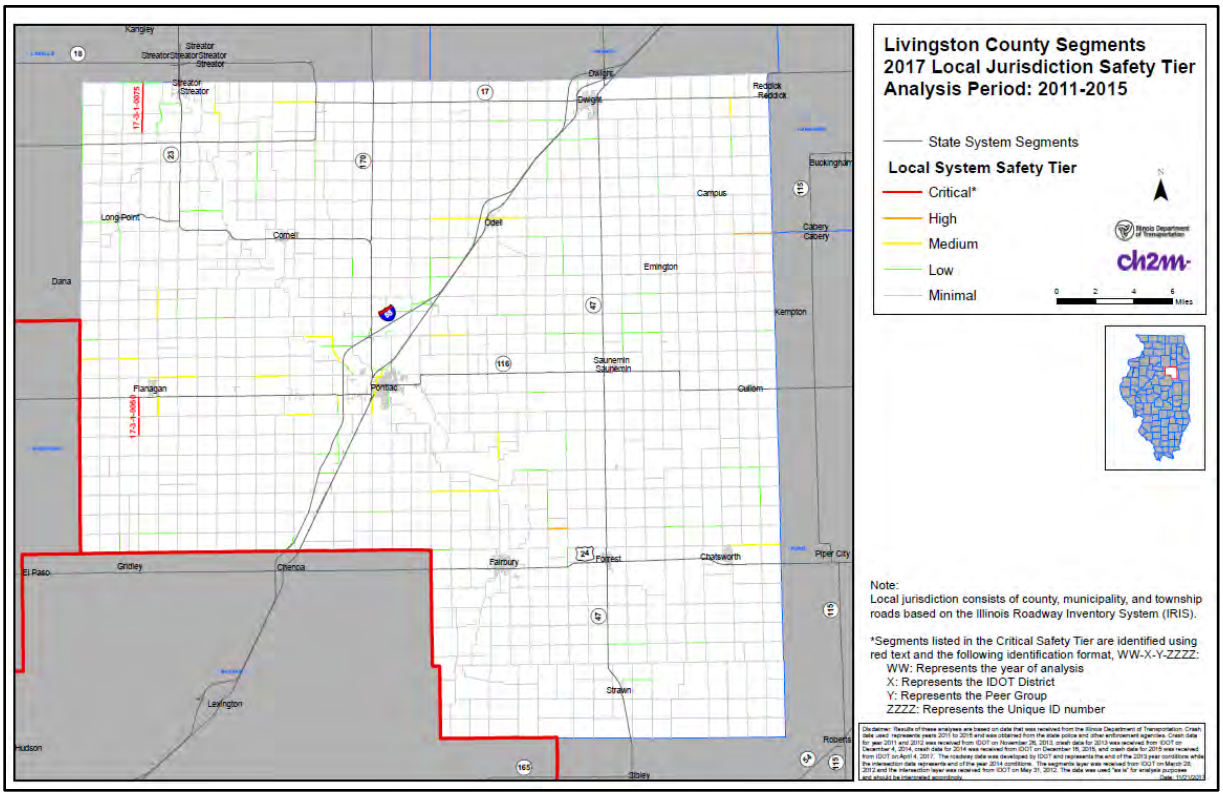


Figure 2-8. Screenshot of the Safety Tier Analysis Results for Local Segments in PDF Map

As with local intersections, roadway segments with different SRI ratings are coded in different colors. Local agencies can use the map to evaluate safety concerns within their jurisdiction and identify projects for safety improvement.

3.0 Guidelines for Local Agencies in Using the Analysis Results

IDOT provided local safety tier analysis result data in a number of document formats. Local agencies are encouraged to use the quantitative safety performance in their transportation project planning and programming process. The following guidelines are intended to facilitate local agency access to and use of results:

1. **Apply the analysis results to prioritize safety improvement projects.** The total number of intersections and overall mileage of segments for local system are high; therefore, the safety funding cannot address or alleviate the safety concerns for all of them. Local agencies can prioritize the locations for safety improvements based on the location's SRI rating and focus on those locations with high potential for safety improvements (specifically those locations with a critical SRI rating).
2. **Double-check roadway geometric, traffic control, and other data**. The local system safety tier analysis was conducted based on the data provided by IDOT. Numerous efforts have been endeavored to enhance accuracy of the analysis results. However, because sample sizes are very large, it is possible that some errors exist within the data and on the maps. As candidate safety improvement projects are identified by local agencies, they are encouraged to double-check peer group classifications, geometric features, and other aspects of the data. Please notify the IDOT Bureau of Safety Programs and Engineering (BSPE) if substantial concerns are identified with the data.
3. **Identify safety improvement projects with systemic approach**. Local segments with critical or high SRI ratings are sometimes short and sparsely distributed along a corridor. Under such circumstances, local agencies can apply the systemic approach to identify projects for safety improvements. The IDOT guideline *Systemic Safety Improvements: Analysis, Guidelines and Procedures* (2014) can be referred for more details.
4. **Use the analysis results to identify high risk rural roads.** A high-risk rural road (HRRR) is defined as any roadway functionally classified as a rural major or minor collector, or a rural local road with significant safety risks. Local agencies can use the local safety tier analysis results to identify HRRR locations for funding through the HRRR program.
5. **Refer to results from other safety analysis tool**. IDOT has developed a series of tools, such as Safety Portal, Data Trees, Heat Maps, Emphasis Area Tables and Top 50 Curves, to implement a data-driven roadway safety-management process in Illinois. Local agencies are recommended to check results from these tools and other references when using the local safety tier analysis results in the HSIP application.
6. **Conduct project-level safety analysis for short-list locations**. The local safety tier analysis assigned SRI ratings for segments and intersections. To maximize benefits for safety dollars, it is suggested that local agencies prioritize their investment on locations with critical or high SRI ratings. For the short-list locations with high potential for safety improvements, it is suggested that local agencies conduct project-level safety analysis to identify the crash-contributing factors and propose appropriate countermeasures for alleviating safety concerns. Local agencies can apply tools, such as the IDOT HSM Crash Prediction Tool and Benefit/Cost Tool that IDOT developed previously for the project-level safety analysis.
7. **Update the HSIP status in the response form.** IDOT has developed the "Local System Safety Tier Response Form" to track the HSIP status of locations with critical SRI ratings. It is suggested that

local agencies update the location's HSIP status and return the results back to IDOT annually. The information will be used to evaluate effectiveness of HSIP projects in future.

8. **Reach out to IDOT for additional guidance**. Local agencies are encouraged to reach out to IDOT District Local Roads Engineers, District Safety Committees and BSPE for guidance on HSIP application process. Local agencies can also contact IDOT BSPE by telephone at 217-782-3568 for technical guidance on application of local system safety tier analysis results. IDOT BSPE will guide the local agencies to the appropriate resources to help resolve their technical challenges.

