



# Illinois Department of Transportation

Office of Highways Project Implementation / Bureau of Local Roads & Streets  
2300 South Dirksen Parkway / Room 205 / Springfield, Illinois / 62764

April 12, 2022

## **CIRCULAR LETTER 2022-11**

### **FY 2024 LOCAL HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) CALL FOR CANDIDATE PROJECTS**

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

#### **CALL FOR CANDIDATE PROJECTS (HSIP):**

The Illinois Department of Transportation (IDOT or Department) is requesting candidate projects for the Highway Safety Improvement Program (HSIP) that will be initiated in FY 2024. Applications for this funding program will be received through **Friday, June 17, 2022, at 5:00 PM CT**, and the announcement of the selected projects for funding will be made during the week of September 5<sup>th</sup>, 2022.

IDOT provided a Notice of Funding Opportunity ([NOFO](#)) on April 12, 2022. This Funding Opportunity Number is 24-1004-01 and the program is listed in the Catalog of State Financial Assistance (CSFA) as 494-00-1004.

In addition to the information contained within this Circular Letter, Applicants are directed to visit and explore the [HSIP website](#) which contains additional information on the IDOT HSIP policy, and analysis tools which may be used to guide the Applicant through the application process. We also encourage Applicants with projects on two-lane rural roads with run off the road crashes to utilize the Run Off the Road Initiative (RORI) tool. Please send an email to [Katherine.Beckett@Illinois.gov](mailto:Katherine.Beckett@Illinois.gov) to access the tool. This tool assists with the selection of the proper safety treatment needed to improve the hazardous location.

#### **PROGRAM PURPOSE AND DETAILS OF HSIP:**

With the passage of the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), the Highway Safety Improvement Program's eligibility has been expanded to address the growth in fatalities and meet the "moving toward zero" goal.

To that effect, the FHWA supports the vision of “zero deaths” which is the only acceptable number and recognizes that a safe system approach for all roadway users is the best way to achieve this goal.

Achieving a significant reduction in traffic fatalities and serious injuries is paramount to IDOT. Recognizing that 50% of the fatal and serious crashes occur on the local highway system, and the critical role that funding plays in meeting those safety goals, IDOT intends to commit \$30.6 million for the FY 2024 cycle. This increase in local HSIP marks provides another strategic step in providing funding to significantly tackle safety on the local highway system.

IDOT will continue to prioritize the selection of projects that address the 2017 Illinois Strategic Highway Safety Plan emphasis areas such as roadway departures, hazardous intersections, and pedestrians' conflicts. In order to meet the legislative intent of the broaden eligibility requirements under BIL/IJA, IDOT will again consider system-wide, systemic, safety improvements, including guardrail improvement projects, for the FY24 Local HSIP. Other proposed improvements may include items such as signage, high friction surface treatment, pavement markings and projects to maintain minimum level retro reflectivity, rumble strips, chevrons, guardrail improvements / upgrades, guardrail end terminal upgrades, etc.

IDOT will also prioritize projects that protect the Vulnerable Road Users (VRU) such as pedestrians and bicyclists. The FHWA also provides guidance on systemic approaches, 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.

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.

The federal funding level per project remains at 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.

**IMPORTANT CRITERIA:**

With each application, a strong consideration must be articulated that should focus upon specific safety strategies that offer significant benefit to the reduction of fatal and serious injury crashes. A principal component HSIP is to identify the issue(s) contributing to the fatal and serious injury crashes, and how the safety strategy will address and resolve these issues. Please note if the roadway to be improved 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 application.

**SUBMISSION REQUIREMENTS & RESOURCES:**

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 complete and provide all requested fields, including 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.

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.

Several resources have been developed to aid local public agencies in identifying locations and emphasis areas. These resources include county emphasis area tables, heat maps, data trees, pedestrian corridors, top 50 curves, and the 2017 Local Safety Tier List. These resources are available to be used to develop your HSIP application. 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*."

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 2024 HSIP application. ***Also note that the Bureau of Local Roads and Streets and the Bureau of Safety Programs & Engineering will be providing a webinar on May 6<sup>th</sup>, 2022, from 10:00AM to 11:30AM, to discuss how to submit a good quality application. Information on how to join the live webinar is available in the NOFO.***

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

April 12, 2022

**For emphasis, completed applications must be sent electronically to the appropriate District Local Roads and Streets Engineer no later than 5:00 CT on Friday June 17, 2022.**

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 [Babilbile.Seck@illinois.gov](mailto:Babilbile.Seck@illinois.gov)

Sincerely,



George A. Tapas, P.E., S.E.  
Engineer of Local Roads and Streets

Attachments

cc: Alan Ho, FHWA – Illinois Division  
Cindy Watters, IDOT Bureau of Safety Programs and Engineering  
Rick Johnson, Illinois Association of County Engineers  
Brad Cole, Illinois Municipal League  
Bryan Smith, Township Officials of Illinois  
Donald Goad, Township Highway Commissioners of Illinois



