AGENDA
EAST-WEST GATEWAY COUNCIL OF GOVERNMENTS
EXECUTIVE ADVISORY COMMITTEE
TUESDAY, SEPTEMBER 18, 2018 – 2:00 PM

1. CALL TO ORDER

2. APPROVAL OF MINUTES OF AUGUST 21, 2018

3. DISCUSSION ITEMS

A. Where We Stand 7th Edition, Update 9: Traffic Safety - - Ross Friedman

B. 2018 Bicycle and Pedestrian Crash Analyses - - Anna Musial and Melissa Thiess

4. ACTION ITEMS

A. Consultant Selection for Bevo Great Streets Planning - - Paul Hubbman

B. Modification of the FY 2018-2021 Transportation Improvement Program (TIP), *Connected2045*, and the Related Air Quality Conformity Determination – Requested by the Missouri Department of Transportation - - Josh Schwenk

C. Regional Security Expenditures - - Nick Gragnani

5. OTHER BUSINESS

6. ADJOURNMENT

NEXT MEETING DATE: TUESDAY, OCTOBER 23, 2018

EAST-WEST GATEWAY
Council of Governments

Creating Solutions Across Jurisdictional Boundaries

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James M. Wild

Memo to: Board of Directors

From: Staff

Subject: Project Notifications

Date: September 12, 2018

Attached is the Project Notification list for August 12, 2018 – September 7, 2018. The compiled list is a result of the weekly list of projects from the Missouri State Clearinghouse for comments. The listing contains a summary table which includes grant applications, announcements, and public notices. If you have any questions regarding this attachment, please contact Carol Lawrence in the Community Planning department.

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Project Reviews for East-West Gateway Council of Governments
August 12, 2018 – September 7, 2018

JURISDICTION	APPLICANT	PROJECT DESCRIPTION	FEDERAL AGENCY	FEDERAL GRANT/LOAN	FUNDING: STATE, LOCAL/OTHER	TOTAL
St. Louis, MO	St. Louis Economic Development Partnership #1902038	Cluster Grants Launch Agrifood Tech Startup Competition in Partnership with Research Institutions, Universities, and The Helix Center@39 North to Increase Entrepreneurship and Commercialization in Agriculture	DOC	$180,000	Applicant: $181,500	$361,500
St. Louis, MO	The Curators of the University of Missouri on behalf of the University of Missouri-St. Louis #1902039	Cluster Grants Innovation Interchange of Greater St. Louis	DOC	$692,144	Applicant: $26,731 Other: $666,216	$1,385,091
City of St. Louis, MO	Technology Entrepreneur Center #1902040	Cluster Grants Supporting Geospatial Innovation and Entrepreneurship In St. Louis, MO	DOC	$705,500	Applicant: $262,500 Local: $273,000 Other: $170,000	$1,411,000
St. Louis, MO	St. Louis County #1902041	Edward Byrne Memorial Justice Assistance Grant Program Edward Byrne Memorial Justice Assistance Grant – Local Solicitation	DOJ	$117,948		$117,948

MINUTES

EAST-WEST GATEWAY COUNCIL OF GOVERNMENTS
EXECUTIVE ADVISORY COMMITTEE
AUGUST 21, 2018

Members Present
Tom Curran, St. Louis County, MO, *Chair*
Steve Ables, Municipal League of Metro St. Louis
David Courtway, Jefferson County, MO
Gary Elmestad, St. Charles County, MO
Norman Etling, St. Clair County, IL
Maurice Falls, City of St. Louis, MO
John Greifzu, St. Charles County, MO
Kevin Jemison, IDOT
Curtis Jones, IDOT
Jessica Mefford-Miller, Metro/Bi-State Development
Aaron Metzger, Monroe County, IL
Bill Schnell, MoDOT
Stephanie Leon-Streeter, St. Louis County, MO
Todd Waelterman, City of St. Louis, MO
Jonathan Zimmerman, Franklin County, MO

EWGCOG Staff:
Jim Wild, Staci Alvarez, Royce Bauer, Jerry Blair, Tamar Brown, Joyce Collins-Catling, Ross Friedman, Nick Gragnani, Larry Grither, Bonnie Harper, Paul Hubbman, Dan Hutti, Frank Johnson, Peter Koeppel, Jason Lange, Mary Grace Lewandowski, Marcie Meystrik, Maureen McCarthy, Christopher Michael, Anna Musial, Rachael Pawlak, Sonya Pointer, Roz Rodgers, Josh Schwenk, Himmer Soberanis, Melissa Theiss, Jennifer Vuitel, Michael Wohlstadter

CALL TO ORDER

The Executive Advisory Committee was called to order by Tom Curran, Chair.

APPROVAL OF MINUTES OF JUNE 19, 2018 MEETING

Motion was made by Mr. Etling, seconded by Mr. Falls, to approve the minutes of the June 19, 2018 meeting. Motion carried, all voting aye.

DISCUSSION ITEMS

HomeGrown STL
Dr. Sean Joe, Brown School-Washington University/Homegrown STL, thanked EWGCOG for the opportunity to introduce the Committee to the Homegrown STL Initiative highlighting the focus of the program. He noted the goal of the Initiative is to increase the upward mobility of 100% of the 60,000 black boys and young men, ages 12-29, in St. Louis City and County by

2039. He also noted that Washington University has the opportunity as a university-based regional intermediary with faculty, resources, and staff to provide a process to meet the Initative's goal. He discussed the presentation pointing out the pilot's purpose identifying 6 zip codes in the St. Louis Promise Zone, the essential pilot elements, the plan, the opportunity for transformation, the pilot stages, the expected outcomes, and the regional ripple effects from this unique opportunity.

Draft FY 2019-2022 Transportation Improvement Program and Regional Air Quality Conformity Determination

Jason Lange, EWGCOG, presented the draft Transportation Improvement Program (TIP) document noting that each year the Board of Directors adopts a TIP that allocates federal funds to transportation projects. He pointed out that the program comprises the first four years of projects and strategies in the regional long-range transportation plan. He also noted that the document contains summaries of the total program, IDOT and MoDOT programs, Transit programs, and local projects. The document also identifies major projects, is fiscally constrained, and undergoes an air quality conformity analysis. Mr. Lange also identified open house dates/locations for public participation.

Following staff's presentation, Mr. Elmestad, St. Charles County, made a motion to include a project on I-70 from Route 94 to Route 370 in St. Charles County, utilizing $16 million in fiscal year 2022 of the draft TIP, prior to the document being issued to the public for comment. Mr. Elmestad provided background information about the project, the intent of the project, and the rationale for including the project in the draft TIP.

After Mr. Elmestad's motion and explanation, the Chairman asked Mr. Schnell, MoDOT, to give an update on the I-270 project and the I-70 project. Mr. Schnell provided an update and indicated that MoDOT was not opposed to the I-70 project; however, there was a timing issue in that the project is currently undergoing scoping to determine a final project scope and cost. The Chairman also asked EWGCOG's Executive Director, Jim Wild, to provide background information about the precedent for adding a project to a draft TIP. Mr. Wild provided the background information; namely, there is no exact precedent but there have been similar situations in the past.

The EAC engaged in discussion about the request to add the project to the draft TIP. During the discussion several key questions arose and issues were presented. Following the discussion, an update from MoDOT, and background from the Executive Director, the Chairman referred back to the motion and asked for a second. The motion was seconded by Mr. Greifzu. The Chairman called the question. Mr. Elmestad immediately interjected to point out that he had heard no objections. The Chairman asked if there were any objections and, before any were raised, Ms. Mefford-Miller asked that the motion be restated. The Chairman did not announce the results of the vote, rather Mr. Elmestad restated his motion. Following the restatement of the motion, the EAC engaged in a significant discussion about the project introduced by Mr. Elmestad.

Mr. Courtway, Jefferson County, made a point of order and asked if a motion about a discussion item was even permitted since the item was not listed as an action item and if the agenda had to first be amended to move the item into action items. The Chairman indicated that he had allowed the request to add the project to be made because the TIP was in draft form. Mr. Elmestad provided further explanation about the timing and indicated that St. Charles County

wanted the project to be added to the draft TIP so that it could be reviewed by their constituents. Mr. Courtway's specific question was never answered and the EAC members continued their discussion of the proposed I-70 project.

After significant additional discussion, the Chairman indicated that he wanted to call the question and that there was a motion and a second. Mr. Courtway indicated that a question he had asked about funding for the St. Charles County project had not been answered. Mr. Elmestad and Mr. Greifzu provided more information about the funding for the project, how the $16 million was arrived at, and provided more information about why the request was being made.

Following Mr. Greifzu's explanation, the Chairman referred back to the motion and the second. The Chairman reiterated to the group that a voice vote was being taken. Before the question was called, Mr. Waelterman indicated that he had another question and was recognized by the Chairman. The question and following discussion was around the TIP approval process and St. Charles County's request to change the draft TIP.

The Chairman again indicated that he wanted to call the question and indicated that it would be a voice vote. The Chairman began asking for the yes votes, but was interrupted by Mr. Falls who inquired about the percentage needed to approve Mr. Elmestad's motion. The Chairman indicated that it was a simple majority. The Chairman called the question, restated the motion, and asked for the yes votes and then the no votes. After the no votes several members indicated their abstentions. The Chairman indicated that the motion failed.

Mr. Elmestad interjected with a question about taking a roll call vote. Mr. Falls interjected that if Mr. Elmestad wanted to do a roll call vote, then he should have made the motion before they voted. There were no further questions, Mr. Elmestad did not make a subsequent motion, and the Chairman and the Executive Director explained what would be the outcome of the vote. Specifically, that the Board of Directors can still decide to add the project to the draft TIP.

ACTION ITEMS

Implementation of Recommendations from the May 30, 2018 Board Summit
Jim Wild, EWGCOG, noted that as a result of substantive conversations resulting from the Board Summit focusing on four areas identified by the Board as strategic priorities for the region, a report has been developed to aid in the formation of working groups that will take action on each of those regional priorities. He briefly pointed out that the guidelines include: building on current initiatives, identify additional relevant initiatives, establish a coordinating structure, ensure that progress is measurable, consider previous regional initiatives, and don't seek to reinvent the wheel. He also mentioned that staff has developed a milestone based work plan for the purpose of developing a strategy, determining an approach, and implementing the initiative to be completed in three phases. He stated that staff is recommending endorsement of Phase I – Study Teams for each of the priority teams approach authorizing the Executive Director to commence this effort.

Motion approving the recommendation was made by Mr. Etling, seconded by Mr. Courtway. Motion carried, all voting aye.

Selection of the Locally Preferred Alternative for the Northside-Southside MetroLink Route

Julia Suprock, AECOM Corporation Consultant Team, provided an update to the 18 month study noting the study is now being completed. The study's technical analysis examined engineering, traffic and parking issues, identified station locations and evaluated development potential at those stations, forecasted ridership, and developed capital and operating cost estimates, as well as goals and opportunities for future expansions. She noted that the purpose of the study was to identify a modified Locally Preferred Alternative (LPA) that was financially feasible and could effectively compete for federal funds. As a result, a street-running MetroLink alignment extending from Natural Bridge/Grand on the north to Jefferson/Chippewa on the south was identified as the modified LPA. Staff is recommending the Committee adopt the modified LPA for the Northside-Southside MetroLink corridor.

Motion approving the recommendation was made by Mr. Waelterman, seconded by Mr. Falls. Motion carried, all voting aye.

Auditors' Report on Financial Statements for Calendar Year 2017

Royce Bauer, EWGCOG, noted that Kerber, Eck & Braeckel completed Council's annual audit for calendar year 2017. She pointed out that the audit was conducted in accordance with generally accepted auditing standards and government auditing standards issued by the Comptroller General of the United States. She acknowledged there were no material weaknesses or significant deficiencies identified in the audit, and an unqualified opinion was issued on the financial statements as of December 31, 2017. The auditors' report is available for review and staff recommends the board's acceptance of the auditors' report for the year ended December 31, 2017. Mr. Wild commended Royce and her staff for doing a tremendous job.

Motion approving the recommendation was made by Mr. Schnell, seconded by Mr. Courtway. Motion carried, all voting aye.

Amendment to FY 2019 Unified Planning Work program – Addition of work program element 2.12a – Illinois Great Streets Planning Initiative

Paul Hubbman, EWGCOG, gave a brief overview for the Illinois Statewide Planning and Research (SPR) funds EWGCOG received for a Great Streets project in Illinois highlighting the work to be conducted, as well as the expected total costs including local matches. He pointed out that in order to conduct the work, it will be necessary to add a work element to the Council's UPWP defining the project, estimated costs, activities and work products. The work is expected to extend into fiscal year 2020. Staff recommends that the FY 2019 UPWP be amended to include the work element and authorize the Executive Director to enter into a grant agreement with IDOT for the project.

Motion approving the recommendation was made by Mr. Jemison, seconded by Mr. Waelterman. Motion carried, all voting aye.

Amendment to FY 2019 Unified Planning Work program – element 2.13 – Great Streets Initiative

Paul Hubbman, EWGCOG, pointed out consistent with the Council's FY19 UPWP work element, the Council staff is seeking authorization to accept matching funds for planning assistance in the City of St. Louis Bevo community along Gravois Blvd. The consultant contract

amount will not exceed $500,000, which will include the local match portion of $100,000, to be provided by the City of St. Louis ($85,000) and the Bevo Community Improvement District (CID) ($15,000). Staff recommends that the Executive Director be authorized to accept local match from the Bevo CID and enter into a local match agreement with the City of St. Louis for an amount not to exceed $85,000 for the Bevo Area Great Streets planning project.

Motion approving the recommendation was made by Mr. Waelterman, seconded by Mr. Zimmerman. Motion carried, all voting aye.

Amendment to FY 2019 Unified Planning Work program – element 2.39 – Updating the All-Hazard Mitigation Plan for the Missouri Portion of the Region
Mary Grace Lewandowski, EWGCOG, noted that the All-Hazard Mitigation Plan for the St. Louis area is required to be updated in May 2020. The last update was completed in 2015 and is required updating every five years. She pointed out that staff is requesting the funding for the work element updating the Plan for the Missouri Portion of the Region in the FY19 UPWP be increased by $6,453.00. She also noted that staff anticipates the work to begin in October and be completed in May 2020. Staff recommends that the 2019 UPWP be amended to revise work element 2.39 updating the All-Hazard Mitigation Plan for the Missouri Portion of the Region. Staff further recommends that the Executive Director be authorized to enter into a funding agreement with SEMA to conduct the necessary work.

Motion approving the recommendation was made by Mr. Etling, seconded by Ms. Leon-Streeter. Motion carried, all voting aye.

Modification of the FY 2018-2021 Transportation Improvement Program (TIP), *Connected2045,* and the Related Air Quality Conformity Determination – Requested by Illinois and Missouri Sponsors
Josh Schwenk, EWGCOG, summarized staff's recommendation to revise the FY 2018-2021 TIP, *Connected2045*, and related Air Quality Conformity Determination requests from the Illinois Department of Transportation (IDOT), Madison County Transit District (MCTD), the Missouri Department of Transportation (MoDOT), and the City of Wentzville in all to add 14 new projects, modify five existing projects, add two scoping projects, and modify two existing scoping projects. Staff recommends the FY 2018-2021 TIP, *Connected2045*, and related Air Quality Conformity Determined be revised.

These projects are summarized below:

TIP #	Sponsor	Action	Description
6650F-19	IDOT	Add	Madison County – IL 203; Pontoon Rd to 21st St – ADA Improvements
6650G-19	IDOT	Add	Madison County – IL 3; 20th St to Niedringhaus Ave – ADA Improvements & traffic signal replacement
6886J-18	IDOT	Add	Madison County – I-55; 1.3 miles north of IL 140 to Macoupin County line –Crack and joint sealing
6886K-18	IDOT	Add	St. Clair County – IL 13; Over Kaskaskia River west of New Athens – Bridge painting
6886L-19	IDOT	Add	Madison County – I-255; Over Collinsville Rd – Bridge Painting
6667N-18	MCTD	Add	Madison County – East Gate Park & Ride; Lot acquisition Construction

TIP #	Sponsor	Action	Description
6852R-18	MoDOT	Add	Jefferson County – US 61-I-55 to St. Genevieve County line – Pavement repair & guardrail upgrades
6887B-19	MoDOT	Add	Jefferson County – MO 30 – Between Rivermont Trail & Local Hillsboro Road – Add J turn and acceleration lane
6887C-19	MoDOT	Add	Jefferson County – I-55 – MO A to US 67 – Add southbound Auxiliary lane
6887D-19	MoDOT	Add	Jefferson County – US 61 – 400 feet north of to 600 feet south of Bauman Drive – Add turn lane & ADA transition plan
6887Y-19	MoDOT	Add	St. Louis County – MO 109 – MO 100 to Cambury Lane – Add bicycle & pedestrian trail
6892C-18	MoDOT	Add	Jefferson County – US 61 – Over Joachim Creek between Scenic Drive & Joachim Road – Bridge replacement & slide repair
6892T-19	MoDOT	Add	St. Charles County – I-70 – 0.19 miles west of to 0.22 miles west of Mid Rivers Mall Drive – Add 12 inch pipe and drop inlet to Drain median
6100E-19	Wentzville	Add	St. Charles County – David Hoekel Parkway, Phase I (Grading) – 0.5 Miles west of Point Prairie Road – Grading for future interchange at I-70 and relocation of north outer road (MoDOT to pay Wentzville Up to $2.5 million for work at a later date)
5931-14	Metro	Modify	Multi-State – MetroLink Improvements – Track rehabilitation
5172A-14	Metro	Modify	St. Louis City – Tunnels and Bridges Rehab – Union Station, Downtown tunnels – Rehab tunnels and bridges
6438-15	Metro	Modify	Multi-County – Facility Rehabilitation
5596A-15	Metro	Modify	St. Louis City – Tunnels and Bridges Rehab – Union Station Tunnel – Rehab tunnels and bridges
6811L-18	MoDOT	Modify	St. Charles County – MO 94 – MO 370 to BNSF Railroad in Orchard Farm – Pavement resurfacing & adding shoulders
6892U-18	MoDOT	New Scoping	St. Louis County – MO 100 – Bremerton road to Black Creek – Pedestrian & streetscape Enhancements, pedestrian tunnel under MO 100 at Mary Drive
6892V-18	MoDOT	New Scoping	St. Louis County – MO 100 – US 61/67 to Kenmore Drive – Pedestrian & street enhancements
5905-13	MoDO T	Modify Scoping	St. Charles County – I-70 – Wentzville Parkway to MO Z – Relocate I-70
6788G-17	MoDOT	Modify Scoping	St. Louis County – MO D – I-170 to St. Louis City Limits – Pavement & ADA transition plan improvements

Motion approving the recommendation was made by Mr. Courtway, seconded by Mr. Falls. Motion carried, all voting aye.

Regional Security Expenditures

Nick Gragnani, EWGCOG, presented the request for the Board to approve the expenditure of funds to purchase Automatic License Plate Reader Service from Dell Power Edge Server, Law Enforcement Tactical Communication Headsets from ABM Supply, Sandbag Machine from Express Scale parts, Inc. and to allow the Executive Director to enter into contract with the University of Missouri Fire Rescue Training Institute to provide Urban Search and Rescue (US&R) Baseline Training for a total amount not to exceed **$156,570** from the CCTA and the UASI grant programs.

Motion approving the recommendation was made by Mr. Etling, seconded by Mr. Falls. Motion carried, all voting aye.

ADJOURNMENT

Motion to adjourn the meeting was made by Mr. Zimmerman, seconded by Ms. Mefford-Miller. Motion carried, all voting aye.

Respectfully submitted,

James M. Wild
Secretary, Board of Directors

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Executive Director
James M. Wild

Memo to: Board of Directors

From: Staff

Subject: Where We Stand 7th Edition, Update 9: Analysis of Fatal Crashes

Date: September 12, 2018

The seventh edition of *Where We Stand* (WWS), released in 2015, assesses the health and competitiveness of the St. Louis region by showing how St. Louis ranks among the 50 largest Metropolitan Statistical Areas (MSA) on more than 200 variables. Periodically, East-West Gateway releases shorter reports known as *Where We Stand Updates* to analyze specific issues in greater depth or to update the standing of St. Louis based on new data.