Application Content

1. Cover letter
2. BSPE HS1 (application form)
3. Benefit to Cost Ratio form
4. Raw crash data
5. Project location map
6. Project location photographs
7. Estimated project cost breakdown
8. Project timeline
9. Project narrative
10. Uniform Application for State Grant Assistance
11. Uniform Grant Budget Template (GOMBGATU-3002)
12. Programmatic Risk Assessment Questionnaire
13. Conflict of Interest Forms (BoBS 2831)
14. Appendix

DEPARTMENT OF TRANSPORTATION AND HIGHWAYS
JOHN YONAN, P.E.
SUPERINTENDENT
69 West Washington Street, 24th Floor ● Chicago, Illinois 60602-3007 ● (312) 603-1601

June 7, 2019

Mr. Steve Travia
Bureau of Local Roads and Streets
Illinois Department of Transportation
201 West Center Court
Schaumburg, Illinois 60196-1096

Re: Roselle Road and Hartford Drive
2019 HSIP Application

Dear Mr. Travia:

On behalf of Cook County, I am pleased to submit to you an application for HSIP funding to make safety improvements at the intersection of Roselle Road and Hartford Drive located in the Village of Schaumburg.

Our staff reviewed County crash data for high crash locations within our roadway network and recommends that this intersection be prioritized for safety improvements. The 2012 to 2016 crash data revealed high incidences of rear-end and turning collisions while also showing one fatality and one serious injury crash.

Cook County intends to use the HSIP funding to replace the traffic signal at the intersection of Roselle Road and Hartford Drive, upgrading the mast arms and signal heads so there are one per lane. Left turn lane alignments will be increased to provide positive offsets and improve sight distance along the Roselle Road approaches. Additionally, the installation of new pedestrian countdown timers, push-buttons, and ADA-compliant ramps will make the intersection safer for pedestrians and bicyclists.

According to the cost-benefit tool provided by IDOT, the benefits significantly outweigh the costs of this project. I urge the State to award HSIP funding to improve the safety of this intersection.

If you have any questions, please contact Tara Orbon, Bureau Chief, Project Development, at 312-603-1745 or Tara.Orbon@cookcountyil.gov.

Sincerely,

John Yonan, P.E.
Superintendent
Department of Transportation and Highways
Cook County, Illinois

cc: Zubair Haider – IDOT

Illinois Department of Transportation

HSIP Candidate Form

FY 2021

ID:	**Contract:**	**Award Date:**	**Completion Date:**
District: 1	**County:** Cook		**City:** Schaumburg
Key route: 0364	**Marked route:** Cook County Route V60 (Roselle Road)		
Road Name: Roselle Road	**Intersecting Roadway:** Hartford Drive N/A ☐		
Length: ☒ N/A		**Mile station:** to	

Location Description: This is a 4-way signalized intersection between Roselle Road and Hartford Drive. Roselle Rd. is a 4-lane Other Principal Arterial with a mountable median and left turn channelization for turning onto Hartford. Hartford is a 2-lane local road.

☐ **Rural**	☒ **Urban**	**Lanes:** 4	
AADT(Segment):		**Total Entering AADT (Intersection): 30700**	**Speed Limit:** 40 mph
Friction Test Results:	☒ N/A	**Lighting Present:** ☒ Y ☐ N	

CHSP Emphasis Area(s): Intersections ☐ District Documentation ☐ Systematic Improvements ☐ N/A

Peer Group: Urban Signalized Intersections ☐ N/A

Other:

		Crashes Details										
Year	Total Crashes	Fatal Crashes	Fatalities	A-Injury Crashes	A-Injuries	B-Injury Crashes	B-Injuries	C-Injury Crashes	C-Injuries	PDO	Wet-Weather Crashes	Darkness (Not lighted) Crashes
2012	13	0	0	0	0	2	2	3	3	8	2	0
2013	13	0	0	0	0	0	0	3	4	10	6	0
2014	14	1	1	1	2	1	1	1	2	10	5	0
2015	16	0	0	0	0	1	1	3	3	12	6	0
2016	12	0	0	0	0	0	0	3	6	9	5	0
Total	68	1	1	1	2	4	4	13	18	49	24	0

Location Description: See above

Problem Description: This intersection has a high frequency of rear end and turning crashes. Outdated traffic signals and negative left turn lane offsets may contribute to the frequency and severity of crashes. See Project Narrative for additional information.

Previous Safety Improvements: None known

Collision Diagram: ☒ Y ☐ N **Images:** ☒ Y ☐ N

Predominant Crash Types: Rear End - 53%; Turning - 22%; Angle - 10%

Proposed Improvement(s): Installation of a modernized traffic signal with longer mast arms and one signal head per lane, increased left turn offsets to create positive offset and improved sight distance, and improve pedestrian accommodations by including countdown pedestrian signals and new ADA ramps.

Estimated Project Cost ($000's): $799,200	**Benefit-Cost Ratio:** 9.03
Local Projects:	
Annual Fatal Crash Rate (Fatal Crashes/100 Miles):	**Annual A-Injury Crash Rate (A-Injury Crashes/100 Miles**):
Local Roads Rural Functional Class:	
Approved:	**Central HSIP Approval Date:**
Signed: **State Safety Engineer**	**Funding:** ☒ HSIP ☐ HRRR ☐ RAIL
Comment:	

Distribution:	☐ OPP	☐ District	☐ BSPE	☐ LRS	☐ BDE

PROJECT DESCRIPTION - PROJECT DATA INPUT (LOCAL INTERSECTIONS)

Project:	Roselle Road & Hartford Drive HSIP Application			*Prepared by:*	Civiltech Engineering
District:	One	*County:* Cook	*City:* Schaumburg	*Date*	5/29/2019
Key Route:	Roselle Road	*Marked Route:*	*MilePost:*	*Current AADT:* Major Street	27700
Location:	Roselle Road & Hartford Drive			Minor Street	3000

Crash data:	5	Years		
	From	2012	to	2016

Peer Group:	Peer Group 7 - Urban Signalized Intersection

Traffic Growth factor:	1.0%
Interest rate:	4.0%

Messages

Please provide a detailed cost estimation for all countermeasures along with this summary sheet.