# 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.

Row #	Route 2	PG	PG Name	Location Description	Number of Legs	County	District	Status	Year	Report Period	Peer Group	SRI Rating	K Crash Rate (Per 100M)	KAB Crash Rate (Per 100M)	Weighted PSI	K	A	B	KAB	KA
1	DHS	1	Rural 3/4g Minor Road Stop Cont	3 Henry 037	3	Henry	037	2.5% Critical	0_2_1_0001	FIVE PERCENT	2148804727	54.4641632	4.45735037	1	0	2	3	1	0	
2	570 N	1	Rural 3/4g Minor Road Stop Cont	3 Henry 037	3	Henry	037	2.5% Critical	0_2_1_0002	FIVE PERCENT	2310717917	46.1427545	4.2295170	1	0	1	2	1	0	
3	OLD STATE RD	1	Rural 3/4g Minor Road Stop Cont	3 Clinton 014	3	Clinton	014	8.5% Critical	0_0_1_0001	FIVE PERCENT	2210306623	91.2042001	4.2279189	1	2	1	4	3	0	
4	THOMPSONVILLE RD	1	Rural 3/4g Minor Road Stop Cont	3 Williamson 100	3	Williamson	100	9.5% Critical	0_0_1_0004	FIVE PERCENT	2215967859	22.59567859	3.95041732	1	0	1	1	0	0	
5	LAURA WYE	1	Rural 3/4g Minor Road Stop Cont	3 Peoria 072	4	Peoria	072	4.5% Critical	0_4_1_0005	FIVE PERCENT	2610430287	26.04302287	3.84229786	1	0	0	1	1	0	
6	LAKE WOOD DR	1	Rural 3/4g Minor Road Stop Cont	3 Madison 068	3	Madison	068	8.5% Critical	0_0_1_0006	FIVE PERCENT	2710232451	54.02460391	3.82695966	1	0	1	2	1	0	
7	E HAGERBERG RD	1	Rural 3/4g Minor Road Stop Cont	3 Cass 006	3	Cass	006	6.5% Critical	0_0_1_0007	FIVE PERCENT	2510493266	25.0493266	3.45730344	1	0	0	1	0	0	
8	NELSON RD	1	Rural 3/4g Minor Road Stop Cont	3 Lee 052	2	Lee	052	2.5% Critical	0_2_1_0008	FIVE PERCENT	2010741007	30.07410367	3.0345761	1	0	0	1	1	0	
9	DIAMOND CROSS RD	1	Rural 3/4g Minor Road Stop Cont	3 Randolph 079	3	Randolph	079	8.5% Critical	0_0_1_0009	FIVE PERCENT	2910204724	29.0204724	2.93088443	1	0	0	1	1	0	
10	DRINKERS RD	1	Rural 3/4g Minor Road Stop Cont	3 Kendall 047	3	Kendall	047	3.5% Critical	0_3_1_0010	FIVE PERCENT	3010705042	30.0705042	2.9276295	1	1	1	3	2	0	
11	N 25TH RD	1	Rural 3/4g Minor Road Stop Cont	3 LaSalle 056	3	LaSalle	056	3.5% Critical	0_3_1_0011	FIVE PERCENT	3412457534	34.0459268	2.9784051	1	0	1	2	1	0	
12	TOUM RD	1	Rural 3/4g Minor Road Stop Cont	3 Tazewell 096	4	Tazewell	096	4.5% Critical	0_4_1_0012	FIVE PERCENT	3412454937	34.02454937	2.9504478	1	0	0	1	1	0	
13	Dawford Ave	1	Rural 3/4g Minor Road Stop Cont	3 Will 099	3	Will	099	3.5% Critical	0_3_1_0013	FIVE PERCENT	3012314561	30.02314561	1.9096493	1	0	1	2	1	0	
14	W COUNTY RD	1	Rural 3/4g Minor Road Stop Cont	3 Jersey 042	3	Jersey	042	8.5% Critical	0_0_1_0014	FIVE PERCENT	3415623342	34.05623342	1.9164126	1	0	0	1	1	0	
15	250A	1	Rural 3/4g Minor Road Stop Cont	3 Douglas 021	3	Douglas	021	5.5% Critical	0_5_1_0015	FIVE PERCENT	4015983374	40.05983374	1.8280353	1	0	0	1	1	0	
16	PIAINE CHRD	1	Rural 3/4g Minor Road Stop Cont	3 Sangamon 084	3	Sangamon	084	6.5% Critical	0_6_1_0016	FIVE PERCENT	4310368444	43.0368444	1.9008043	1	1	1	3	2	0	
17	80TH AVE	1	Rural 3/4g Minor Road Stop Cont	3 Mercer 064	4	Mercer	064	4.5% Critical	0_4_1_0017	FIVE PERCENT	4213671804	42.03671804	1.4344794	1	0	1	2	1	0	
18	2900 E	1	Rural 3/4g Minor Road Stop Cont	3 Champaign 016	3	Champaign	016	5.5% Critical	0_5_1_0018	FIVE PERCENT	4412784044	44.02784044	1.2844942	1	0	0	1	1	0	
19	N OLD CENTRALIA LA	1	Rural 3/4g Minor Road Stop Cont	3 Mason 061	3	Mason	061	9.5% Critical	0_0_1_0019	FIVE PERCENT	4714470817	47.04470817	1.2643256	1	1	1	3	2	0	
20	BESSIE RD	1	Rural 3/4g Minor Road Stop Cont	3 Randolph 079	3	Randolph	079	8.5% Critical	0_0_1_0020	FIVE PERCENT	4613907811	46.03907811	1.3034108	1	0	0	1	1	0	
21	CAMPBELL CEM RD	1	Rural 3/4g Minor Road Stop Cont	3 Franklin 028	3	Franklin	028	9.5% Critical	0_0_1_0021	FIVE PERCENT	4614275495	46.04275495	1.8034262	1	2	0	3	3	0	
22	BLACK DOG LV	1	Rural 3/4g Minor Road Stop Cont	3 Sangamon 084	3	Sangamon	084	6.5% Critical	0_6_1_0022	FIVE PERCENT	37146633884	37.046633884	1.9654657	1	0	0	1	1	0	
23	ALLIGHAN RD	1	Rural 3/4g Minor Road Stop Cont	3 Williamson 100	3	Williamson	100	9.5% Critical	0_0_1_0023	FIVE PERCENT	4613036710	46.03036710	1.8223272	1	0	0	1	1	0	
24	LOW BRIDGE RD	1	Rural 3/4g Minor Road Stop Cont	3 Clinton 014	3	Clinton	014	8.5% Critical	0_0_1_0024	FIVE PERCENT	4912539662	49.02539662	1.8985478	1	0	1	2	1	0	
25	HE CHURCHILL/DIPOLIS	1	Rural 3/4g Minor Road Stop Cont	3 Sangamon 084	3	Sangamon	084	6.5% Critical	0_6_1_0025	FIVE PERCENT	3817525882	38.07525882	1.8954726	1	0	0	1	1	0	
26	N 40TH TR	1	Rural 3/4g Minor Road Stop Cont	3 LaSalle 056	3	LaSalle	056	3.5% Critical	0_3_1_0027	FIVE PERCENT	4810024449	48.0024449	1.8225436	1	1	0	2	2	0	
27	COUNCIL HILL RD	1	Rural 3/4g Minor Road Stop Cont	3 Jeddah 043	2	Jeddah	043	2.5% Critical	0_2_1_0028	FIVE PERCENT	4910338483	49.0338483	1.0102767	1	0	0	1	1	0	
28	HICKORY LN	1	Rural 3/4g Minor Road Stop Cont	3 McHenry 058	3	McHenry	058	1.5% Critical	0_1_1_0029	FIVE PERCENT	4615395451	46.05395451	0.9842391	1	0	0	1	1	0	
29	HARDING RD	2	Rural 4/4g Minor Road Stop Cont	4 Tazewell 096	4	Tazewell	096	4.5% Critical	0_4_2_0030	FIVE PERCENT	4817702885	48.07702885	0.8064283	1	0	0	1	1	0	
30	COOPER RD	2	Rural 4/4g Minor Road Stop Cont	4 Tazewell 096	4	Tazewell	096	4.5% Critical	0_4_2_0031	FIVE PERCENT	4817702885	48.07702885	0.8064283	1	4	1	6	5	4	
31	LANARK RD	1	Rural 4/4g Minor Road Stop Cont	4 Stephenson 088	4	Stephenson	088	2.5% Critical	0_2_1_0033	FIVE PERCENT	0	0	0	0	4	2	6	4	4	
32	AIRPORT RD	2	Rural 4/4g Minor Road Stop Cont	4 Mason 061	4	Mason	061	8.5% Critical	0_0_2_0034	FIVE PERCENT	2016717757	193.3668978	3.625660	1	2	2	5	3	0	
33	Allen Rd	2	Rural 4/4g Minor Road Stop Cont	4 Kane 045	4	Kane	045	1.5% Critical	0_1_2_0035	FIVE PERCENT	0	0	0	0	3	5	8	3	6	
34	MONROE AVE	2	Rural 4/4g Minor Road Stop Cont	4 Williamson 100	4	Williamson	100	9.5% Critical	0_0_2_0036	FIVE PERCENT	3713202957	69.4937068	9.20536073	1	2	1	4	3	3	
35	NW13TH ST	2	Rural 4/4g Minor Road Stop Cont	4 Williamson 100	4	Williamson	100	9.5% Critical	0_0_2_0037	FIVE PERCENT	0	0	0	0	3	3	6	3	0	
36	GREENSWATCH RD	2	Rural 4/4g Minor Road Stop Cont	4 Macon 058	4	Macon	058	7.5% Critical	0_7_2_0039	FIVE PERCENT	0	0	0	0	3	3	3	3	2	
37	N 5000 RD	2	Rural 4/4g Minor Road Stop Cont	4 Kankakee 046	4	Kankakee	046	3.5% Critical	0_3_2_0039	FIVE PERCENT	0	0	0	0	3	1	4	3	2	
38	RED SHALE HILL RD	2	Rural 4/4g Minor Road Stop Cont	4 Tazewell 096	4	Tazewell	096	4.5% Critical	0_4_2_0040	FIVE PERCENT	0	0	0	0	3	1	4	3	2	
39	HIGHLINE RD	2	Rural 4/4g Minor Road Stop Cont	4 Clinton 014	4	Clinton	014	8.5% Critical	0_0_2_0041	FIVE PERCENT	0	0	0	0	3	3	3	3	0	
40	TOVLINE RD	2	Rural 4/4g Minor Road Stop Cont	4 Tazewell 096	4	Tazewell	096	4.5% Critical	0_4_2_0042	FIVE PERCENT	0	0	0	0	3	0	3	3	1	
41	N 43RD	2	Rural 4/4g Minor Road Stop Cont	4 LaSalle 056	4	LaSalle	056	3.5% Critical	0_3_2_0043	FIVE PERCENT	2012942687	40.5985374	5.9103626	1	1	0	2	2	2	
42	700 E	2	Rural 4/4g Minor Road Stop Cont	4 Cass 006	4	Cass	006	7.5% Critical	0_7_2_0044	FIVE PERCENT	1617444705	37.14882745	5.781265	1	0	0	2	2	2	
43	MCBERRY RD	2	Rural 4/4g Minor Road Stop Cont	4 DeKalb 016	4	DeKalb	016	3.5% Critical	0_3_2_0045	FIVE PERCENT	0	0	0	0	3	3	3	3	0	
44	DR SPRINGS RD	2	Rural 4/4g Minor Road Stop Cont	4 Williamson 100	4	Williamson	100	9.5% Critical	0_0_2_0046	FIVE PERCENT	0	0	0	0	2	2	4	2	2	
45	NURSERY RD	2	Rural 4/4g Minor Road Stop Cont	4 Clinton 014	4	Clinton	014	8.5% Critical	0_0_2_0047	FIVE PERCENT	0	0	0	0	2	2	4	2	2	

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.

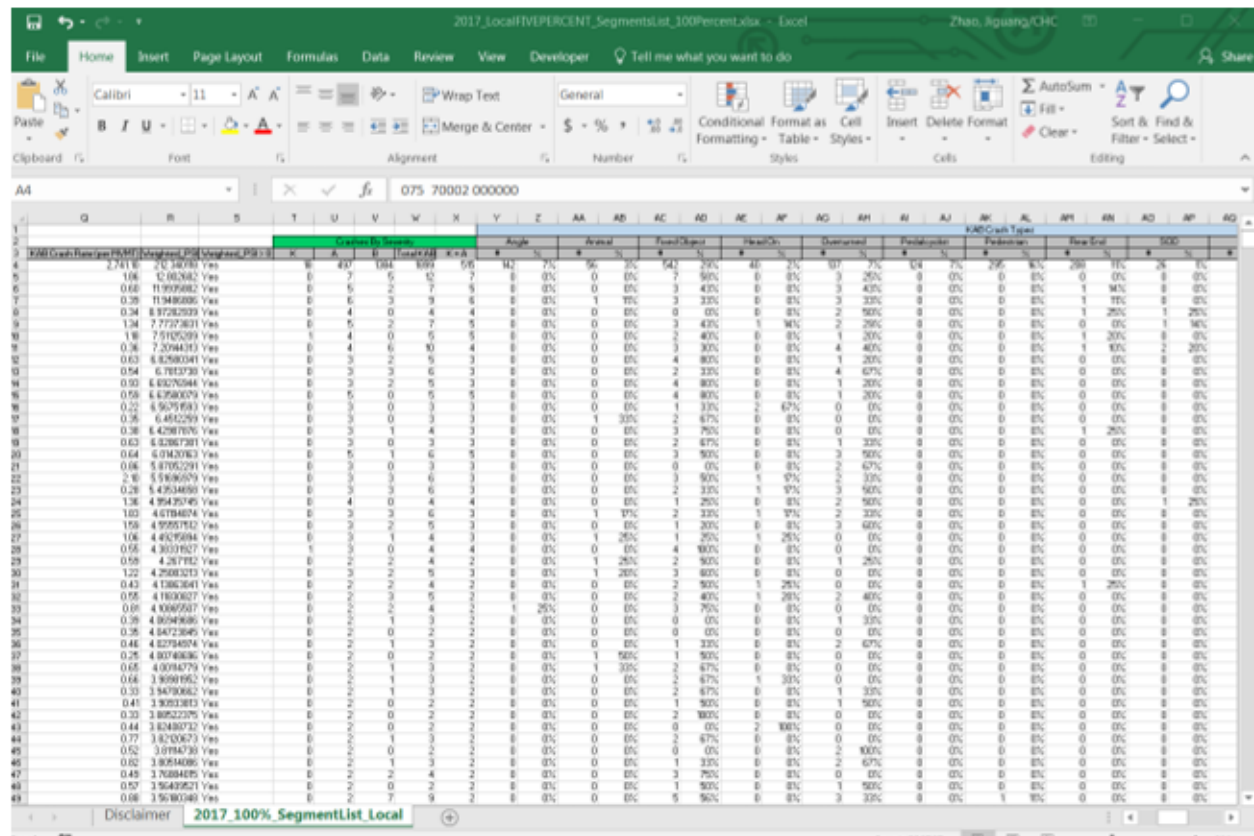


Figure 2-2. Screenshot of Safety Tier Analysis Results for Local Segments in the Microsoft Excel Spreadsheet