Staff will present on a new Where We Stand Update focusing on fatal crashes.

St. Louis is about at the national average with respect to fatal crashes per vehicle miles of travel. Most peer regions have lower traffic fatality rates. The most common cause of traffic fatalities in St. Louis is speed, or going too fast for conditions. Impairment from drugs or alcohol and inattention or distraction are also significant factors related to fatal crashes.

There is insufficient data with which to determine whether there is a trend in fatal crashes related to electronic devices. However, an analysis of all crashes, including non-fatal ones, suggests a recent upward trend in crashes involving electronic devices.

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EAST-WEST GATEWAY
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Creating Solutions Across Jurisdictional Boundaries

2018 Bicycle Crash Analysis

The work that provided the basis of this publication was supported, in part, by a grant provided from the U.S. Department of Transportation through the Missouri Department of Transportation and the Illinois Department of Transportation. The opinions, findings, and conclusions expressed in this publication are those of the author and not necessarily those of the Missouri Highways and Transportation Commission, the Illinois Department of Transportation, the Federal Highway Administration, or the Federal Transit Administration.

East-West Gateway Council of Governments (EWG) hereby gives public notice that it is the policy of the agency to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice, and related statutes and regulations in all programs and activities. Title VI requires that no person in the United States of America, on the grounds of race, color, or national origin, shall be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which EWG receives federal financial assistance. Any person who believes they have been aggrieved by an unlawful discriminatory practice under Title VI has a right to file a formal complaint with EWG. Any such complaint must be in writing and filed with EWG's Title VI Coordinator within one hundred eighty (180) calendar days following the date of the alleged discriminatory occurrence. For more information, or to obtain a Title VI Nondiscrimination Complaint Form, please see EWG's website at www.ewgateway.org/titlevi or call (314) 421-4220 or (618) 274-2750.

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The *2018 Bicycle Crash Analysis* was developed by East-West Gateway Council of Governments (EWG) in response to the persistent incidence of crashes involving bicyclists in the St. Louis region. Despite annual fluctuations, bicycle crashes and fatalities continue to increase at a rate that outpaces motor vehicle crash and fatality rates, which have been on a mostly downward trend for the last several decades. This is a trend seen nationally as well as locally. Nationwide, people bicycling and walking account for more than 16 percent of crash fatalities, but only 11 percent of all trips.[1] This disproportionate representation in fatal crashes in particular underscores bicycle safety as an issue that needs to be brought to the forefront in the region's transportation planning discussions and efforts.

St. Louis is a Bicycle/Pedestrian Safety Focus City, as designated by the Federal Highway Administration's (FHWA) Safety Office. A Bicycle/Pedestrian Safety Focus City is designated as such if it falls within the top 20 cities with the highest number of bicycle and pedestrian fatalities over a three-year average from 2011-2013. Since bicycle and pedestrian crash types are more common in urban areas, any state that contains a Focus City is by default a Focus State. Currently, both Missouri and Illinois are designated Bicycle/Pedestrian Safety Focus States.

In addition, transportation law at the national level is also addressing bicycle safety. The Fixing America's Surface Transportation (FAST) Act was signed into law in 2015 and guides how project planning and programming is conducted by state departments of transportation (DOTs) and metropolitan planning organizations (MPOs). The FAST Act continues the National Highway Performance Program (NHPP) established under the Moving Ahead for Progress in the 21st Century Act (MAP-21) which requires a performance-driven, outcome-based planning and programming process. A crucial element of the NHPP process is the establishment of performance measures and targets to achieve desired outcomes across the transportation system. Reducing the number of non-motorized fatalities and non-motorized serious injuries is one of five required safety performance measures. For 2018, EWG has established a target of reducing this number by 2 percent for the metropolitan planning area, equating to a combined total of no more than 205.3 non-motorized serious injuries and fatalities. This performance target is in line with current trends and funding availability, and takes into consideration the already established state (DOT) targets of 2 percent for Illinois, and 4 percent for Missouri.

Introduction

The purpose of the *2018 Bicycle Crash Analysis* is to examine the issue of bicycle safety through regional crash data by tracking existing and emerging trends, analyzing data spatially to identify problem areas, and providing established safety countermeasures and strategies on how to reduce crashes and plan for bicycle safety. This document, along with the corresponding *2018 Pedestrian Crash Analysis*, is intended to be an informational tool for our regional partners, local public agencies, and project sponsors to inform their decision-making and transportation planning processes, and ultimately, to improve the safety and mobility of people walking and bicycling.

1 http://www.pedbikeinfo.org/topics/completestreets.cfm

Data and Methodology

The EWG planning area is comprised of an eight-county region spanning Illinois and Missouri. It includes Madison, Monroe, and St. Clair counties in Illinois, and the city of St. Louis, St. Louis, St. Charles, Jefferson, and Franklin counties in Missouri. It is a diverse region, representing urban, suburban, and rural areas, and presents unique challenges to transportation planning.

EWG staff compiled and analyzed data for all reported crashes in the region involving a bicyclist over the five-year period from 2011 to 2015, with breakdown by county, crash severity, and a variety of other contributing factors and demographic indicators.

Crash data is derived from police reports, which have certain limitations. As a bi-state region, differences in reporting between Missouri and Illinois means that the data do not always align perfectly, resulting in slightly different figures for each state. To ensure accuracy, consistency, and fair comparison in this analysis, some data have been omitted, and will be noted as such.

Another limitation of the data is unreported crashes. Various sources, including the National Highway Traffic Safety Administration (NHTSA), estimate that close to half of all motor vehicle crashes are not reported to police.[2] Typically, unreported crashes are those that result in minor or insignificant property damage, not fatalities or serious injuries. Although this is a generic estimate for all types of motor vehicle crashes, it can be inferred that there are likely large numbers of minor, unreported crashes involving bicyclists as well.

Certain demographic data, such as race, are not included on crash reports, which limits socio-economic analysis. Historically, communities of color and low-income communities have struggled with disinvestment in transportation infrastructure, which is reflected in issues of access and safety. Environmental Justice was introduced as federal policy in 1994 as a means of addressing racial, ethnic, and socioeconomic equity, and is used in this analysis for the same purpose. As the term is used in this document, and as it is defined by EWG, environmental justice areas are those areas with a disproportionately high concentration of not only low-income and minority populations, but also zero-vehicle households, seniors, persons with disabilities, and those with limited English proficiency (LEP). Taking a closer look at these often underrepresented populations is helpful in examining issues of equity in the region, in regards to transportation safety and infrastructure.

In addition, results from EWG's 2017 Bicycling and Walking Survey have also been included to shed light on local perceptions of safety regarding bicycling. Relevant insights are highlighted where appropriate to illustrate how perceived safety also impacts bicycling behavior and individual transportation choices.

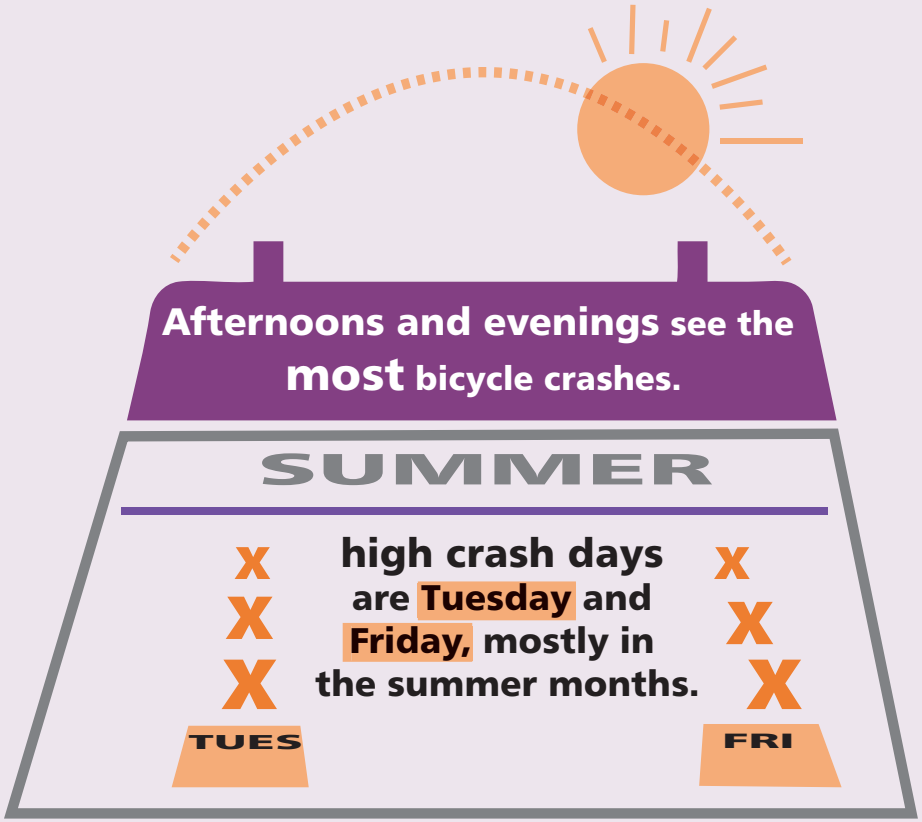
2 M. Davis & Co. (2015, July). *National telephone survey of reported and unreported motor vehicle crashes*. (Findings Report. Report No. DOT HS 812 183). Washington, DC: National Highway Traffic Safety Administration.

Key Findings

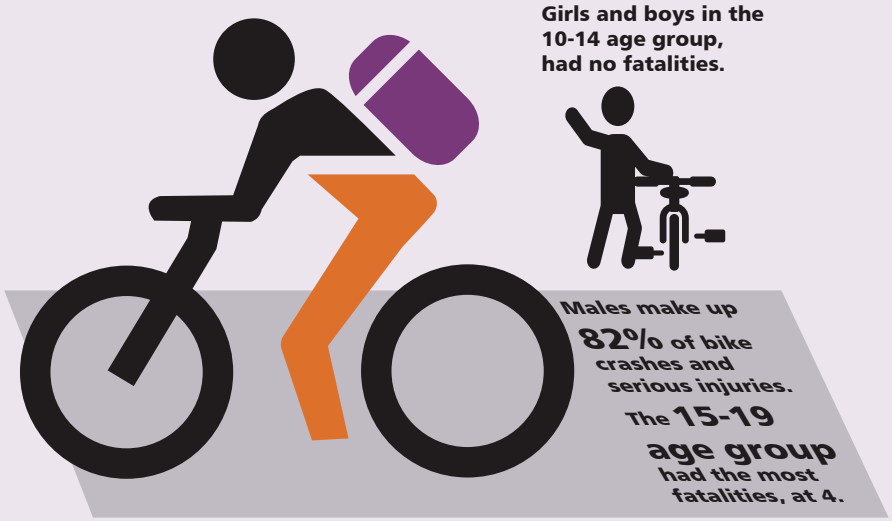
There was an average of 312 bicycle crashes per year for the five-year period from 2011-2015. Of the 1,561 total bicycle crashes, roughly 10 percent resulted in a serious injury, and 1 percent resulted in a fatality.

Bicycle crashes in the region are less dispersed than automobile crashes, and are primarily concentrated in the city of St. Louis and within the I-270 ring in St. Louis County, although there are significant numbers in the Florissant/ Hazelwood area, along I-70 in St. Charles County, and smaller pockets in Illinois as well.

Most bicycle crashes happen on a ...



In our region, 100% of bike fatalities were males.

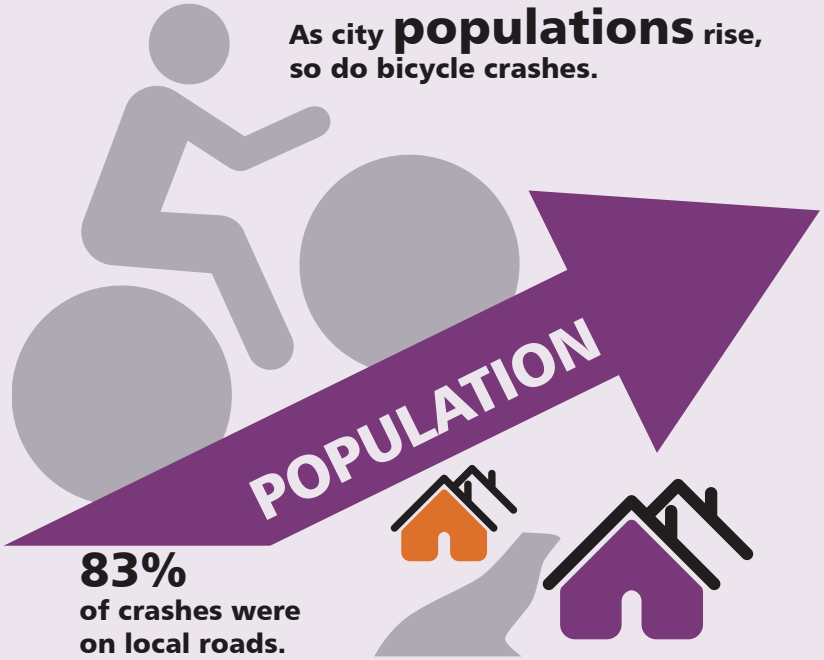


9 fatalities were in daytime

6 fatalities were in darkness

The St. Louis region has an annual average of **261** daylight bicycle crashes

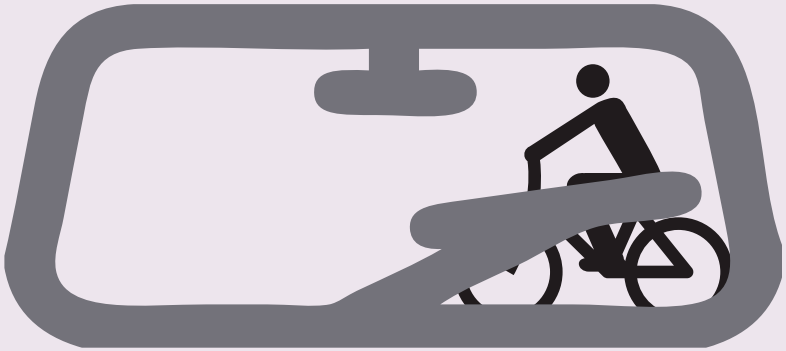
As city **populations** rise, so do bicycle crashes.



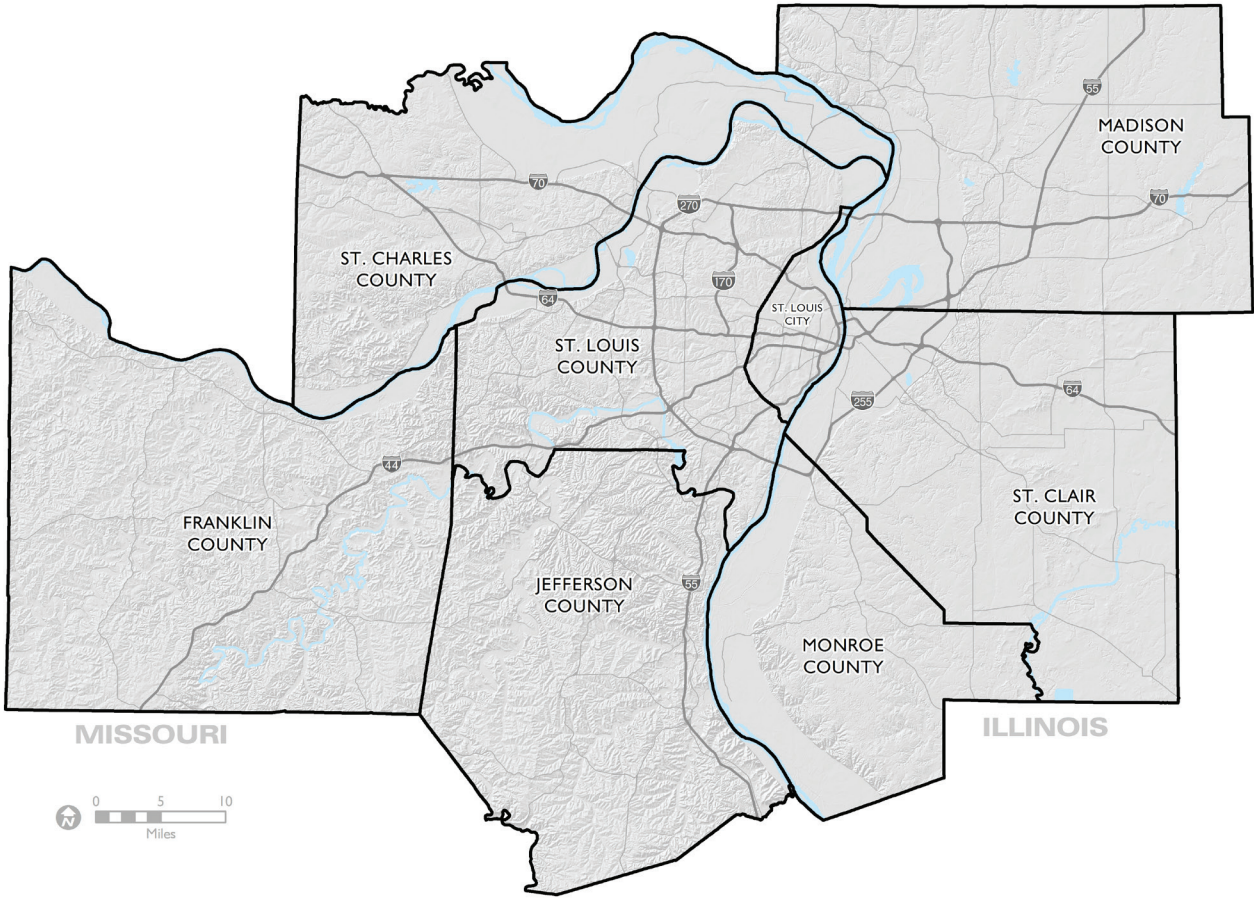
83% of crashes were on local roads.

The **top 2** known causes of bicycle crashes:

1) Failure to Yield.
2) Distracted or Inattentive Driving.



East-West Gateway Region



Bicycle Crash Trends

There was an average of 312 bicycle crashes per year for the five-year period from 2011-2015. Of the 1,561 total bicycle crashes, roughly 10 percent resulted in a serious injury, and 1 percent resulted in a fatality. These numbers fall squarely within state and national trends, which show fatality rates between 0.3 percent and 1.8 percent and serious injury rates between 8 percent and 15 percent. With total bicycle crashes per 100,000 residents hovering around 12 for the St. Louis area, the region is on par with Missouri (~10) and the United States as a whole (~15) but well below Illinois, which is an outlier at an average of approximately 25 crashes per 100,000 residents.