3.2.26.I7.1 - Pavement - Improve left-turn lane offset to create positive offset does not fully match HSM Setting/Facility Type Criteria

The combined effect of multiple countermeasures is limited to 0.60 or the smallest CMF

LOCAL INTERSECTION CRASH SEVERITY DISTRIBUTION BY CRASH TYPE FOR ANALYSIS PERIOD

Crash Type	All Crashes (Aggregated crash input only)	CRASH TYPE																SPECIAL CASE		**Total**
		Angle	Animal	Fixed Object	Head On	Left Turn	Other Noncollision	Other Object	Overturned	Pedestrian	Pedalcyclist	Parked Vehicle	Rear End	Right Turn	Sideswipe Same Direction	Sideswipe Opposite Direction	Turning	Train	Night Time	Wet Pavement	
Crash Severity	*ALL*	*AG*	*AN*	*FO*	*HO*	*LT*	*OtherNC*	*OtherO*	*OVT*	*PD*	*PDC*	*PKV*	*RE*	*RT*	*SSD*	*SOD*	*T*	*TR*	*NGT*	*WP*	*TOT*
Fatal Crashes																	1		0	0	1
A-Injury Crashes		1																	0	0	1
B-Injury Crashes		2								1			1						0	0	4
C-Injury Crashes													10				3		0	0	13
PDO Crashes		4		3				1					25		5		11		0	0	49

LOCAL INTERSECTION BENEFIT COST ANALYSIS

BENEFIT CALCULATIONS				COUNTERMEASURE COST CALCULATIONS						
COUNTERMEASURE	*CMF **	*Crash Type affected by this improvement*		*Unit Cost*	*Quantity*	*Units*	*Total Cost*	*Service Life*	*Present Worth*	*EUAC ***
3.4.11.I7.1 - Signalization - Add signal (additional primary head)	0.72	All		$724,200	1	Unit Qnty	$724,200	15	$724,200	$65,150
3.2.26.I7.1 - Pavement - Improve left-turn lane offset to create positive offset	0.66	All+		$75,000	1	Unit Qnty	$75,000	15	$75,000	$6,750
		All								
		All								
TOTAL BENEFIT	*$649,400*			*TOTAL COST*						*$71,900*

BENEFIT/ COST	9.03	ANNUAL NUMBER OF FATALITIES POTENTIALLY PREVENTED	0.09	TOTAL FATALITIES PREVENTED	0.45

****NOTE: IF THE NUMBER OF LEGS AFFECTED VARIES BY COUNTERMEASURES SELECTED, THEN CALCULATE THE BENEFIT-COST RATIO FOR EACH COUNTERMEASURE SEPARATELY (Use separate spreadsheets for each countermeasure applied).***

* CMF = Crash Modification Factor

** EUAC = Estimated Uniform Annual Cost

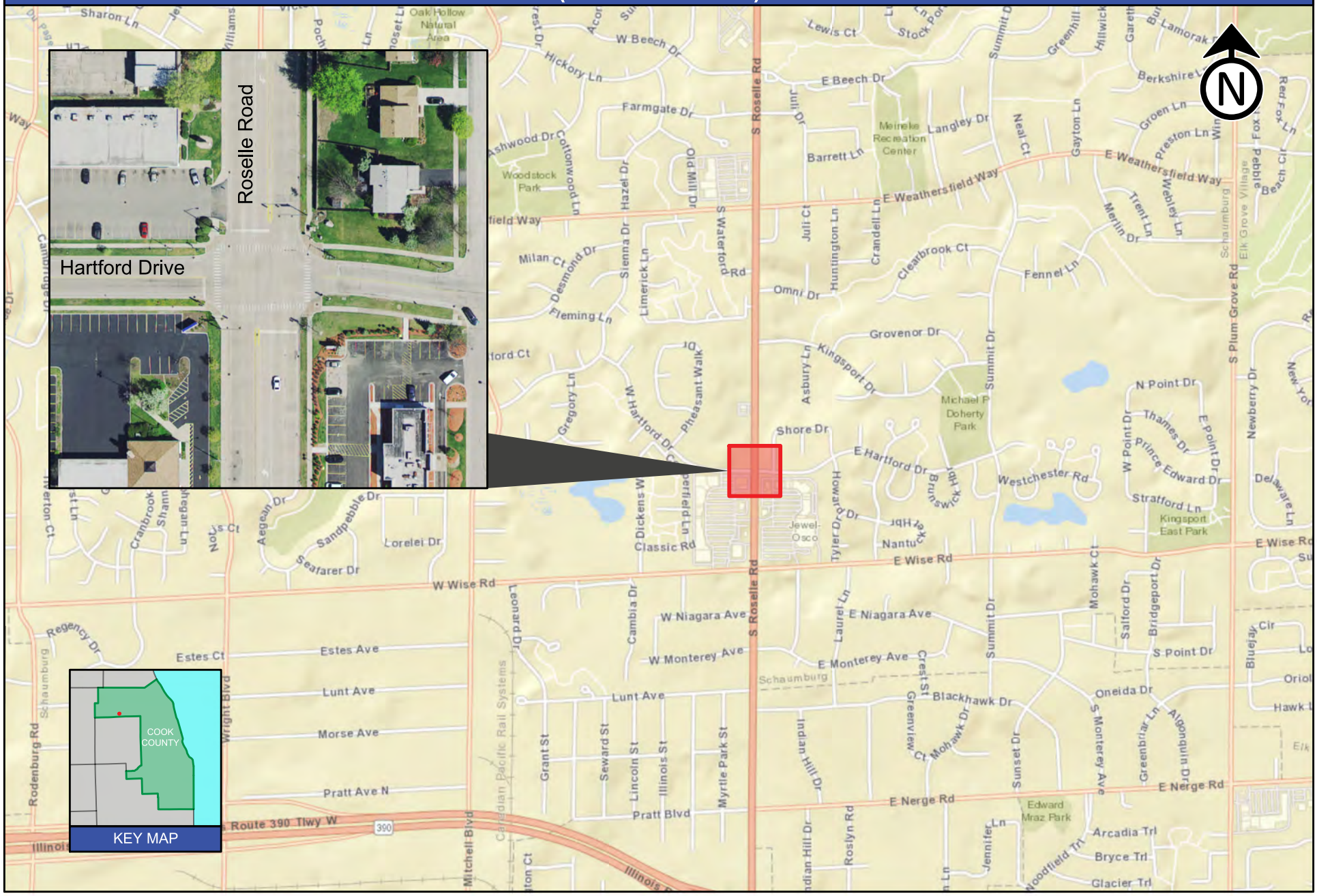
Raw Crash Data
Roselle Road and Hartford Drive HSIP Application