## 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.

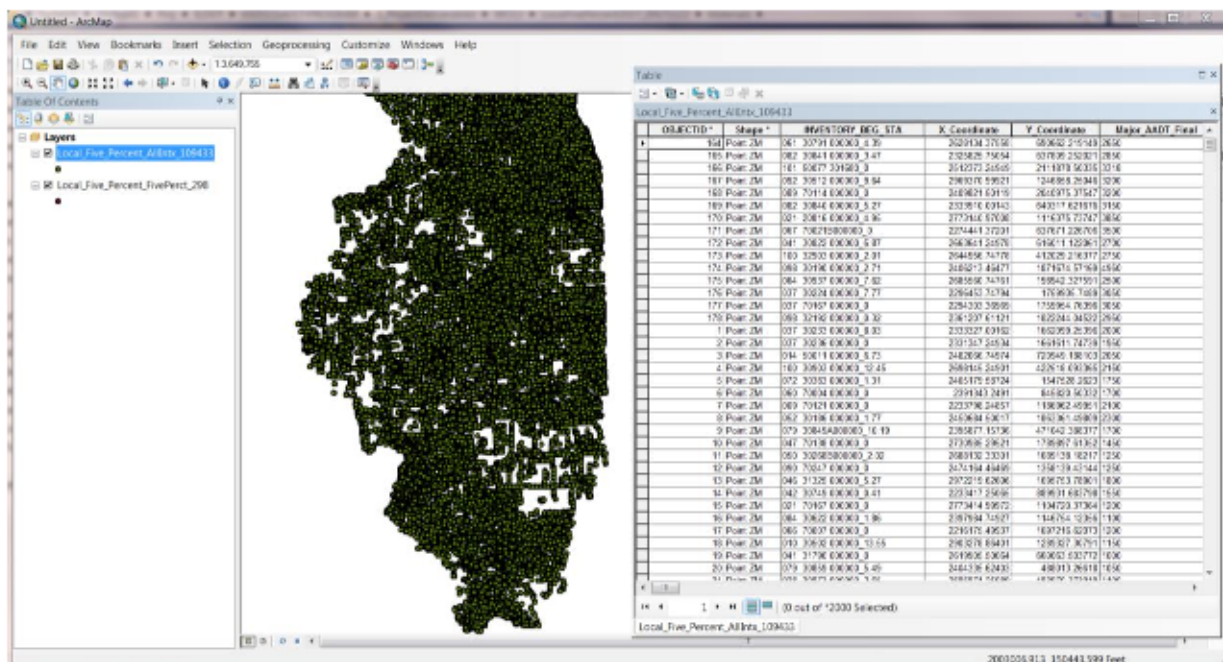


Figure 2-3. Screenshot of the Safety Tier Analysis Results for Local Intersections in the GIS Environment

### 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.

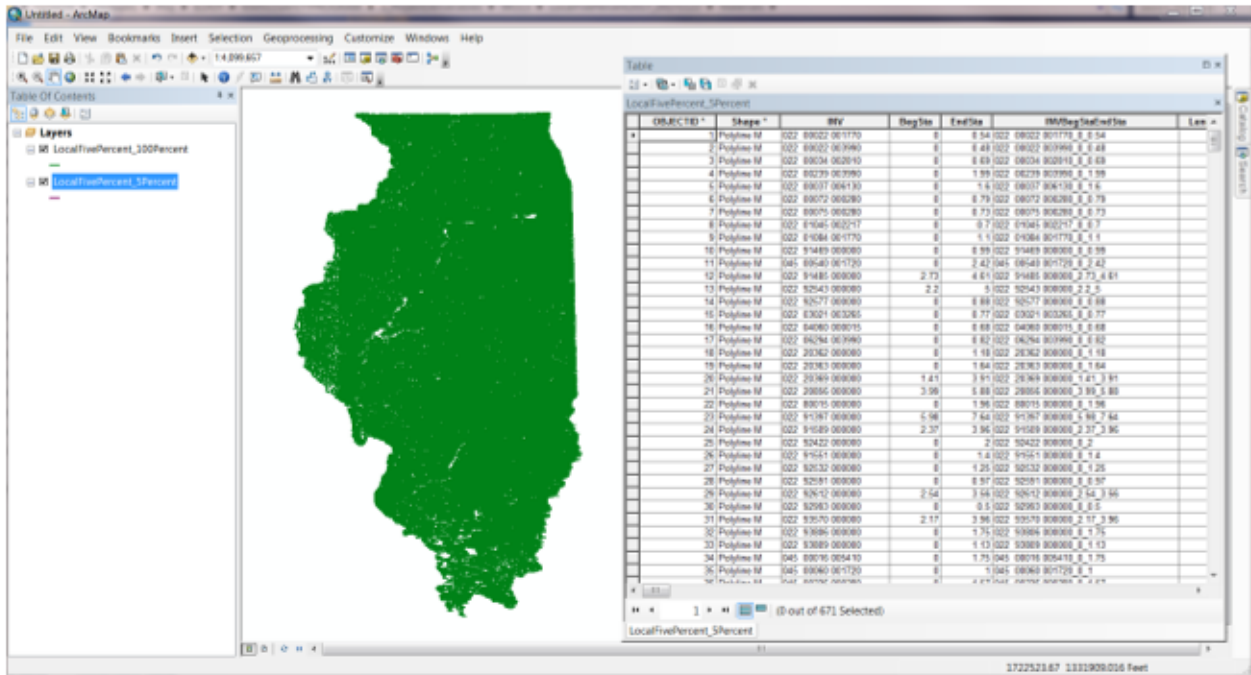


Figure 2-4. Screenshot of the Safety Tier Analysis Results for Local Segments in the GIS Environment

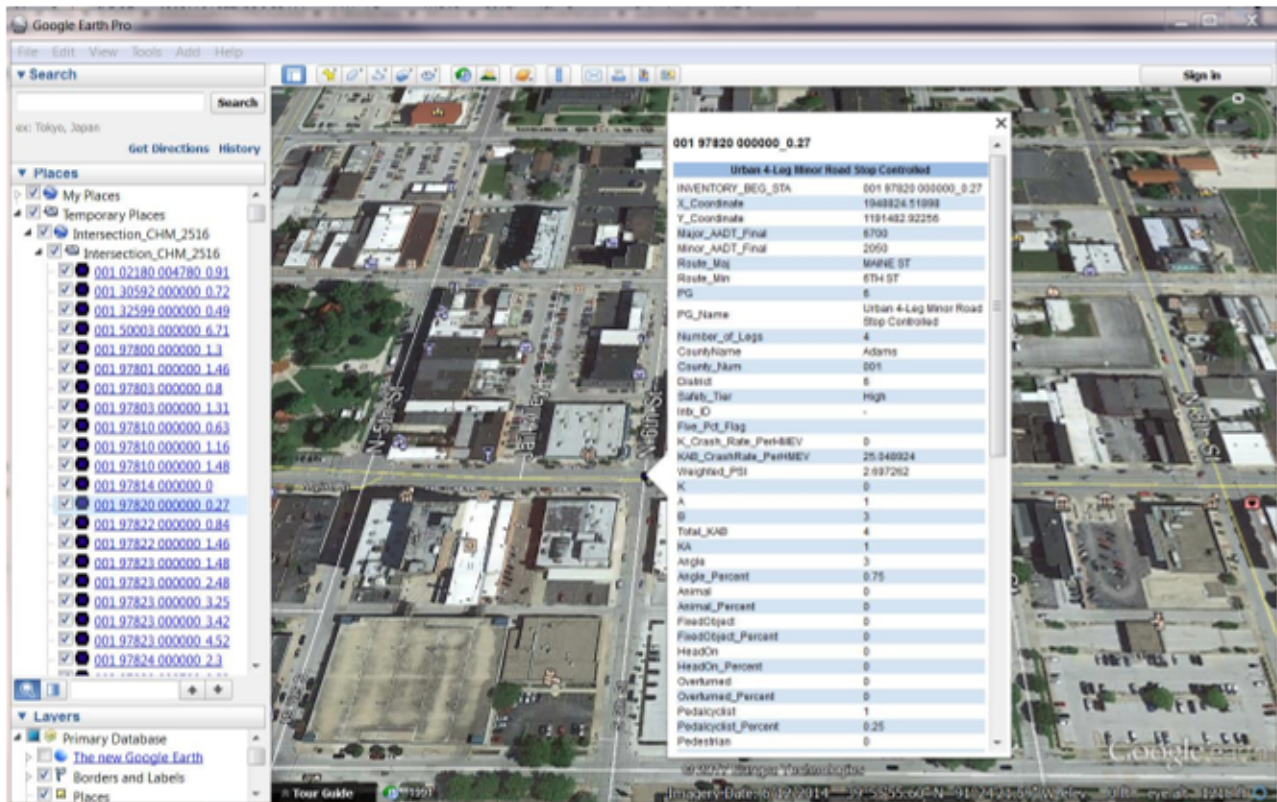


Figure 2-5. Screenshot of the Safety Tier Analysis Results for Local Intersections in KMZ File

### 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.

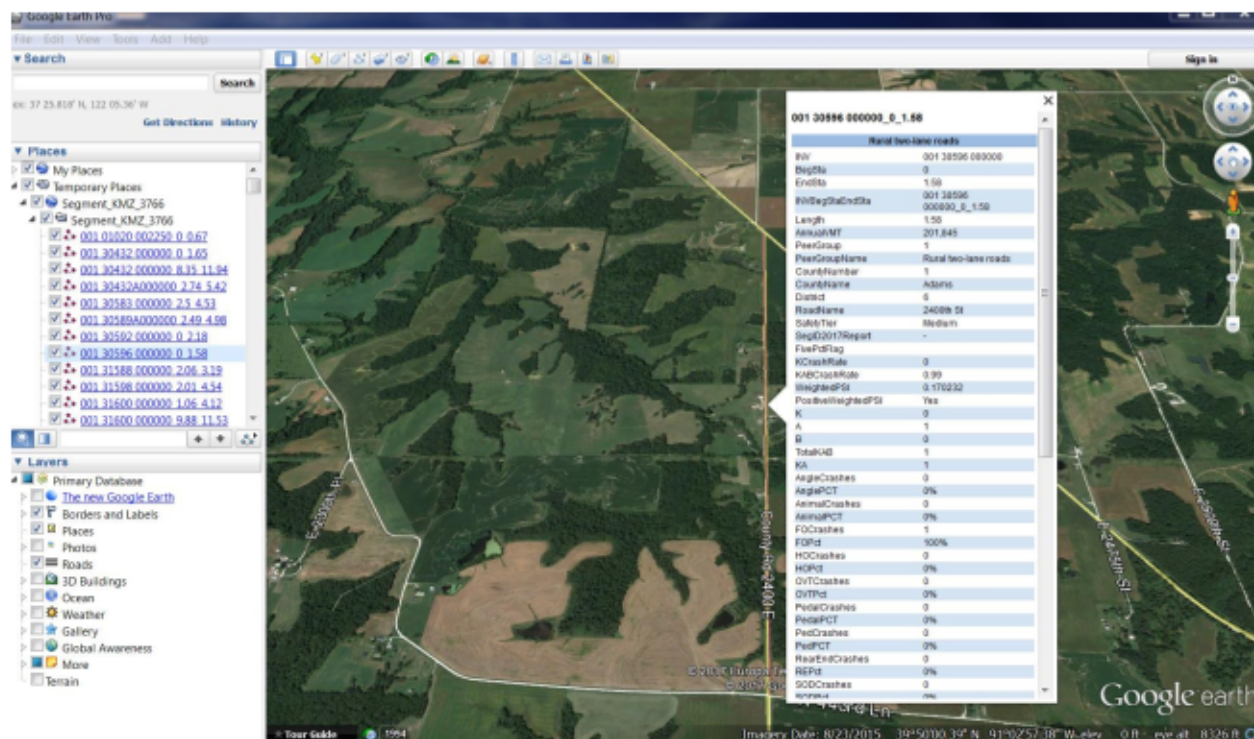


Figure 2-6. Screenshot of the Safety Tier Analysis Results for Local Segments in KMZ File