Table 1: Bicycle Crashes

Year	2011	2012	2013	2014	2015	Total	Average
Total	328	312	324	295	302	1,561	312

Figure 1: Bicycle Crashes

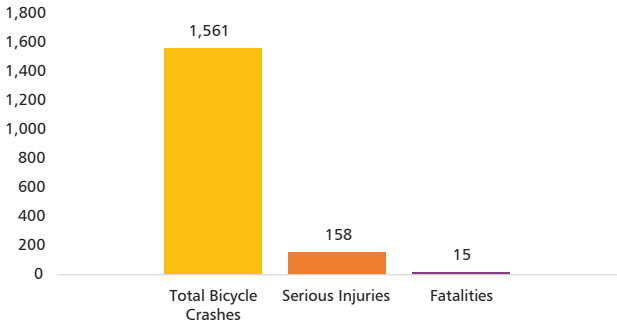


Figure 2: Bicycle Crashes Per 100,000 Residents

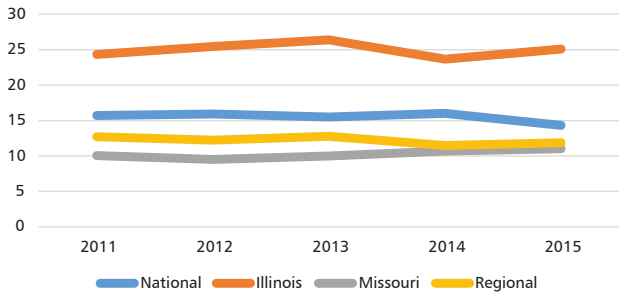


Figure 3: Fatalities as Percent of Total Bicycle Crashes

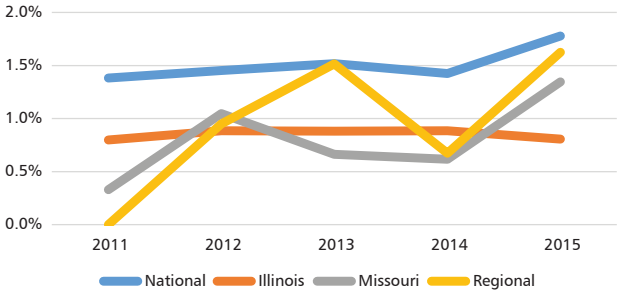
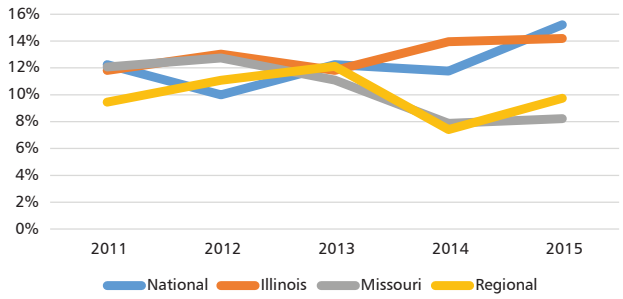
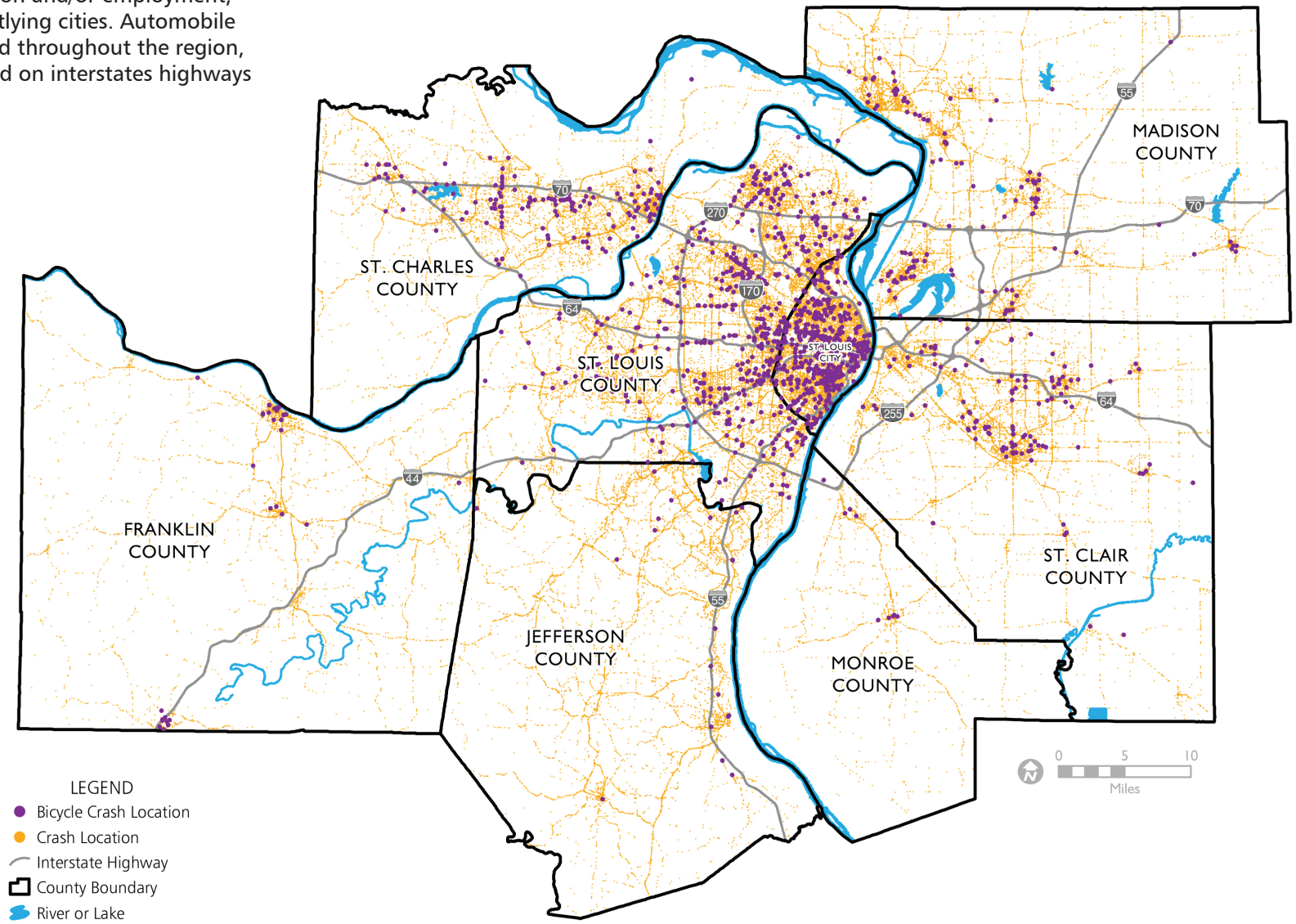


Figure 4: Serious Injuries as Percent of Total Bicycle Crashes



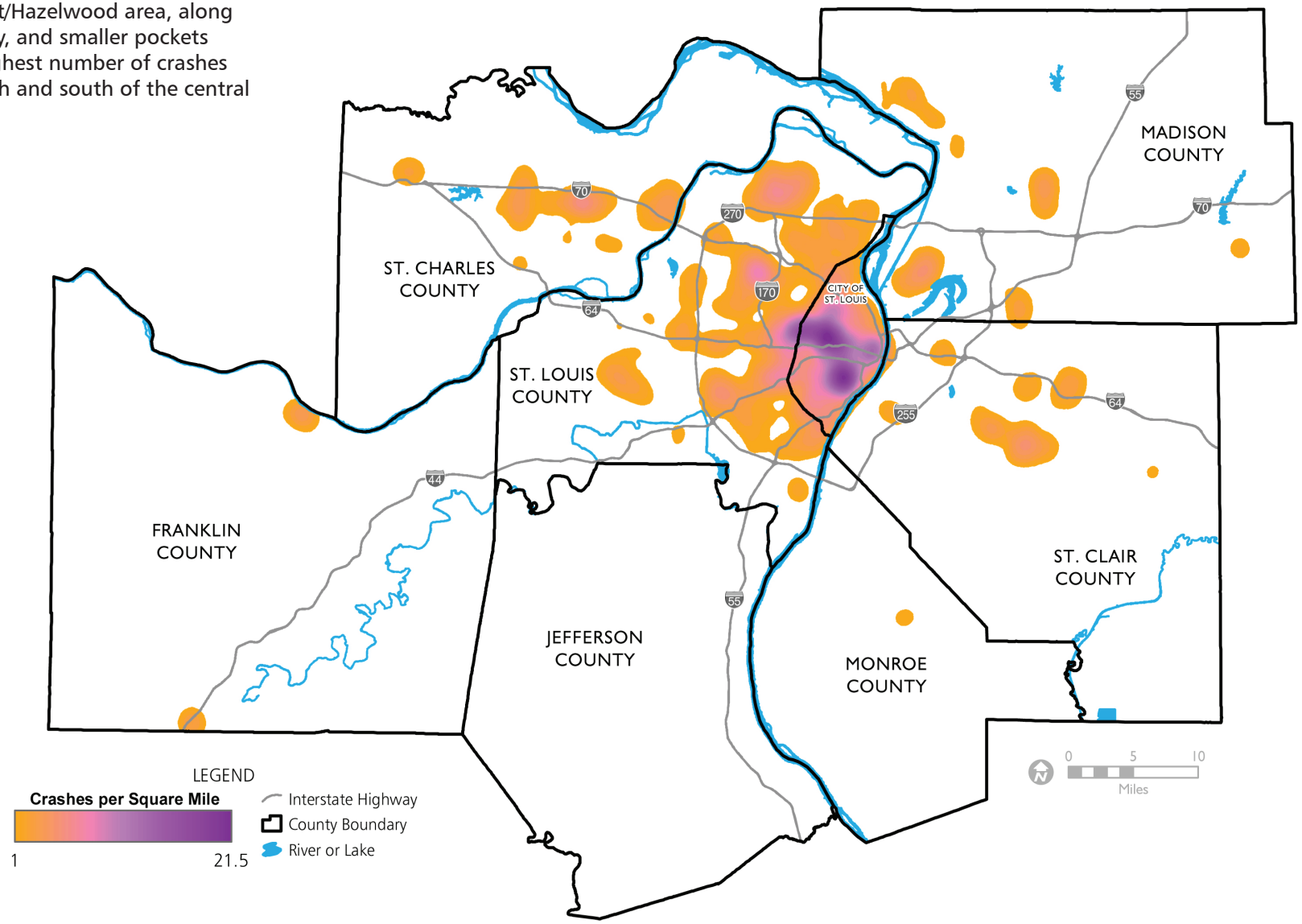
Bicycle Crash Locations

Bicycle crashes in the region are concentrated in the city of St. Louis and mid-St. Louis County, with clusters along major arterial roads, in areas with higher density of population and/or employment, and smaller pockets in outlying cities. Automobile crashes are more dispersed throughout the region, and are more concentrated on interstates highways and state routes.



Bicycle Crashes Per Square Mile

Bicycle crashes are primarily concentrated in the city of St. Louis and within the I-270 ring in St. Louis County, although there are significant numbers in the Florissant/Hazelwood area, along I-70 in St. Charles County, and smaller pockets in Illinois as well. The highest number of crashes occurred just to the north and south of the central corridor.



Crashes by Time of Day

Afternoon to early evening hours (1:00-6:59 p.m.) saw the most bicycle crashes, with 5:00-5:59 p.m. being the peak hour at 174 crashes. Evening rush hour times also experienced the most serious injuries, with 4:00 to 5:59 p.m. having the highest total number of serious injury crashes. Morning rush hour times did not have the spike in crashes that the evening peak had, with the total number of crashes and crashes involving a serious injury being roughly only a third of the evening hours.

Table 2:

Time	2011	2012	2013	2014	2015	Total	Average
12:00 to 12:59 a.m.	4	1	3	3	6	17	3
1:00 to 1:59 a.m.	1	6	3	2	3	15	3
2:00 to 2:59 a.m.	1	1	1	0	0	3	1
3:00 to 3:59 a.m.	0	1	1	0	0	2	0
4:00 to 4:59 a.m.	0	1	1	2	1	5	1
5:00 to 5:59 a.m.	0	2	2	2	1	7	1
6:00 to 6:59 a.m.	7	5	6	6	5	29	6
7:00 to 7:59 a.m.	12	18	10	12	14	66	13
8:00 to 8:59 a.m.	16	14	10	13	11	64	13
9:00 to 9:59 a.m.	11	10	9	10	5	45	9
10:00 to 10:59 a.m.	14	10	9	7	13	53	11
11:00 to 11:59 a.m.	17	19	18	16	16	86	17
12:00 to 12:59 p.m.	23	15	20	12	17	87	17
1:00 to 1:59 p.m.	21	16	28	17	22	104	21
2:00 to 2:59 p.m.	12	18	30	28	16	104	21
3:00 to 3:59 p.m.	34	33	34	34	24	159	32
4:00 to 4:59 p.m.	39	31	28	28	39	165	33
5:00 to 5:59 p.m.	28	39	36	33	38	174	35
6:00 to 6:59 p.m.	34	22	28	21	25	130	26
7:00 to 7:59 p.m.	16	18	18	23	17	92	18
8:00 to 8:59 p.m.	17	14	15	12	14	72	14
9:00 to 9:59 p.m.	9	12	13	8	11	53	11
10:00 to 10:59 p.m.	8	6	3	4	7	28	6
11:00 to 11:59 p.m.	5	4	4	4	3	20	4

Figure 5: Bicycle Crashes by Time of Day

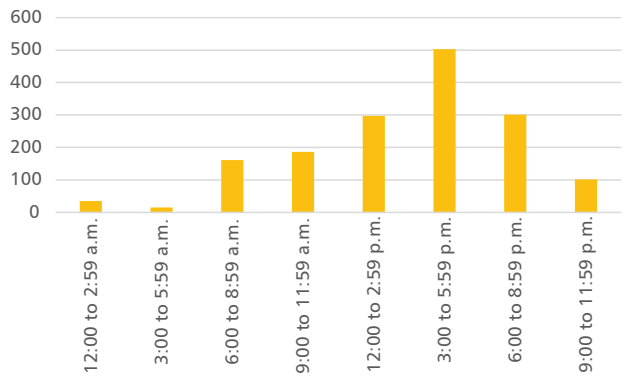
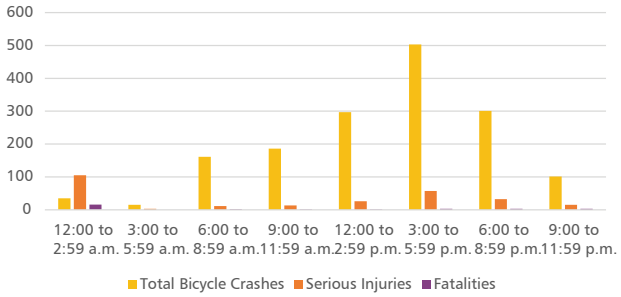


Table 3:

Time	Total Bicycle Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
12:00 to 12:59 a.m.	17	15	1	1
1:00 to 1:59 a.m.	15	14	1	0
2:00 to 2:59 a.m.	3	2	0	1
3:00 to 3:59 a.m.	2	1	1	0
4:00 to 4:59 a.m.	5	5	0	0
5:00 to 5:59 a.m.	8	6	2	0
6:00 to 6:59 a.m.	30	27	3	0
7:00 to 7:59 a.m.	66	59	6	1
8:00 to 8:59 a.m.	65	62	2	1
9:00 to 9:59 a.m.	45	40	5	0
10:00 to 10:59 a.m.	54	52	1	1
11:00 to 11:59 a.m.	87	80	7	0
12:00 to 12:59 p.m.	87	79	7	1
1:00 to 1:59 p.m.	105	96	9	0
2:00 to 2:59 p.m.	105	95	10	0
3:00 to 3:59 p.m.	161	144	15	2
4:00 to 4:59 p.m.	168	148	19	1
5:00 to 5:59 p.m.	174	151	23	0
6:00 to 6:59 p.m.	134	122	11	1
7:00 to 7:59 p.m.	94	82	11	1
8:00 to 8:59 p.m.	73	62	10	1
9:00 to 9:59 p.m.	53	48	4	1
10:00 to 10:59 p.m.	28	18	9	1
11:00 to 11:59 p.m.	20	17	2	1

Figure 6: Bicycle Crashes by Time of Day and Severity



Crashes by Day of the Week

Tuesdays and Fridays came out on top in terms of the number of bicycle crashes, with a total of 271 and 278 crashes respectively. Friday also had the highest occurrence of serious injuries and fatalities.

Table 4:

Day	2011	2012	2013	2014	2015	Total	Average
Sunday	40	29	37	38	35	179	36
Monday	34	38	42	51	38	203	41
Tuesday	56	63	64	40	48	271	54
Wednesday	49	55	44	36	47	231	46
Thursday	54	45	44	41	48	232	46
Friday	49	55	62	59	53	278	56
Saturday	54	32	41	37	41	205	41

Figure 7: Bicycle Crashes by Day of the Week

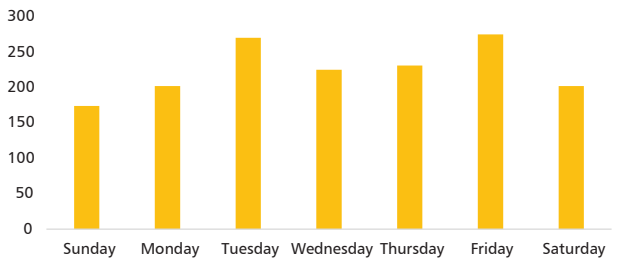
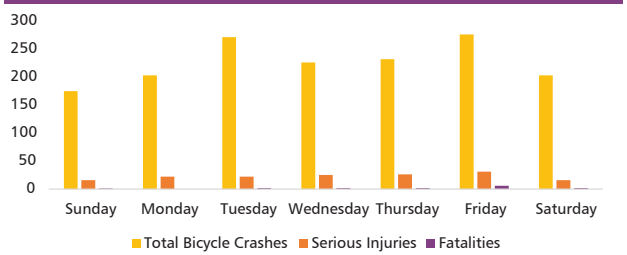


Figure 8: Bicycle Crashes by Day of the Week and Severity



When do you typically ride a bike?

Two-thirds of survey respondents reported bicycling on both weekends and weekdays. A smaller portion of bicyclists, nearly 22 percent, report riding only on the weekends. Respondents who never bike, or bike only on weekdays, came in at just under 6 percent each. This survey data seems to be at odds with the crash data showing higher crash rates during the week. Research has shown that as the number of bicyclists on the road increases, the number of bicycle crashes decreases.[3] It is possible that if more people in the region are bicycling on weekends, drivers are more aware of their presence, and crashes are less likely to occur.

3 University of New South Wales. (2008, September 7). A Virtuous Cycle: Safety In Numbers For Bicycle Riders. ScienceDaily. Retrieved January 11, 2018 from www.sciencedaily.com/releases/2008/09/080903112034.htm

Crashes by Month

The largest number of bicycle crashes between 2011 and 2015 occurred in May and August, with both months having over 200 crashes during the five-year period. Overall, winter months saw a dip in the total number of crashes, and summer months saw an increase. May had the highest number of serious injuries, at 23, and June had the highest number of fatalities, at three.

Figure 9: Bicycle Crashes by Day of the Month

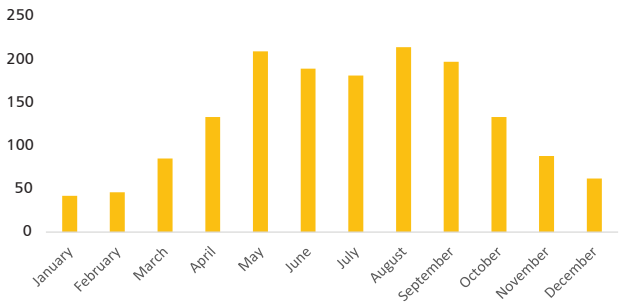


Figure 10: Bicycle Crashes by Day of the Month and Severity

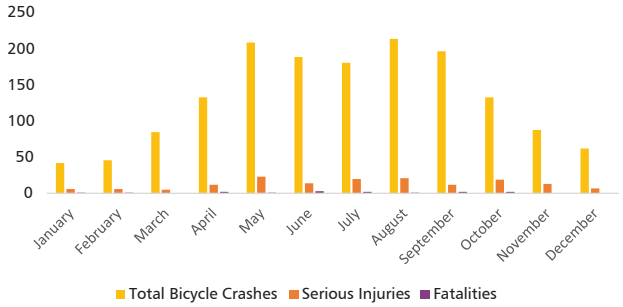


Table 5:

Month	2011	2012	2013	2014	2015	Total	Average
January	3	15	7	7	10	42	8
February	11	14	7	11	4	47	9
March	25	24	14	12	16	91	18
April	26	26	29	28	28	137	27
May	39	46	39	42	46	212	42
June	38	37	43	35	36	189	38
July	41	28	36	47	30	182	36
August	44	41	59	32	40	216	43
September	38	34	46	42	38	198	40
October	35	19	26	25	28	133	27
November	21	17	20	15	16	89	18
December	15	16	8	6	18	63	13

Table 6:

Month	Total Bicycle Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
January	42	35	6	1
February	47	40	6	1
March	91	85	6	0
April	137	123	12	2
May	212	188	23	1
June	189	172	14	3
July	182	160	20	2
August	216	194	21	1
September	198	184	12	2
October	133	112	19	2
November	89	76	13	0
December	63	56	7	0

Crashes by Weather Conditions

The majority of bicycle crashes occurred during clear, dry weather conditions. About 5 percent of crashes occurred in rainy weather, but very few crashes occurred during snow, sleet, or icy conditions. It's important to note that multiple weather conditions can apply to a single crash, increasing the total number of crashes in this category. For example, it can be cloudy with freezing temperatures. It is also expected that the St. Louis region experiences more days of clear, cloudy, or rainy weather each year than instances of snow, sleet, or hail.