CASE_ID	YEAR	MONTH	DAY	HOUR	DAY OF WEEK	NUM VEH	INJURIES	REC_TYPE	FAT.	COLL_TYPE	WEATHER	LIGHTING	SURF COND	VEH1_DIR	VEH1_MANUV	VEH2_DIR	VEH2_MANUV
201201222191	12	09	21	18	Fri	2	1	B-Injury	0	Rear End	Rain	Daylight	Wet	South	Slow/Stop In Traffic	South	Slow/Stop In Traffic
201201136722	12	06	12	17	Tue	2	1	C-Injury	0	Rear End	Clear	Daylight	Dry	North	Slow/Stop In Traffic	North	Slow/Stop In Traffic
201201291689	12	10	03	17	Wed	2	1	C-Injury	0	Turning	Clear	Daylight	Dry	South	Straight Ahead	Southeast	Turning Right
201201201198	12	08	27	16	Mon	3	0	PD	0	Rear End	Clear	Daylight	Dry	North	Slow/Stop In Traffic	North	Slow/Stop - Left Turn
201201236955	12	10	10	10	Wed	2	1	B-Injury	0	Angle	Clear	Daylight	Dry	North	Straight Ahead	East	Straight Ahead
201201291462	12	10	03	15	Wed	2	0	PD	0	Rear End	Rain	Daylight	Wet	South	Skidding/Control Loss	South	Slow/Stop In Traffic
201201329250	12	12	23	11	Sun	2	0	PD	0	Sideswipe Same Direction	Clear	Daylight	Dry	North	Changing Lanes	North	Straight Ahead
201201315967	12	12	17	14	Mon	2	0	PD	0	Turning	Clear	Daylight	Dry	Southeast	Turning Right	East	Straight Ahead
201201019315	12	01	28	14	Sat	2	0	PD	0	Rear End	Clear	Daylight	Dry	North	Slow/Stop In Traffic	North	Slow/Stop - Left Turn
201201064911	12	03	22	17	Thu	2	0	PD	0	Rear End	Clear	Daylight	Dry	North	Slow/Stop In Traffic	North	Slow/Stop - Right Turn
201201109708	12	05	08	13	Tue	2	0	PD	0	Turning	Clear	Daylight	Dry	Northwest	Turning Right	North	Straight Ahead
201201133886	12	06	10	16	Sun	2	0	PD	0	Angle	Clear	Daylight	Dry	Northeast	Enter From Drive/Alley	South	Straight Ahead
201201177783	12	07	27	19	Fri	2	1	C-Injury	0	Turning	Clear	Daylight	Dry	South	Turning Left	North	Straight Ahead
201301071299	13	03	21	16	Thu	2	0	PD	0	Rear End	Clear	Daylight	Dry	South	Straight Ahead	South	Slow/Stop In Traffic
201301114520	13	05	12	12	Sun	1	0	PD	0	Fixed Object	Clear	Daylight		Unknown	Unknown		
201301064641	13	06	13	14	Thu	3	0	PD	0	Turning	Clear	Daylight	Dry	Southwest	Turning Right	East	Slow/Stop In Traffic
201301057172	13	05	29	08	Wed	2	1	C-Injury	0	Turning	Clear	Daylight	Wet	North	Skidding/Control Loss	West	Turning Left
201301090574	13	07	08	17	Mon	2	2	C-Injury	0	Rear End	Clear	Daylight	Dry	South	Skidding/Control Loss	South	Slow/Stop In Traffic
201301013771	13	01	25	03	Fri	2	0	PD	0	Sideswipe Same Direction	Clear	Daylight	Snow or Slush	North	Changing Lanes	North	Straight Ahead
201301014002	13	01	29	07	Tue	2	1	C-Injury	0	Rear End	Rain	Daylight	Wet	South	Straight Ahead	South	Slow/Stop In Traffic
201301024117	13	03	16	23	Sat	2	0	PD	0	Turning	Clear	Darkness, Lighted Road	Dry	North	Turning Left	West	Straight Ahead
201301233558	13	11	22	08	Fri	2	0	PD	0	Turning	Rain	Daylight	Wet	Northwest	Turning Left	South	Straight Ahead
201301237386	13	11	26	14	Tue	2	0	PD	0	Turning	Clear	Daylight	Dry	South	Turning Left	East	Straight Ahead
201301444886	13	12	04	17	Wed	3	0	PD	0	Rear End	Clear	Darkness, Lighted Road	Wet	South	Slow/Stop In Traffic	South	Slow/Stop In Traffic
201301252764	13	12	13	07	Fri	2	0	PD	0	Rear End	Clear	Daylight	Wet	North	Slow/Stop In Traffic	North	Slow/Stop In Traffic
201301263928	13	12	27	14	Fri	2	0	PD	0	Angle	Clear	Daylight	Dry	East	Enter From Drive/Alley	South	Straight Ahead
201400008206	14	01	29	07	Wed	2	0	PD	0	Sideswipe Same Direction	Clear	Daylight	Ice	South	Straight Ahead	South	Merging
201400015224	14	02	14	15	Fri	2	0	PD	0	Sideswipe Same Direction	Clear	Daylight	Dry	North	Changing Lanes	North	Straight Ahead
201400005868	14	01	21	23	Tue	2	0	PD	0	Other Object	Clear	Darkness, Lighted Road	Ice	West	Skidding/Control Loss	North	Avoiding Vehicle/Objects
201400006774	14	01	25	09	Sat	2	2	A-Injury	0	Angle	Clear	Daylight	Ice	Northwest	Skidding/Control Loss	South	Straight Ahead
201400030615	14	03	20	06	Thu	2	0	PD	0	Sideswipe Same Direction	Snow	Daylight	Snow or Slush	North	Skidding/Control Loss	North	Slow/Stop In Traffic
201400032477	14	03	27	14	Thu	3	0	PD	0	Rear End	Rain	Daylight	Wet	North	Straight Ahead	North	Slow/Stop In Traffic
201400036058	14	04	08	17	Tue	2	0	PD	0	Rear End	Clear	Daylight	Dry	South	Slow/Stop In Traffic	South	Slow/Stop In Traffic
201400007738	14	01	26	14	Sun	2	1	B-Injury	0	Angle	Clear	Daylight	Dry	North	Straight Ahead	West	Straight Ahead
201400049119	14	05	13	17	Tue	4	2	C-Injury	0	Rear End	Cloudy/Ove	Daylight	Dry	South	Straight Ahead	South	Straight Ahead
201400083759	14	06	26	22	Thu	2	0	PD	0	Rear End	Clear	Darkness, Lighted Road	Dry	South	Slow/Stop In Traffic	South	Straight Ahead
201400210449	14	07	28	12	Mon	2	1	Fatal	1	Turning	Clear	Daylight	Dry	South	Turning Left	North	Straight Ahead
201400287778	14	11	10	15	Mon	2	0	PD	0	Turning	Clear	Daylight	Dry	North	Turning Left	South	Straight Ahead
201400259857	14	10	16	17	Thu	2	0	PD	0	Rear End	Cloudy/Ove	Daylight	Dry	South	Slow/Stop In Traffic	South	Slow/Stop In Traffic
201400293509	14	11	16	18	Sun	1	0	PD	0	Fixed Object				Unknown	Unknown		
201501013771	15	01	10	12	Sat	2	0	PD	0	Turning	Clear	Daylight	Snow or	North	Turning Left	East	Straight Ahead
201501027014	15	02	04	14	Wed	2	0	PD	0	Turning	Clear	Daylight	Wet	East	Turning Left	South	Straight Ahead
201501027111	15	02	04	17	Wed	2	0	PD	0	Rear End	Clear	Darkness, Lighted Road	Snow or Slush	South	Straight Ahead	South	Slow/Stop In Traffic
201501058394	15	03	25	11	Wed	2	1	C-Injury	0	Rear End	Clear	Daylight	Dry	North	Slow/Stop In Traffic	North	Slow/Stop In Traffic
201501038779	15	02	23	13	Mon	3	1	C-Injury	0	Rear End	Clear	Daylight	Dry	North	Straight Ahead	North	Slow/Stop In Traffic