## 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.

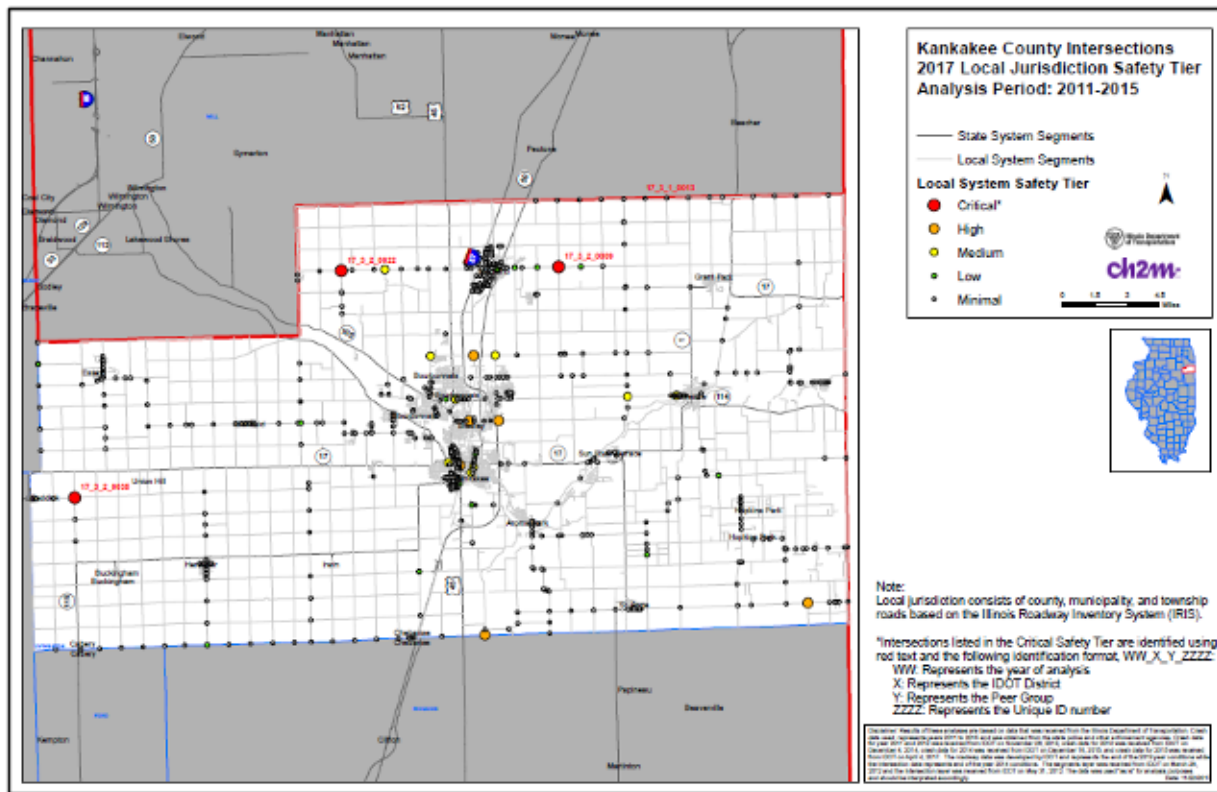


Figure 2-7. Screenshot of the Safety Tier Analysis Results for Local Intersections in PDF Map

### 2.4.2 Segments

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

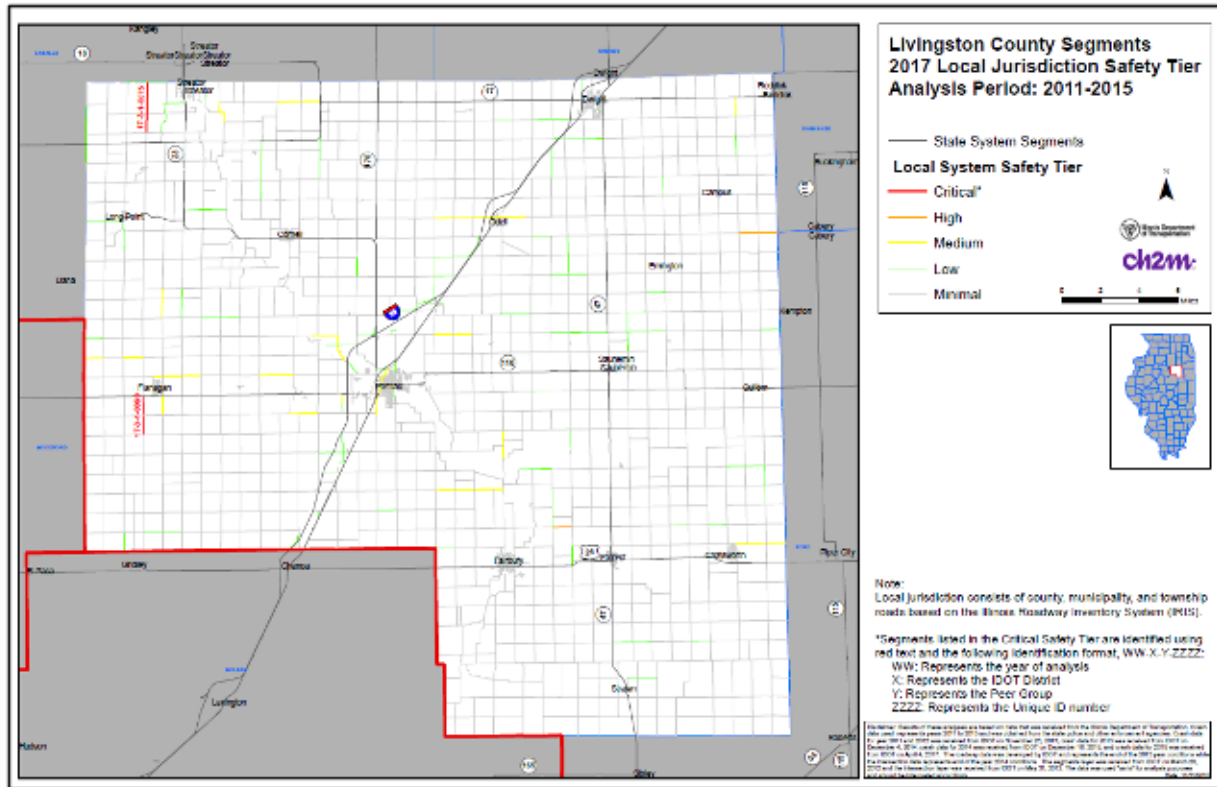


Figure 2-8. Screenshot of the Safety Tier Analysis Results for Local Segments in PDF Map

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.

# EXAMPLE APPLICATION

## **FY 2023 Highway Safety Improvement Program Grant Application**

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**McLean County, IL**

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**HSIP Roadway Segment Improvements  
Danvers-Yuton Road (C.H. 18 / 1700N Road)**



## **Table of Contents**

1. HSIP BSPE HS1 Application Form
2. Project Narrative
3. Project Maps
4. Project Photographs
5. Crash Data
6. Project Cost Estimate & Benefit-Cost Analysis
7. Project Schedule
8. Uniform Grant Application
9. Uniform Grant Budget Template
10. Programmatic Risk Assessment
11. Conflicts of Interest (BoBS 2831)

## Section 1

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# HSIP (FY 2023) BSPE HS1 Application Form



FY 2023

<b>ID:</b>	<b>Contract:</b>	<b>Award Date:</b>	<b>Completion Date:</b>
District: 5	County: McLean	City: Danvers to Yuton	
Key route: CH 18	Marked route: Danvers-Yuton Rd (1700N Road / CH 18 / FAS 471)		
Road Name: Danvers-Yuton Road (CH 18)	Intersecting Roadway: N/A		<input type="checkbox"/>
Length: 5.9 Miles	<input type="checkbox"/> N/A	Mile station:	to

Location Description: CH 18 from State Street in the Village of Danvers to the intersection with US Route 150 in Yuton

<input checked="" type="checkbox"/> Rural	<input type="checkbox"/> Urban	Lanes: 2
AADT(Segment): 2300	Total Entering AADT (Intersection):	Speed Limit: 55 mph
Friction Test Results:	<input checked="" type="checkbox"/> N/A	Lighting Present: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N

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

Peer Group: 1-Rural, two way street  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
2015	9	0	0	2	2	3	3	2	2	4	0	x
2016	10	0	0	1	1	1	1	0	0	8	0	x
2017	13	0	0	3	3	1	1	0	0	9	0	x
2018	9	0	0	2	4	2	2	1	1	0	5	x
2019	5	0	0	1	1	0	0	0	0	1	4	x
<b>Total</b>	<b>46</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>11</b>	<b>7</b>	<b>7</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>30</b>	<b>x</b>

Location Description: Crashes have occurred along this segment of CH 18, many sections with non-recoverable front slopes

Problem Description: Motorists lose control and leave the roadway after hitting loose gravel from the shoulder or due to distracted driving

Previous Safety Improvements: Broom pavement, add aggregate to shoulders. reshape and re-compact aggregate shoulders

Collision Diagram:  Y  N Images:  Y  N

Predominant Crash Types: Angle (28.7%), Fixed Object (17.4%), Rear End (13.0%), & Overturn (8.7%)

Proposed Improvement(s): Construct 4' hot-mix asphalt shoulders and install shoulder rumble strips

Estimated Project Cost (\$000's): \$3,200 Benefit-Cost Ratio: 2.2

Local Projects:

Annual Fatal Crash Rate (Fatal Crashes/100 Miles): 0 Annual A-Injury Crash Rate (A-Injury Crashes/100 Miles): N/A