What prevents you from bicycling more or at all?

According to survey results, bad weather ranked fifth in terms of what prevents people from bicycling, with 48 percent of respondents citing weather as a minor reason and 25 percent citing it as a major reason. Bad weather came in behind lack of on- and off-street facilities, bad driver behavior, and speed and number of cars, respectively.

Table 7:

Weather Conditions	2011	2012	2013	2014	2015	Total	Average
Clear	274	279	267	259	252	1,331	266
Cloudy	39	27	43	27	44	180	36
Rain	16	12	24	11	15	78	16
Snow	2	1	0	1	1	5	1
Sleet / Hail	0	0	1	0	0	1	0
Freezing (Temp)	0	0	2	1	1	4	1
Fog or Mist	0	0	1	0	0	1	0
All Other Categories	2	2	1	3	0	8	2

Figure 11: Bicycle Crashes by Weather Conditions

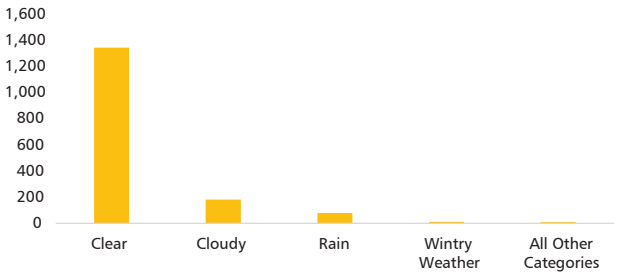
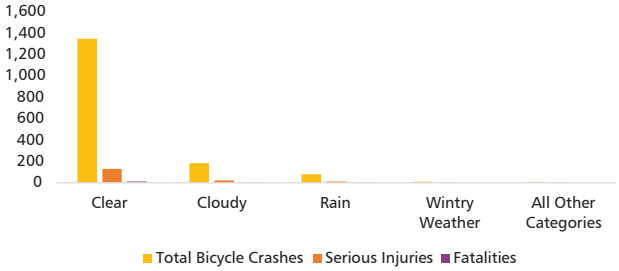


Table 8:

Weather Conditions	Total Bicycle Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Clear	1,331	1,190	128	13
Cloudy	180	156	22	2
Rain	78	65	12	1
Snow	5	3	2	0
Sleet / Hail	1	1	0	0
Freezing (Temp)	4	4	0	0
Fog or Mist	1	1	0	0
All Other Categories	8	7	1	0

Figure 12: Bicycle Crashes by Weather Conditions and Severity



Crashes by Pavement Conditions

Similar to trends in weather conditions, the vast majority of bicycle crashes (92 percent) and fatalities (87 percent) occurred on dry pavement conditions. Fewer crashes occurred during wet or wintry pavement conditions, likely due to fewer people bicycling at these times.

Figure 13: Bicycle Crashes by Pavement Conditions

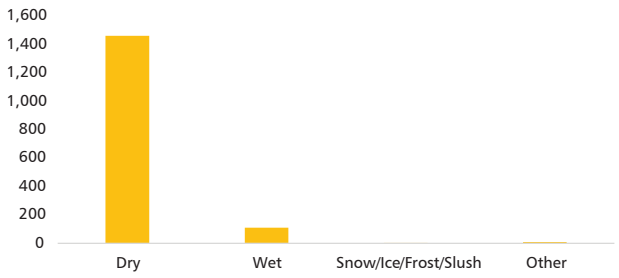


Table 9:

Pavement Conditions	2011	2012	2013	2014	2015	Total	Average
Dry	297	301	302	276	283	1,459	292
Wet	28	14	27	18	23	110	22
Snow/Ice/Frost/Slush	1	1	0	0	1	3	1
Other	4	0	1	3	1	9	2

Figure 14: Bicycle Crashes by Pavement Conditions and Severity

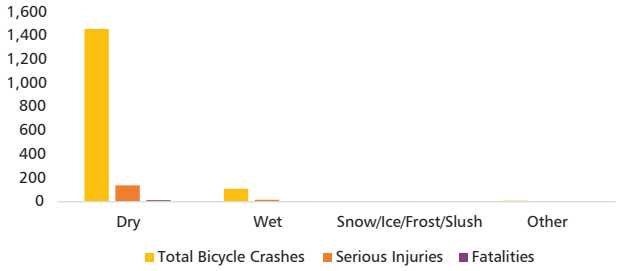


Table 10:

Pavement Conditions	Total Bicycle Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Dry	1,459	1,307	139	13
Wet	110	92	16	2
Snow/Ice/Frost/Slush	3	2	1	0
Other	9	7	2	0

Crashes by Lighting Conditions

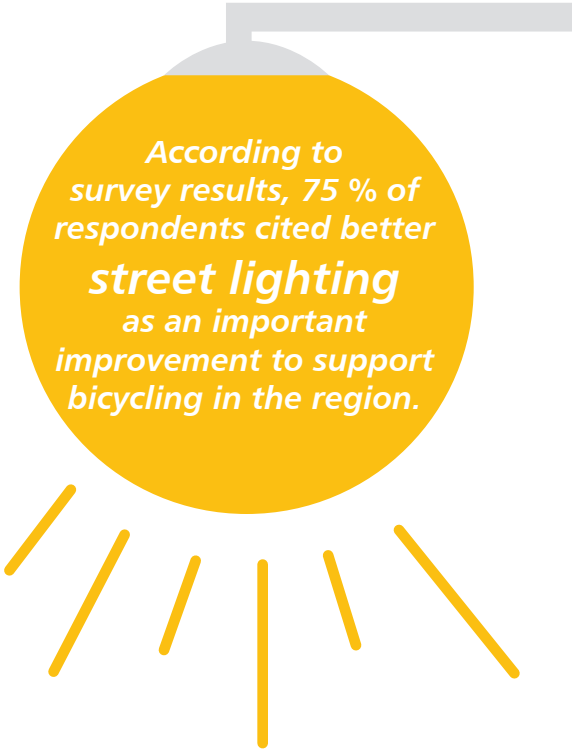
Of the 15 fatal bicycle crashes, nine occurred during daylight and six occurred in darkness on an unlighted road. Overall, most crashes occurred during daylight, with an annual average of 261. And although more crashes occurred after dark on lighted roads than unlighted roads, there were no fatalities during this time period on lighted roads after dark.

Table 11:

Lighting Conditions	2011	2012	2013	2014	2015	Total	Average
Daylight	271	253	280	255	244	1,303	261
Darkness / Lighted Road	56	45	42	38	50	231	46
Darkness	8	16	12	8	16	60	12
All Other	1	3	0	1	0	5	1

Table 12:

Lighting Conditions	Total Bicycle Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Daylight	1,303	1,175	119	9
Darkness / Lighted Road	231	205	26	0
Darkness	60	40	14	6
All Other	5	5	0	0



Location of Crash

The majority of crashes (83 percent) occurred on local roads,[4] as did the number of serious injuries and fatalities.

Overall, the number of bicyclist crashes increased as city population increased, demonstrating a correlation between crash frequency and population density. A similar pattern applied to fatal crashes, although with significantly fewer fatalities than total crashes, the number of fatalities plateaus, with all three of the largest city sizes (ranging from 10,000 to 100,000+) having three fatal bicycle crashes.

In general, survey respondents were less comfortable on roads with more lanes and higher speeds, but their comfort level increased when bike facilities were added.

4 Local roads are defined in crash report data as being owned/maintained by a city or county.

Crashes by Type of Roadway

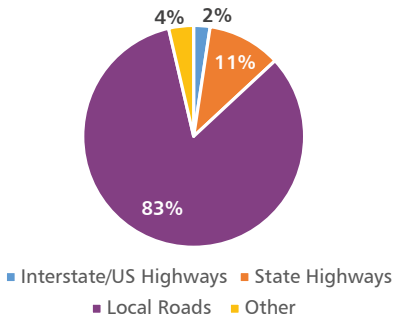
Table 13:

Type of Roadway	2011	2012	2013	2014	2015	Total	Average
Interstate/U.S. Highways	9	10	8	4	7	38	8
State Highways	39	31	40	29	32	171	34
Local Roads	281	266	273	258	254	1,332	266
Other	7	10	13	11	17	58	12

Table 14:

Type of Roadway	Total Bicycle Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Interstate/U.S. Highways	38	35	2	1
State Highways	171	146	21	4
Local Roads	1,332	1,192	130	10
Other	58	52	6	0

Figure 15: Bicycle Crashes by Type of Roadway



Crashes by City Size

Table 15:

City Size	2011	2012	2013	2014	2015	Total	Average
Unincorporated	36	32	32	33	37	170	34
Less than 5,000	16	13	12	13	19	73	15
5,000 to 9,999	29	27	32	32	23	143	29
10,000 to 24,999	65	44	66	40	51	266	53
25,000 to 99,999	76	86	86	70	72	390	78
100,000 or more	114	115	106	114	108	557	111

Figure 16: Bicycle Crashes by City Size

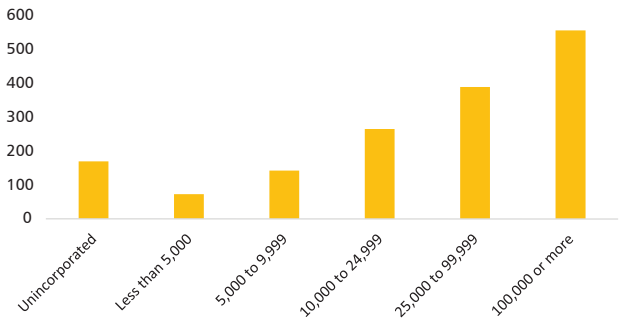
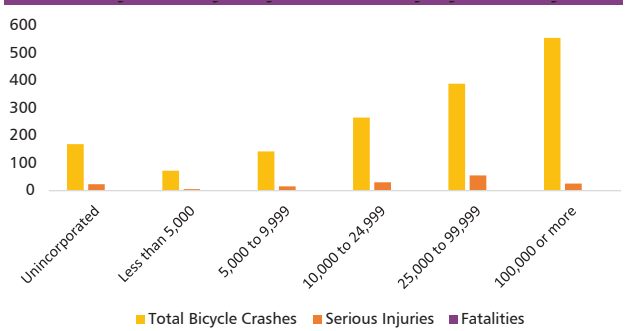


Table 16:

City Size	Total Bicycle Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Unincorporated	170	143	24	3
Less than 5,000	73	66	6	1
5,000 to 9,999	143	125	16	2
10,000 to 24,999	266	232	31	3
25,000 to 99,999	390	331	56	3
100,000 or more	557	528	26	3

Figure 17: Bicycle Crashes by City Size and Severity

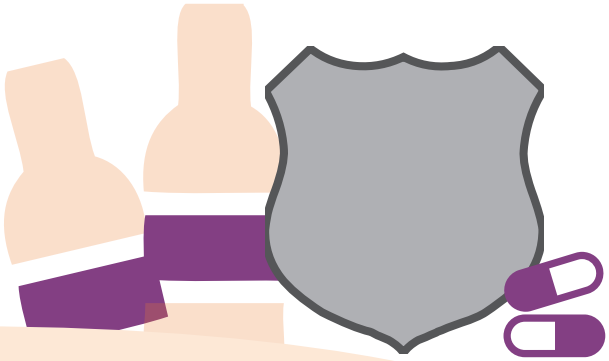


Cause of Crash

The top two known causes of bicycle crashes were failure to yield and distracted and inattentive driving, respectively. It is difficult to pinpoint an accurate or conclusive trend regarding the causes of bicycle crashes because the vast majority did not have a known cause. It is important to note that any crash can have more than one cause or vehicle movement, resulting in the number of driver actions depicted to exceed the total number of crashes.

While it appears that distracted and inattentive driving saw a steep decline after 2011, it is important to note that this is likely due to administrative changes in the way that probable contributing circumstances are being reported by police on the new (2012) crash report form.

Twenty-five crashes (1.6 percent) over the five-year period involved impairment of the driver or bicyclist due to the use of alcohol or drugs.



Just over half of survey respondents (51 percent) cited ***enforcement of traffic laws*** *as a very important improvement to support bicycling in the St. Louis region, and roughly a third (33 percent) cited enforcement as somewhat important.*

Driver Actions

Table 17:

Driver Actions	2011	2012	2013	2014	2015	Total	Average
Distracted/Inattentive	70	24	29	19	19	161	32
Alcohol/Drugs	1	5	1	2	0	9	2
Driver Condition	0	0	1	1	1	3	1
Improper Backing	0	0	1	1	3	5	1
Improper Lane Change/Usage/Passing/Wrong Way	12	10	8	8	11	49	10
Improper Turn/Signal	6	8	5	6	6	31	6
Improper Stoppage	0	0	2	1	0	3	1
Failed to Yield	78	66	69	67	65	345	69
Speed Related/Follow Too Closely	8	4	7	8	5	32	6
Vehicle Condition	2	1	0	0	0	3	1
Violation of Sign/Signal	12	8	9	7	4	40	8
Vision Obstructed	0	24	19	20	19	82	16
Other/Unknown	13	37	49	33	38	170	34
None	154	155	149	150	159	767	153

Driver and Bicyclist Impairment

Table 18:

Under the Influence of Drugs/Alcohol	2011	2012	2013	2014	2015	Total	Average
Drivers	1	3	2	3	0	9	2
Bicyclists	2	2	5	4	3	16	3

Table 19:

Under the Influence of Drugs/Alcohol	Total Bicycle Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Drivers	9	6	1	2
Bicyclists	16	12	3	1

Crashes by Age of Bicyclist

Bicyclists aged 10-19 experienced the highest total number of crashes, serious injuries, and fatalities. Although the 10-14 age group had no fatalities, the 15-19 age group had the highest, at four. This could also correlate with the school year, since May through August overall had more bicycle crashes, when children in these age groups would be out of school.

Table 20:

Age	2011	2012	2013	2014	2015	Total	Average
0-4	0	1	0	1	2	4	1
5-9	21	13	29	25	19	107	21
10-14	53	53	54	37	48	245	49
15-19	48	40	51	47	41	227	45
20-24	41	26	36	35	38	176	35
25-29	25	38	25	25	24	137	27
30-34	17	25	21	26	23	112	22
35-39	21	19	11	10	13	74	15
40-44	19	19	12	11	16	77	15
45-49	22	28	30	22	15	117	23
50-54	26	22	27	21	20	116	23
55-59	18	14	14	14	15	75	15
60-64	10	5	5	7	16	43	9
65-69	2	1	6	4	7	20	4
70-74	0	0	2	4	1	7	1
75-79	1	0	1	2	1	5	1
80-84	1	1	1	0	3	6	1
85+	1	0	0	0	1	2	0

Figure 18: Bicyclists in Crashes by Age

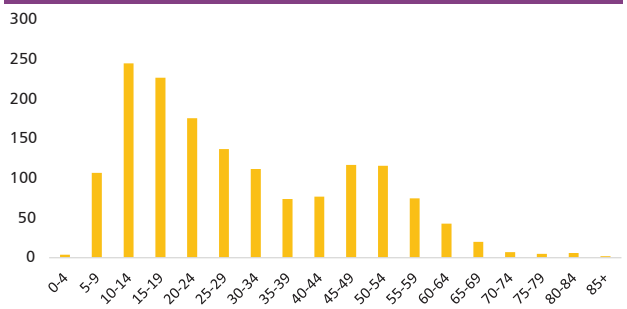
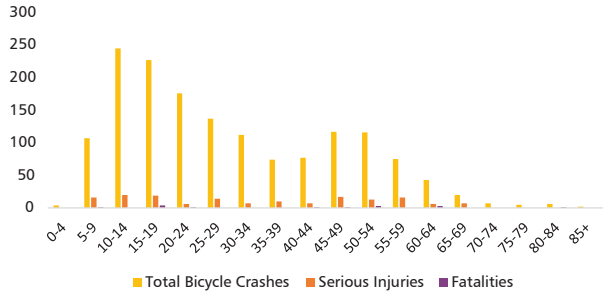


Table 21:

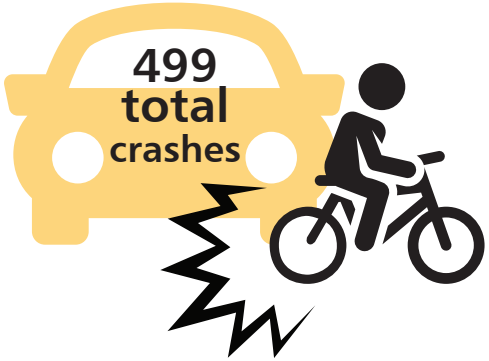
Age	Total Bicycle Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
0-4	4	4	0	0
5-9	107	90	16	1
10-14	245	225	20	0
15-19	227	204	19	4
20-24	176	169	6	1
25-29	137	123	14	0
30-34	112	105	7	0
35-39	74	64	10	0
40-44	77	69	7	1
45-49	117	99	17	1
50-54	116	100	13	3
55-59	75	59	16	0
60-64	43	34	6	3
65-69	20	13	7	0
70-74	7	7	0	0
75-79	5	5	0	0
80-84	6	5	0	1
85+	2	2	0	0

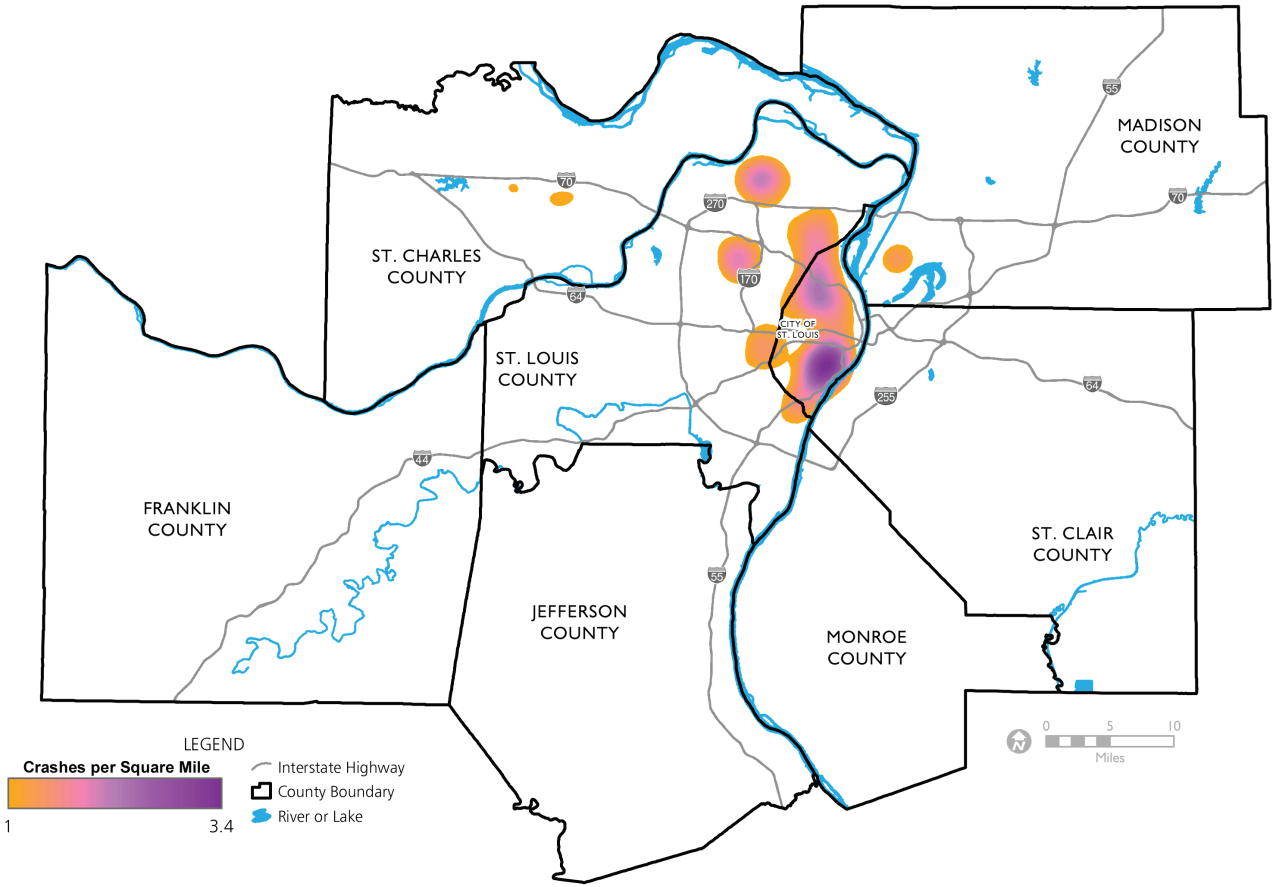
Figure 19: Bicyclists in Crashes by Age & Severity