Raw Crash Data
Roselle Road and Hartford Drive HSIP Application

CASE_ID	YEAR	MONTH	DAY	HOUR	DAY OF WEEK	NUM VEH	INJURIES	REC_TYPE	FAT.	COLL_TYPE	WEATHER	LIGHTING	SURF COND	VEH1_DIR	VEH1_MANUV	VEH2_DIR	VEH2_MANUV
201501039131	15	02	25	17	Wed	2	0	PD	0	Rear End	Snow	Darkness, Lighted Road	Snow or Slush	South	Straight Ahead	South	Slow/Stop - Right Turn
201501040286	15	02	25	13	Wed	2	0	PD	0	Rear End	Clear	Daylight	Dry	North	Slow/Stop In Traffic	North	Straight Ahead
201501079107	15	04	24	09	Fri	2	0	PD	0	Rear End		Daylight		South	Straight Ahead	South	Unknown
201501062059	15	03	31	21	Tue	1	1	B-Injury	0	Pedestrian	Clear	Darkness, Lighted Road	Dry	East	Turning Left	N/A	N/A
201501086587	15	05	04	12	Mon	2	0	PD	0	Rear End	Clear	Daylight	Dry	North	Straight Ahead	North	Slow/Stop - Right Turn
201501102131	15	05	26	17	Tue	2	0	PD	0	Rear End	Cloudy/Ove	Daylight	Wet	South	Slow/Stop In Traffic	South	Slow/Stop In Traffic
201501168458	15	08	27	16	Thu	2	0	PD	0	Rear End	Cloudy/Ove	Daylight	Dry	South	Straight Ahead	South	Slow/Stop In Traffic
201501218119	15	10	18	16	Sun	2	0	PD	0	Rear End	Clear	Daylight	Dry	South	Straight Ahead	South	Slow/Stop In Traffic
201501266238	15	12	01	17	Tue	2	0	PD	0	Turning	Clear	Darkness, Lighted Road	Dry	Southeast	Turning Right	South	Straight Ahead
201501247133	15	11	15	10	Sun	2	1	C-Injury	0	Rear End	Clear	Daylight	Dry	East	Straight Ahead	East	Slow/Stop In Traffic
201501257529	15	11	21	12	Sat	2	0	PD	0	Rear End	Snow	Daylight	Snow or	South	Slow/Stop In Traffic	South	Straight Ahead
201601132287	16	06	11	08	Sat	2	0	PD	0	Rear End	Clear	Daylight	Dry	North	Slow/Stop In Traffic	North	Slow/Stop In Traffic
201601183660	16	08	10	17	Wed	2	4	C-Injury	0	Rear End	Clear	Daylight	Dry	South	Slow/Stop In Traffic	South	Slow/Stop In Traffic
201601232319	16	10	03	12	Mon	2	0	PD	0	Rear End	Cloudy/Ove	Daylight	Dry	South	Straight Ahead	South	Slow/Stop In Traffic
201601294077	16	11	28	17	Mon	2	0	PD	0	Angle	Rain	Darkness, Lighted Road	Wet	West	Enter From Drive/Alley	North	Straight Ahead
201601236467	16	10	08	19	Sat	2	0	PD	0	Turning	Clear	Darkness, Lighted Road	Dry	South	Turning Left	North	Straight Ahead
201601260566	16	11	02	14	Wed	2	0	PD	0	Rear End	Rain	Daylight	Wet	South	Straight Ahead	South	Slow/Stop In Traffic
201601316454	16	12	23	13	Fri	2	1	C-Injury	0	Rear End	Cloudy/Ove	Daylight	Wet	South	Straight Ahead	South	Slow/Stop In Traffic
201601010207	16	01	01	02	Fri	1	0	PD	0	Fixed Object	Clear	Darkness, Lighted Road	Ice	North	U-Turn		
201601045574	16	02	18	18	Thu	2	0	PD	0	Rear End	Clear	Darkness, Lighted Road	Dry	West	Straight Ahead	West	Slow/Stop In Traffic
201601081619	16	04	08	15	Fri	2	0	PD	0	Angle	Snow	Daylight	Wet	North	Straight Ahead	West	Slow/Stop - Left Turn
201601103675	16	05	07	17	Sat	3	0	PD	0	Rear End	Clear	Daylight	Dry	South	Straight Ahead	South	Slow/Stop In Traffic
201601125273	16	05	12	13	Thu	3	1	C-Injury	0	Rear End	Cloudy/Ove	Daylight	Dry	South	Straight Ahead	South	Slow/Stop In Traffic

LOCATION MAP
ROSELLE ROAD AND HARTFORD DRIVE
(SCHAUMBURG)



Project Location Photos
Roselle Road & Hartford Drive HSIP Application

Above: Roselle Road at Hartford Drive facing north

Below: Roselle Road approaching Hartford Drive facing north

Above: Roselle Road at Hartford Drive facing south

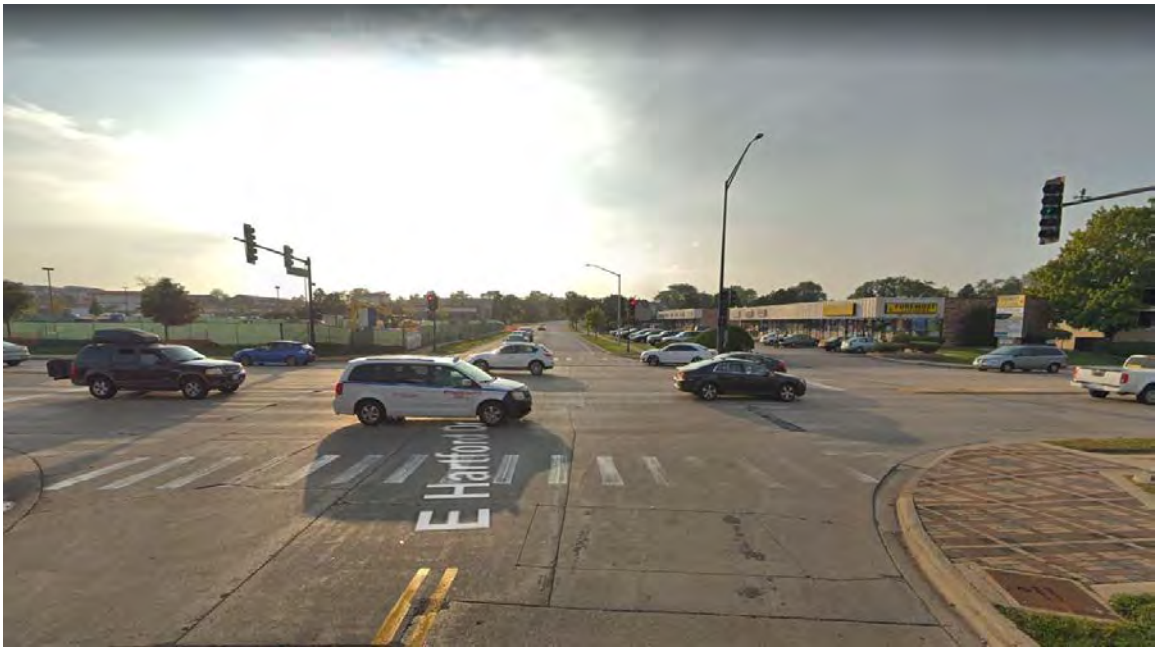
Below: Roselle Road approaching Hartford Drive facing south