Local Roads Rural Functional Class: Major Collector

Approved: Central HSIP Approval Date:

Signed: State Safety Engineer Funding:  HSIP  HRRR  RAIL

Comment:

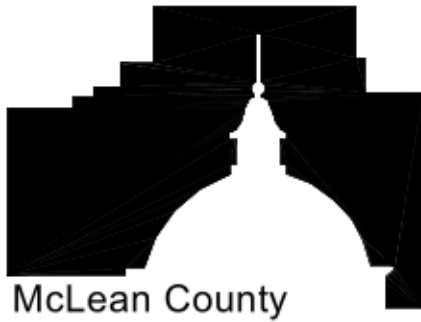
Distribution:  OPP  District  BSPE  LRS  BDE

## Section 2

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### Project Narrative

Danvers-Yuton (FAS 471/C.H. 18)  
McLean County



## HIGHWAY DEPARTMENT

102 S Towanda Barnes Rd  
Bloomington, IL 61705  
Office: (309) 663-9445  
FAX: (309) 662-8038

May 5<sup>th</sup>, 2021

Illinois Department of Transportation  
Division of Highways / Region 3 / District 5  
Mr. Kensil Garnett  
Attn: Mr. Brian Trygg  
13473 IL Highway 133  
P.O. Box 610  
Paris, IL 61944

RE: FY 2023 Comprehensive Highway Safety Plan  
McLean County  
C.H. 18 – Danvers-Yuton Road (FAS 471) from State Street in Danvers to US Route 150

Dear Mr. Trygg:

The roadway segment along County Highway 18 originates at the intersection with State Street on the east side of the Village of Danvers and terminates at the intersection with Rivian Motorway (US Route 150) within McLean County. The total length of this roadway segment is 5.9 miles and the proposed improvements are planned for both sides of this entire segment. From 2015 to 2019 there have been 42 total reported crashes along this roadway segment, including seven fixed object crashes and four crashes resulting in overturned vehicles. The injuries and crashes are classified as follows: Type A (9), Type B (7), Type C (1), and PDO (25). To reduce the number of roadway departures, this segment will be upgraded with 4-foot paved shoulders and shoulder rumble strips.

C.H. 18 is a major collector, with an ADT of 2,300, and consists of 24-foot-wide hot-mix asphalt pavement, 4-foot aggregate shoulders, and a range of recoverable front slopes and non-recoverable front slopes, as can be seen in the attached pictures. This section was last paved in 2001 and has since been crack sealed. Additional aggregate has been added to the shoulders over the past 20 years as routine maintenance on the County highway system. There are several locations along C.H. 18 in which a 4-foot paved shoulder is provided as a field entrance, an entrance to a rural homestead, or a mailbox turnout.

This project is a great candidate for the local Highway Safety Improvement Program to reduce roadway departure crashes, fixed object collisions, and potential turnover fatalities because it affects one of the highest Illinois Comprehensive Highway Safety Plan's areas of emphasis of 2) Driver behavior and awareness. A variety of factors, including distracted driving, alcohol, and weather were determined to be the cause of the reported accidents within this segment of Danvers-Yuton Road (C.H. 18). As distracted driving becomes more present on our roadways, it is our responsibility to positively modify driver behavior by making drivers more aware of potential hazards. The easternmost 1.4 miles of C.H. 18, between 975E Road and US Route 150, was classified as a "Critical Safety Tier" roadway segment from IDOT's 2017 Local Jurisdiction Safety Tier Analysis for McLean County.

In 2020, McLean County was selected to partner with the Federal Highway Administration (FHWA) to develop a Local Road Safety Plan. This section of road was also ranked in the top of the segment prioritization based on the risk factors of crash density and ADT.

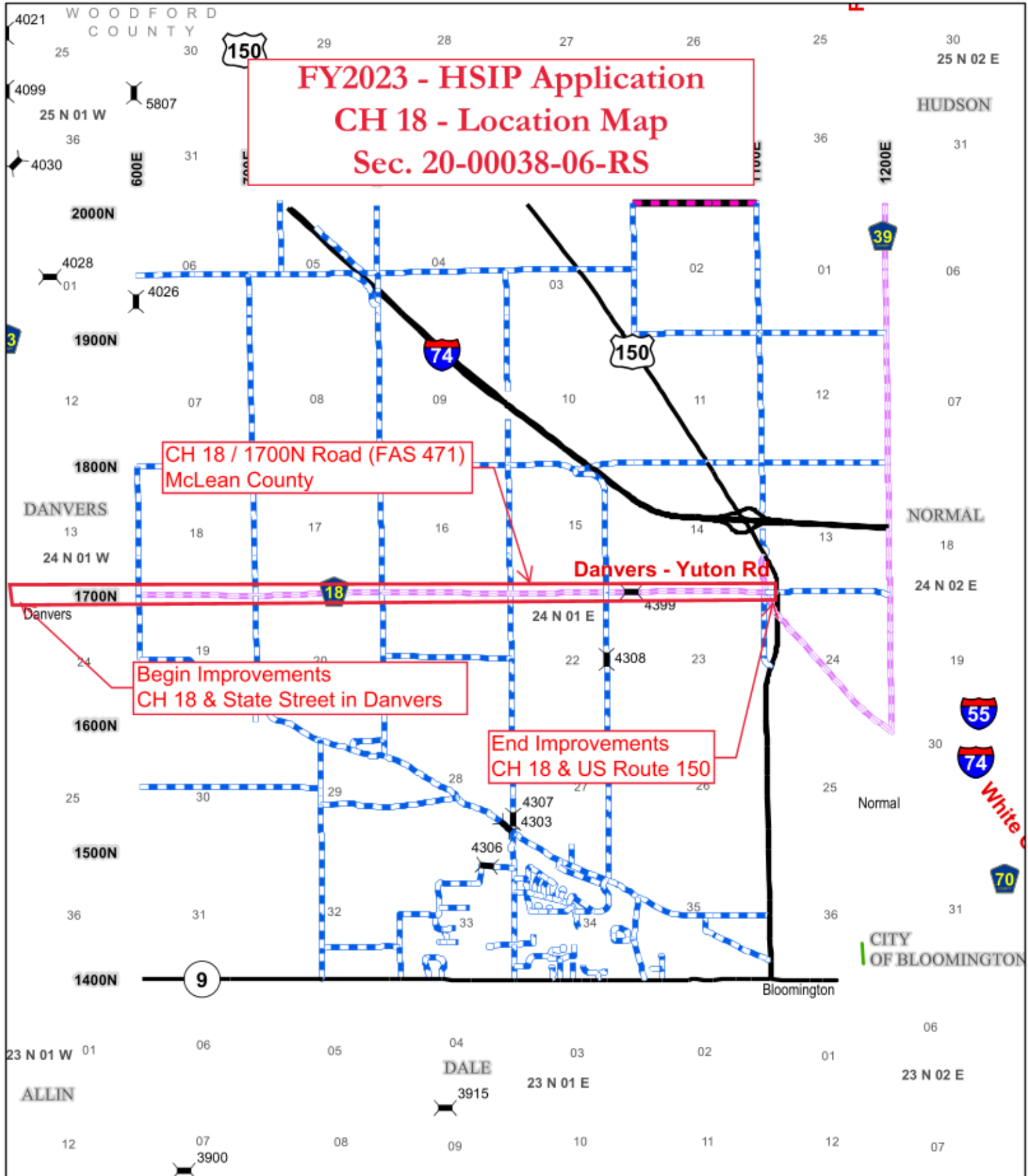


## Section 3

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### Project Maps

# FY2023 - HSIP Application CH 18 - Location Map Sec. 20-00038-06-RS



**Surface Type - Maintained By**

	Hotmix - Township
	Oil & Chip - Township
	Gravel - Township
	Dirt - Township
	Hotmix - McLean County
	Oil & Chip - McLean County

**Other Streets**

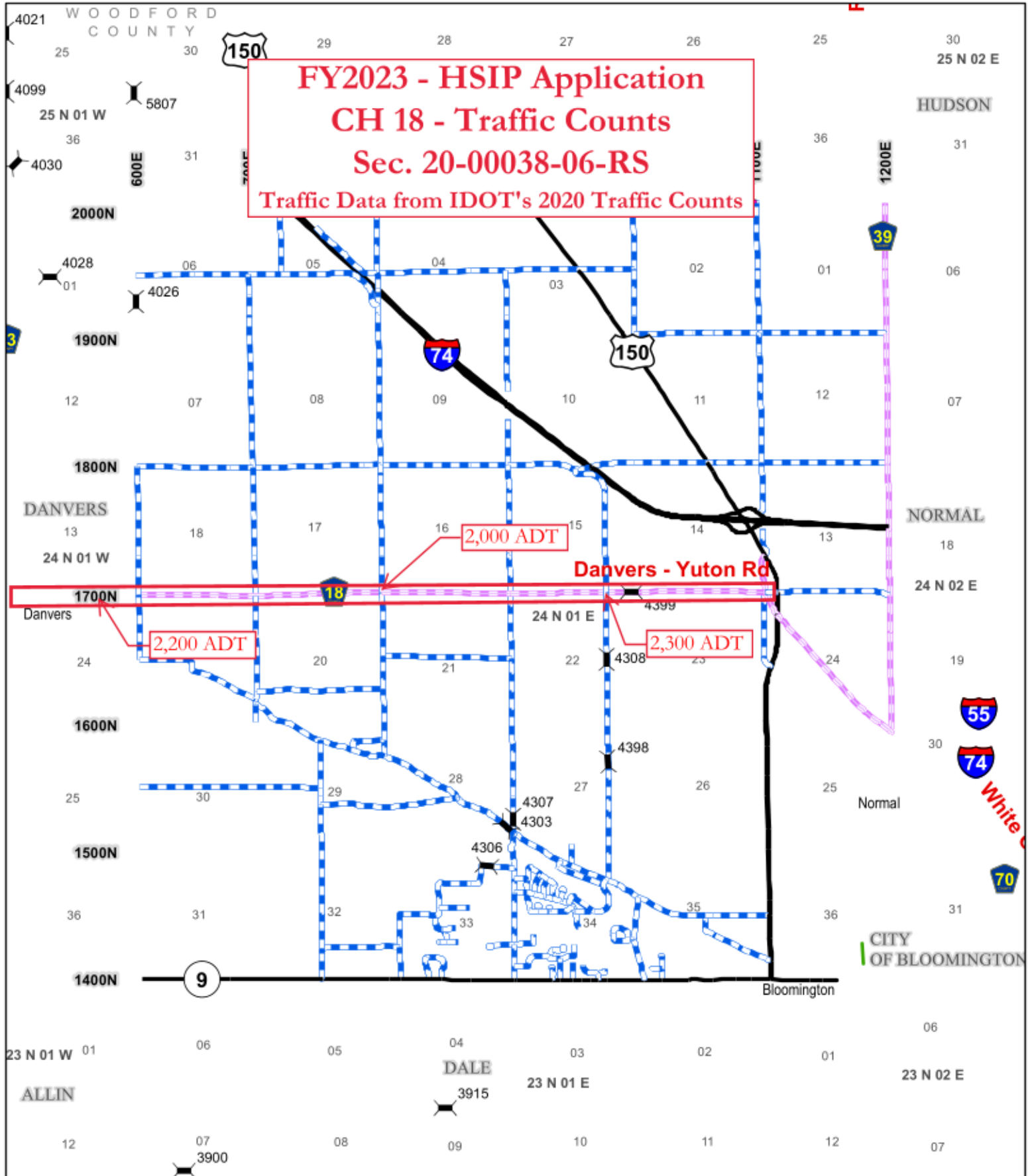
	City of Bloomington
	Town of Normal
	Other Town or Village
	Surrounding Township
	Surrounding County
	State Highways
	Private