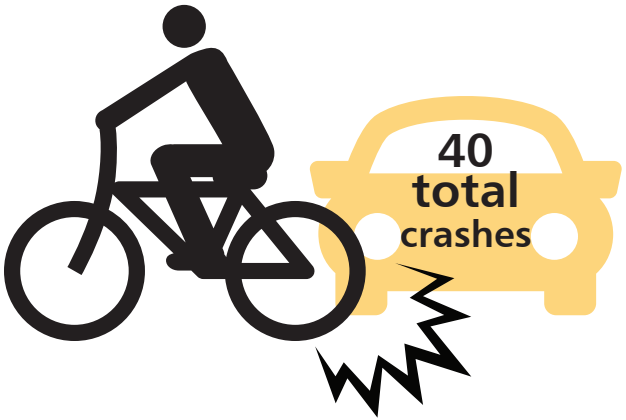
Bicyclists Under 18 Years of Age Per Square Mile

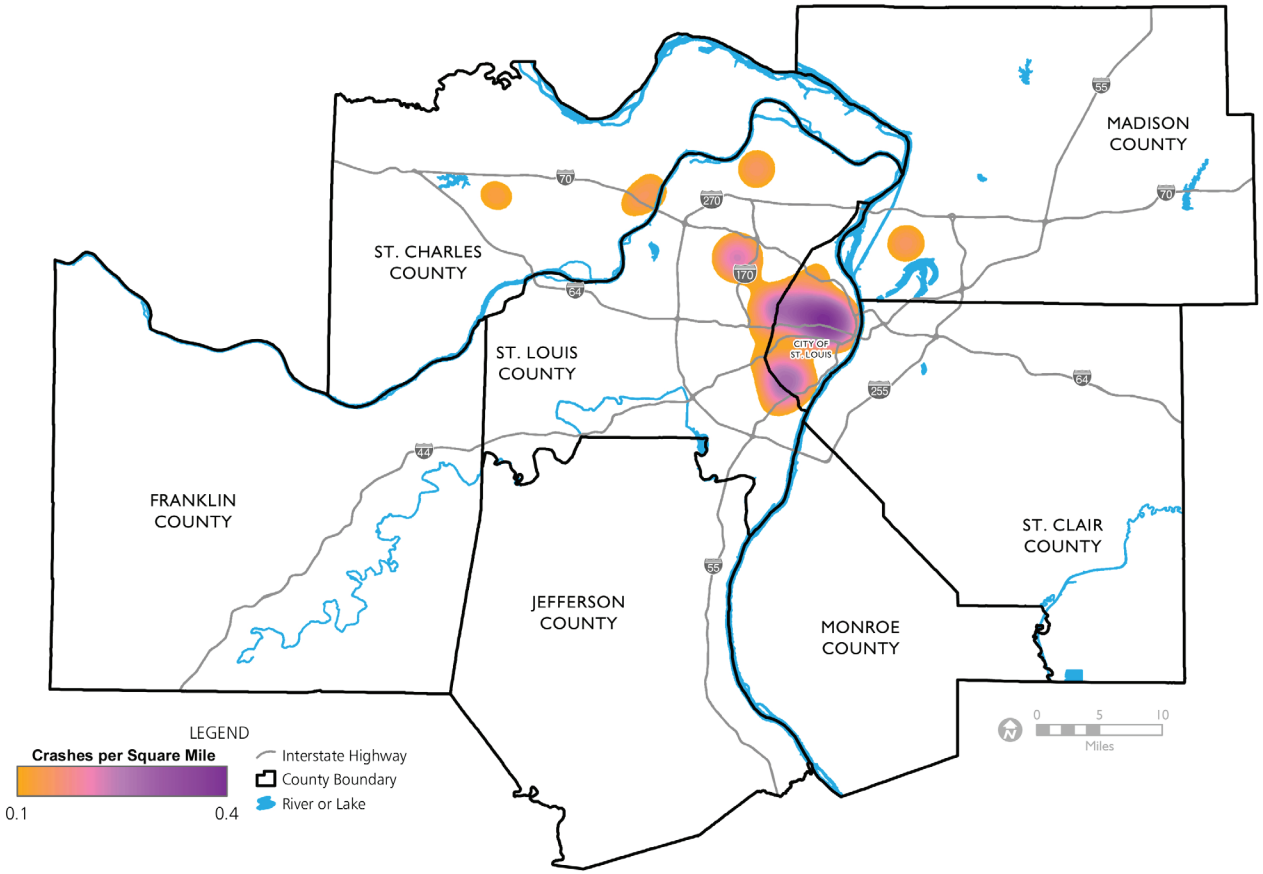
Bicycle crashes based on age reflect the regional trends in crash locations. The density of crashes involving individuals under 18 years of age and crashes involving individuals over 65 years of age (following page), although similar overall, have somewhat of an inverse relationship in the city of St. Louis. For those under age 18, the highest concentration of crashes is in south St. Louis. For those over age 65, the highest concentration of crashes is in north St. Louis and the central corridor.





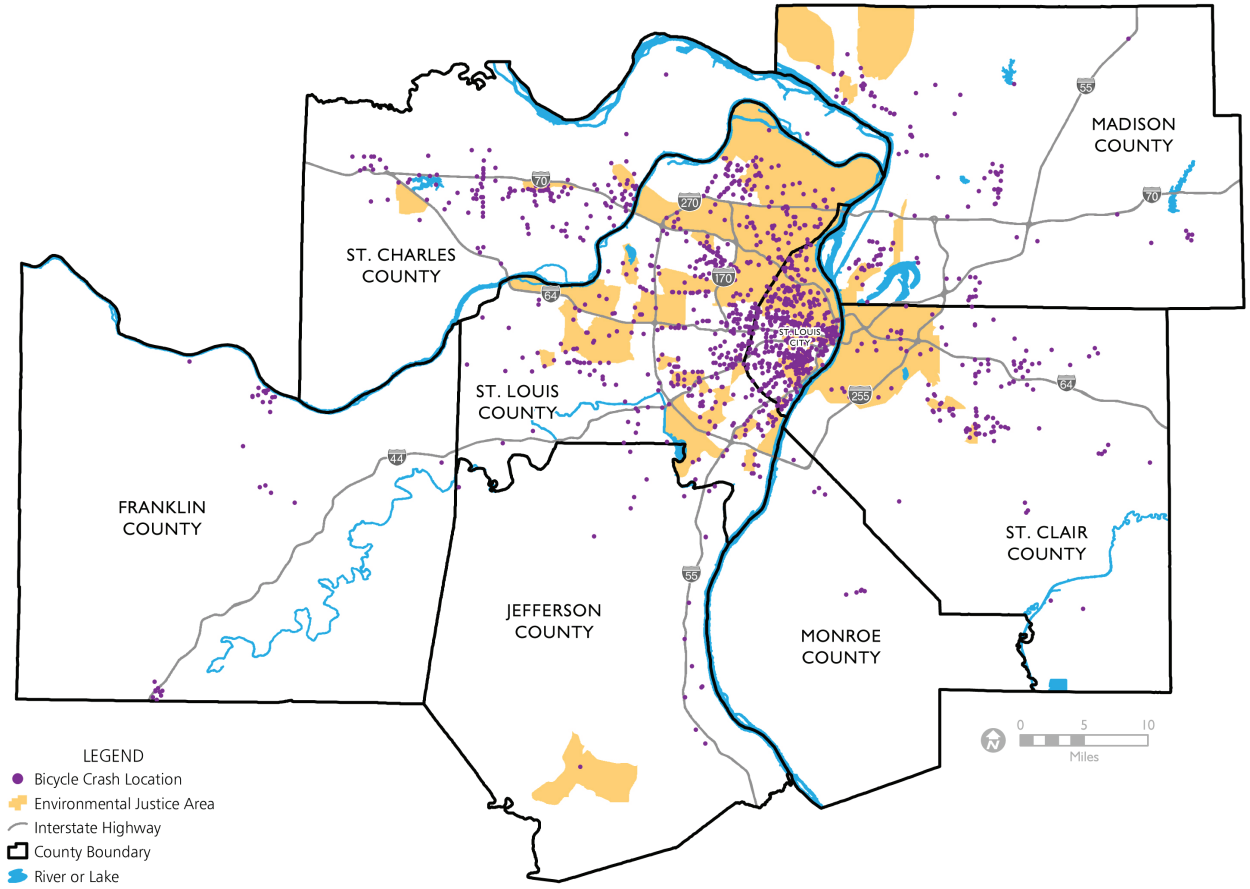
Bicyclists Over 65 Years of Age Per Square Mile





Bicycle Crash Locations with Environmental Justice Areas

Many bicycle crash locations in the city of St. Louis and north St. Louis County overlap with Environmental Justice (EJ) tracts. However, certain areas with high numbers of crashes, such as St. John and Florissant, fall into non-EJ pockets among large EJ swaths. Mid-St. Louis County and southwest portions of the city of St. Louis have high numbers of crashes, but are not located in an EJ tract.



Crashes by Gender of Bicyclist

In terms of gender, men comprised a significantly higher proportion of bicyclists involved in crashes, making up 82 percent of both the total number of crashes and the number of serious injuries, as well as 100 percent of fatalities.

Table 22:

Gender	2011	2012	2013	2014	2015	Total	Average
Female	63	53	76	43	42	277	55
Male	272	255	249	254	261	1,291	258

Figure 20: Bicyclists in Crashes by Gender

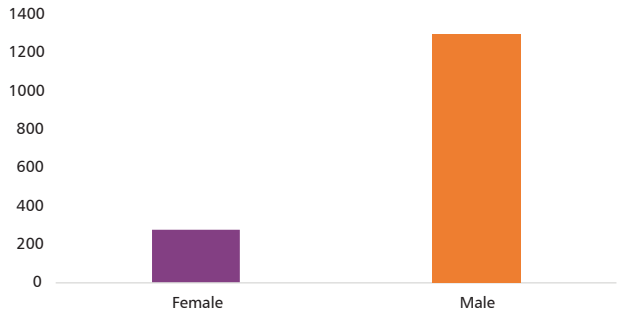
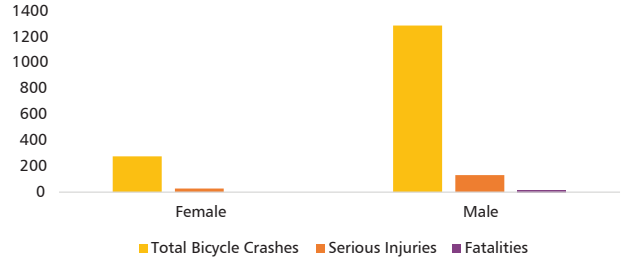


Table 23:

Gender	Total Bicycle Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Female	277	249	28	0
Male	1,291	1,145	131	15

Figure 21: Bicyclists in Crashes by Gender & Severity



Strategies

The Federal Highway Administration, Missouri Department of Transportation, and Illinois Department of Transportation have many proven and recommended strategies and countermeasures for sponsors to use to make roadways a safer place for bicyclists. When talking about roadway safety, the Four E's are usually discussed: education, emergency medical services, enforcement and engineering. In this document we have combined the emergency medical services and enforcement strategies. The strategies and countermeasures provided in this document are a summary of strategies listed in Illinois and Missouri's strategic highway safety plans and the Federal Highway Administration's website.

Education

These strategies focus on educating the general public and roadway users on traffic safety. Those who can help implement these strategies are advocacy groups, safety coalitions, community groups, educators, communication professionals, etc.

- Improve public awareness to promote safe behavior by all roadway users relative to bicycle traffic.
- Educate bicyclists about:
  - –dangers of distraction while riding.
  - –value of wearing personal protective gear, especially bicycle helmets and high-visibility reflective clothing/equipment and bicycle lighting.
  - –increased crash risk during peak travel times.
- Educate drivers on the importance of:
  - –being aware and alert of bicyclists on the roadway, especially in or near intersections and downtown areas.
  - –leaving a safe distance when passing a bicyclist with a preferred minimum of 3 feet.
- Develop bicycle safety education and awareness programs targeting healthcare and schools.
- Reach out to bicycle advocacy groups to specifically target and address the local bike needs and concerns.
- Disseminate bicycling safety messages through the use of social media.
- Increase and enhance training programs and events for state and local planners, engineers, safety practitioners, and officials, which are focused on best practices in bicycle facility design.
- Promote and conduct training for local agencies on innovative strategies and techniques for bicycle accommodation.
- Promote research and identify effective policies to improve bicycle safety that can be implemented by state and local governments.

Emergency Medical Services (EMS)/Enforcement

These strategies focus on what first responders can do to help lower pedestrian crashes. Partners who can help implement these strategies include first responders, fire, rescue, paramedics and law enforcement.

- Increase enforcement of traffic laws for both bicyclist and motorists for public safety.
- As appropriate, implement the Enhancing Bicycle Safety: Law Enforcement's Role made available by NHTSA on-line.
- Disseminate bicycling safety messages through the use of social media.
- More fully utilize existing funding and seek to support safety programs to improve bicycle safety.
- Pilot and conduct equitable enforcement programs for all roadway users relative to bicycle traffic.
- Have first responders receive Traffic Incident Management (TIM) training to understand how to set up a safe work environment for those attending to a traffic incident.

Engineering

These strategies include countermeasures that can be physically made to roadways, sidewalks, intersections, etc. Engineering partners include highway design, traffic, maintenance, operations, and planning professionals.

- Utilize best practices for Complete Streets design from AASHTO and NACTO sources.
- Promote systemic design solutions that reduce conflict points, minimize exposure at roadway crossings, separate modes and reduce speed when practical.
- Create and implement a bike network plan with the goal of improving the viability of this travel mode and encouraging its use.
- Install:
  - "Share the Road" signs where appropriate.
  - "Bike Route" wayfinding signage for direction and distance to destinations.
  - pavement markings where appropriate (e.g., bike lanes, bike boxes at intersections, etc.).
  - protected bike lanes where practical.
  - four-foot wide minimum shoulders where appropriate.
  - signals with technology that detect bicyclists.
- Continue to fund and implement the Safe Routes to School program through the Transportation Alternatives Program.
- Evaluate and implement innovative best practices to improve bicycle accommodations and safety.
- Consider diverse options for bicycle travel including along through routes with lower traffic volumes, while seeking to fill network gaps.

Funding for Bicycle Improvements

This section identifies possible state and federal funding sources that sponsors can use for implementing bicycle safety strategies. It is important to note that this list is not an all-inclusive list and sponsors can use other funding such as local funds, grants, and donations.

Surface Transportation Block Grant Program – Suballocated (STP-S)

STP-S is a federally funded program that is administered by EWG. STP-S provides flexible funding that may be used by state and local governments for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals. This program is funded through the Surface Transportation Block Grant Program which was authorized by the current transportation law the Fixing America's Surface Transportation (FAST) Act. Under this program, bicycle and pedestrian facilities may be constructed regardless of the roadway functional classification.

Transportation Alternatives Program (TAP)

TAP is a federally funded program that is administered by EWG. TAP provides funding for a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity. This program is authorized by the current transportation law the FAST Act. TAP projects must have a direct relationship to surface transportation and funding may be used for any phase of the project, including preliminary engineering/design, environmental, right-of-way, or construction.

Congestion Mitigation and Air Quality Improvement (CMAQ) Program

CMAQ is a federally funded program that is administered by EWG. The CMAQ program provides a flexible funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas, including the St. Louis region, that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former non-attainment areas that are now in compliance (maintenance areas). This program is authorized by the current transportation law the FAST Act. Bicycle and pedestrian facilities are eligible activities under CMAQ.

Highway Safety Improvement Program (HSIP)

HSIP is a federally funded program that is administered by the state Department of Transportation. The goal of HSIP is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. This program is authorized by the current transportation law the FAST Act.

Illinois Transportation Enhancement Program (ITEP)

ITEP is a federally funded program that is administered by the Illinois Department of Transportation. ITEP provides funding for projects that expand travel choices and enhance the transportation experience by improving the cultural, historic, aesthetic and environmental aspects of our transportation infrastructure. The ITEP is designed to promote and develop alternative transportation options, including bike and pedestrian travel, along with streetscape beautification. The federal funds are awarded competitively, and projects must be related to surface transportation. Eligible applicants include all entities that were previously eligible to apply for Transportation Alternatives Program (TAP) funds, and include any local or state government with taxing authority. In addition, the FAST Act allows nonprofit entities responsible for the administration of local transportation safety programs to apply. Local matching funds are required.

Traffic Engineering Assistance Program (TEAP)

TEAP is administered by the Missouri Department of Transportation (MoDOT) with funds coming from MoDOT and the local public agencies (LPA). The Missouri Highway and Transportation Commission (MHTC) developed TEAP to provide Missouri LPAs with assistance to proficiently study traffic engineering problems. LPAs facing a traffic safety or operational problem can utilize the LPA On-Call Consultant List to perform a traffic study. Typical studies may include corridor safety and/or operational analysis, intersection(s) safety and/or operational analysis, speed limit review, sign inventory, pedestrian/bike route analysis, parking issues, and other traffic studies including elements necessary to develop an ADA transition plan.