Project Location Photos
Roselle Road & Hartford Drive HSIP Application

Above: Hartford Drive at Roselle Road facing east

Below: Hartford Drive approaching Roselle Road facing east

Project Location Photos
Roselle Road & Hartford Drive HSIP Application



Above: Hartford Drive at Roselle Road facing west

Below: Hartford Drive approaching Roselle Road facing west

Cost Estimate

Roselle Road and Hartford Drive HSIP Application

Item	HSIP Funds (90%)	Local Funds (10%)	Totals
Traffic Signal Replacement/Modernization*	$ 297,000.00	$ 33,000.00	$ 330,000.00
ADA Curb Ramps	$ 135,000.00	$ 15,000.00	$ 150,000.00
Median Removal and Pavement Markings (Improve left turn lane offset)	$ 67,500.00	$ 7,500.00	$ 75,000.00
Subtotals	$ 499,500.00	$ 55,500.00	$ 555,000.00
Mobilization - 6%	$ 29,970.00	$ 3,330.00	$ 33,300.00
Traffic Control - 3%	$ 14,985.00	$ 1,665.00	$ 16,650.00
Construction Engineering - 15%	$ 74,925.00	$ 8,325.00	$ 83,250.00
Contingency - 20%	$ 99,900.00	$ 11,100.00	$ 111,000.00
Totals	**$ 719,280.00**	**$ 79,920.00**	**$ 799,200.00** **

* This item includes removal and replacement of all existing signal equipment with modern equipment including longer mast arms, one LED signal indication per lane, pedestrian countdown signals, and illuminated street name signs.

** It is anticipated that Phase I and II engineering will be funded by the Cook County Department of Transportation and Highways.

Project Timeline

Roselle Road at Hartford Drive HSIP Application

August 30, 2019 – HSIP funds awarded

December, 2019 – Phase I and Phase II engineering (Funded by Cook County Department of Transportation and Highways)

October, 2020 – Design is complete and project is approved for letting

December, 2020 – Project letting

April, 2021 – Construction begins

Project Narrative

Roselle Road at Hartford Drive

Roselle Road (County Highway V60) is part of the Cook County Highway System and is under the jurisdiction of the Cook County Department of Transportation and Highways. Roselle Road is a north-south Other Principal Arterial that runs south into DuPage County and the Village of Roselle while traversing Schaumburg and connecting to the Jane Addams Tollway (I-90) to the north. This roadway carries approximately 27,700 vehicles per day (2018 Annual Average Daily Traffic) in four 12-foot lanes and has a center mountable median that transitions to left turn lanes approaching the intersection. The posted speed limit is 40 miles per hour.

Hartford Drive is a two-lane local roadway which is under the jurisdiction of the Village of Schaumburg. Both the east and west legs of Hartford serve single-family residential neighborhoods while also carrying traffic coming to and from strip mall shopping centers. While traffic count data on Hartford is not available, we have estimated that it carries 3,000 vehicles per day. The speed limit on Hartford is posted at 25 miles per hour.

The intersection of Roselle Road and Hartford Drive is controlled by an actuated traffic signal that provides left turn phasing for northbound and southbound traffic. This signal is interconnected to the Roselle Road/Wise Road traffic signal, which is 1,000 feet to the south. The closest signal to the north is at Roselle/Weathersfield, which is about half a mile away. There is street lighting on all four legs of the intersection.

Crashes at and near the intersection of Roselle Road and Hartford Drive were analyzed for a five-year period beginning from 2012 through 2016. A total of 68 crashes occurred during the five-year period. The most common crash type at the intersection was rear-end, accounting for 53% of the total crashes. There was also a high frequency of turning (22%) and angle (10%) collisions. 19 of the 68 crashes (28%) resulted in injuries. One of these crashes was a fatality that occurred when a driver turning left from southbound Roselle was struck by a motorists who was traveling northbound through the intersection. Additionally, a serious injury collision happened when a northbound driver was traveling too fast for conditions, couldn't stop in time at a red light, and skidded into the southbound traffic lanes, striking oncoming traffic. The appendix at the end of the application contains collision diagrams that illustrate the location and types of the crashes.