	Bridges
	Lakes
	Streams
	Corporate Limits
	Sections
	Neighboring Townships
	Neighboring Counties

## COUNTY HIGHWAY 18 McLean County, Illinois

1 inch = 1 mile



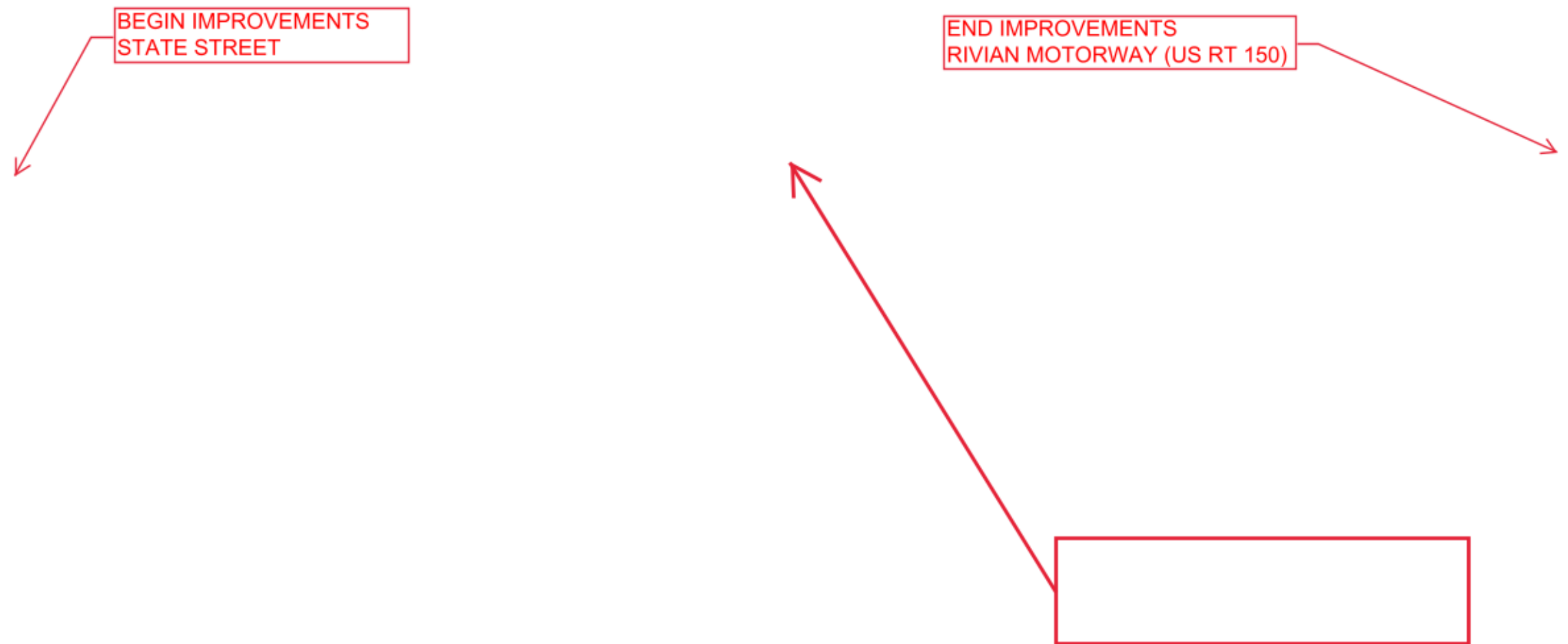


Surface Type - Maintained By	Other Streets	Other Features
Hotmix - Township	City of Bloomington	Bridges
Oil & Chip - Township	Town of Normal	Lakes
Gravel - Township	Other Town or Village	Streams
Dirt - Township	Surrounding Township	Corporate Limits
Hotmix - McLean County	Surrounding County	Sections
Oil & Chip - McLean County	State Highways	Neighboring Townships
	Private	Neighboring Counties

**COUNTY HIGHWAY 18**  
**McLean County, Illinois**

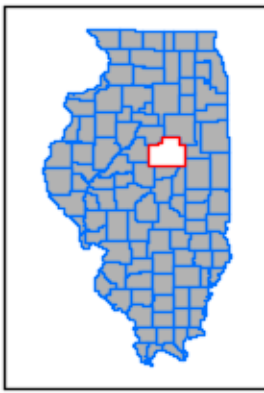
1 inch = 1 mile

# IDOT'S Run Off Road Pilot Analysis



IDOT ROR Dashboard - Accident Locations  
FY 2023 - HSIP Application  
C.H. 18 (FAS 471)  
Sec. 20-00038-06-RS

Disclaimer: Results of these analyses are based on data that was received from the Illinois Department of Transportation. Crash data used represents years 2011 to 2015 and was obtained from the state police and other enforcement agencies. Crash data for year 2011 and 2012 was received from IDOT on November 26, 2013, crash data for 2013 was received from IDOT on December 4, 2014, crash data for 2014 was received from IDOT on December 16, 2015, and crash data for 2015 was received from IDOT on April 4, 2017. The roadway data was developed by IDOT and represents the end of the 2013 year conditions while the intersection data represents end of the year 2014 conditions. The segments layer was received from IDOT on March 28, 2012 and the intersection layer was received from IDOT on May 31, 2012. The data was used "as is" for analysis purposes and should be interpreted accordingly. Date: 11/21/2017

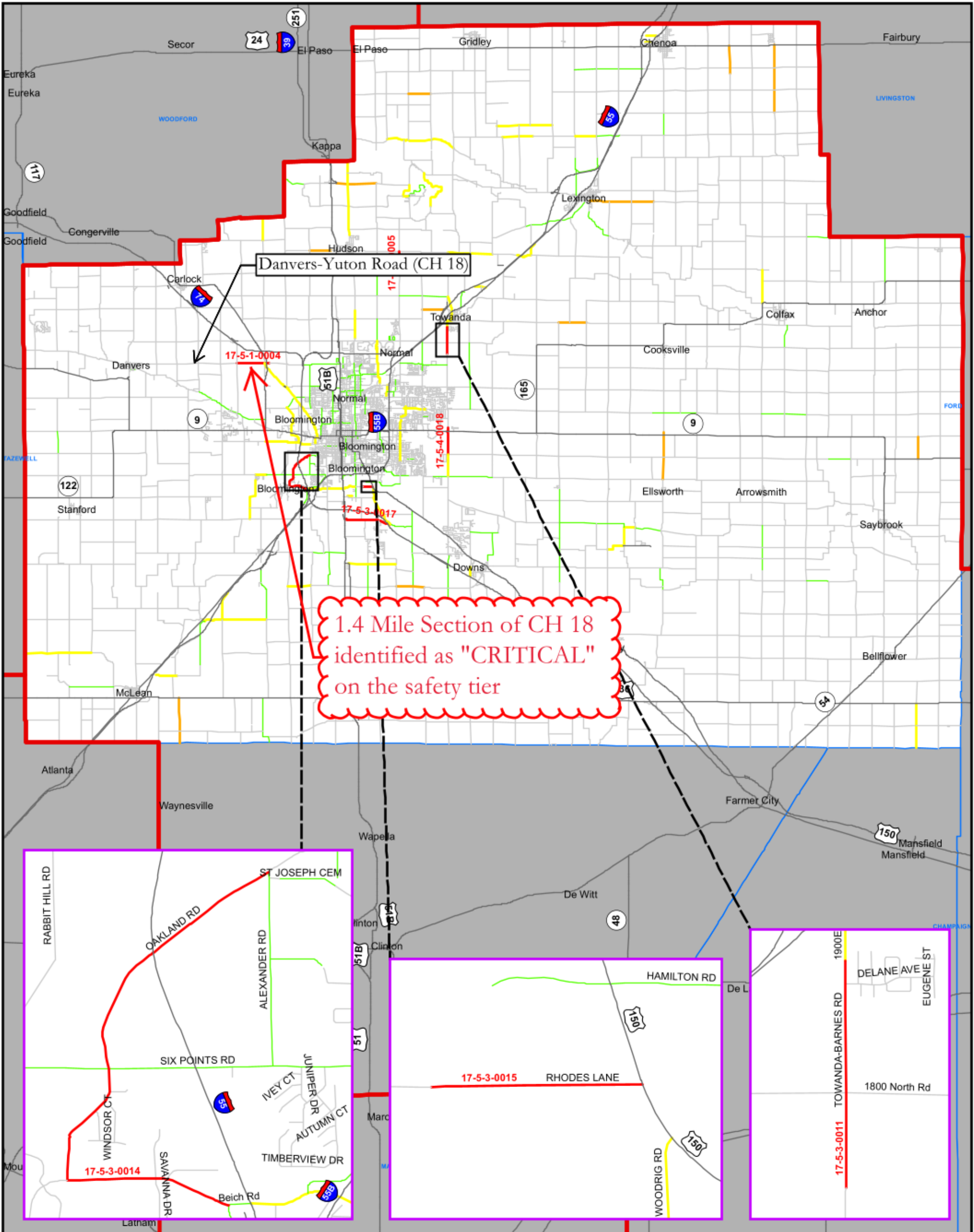
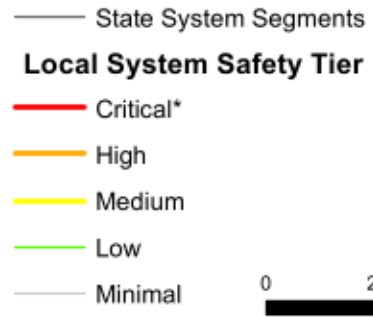


## McLean County Segments 2017 Local Jurisdiction Safety Tier Analysis Period: 2011-2015

**Note:**  
Local jurisdiction consists of county, municipality, and township roads based on the Illinois Roadway Inventory System (IRIS).