Resources

Federal Highway Administration: Bicycle Safety

https://safety.fhwa.dot.gov/ped_bike/

https://safety.fhwa.dot.gov/ped_bike/ped_focus/

https://safety.fhwa.dot.gov/ped_bike/ped_focus/focus_cities_states2015.cfm

http://pedbikesafe.org/

Illinois Strategic Highway Safety Plan

http://www.idot.illinois.gov/Assets/uploads/files/Transportation-System/Reports/Safety/SHSP/SHSP_2017.pdf

Missouri Strategic Highway Safety Plan

http://s3-us-west-2.amazonaws.com/modot-pdfs/Blueprint_2016-2020.pdf

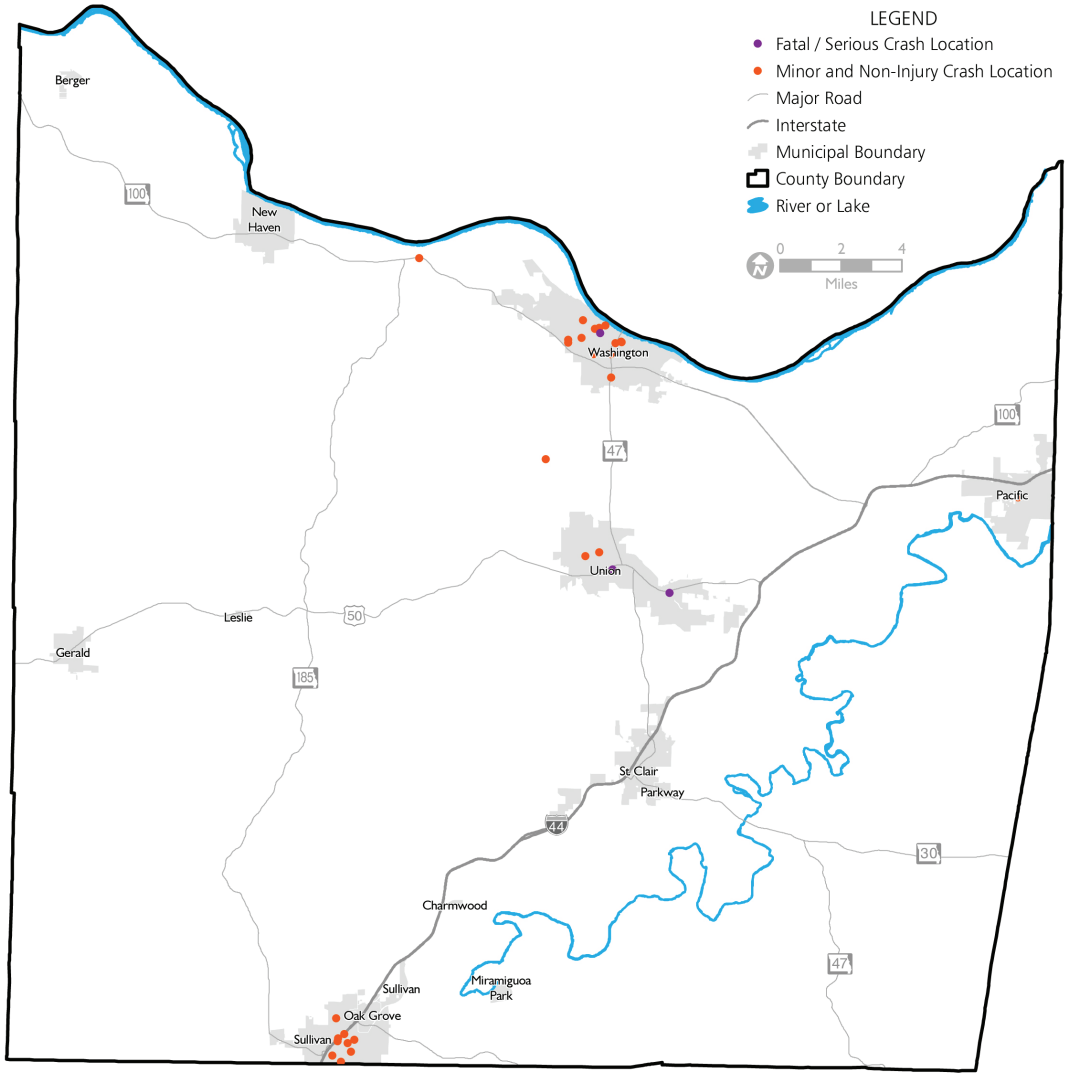
National Highway Traffic Safety Administration

https://www.nhtsa.gov/road-safety/bicycle-safety

https://one.nhtsa.gov/Driving-Safety/Bicycles/Enhancing-Bicycle-Safety:-Law-Enforcement percent27s-Role