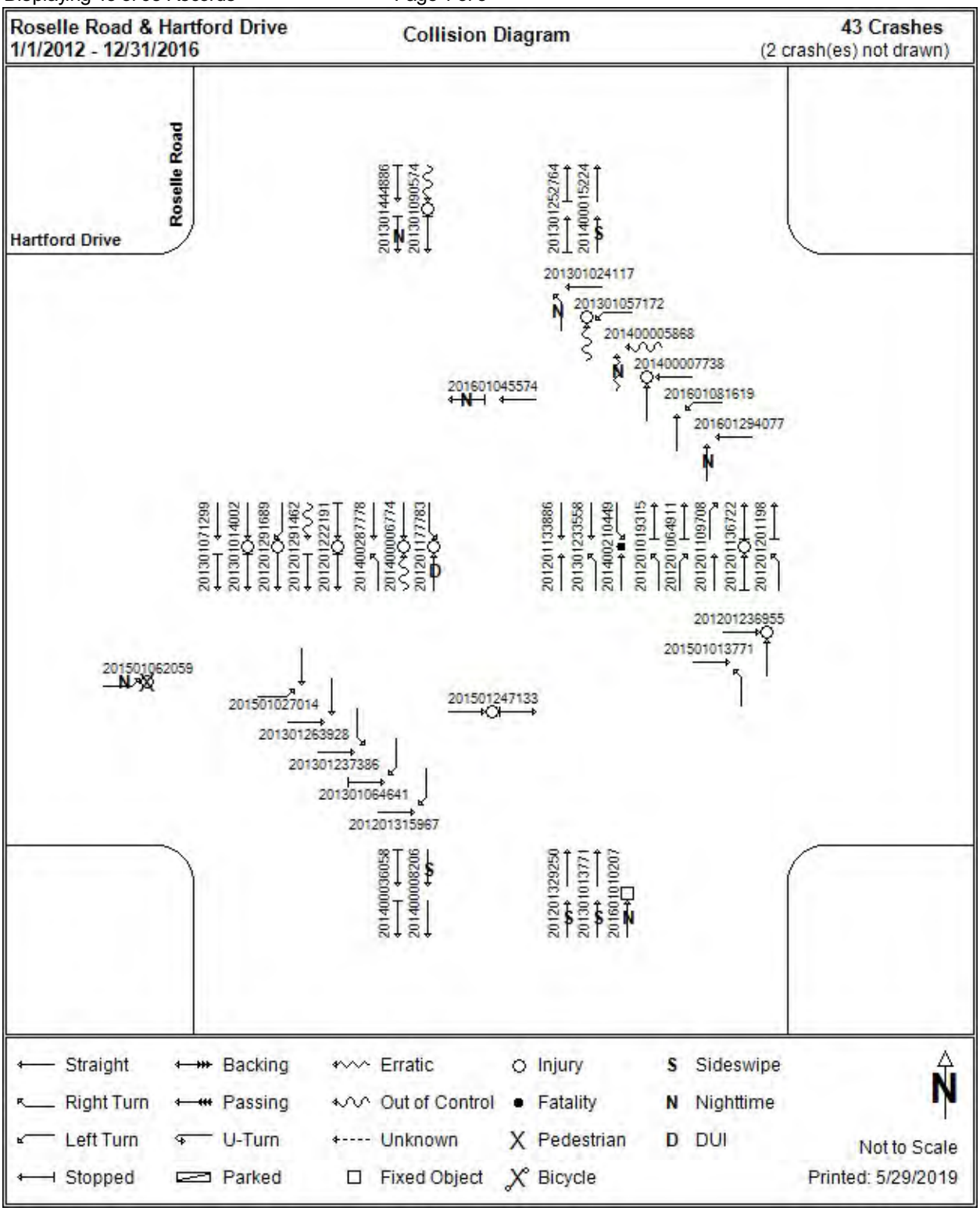
The intersection of Roselle Road and Hartford Drive was selected for the FY 2021 Local Highway Safety Improvement Program based on a review of crash data at signalized intersections within the Cook County highway system. The crash rate at this location was determined to be quite high, especially when considering that the cross-street is a lower-volume road. Given the analysis with the Benefit-Cost tool, the B-C ratio comes out to 9.03, which shows that appropriate countermeasures can significantly improve safety. Additionally, the Benefit-Cost analysis shows that approximately 0.45 fatalities could be prevented.

Various countermeasures are recommended to improve intersection safety and reduce the most common crash types. These include traffic signal modernization, replacing the mast arms on Roselle Road with longer ones that incorporate one signal head per lane. The modernized traffic signal will include 12" LED indications with visors and reflective backplates. These upgrades will improve the visibility of the signal to oncoming traffic, which should improve safety. The new traffic signal will also

include pedestrian countdown signals, ADA compliant pedestrian push-buttons, and new ADA ramps to improve safety and accessibility for pedestrians. An additional improvement will include removing the four-foot corrugated median that separates the left turn lanes from the opposing travel lanes so the turn lanes can be shifted to the left, which will provide a positive offset and improve sight distance for drivers making permitted left turns during the green ball phase.