\*Segments listed in the Critical Safety Tier are identified using red text and the following identification format, WW-X-Y-ZZZZ:

- WW: Represents the year of analysis
- X: Represents the IDOT District
- Y: Represents the Peer Group
- ZZZZ: Represents the Unique ID number



1.4 Mile Section of CH 18  
identified as "CRITICAL"  
on the safety tier

## Section 4

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### Project Photographs

**C.H. 18 | Danvers-Yuton Road: FY 2023 HSIP Application**

C.H. 18 at the 600E Rd intersection, Looking East

C.H. 18 at the 600E Rd intersection, Looking West

C.H. 18 | Danvers-Yuton Road: FY 2023 HSIP Application

C.H. 18, ½-mile east of 600E Rd, Looking East

C.H. 18, ½-mile east of 600E Rd, Looking West

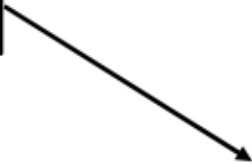
C.H. 18 | Danvers-Yuton Road: FY 2023 HSIP Application

Non-recoverable front slopes  
C.H. 18, ½-mile east of 800E Rd, EBL Looking West  
- PROPOSED GUARDRAIL LOCATION -

Non-recoverable front slopes  
C.H. 18, ½-mile east of 800E Rd, WBL Looking West  
- PROPOSED GUARDRAIL LOCATION -

C.H. 18 | Danvers-Yuton Road: FY 2023 HSIP Application

End Improvements  
Intersection with US Route 150



C.H. 18 at the White Oak Rd intersection, Looking East

C.H. 18 at the White Oak Rd intersection, Looking West



## Section 5

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### Crash Data

**Crash Data: Danvers-Yuton Road (C.H. 18)**  
**McLean County (Local, Rural)**  
**2015-2019**

Crashes & Injuries by Year (2015 - 2019)								
Year	Total	Fatal Crashes	Fatalities	A-Injury Crashes	A-Injuries	B-Injury Crashes	B-Injuries	Property Damage
2015	9*	0	0	2	2	3	3	3
2016	8	0	0	1	1	1	1	6
2017	12	0	0	3	3	1	1	8
2018	8	0	0	2	4	2	2	4
2019	5	0	0	1	1	0	0	4
Total =	42	0	0	9	11	7	7	25

\*One (1) C-Injury Crash occurred in 2015, not shown in table above

Raw Crash Data (2015 - 2019)											
Case ID	# Veh	Year	Month	Day	HOUR	K	A	B	C	O	Collision Type
U130303483	2	2015	1	25	16	0	0	1	0	0	ANGLE
201501314186	1	2015	2	27	13	0	1	0	0	0	FIXED OBJECT
U130303489	1	2015	5	11	14	0	0	0	0	1	FIXED OBJECT
201501329994	1	2015	6	11	10	0	0	1	0	0	OVERTURN
201501339059	2	2015	8	21	15	0	1	0	1	0	ANGLE
201501340266	2	2015	8	29	11	0	0	1	0	2	ANGLE
U140064104	2	2015	9	26	16	0	0	0	0	2	ANGLE
U140064134	2	2015	10	31	9	0	0	0	0	2	ANGLE
U140064135	3	2015	12	7	10	0	0	0	1	0	FRONT TO REAR
201601105950	2	2016	4	1	16	0	0	1	0	1	FIXED OBJECT
U140064378	3	2016	5	11	11	0	0	0	0	3	ANGLE
201601393866	1	2016	5	22	7	0	1	0	0	1	OVERTURN
U140064455	2	2016	5	22	17	0	0	0	0	2	ANGLE
U140064533	1	2016	7	19	8	0	0	0	0	1	OTHER OBJECT
U140565193	2	2016	9	12	4	0	0	0	0	1	TURNING
U140064563	2	2016	11	5	12	0	0	0	0	2	SS SAME DIR
U140565157	2	2016	12	24	16	0	0	0	0	2	TURNING
U140565251	2	2017	1	17	13	0	0	0	0	2	FRONT TO REAR
201701370223	1	2017	1	21	18	0	1	0	0	0	OTHER NONCOLL
U140565199	1	2017	5	14	21	0	0	0	0	1	ANIMAL
201701421885	1	2017	5	20	0	0	1	0	0	0	F.O. - ALCOHOL
U140565225	2	2017	6	13	7	0	0	0	0	2	ANGLE
U140565327	1	2017	8	18	7	0	0	0	0	1	FIXED OBJECT
201701455441	2	2017	8	22	8	0	1	0	0	3	ANGLE
U140565532	1	2017	9	23	5	0	0	0	0	1	F.O. - ALCOHOL
U140565204	2	2017	9	27	18	0	0	0	0	2	SS OPP DIRECTION
U140565385	2	2017	10	28	8	0	0	0	0	2	ANGLE
201701476075	1	2017	11	8	4	0	0	1	0	0	FIXED OBJECT
U140565266	1	2017	12	24	9	0	0	0	0	1	FIXED OBJECT
U140204295	1	2018	2	5	17	0	0	0	0	1	OTHER NONCOLL
U140565520	2	2018	5	22	16	0	0	0	0	2	FRONT TO REAR
201801443763	3	2018	5	27	12	0	3	0	0	0	FRONT TO REAR
U140204316	1	2018	6	30	9	0	0	0	0	1	OTHER OBJECT
201801454041	1	2018	7	10	1	0	1	1	0	0	OVERTURN
U150189427	2	2018	12	1	10	0	0	0	0	2	ANGLE
201801491205	2	2018	12	7	9	0	0	1	1	1	FRONT TO REAR
U190051882	1	2019	2	12	2	0	0	0	0	2	OVERTURN
U190052156	1	2019	4	1	9	0	0	0	0	1	OTHER OBJECT
U190052170	2	2019	5	6	19	0	1	0	0	0	ANGLE
U190575144	2	2019	10	18	15	0	0	0	0	2	FRONT TO REAR
U19057013	3	2019	11	2	16	0	0	0	0	3	ANGLE

Note: Crash report data compiled from IDOT's Run Off Road Pilot Analysis as well as McLean County's Crash Report database

**Crash Data: Danvers-Yuton Road (C.H. 18)**  
**McLean County (Local, Rural)**  
**2010-2019**

Crashes & Injuries by Year (2010 - 2019)								
Year	Total	Fatal Crashes	Fatalities	A-Injury Crashes	A-Injuries	B-Injury Crashes	B-Injuries	Property Damage
2010	4	0	0	1	1	2	4	1
2011	3	0	0	0	0	2	2	1
2012	4	0	0	0	0	1	1	3
2013	10	0	0	0	0	0	0	10
2014	3	1	1	0	0	1	1	1
2015	8	0	0	2	2	3	3	3
2016	8	0	0	1	1	1	1	6
2017	12	0	0	3	3	1	1	8
2018	8	0	0	2	4	2	2	4
2019	5	0	0	1	1	0	0	4
Total =	65	1	1	10	12	13	15	41

\*See previous page for Raw Crash Data (2015-2019)

Raw Crash Data (2010 - 2014)											
Case ID	# Veh	Year	Month	Day	HOUR	K	A	B	C	O	Collision Type
201001057522	1	2010	1	22	5	0	0	1	0	0	OVERTURN
5518127	1	2010	1	18	10	0	0	0	0	1	FIXED OBJECT
201001120670	2	2010	3	23	12	0	0	3	0	2	SS OPP DIRECTION
201001162897	2	2010	4	18	9	0	1	0	0	2	ANGLE
201101151752	1	2011	4	20	4	0	0	1	0	0	FIXED OBJECT
201101191674	2	2011	5	3	9	0	0	1	0	1	ANGLE
U100327993	2	2011	11	8	15	0	0	0	2	0	ANGLE
5772974	1	2012	4	9	7	0	0	0	0	1	FIXED OBJECT
201201392318	2	2012	10	28	18	0	0	1	0	2	ANGLE
U100327170	2	2012	12	19	17	0	0	0	0	2	PARKED VEHICLE
5518019	1	2012	12	30		0	0	0	0	1	ANGLE
5772797	1	2013	1	15	11	0	0	0	0	1	FIXED OBJECT
U110306411	2	2013	1	22	7	0	0	0	0	2	ANGLE
U110140390	2	2013	2	9	16	0	0	0	0	2	FRONT TO REAR
U110306426	1	2013	2	10	11	0	0	0	0	1	OTHER NONCOLL
U110306405	2	2013	2	12	16	0	0	0	0	2	ANGLE
U130194133	2	2013	3	20	15	0	0	0	0	2	FRONT TO REAR
U130194564	2	2013	6	29	13	0	0	0	0	2	ANGLE
U130194314	1	2013	7	24	22	0	0	0	0	1	OVERTURN
U130194581	2	2013	9	4	7	0	0	0	0	2	ANGLE
U130194279	2	2013	10	1	10	0	0	0	0	1	TURNING
201400110868	1	2014	2	13	13	0	0	1	0	0	OVERTURN
201400063354	2	2014	5	23	14	1	0	0	0	1	TURNING
U13019421	2	2014	9	29		0	0	0	0	2	ANGLE

Note: Crash report data compiled from IDOT's Run Off Road Pilot Analysis as well as McLean County's Crash Report database

## Section 6

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# Project Cost Estimate and Benefit-Cost Analysis