Map Appendix

Bicycle Crash Locations—Maps by County



Franklin County, Missouri

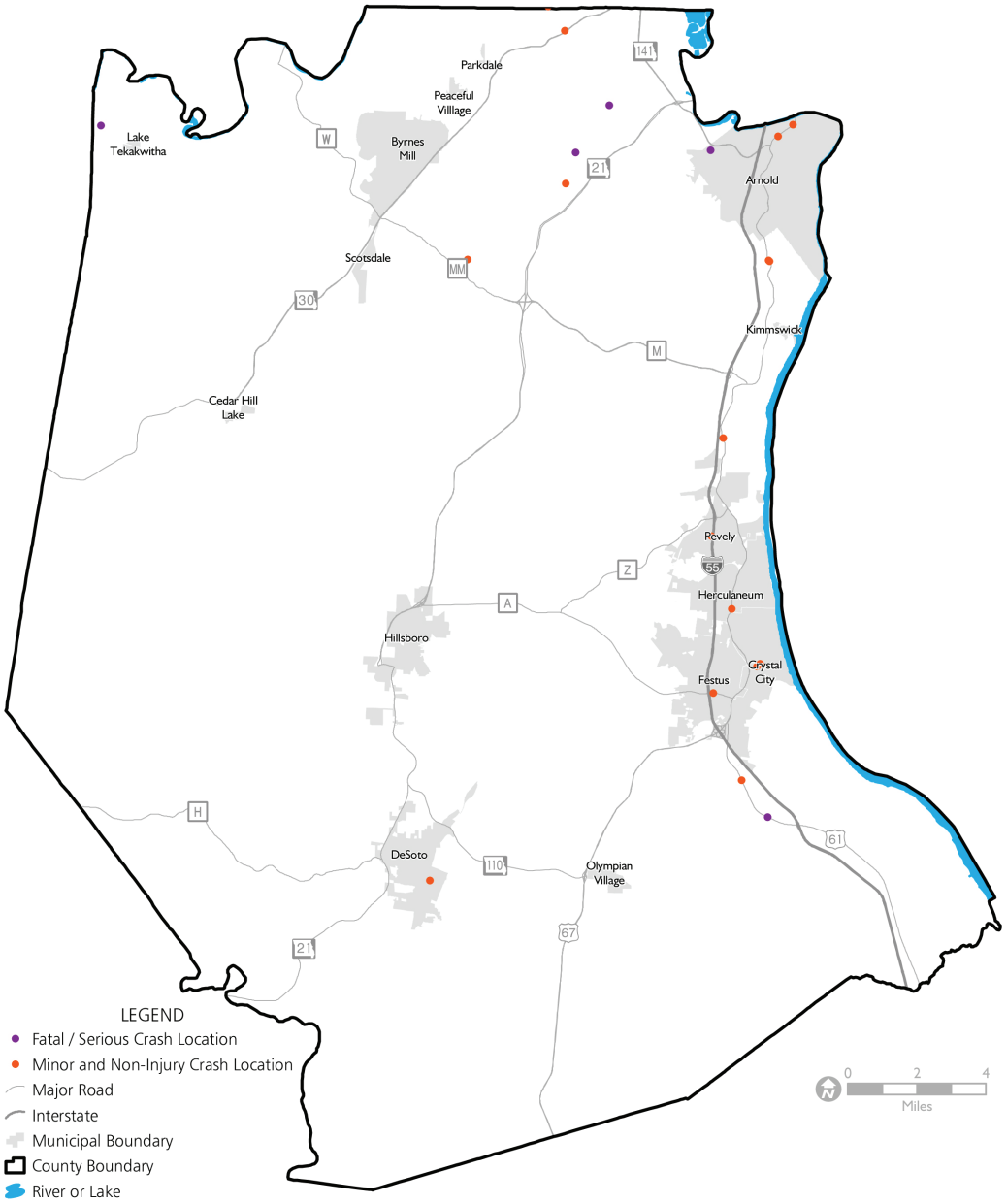
Bicycle Crash Locations

2011-2015

Jefferson County, Missouri

Bicycle Crash Locations

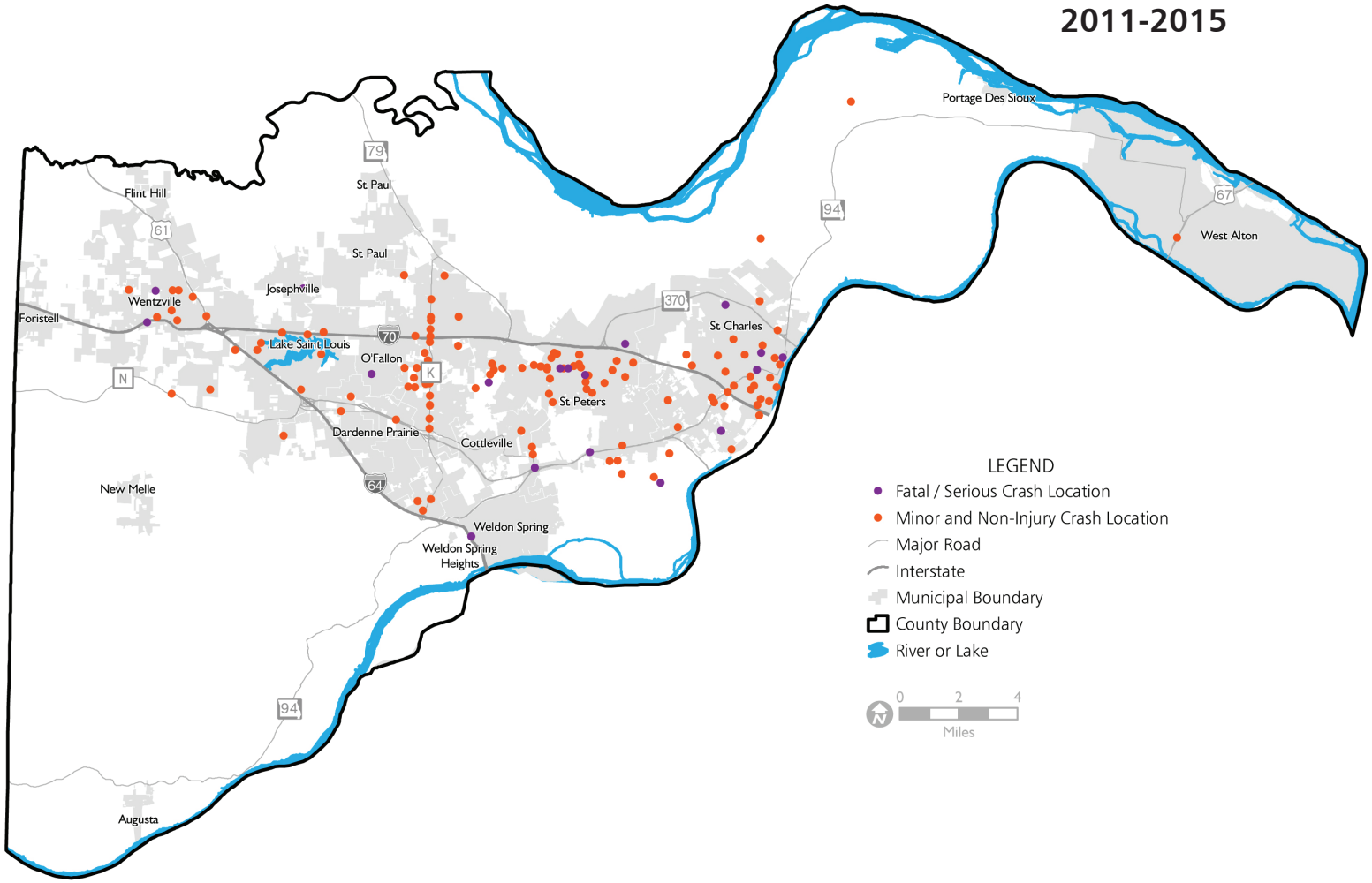
2011-2015



St. Charles County, Missouri

Bicycle Crash Locations

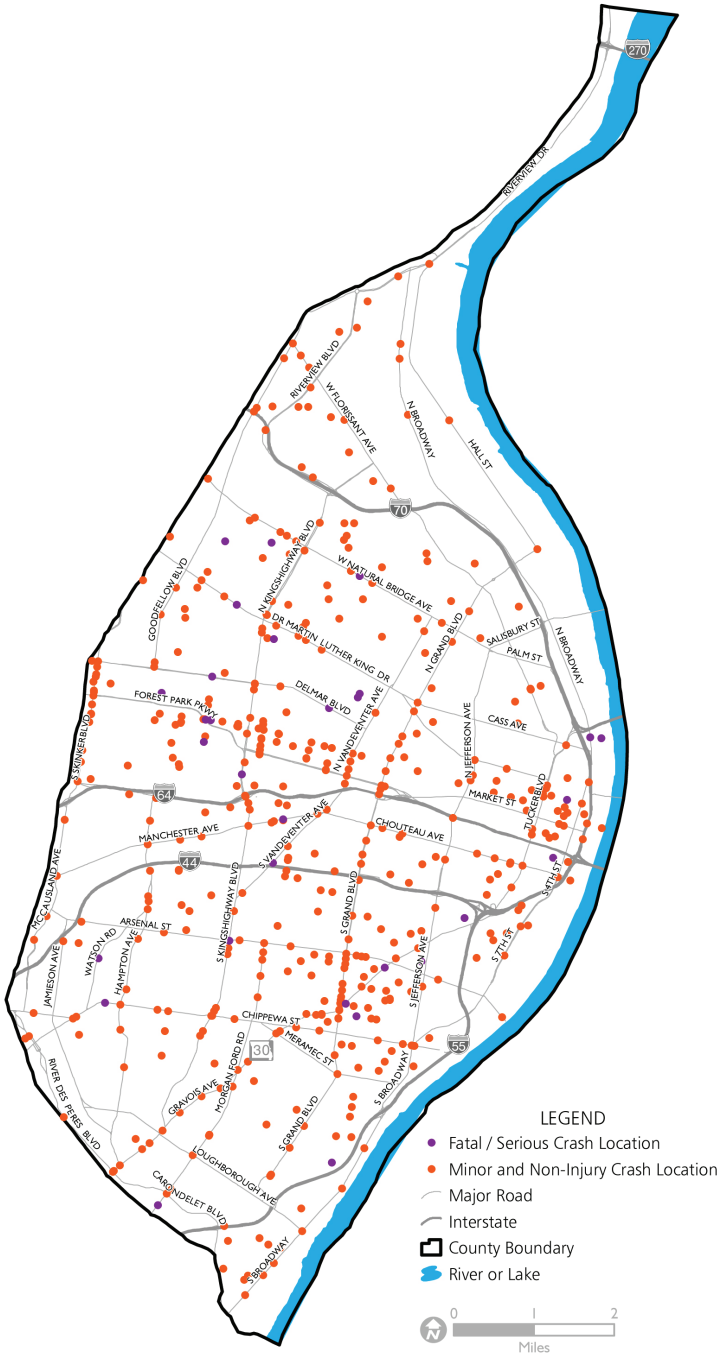
2011-2015

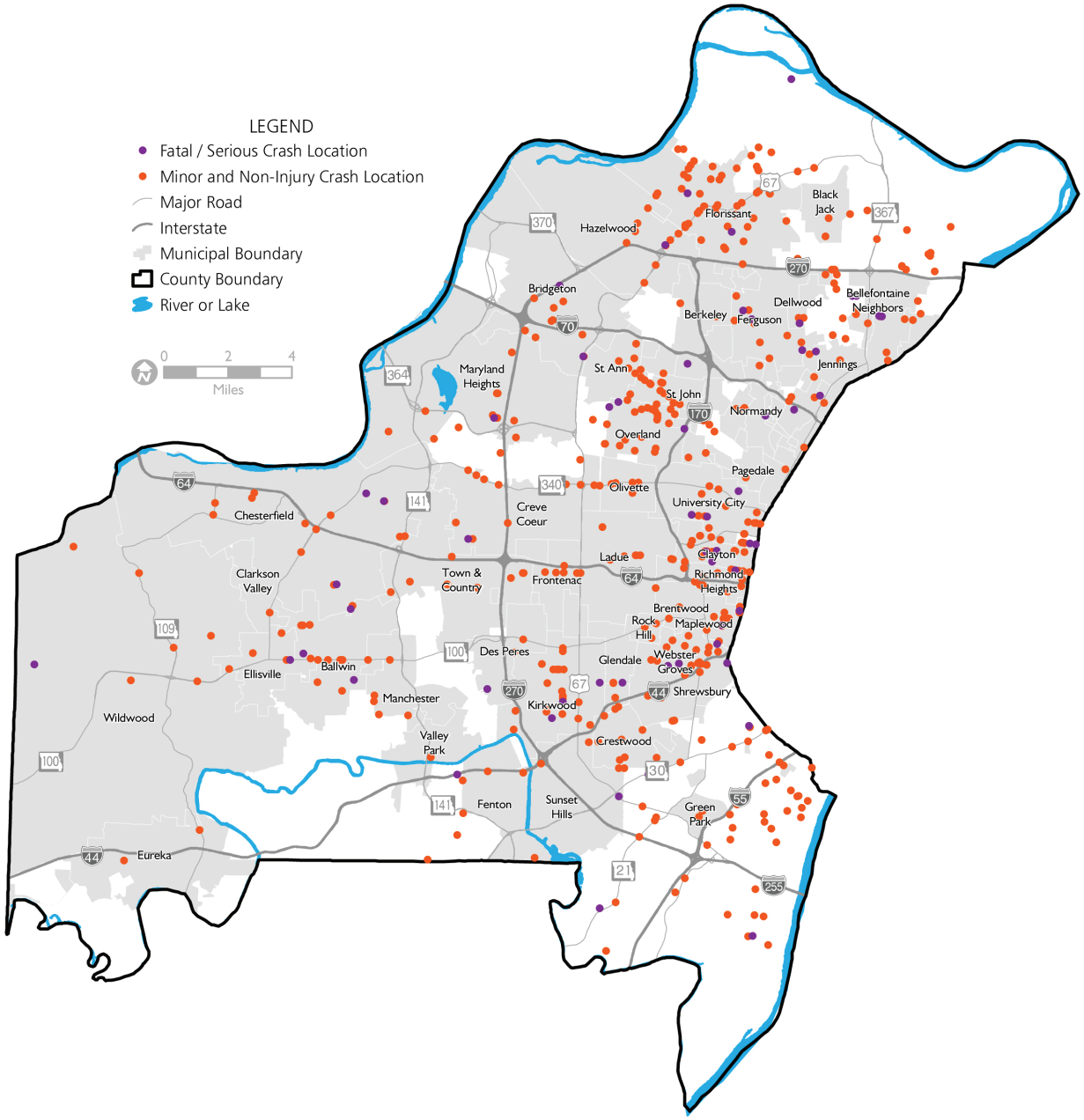


City of St. Louis, Missouri

Bicycle Crash Locations

2011-2015





St. Louis County, Missouri

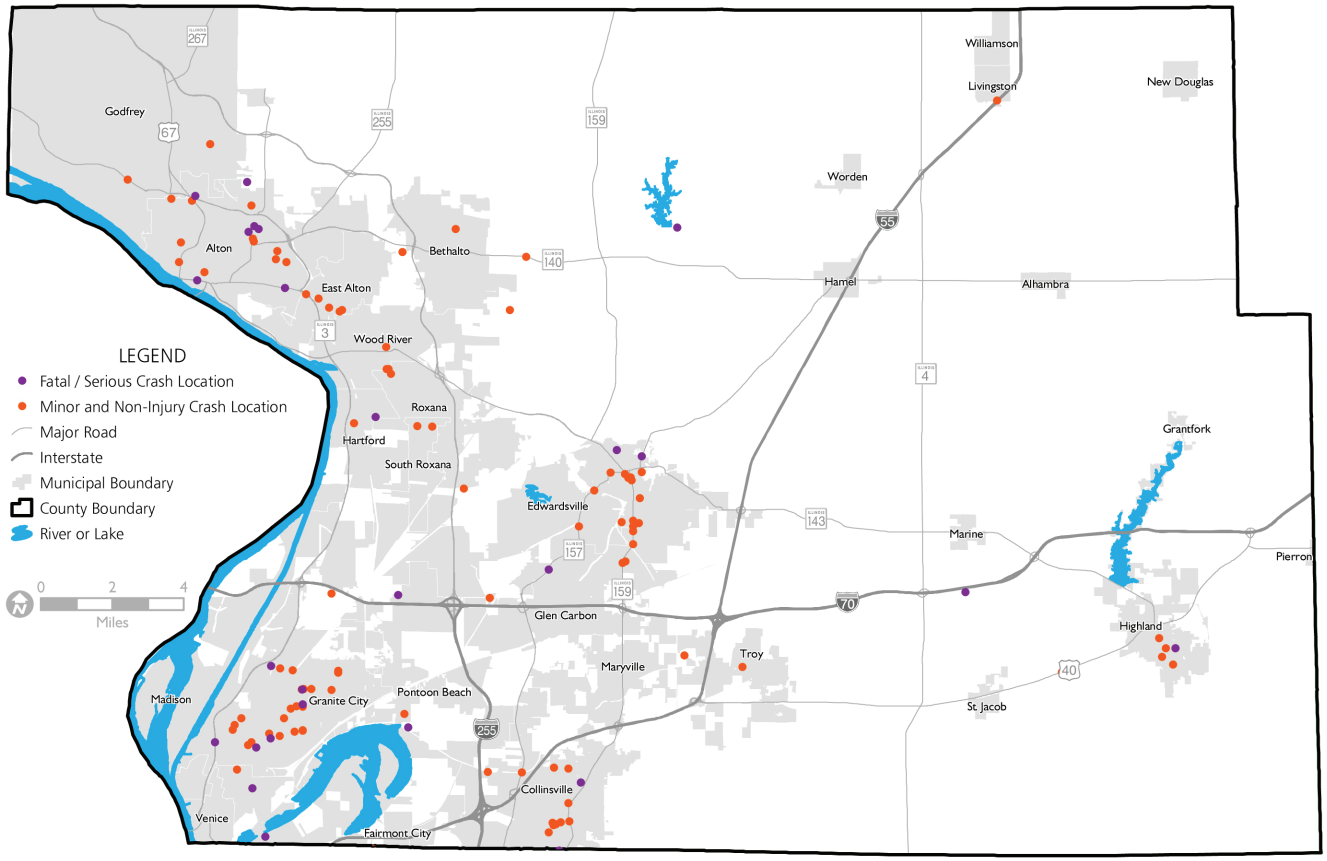
Bicycle Crash Locations

2011-2015

Madison County, Illinois

Bicycle Crash Locations

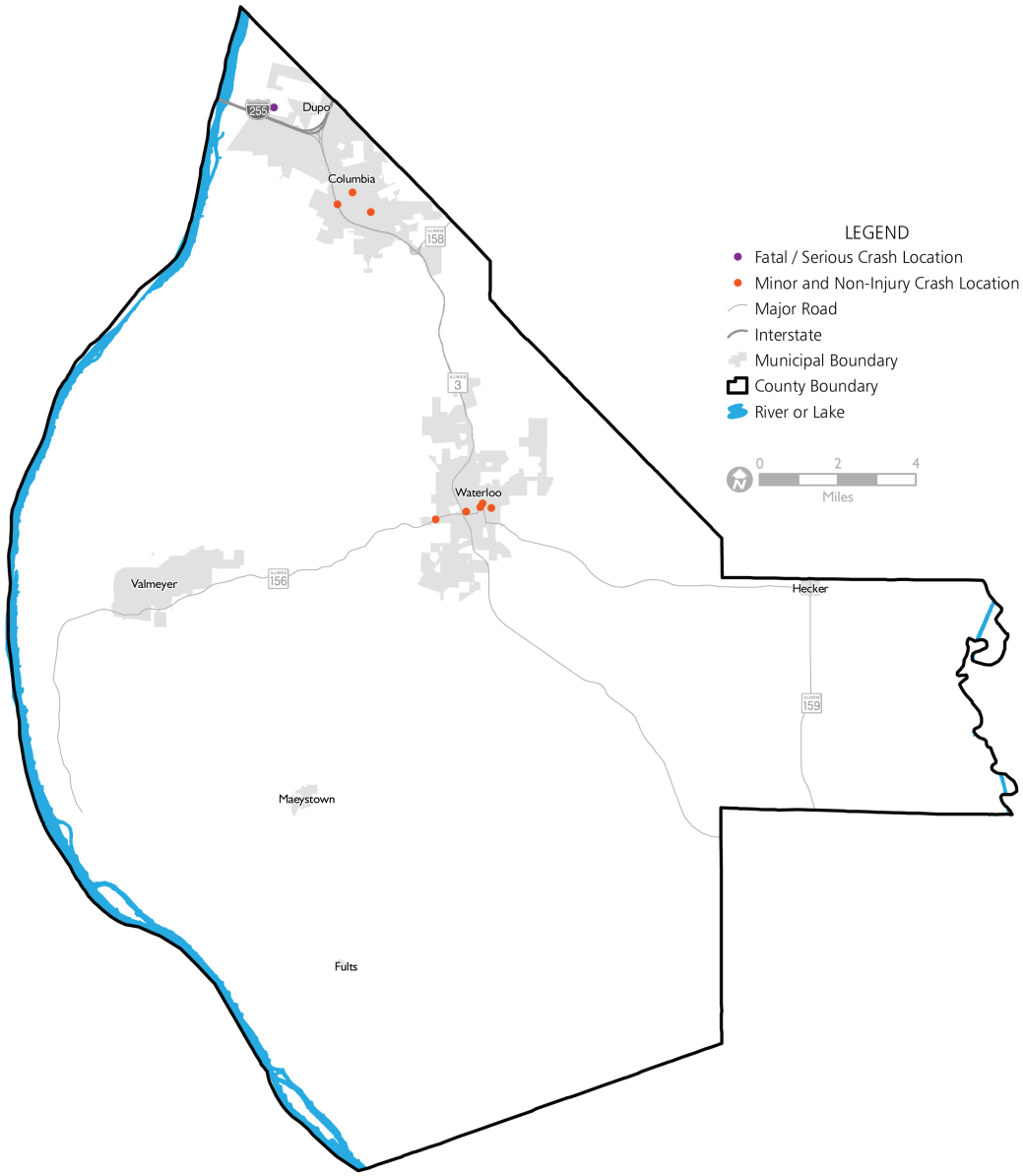
2011-2015



Monroe County, Illinois

Bicycle Crash Locations

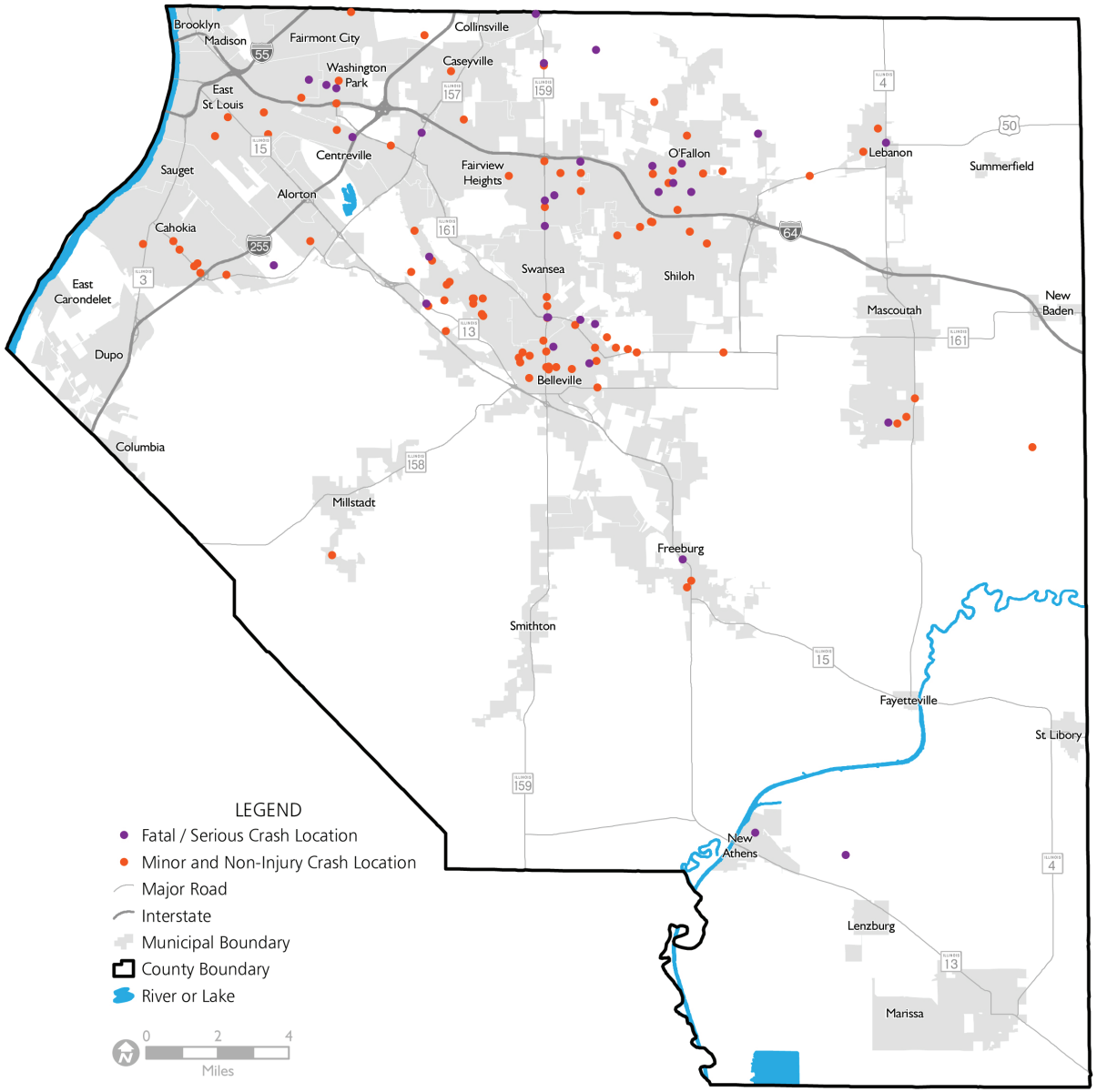
2011-2015



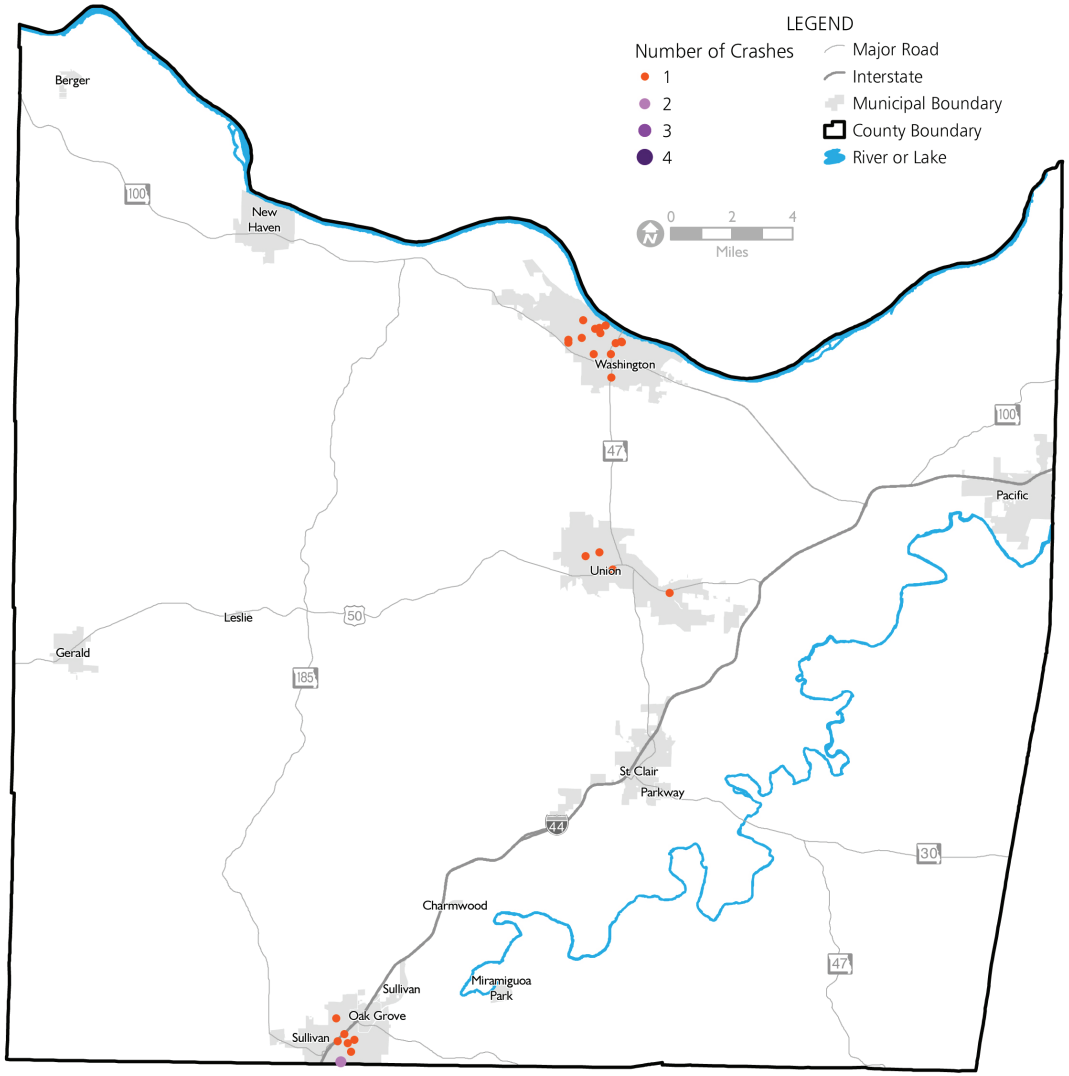
St. Clair County, Illinois

Bicycle Crash Locations

2011-2015



Bicycle Crashes by Intersection—Maps by County



Franklin County, Missouri

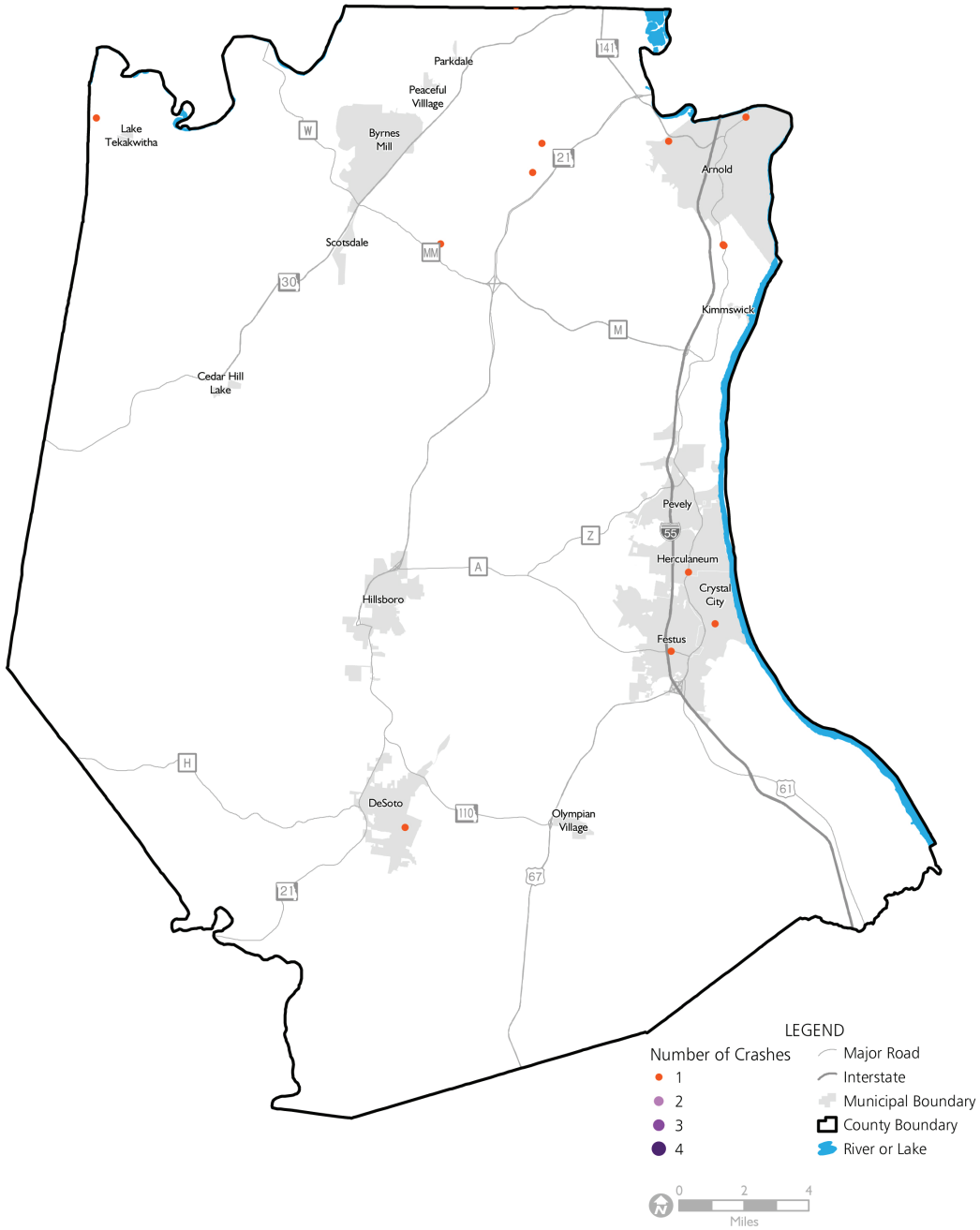
Bicycle Crashes by Intersection

2011-2015

Jefferson County, Missouri

Bicycle Crashes by Intersection

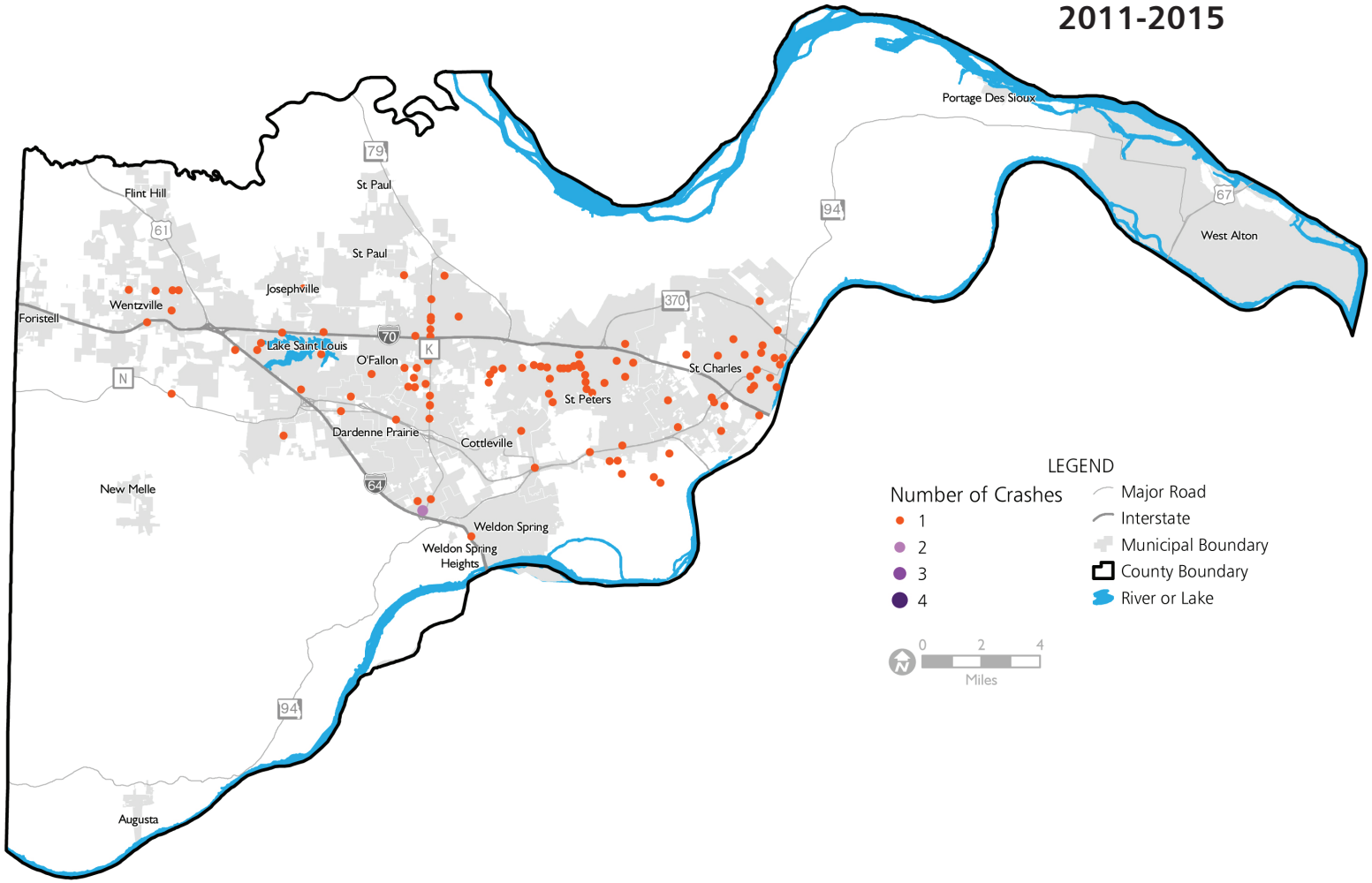
2011-2015



St. Charles County, Missouri

Bicycle Crashes by Intersection

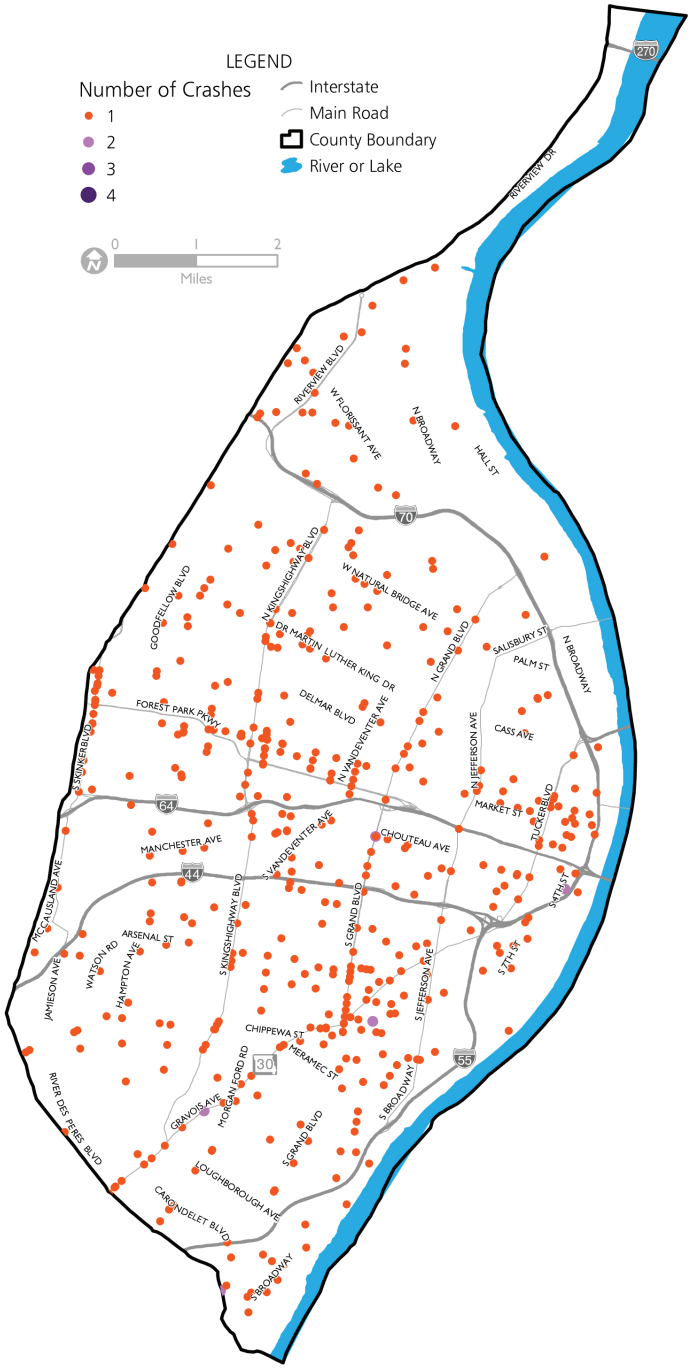
2011-2015