Appendix A

Collision Diagrams


Roselle Road & Hartford Drive
1/1/2012 - 12/31/2016
Collision Diagram
43 Crashes
(2 crash(es) not drawn)
Roselle Road
Hartford Drive
201301444886
201301090574
201301252764
201400015224
201301024117
201301057172
201400005868
201400007738
201601045574
201601081619
201601294077
201301071299
201301014002
201201291689
201201291462
201201222191
201400287778
201400006774
201201177783
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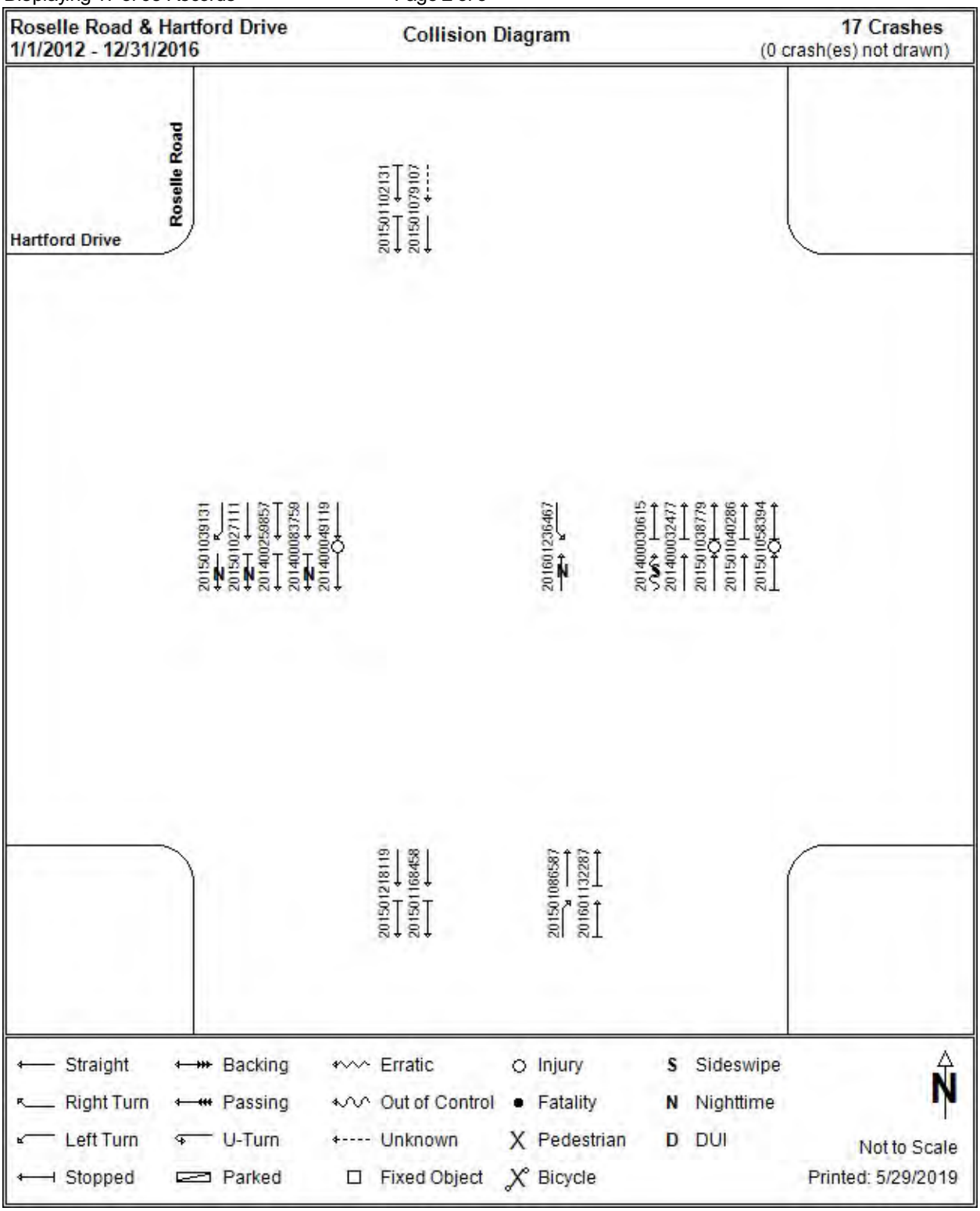
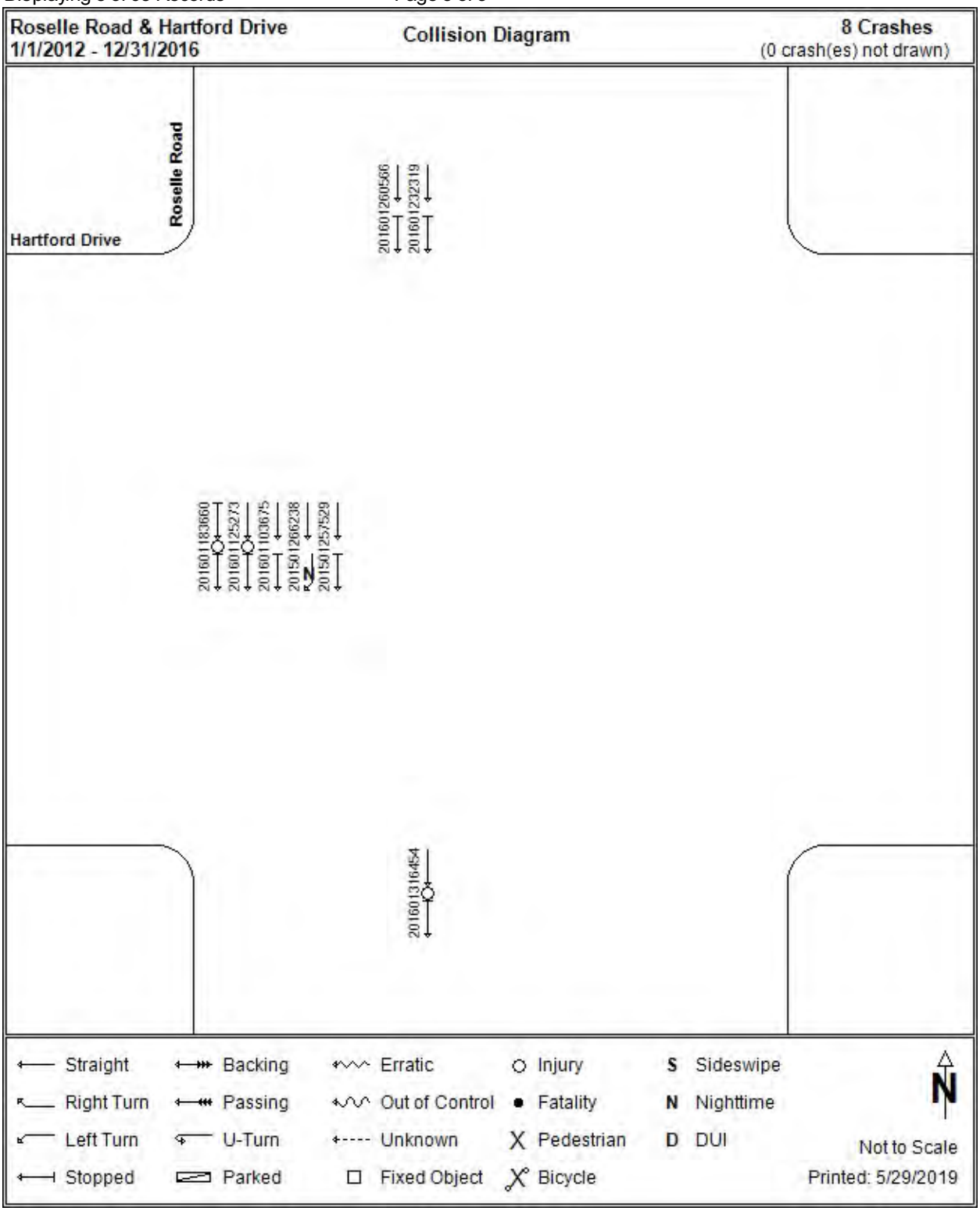
201301233558
201400210449
201201019315
201201064911
201201109708
201201136722
201201201198
201201236955
201501013771
201501062059
201501027014
201501247133
201301263928
201301237386
201301064641
201201315967
201400036058
201400008206
201201329250
201301013771
201601010207
Straight
Right Turn
Left Turn
Stopped
Backing
Passing
U-Turn
Parked
Erratic
Out of Control
Unknown
Fixed Object
Injury
Fatality
Pedestrian
Bicycle
S Sideswipe
N Nighttime
D DUI
N
Not to Scale
Printed: 5/29/2019


Roselle Road & Hartford Drive
1/1/2012 - 12/31/2016
Collision Diagram
17 Crashes
(0 crash(es) not drawn)
Roselle Road
Hartford Drive
20150102131
20150079107
20150139131
20150127111
20140025857
20140083759
20140049119
20160236467
20140030615
20140032477
20150108779
20150140286
20150158394
20150218119
20150168458
20150186587
20160132287
Straight
Right Turn
Left Turn
Stopped
Backing
Passing
U-Turn
Parked
Erratic
Out of Control
Unknown
Fixed Object
Injury
Fatality
Pedestrian
Bicycle
S Sideswipe
N Nighttime
D DUI
N
Not to Scale
Printed: 5/29/2019


Roselle Road & Hartford Drive
1/1/2012 - 12/31/2016
Collision Diagram
8 Crashes
(0 crash(es) not drawn)
Roselle Road
Hartford Drive
20160126056
20160123231
20160118366
20160112527
20160110367
20150126623
20150125752
20160131645
Straight
Right Turn
Left Turn
Stopped
Backing
Passing
U-Turn
Parked
Erratic
Out of Control
Unknown
Fixed Object
Injury
Fatality
Pedestrian
Bicycle
S Sideswipe
N Nighttime
D DUI
N
Not to Scale
Printed: 5/29/2019