# Contract Estimate of Cost



Local Public Agency <b>McLean County Highway Department</b>	County <b>McLean</b>	Section Number <b>20-00038-06-RS</b>
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Route(s)/Street-Road Name <b>County Highway 18 (Danvers-Yuton Rd / 1700N Rd)</b>	Project Length <b>5.9 Miles</b>
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Project Termini <b>State Street in Village of Danvers to Rivian Motorway (US Route 150)</b>
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Item Number	Item	Unit of Measure	Quantity	Unit Price	Total Estimated Cost	
20200500	EARTH EXCAVATION (WIDENING)	CU YD	4,550	\$45.00	\$204,750.00	-
35600650	HOT-MIX ASPHALT BASE COURSE WIDENING,4"	SQ YD	27,300	\$22.00	\$600,600.00	-
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	66,470	\$1.75	\$116,322.50	-
40600990	TEMPORARY RAMP	SQ YD	350	\$40.00	\$14,000.00	-
40602965	HMA BINDER COURSE, IL-9.5FG, N50	TON	4,825	\$95.00	\$458,375.00	-
40604050	HMA SURFACE COURSE, IL-9.5, MIX C, N50	TON	9,710	\$93.00	\$903,030.00	-
40800050	INCIDENTAL HMA SURFACING	TON	310	\$250.00	\$77,500.00	-
44000157	HMA SURFACE REMOVAL, 2"	SQ YD	85,160	\$1.75	\$149,030.00	-
44000500	COMB CURB & GUTTER REMOVAL	FOOT	1,590	\$20.00	\$31,800.00	-
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	140	\$50.00	\$7,000.00	-
60604400	COMB CONC CURB & GUTTER, TYPE B6.18	FOOT	1,820	\$50.00	\$91,000.00	-
63000001	SPBGR, TYPE A, 6 FOOT POSTS	FOOT	3,475	\$25.00	\$86,875.00	-
64200108	SHOULDER RUMBLE STRIPS, 8"	FOOT	58,950	\$3.25	\$191,587.50	-
67100100	MOBILIZATION	L SUM	1	\$30,000.00	\$30,000.00	-
78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	400	\$35.00	\$14,000.00	-
LR631929	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	28	\$2,000.00	\$56,000.00	-
X4401198	HMA SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	4,290	\$4.00	\$17,160.00	-
X7010216	TRAFFIC CONTROL AND PROTECTION (SPCL)	L SUM	1	\$45,000.00	\$45,000.00	-
Z0033700	LONGITUDINAL JOINT SEALANT	FOOT	31,440	\$2.40	\$75,456.00	-
	PCC SIDEWALK REM & REPLACE, 4"	SQ FT	500	\$50.00	\$25,000.00	-
<b>Add</b>	<b>Total Overall Estimated Cost:</b>				<b>\$3,194,486.00</b>	

Prepared By <b>Zach Wall, PE</b>	Date <b>05/05/21</b>
Verified By	Date

# Contract Estimate of Cost



## SHOULDER IMPROVEMENTS ONLY

Local Public Agency	County	Section Number
McLean County Highway Department	McLean	20-00038-06-RS

Route(s)/Street-Road Name	Project Length
County Highway 18 (Danvers-Yuton Rd / 1700N Rd)	5.9 Miles

Project Termini
State Street in Village of Danvers to Rivian Motorway (US Route 150)

Item Number	Item	Unit of Measure	Quantity	Unit Price	Total Estimated Cost	
20200500	EARTH EXCAVATION (WIDENING)	CU YD	4,550	\$45.00	\$204,750.00	-
35600650	HOT-MIX ASPHALT BASE COURSE WIDENING,4"	SQ YD	27,300	\$22.00	\$600,600.00	-
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	12,100	\$1.75	\$21,175.00	-
40602965	HMA BINDER COURSE, IL-9.5FG, N50	TON	1,126	\$95.00	\$106,970.00	-
40604050	HMA SURFACE COURSE, IL-9.5, MIX C, N50	TON	2,260	\$93.00	\$210,180.00	-
64200108	SHOULDER RUMBLE STRIPS, 8"	FOOT	58,950	\$3.25	\$191,587.50	-
Add				Total Overall Estimated Cost:	\$1,335,262.50	

Prepared By	Date
Zach Wall, PE	05/05/21

Verified By	Date



**PROJECT DESCRIPTION - PROJECT DATA INPUT (LOCAL SEGMENTS)**

<b>Project:</b>	County Highway 18 (Danvers-Yuton Road) Segment Improvement			<b>Prepared by:</b>	Zach Wall, PE
<b>District:</b>	5	<b>County:</b>	McLean	<b>City:</b>	Danvers to Yuton
<b>Key Route:</b>	FAS 471	<b>Marked Route:</b>	CH 18	<b>MilePost:</b>	N/A
<b>Location:</b>	Road segment CH 18, from State Street to US Route 150				
<b>Crash data:</b>	10	Years			
	From	2010	to	2019	
<b>Peer Group:</b>	Peer Group 4 - Rural AADT 1,001-2,500 / two lanes				

**Messages**

Please provide a detailed cost estimation for all countermeasures along with this summary sheet.  
The combined effect of multiple countermeasures is limited to 0.60 or the smallest CMF

**LOCAL SEGMENTS 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	Overtuned	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		4		2			1		2				1						0	0	0	10
B-Injury Crashes		4		3					3				1			1			0	0	0	12
C-Injury Crashes		1											1						0	0	0	2
PDO Crashes		14	1	7			2	3	2			1	5		1	1	3		0	0	0	40

**LOCAL SEGMENTS 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 **
4.1.3.S1.1 - Pavement Treatments - Add or Widen Paved Shoulder	0.77	ROR, FO, HO, OVT, SOD, SSD		\$69,200	11.8	Miles	\$816,560	15	\$816,560	\$73,450
4.1.9.S1.1 - Pavement Treatments - Install Rumble Strips (Shoulder)	0.67	FO, OVT		\$2,700	11.8	Miles	\$31,860	8	\$55,140	\$5,000
		All								
		All								
<b>TOTAL BENEFIT</b>		<b>\$219,000</b>					<b>TOTAL COST</b>			<b>\$78,450</b>

**BENEFIT/ COST**      **2.80**

**ANNUAL NUMBER OF FATALITIES POTENTIALLY PREVENTED**      **0.00**

**TOTAL FATALITIES PREVENTED**      **0.00**

\* CMF = Crash Modification Factor  
\*\* EUAC = Estimated Uniform Annual Cost



**PROJECT DESCRIPTION - PROJECT DATA INPUT (LOCAL SEGMENTS)**

<b>Project:</b>	County Highway 18 (Danvers-Yuton Road) Segment Improvement			<b>Prepared by:</b>	Zach Wall, PE
<b>District:</b>	5	<b>County:</b>	McLean	<b>Date:</b>	4/28/2021
<b>Key Route:</b>	FAS 471	<b>Marked Route:</b>	CH 18	<b>City:</b>	Danvers to Yuton
<b>Location:</b>	Road segment CH 18, from State Street to US Route 150			<b>MilePost:</b>	N/A
<b>Crash data:</b>	10	Years		<b>Current AADT:</b>	2300
	From	2010	to	2019	
<b>Peer Group:</b>	Peer Group 4 - Rural AADT 1,001-2,500 / two lanes			<b>Length (miles):</b>	5.9
				<b>Begin Station:</b>	
				<b>End Station:</b>	
				<b>Traffic Growth factor:</b>	1.0%
				<b>Interest rate:</b>	4.0%

*Messages*

Please provide a detailed cost estimation for all countermeasures along with this summary sheet.  
The combined effect of multiple countermeasures is limited to 0.60 or the smallest CMF

**1 Overturn Fatality  
(Hypothetical)**

**LOCAL SEGMENTS CRASH SEVERITY DISTRIBUTION BY CRASH TYPE FOR ANALYSIS PERIOD**

<b>Crash Type</b>	<b>All Crashes (Aggregated crash input only)</b>	<b>CRASH TYPE</b>																	<b>SPECIAL CASE</b>		<b>Total</b>
		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	
<b>Crash Severity</b>	<b>ALL</b>	<b>AG</b>	<b>AN</b>	<b>FO</b>	<b>HO</b>	<b>LT</b>	<b>OtherNC</b>	<b>OtherO</b>	<b>OVT</b>	<b>PD</b>	<b>PDC</b>	<b>PKV</b>	<b>RE</b>	<b>RT</b>	<b>SSD</b>	<b>SOD</b>	<b>T</b>	<b>TR</b>	<b>NGT</b>	<b>WP</b>	<b>TOT</b>
Fatal Crashes									1										0	0	2
A-Injury Crashes	4			2			1		2				1						0	0	10
B-Injury Crashes	4			3					3				1			1			0	0	12
C-Injury Crashes	1												1						0	0	2
PDO Crashes	14	1		7			2	3	2			1	5		1	1	3		0	0	40

**LOCAL SEGMENTS BENEFIT COST ANALYSIS**

<b>BENEFIT CALCULATIONS</b>				<b>COUNTERMEASURE COST CALCULATIONS</b>						
<b>COUNTERMEASURE</b>	<b>CMF *</b>	<b>Crash Type affected by this improvement</b>		<b>Unit Cost</b>	<b>Quantity</b>	<b>Units</b>	<b>Total Cost</b>	<b>Service Life</b>	<b>Present worth</b>	<b>EUAC **</b>
4.1.3.S1.1 - Pavement Treatments - Add or Widen Paved Shoulder	0.77	ROR, FO, HO, OVT, SOD, SSD		\$69,200	11.8	Miles	\$816,560	15	\$816,560	\$73,450
4.1.9.S1.1 - Pavement Treatments - Install Rumble Strips (Shoulder)	0.67	FO, OVT		\$2,700	11.8	Miles	\$31,860	8	\$55,140	\$5,000
		All								
		All								
<b>TOTAL BENEFIT</b>		<b>\$801,100</b>					<b>TOTAL COST</b>			<b>\$78,450</b>

<b>BENEFIT/ COST</b>	<b>10.20</b>
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<b>ANNUAL NUMBER OF FATALITIES POTENTIALLY PREVENTED</b>	<b>0.09</b>
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<b>TOTAL FATALITIES PREVENTED</b>	<b>0.45</b>
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\* CMF = Crash Modification Factor  
\*\* EUAC = Estimated Uniform Annual Cost

## Section 7

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### Project Schedule

**FY 2023 Comprehensive Highway Safety Plan**

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**McLean County: Sec. 20-00038-06-RS**

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**C.H. 18 - Danvers-Yuton Road (FAS 471)**

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**Project Limits: State Street in Danvers to US Route 150**

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<b>Proposed Project Timeline</b>	
Phase 1:	2021
Phase 2:	2022
Prop. Letting:	January, 2023
Phase 3:	2023

FY 2023 Comprehensive Highway Safety Plan  
Danvers-Yuton Rd (CH 18)  
McLean County

Project Schedule

		Start Date	Completion Date
1.	Notice to Proceed	09/01/2021	09/01/2021
2.	Phase I & II	08/02/2021	07/29/2022
3.	Letting	01/16/2023	01/16/2023
4.	Construction	05/01/2023	11/03/2023