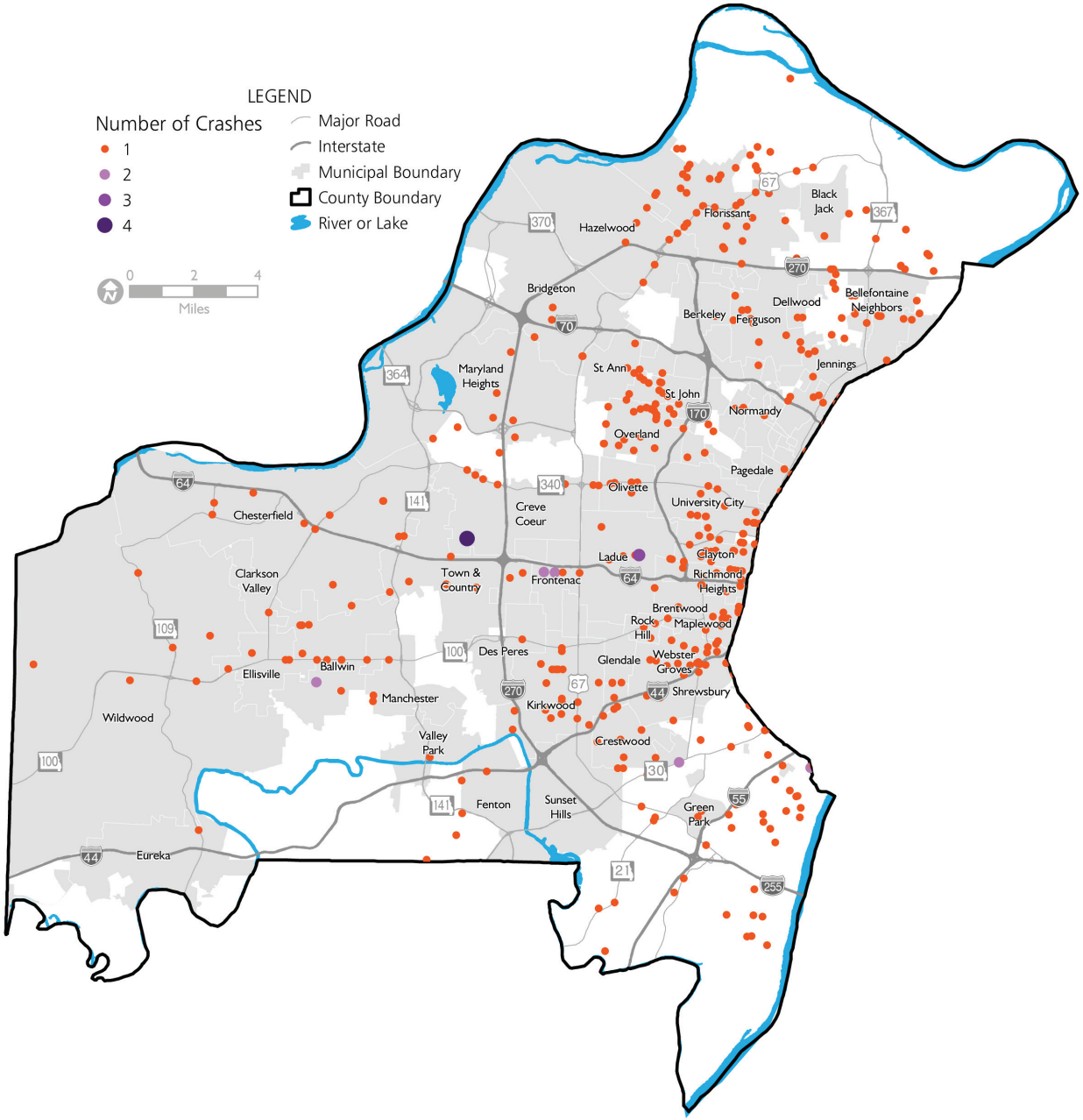


City of St. Louis, Missouri

Bicycle Crashes by Intersection

2011-2015





St. Louis County, Missouri

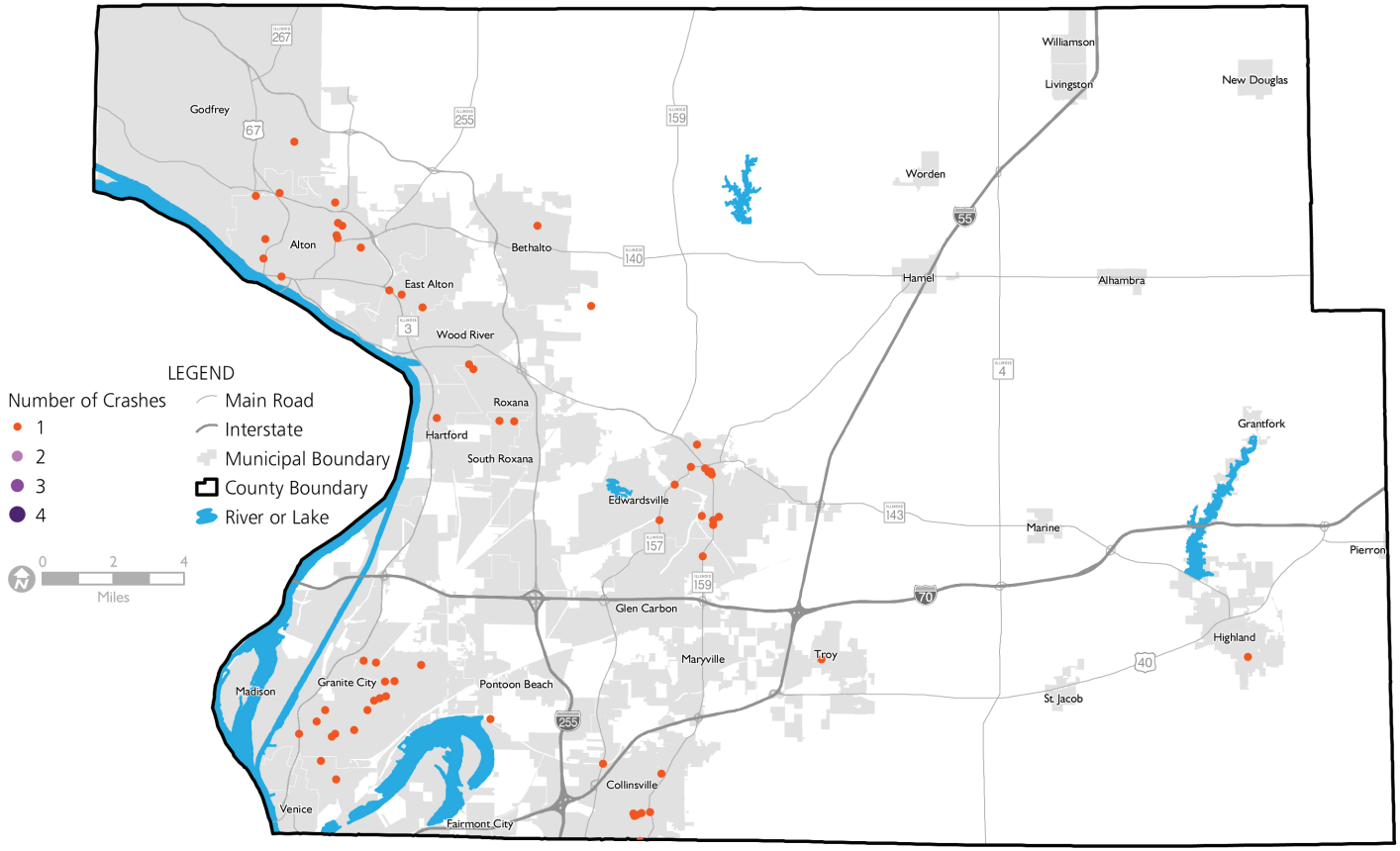
Bicycle Crashes by Intersection

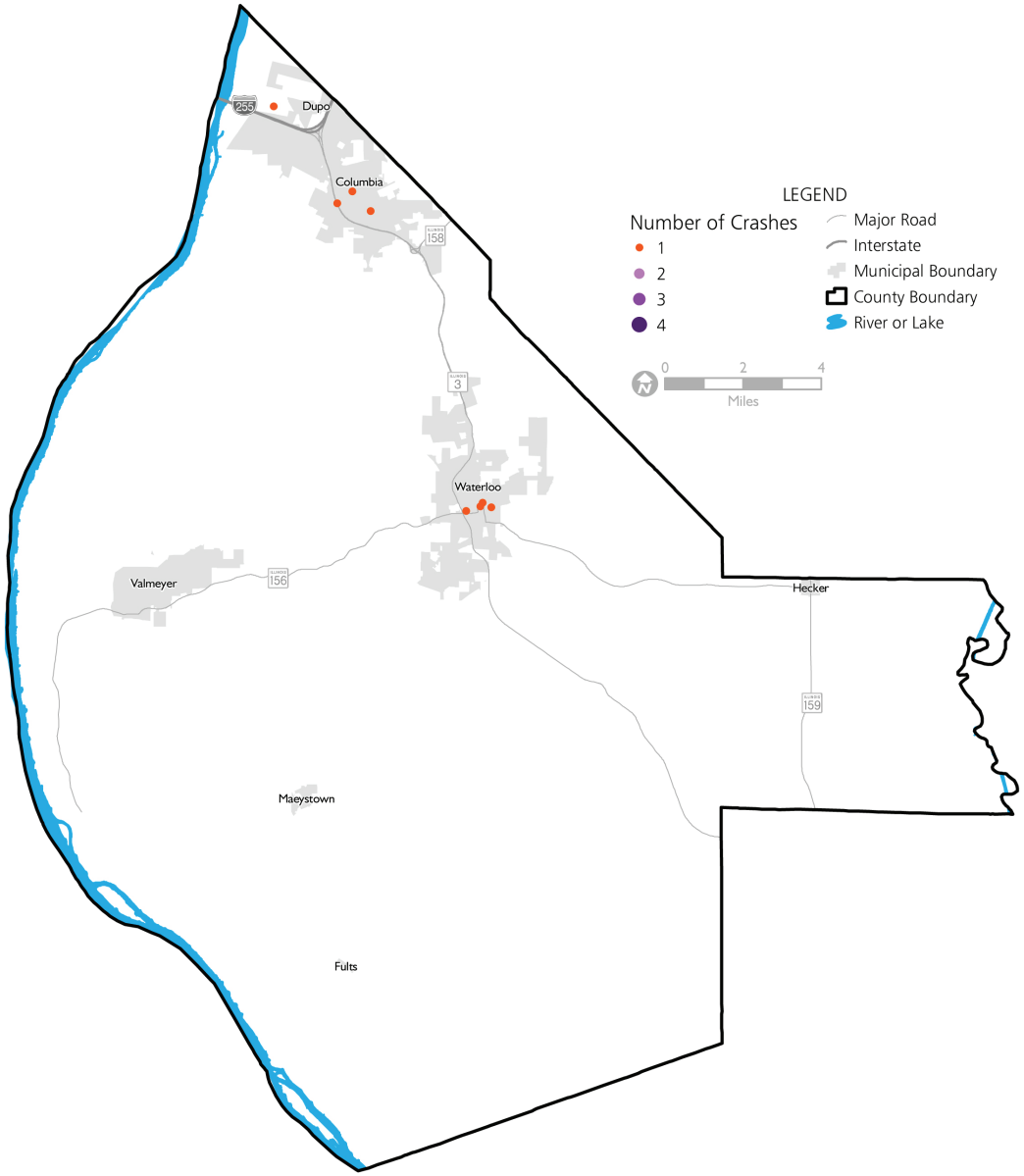
2011-2015

Madison County, Illinois

Bicycle Crashes by Intersection

2011-2015





Monroe County, Illinois

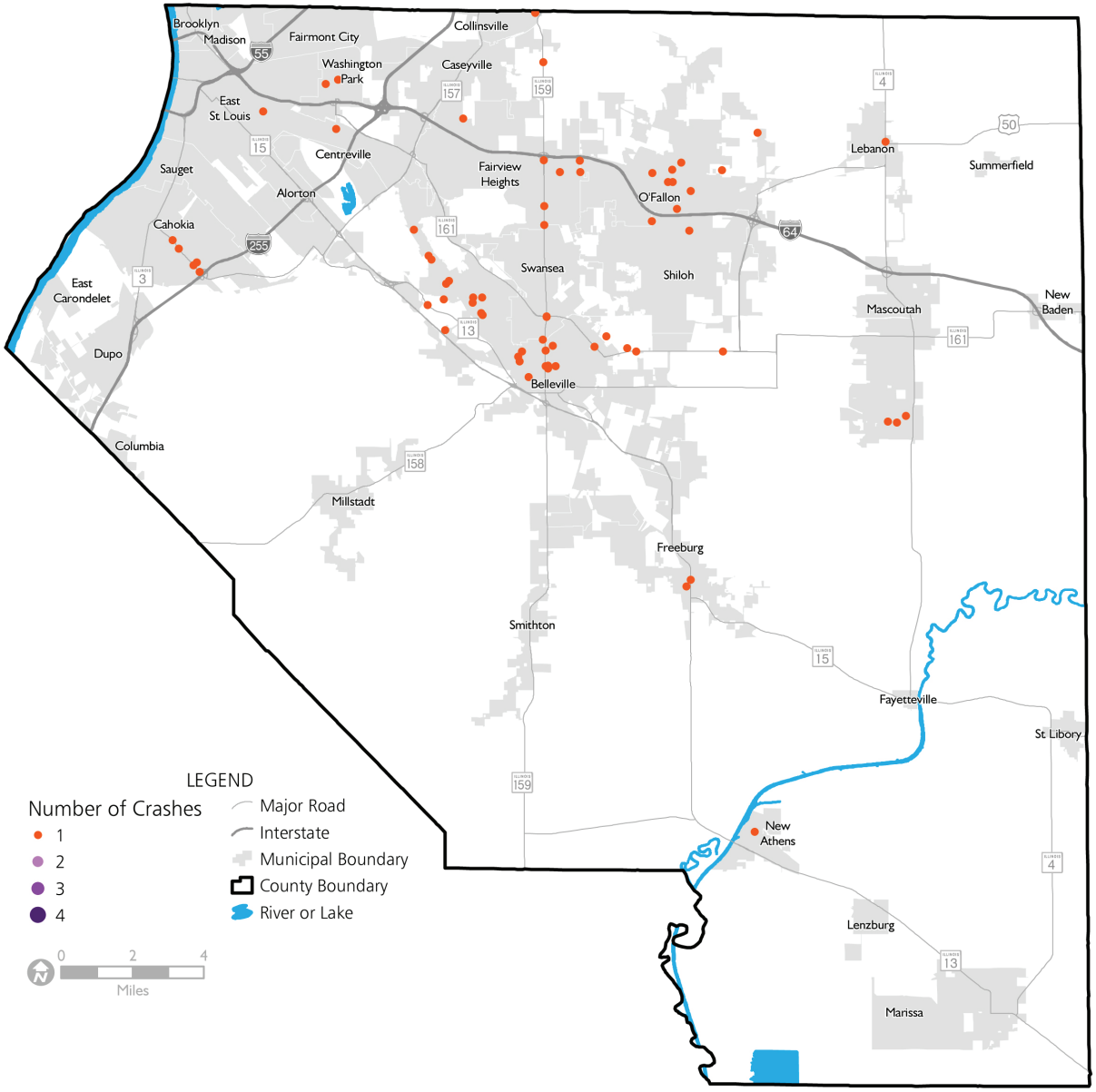
Bicycle Crashes by Intersection

2011-2015

St. Clair County, Illinois

Bicycle Crashes by Intersection

2011-2015



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2018 Pedestrian Crash Analysis

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Introduction

The *2018 Pedestrian Crash Analysis* was developed by East-West Gateway Council of Governments (EWG) in response to the persistent rise in crashes involving pedestrians in the St. Louis region. Despite annual fluctuations, pedestrian crash and fatality rates continue to increase at a rate that outpaces motor vehicle crash and fatality rates, which have been on a mostly downward trend for the last several decades. This is a trend seen nationally as well as locally. Nationwide, people bicycling and walking account for more than 16 percent of crash fatalities, but only 11 percent of all trips.[1] This disproportionate representation in fatal crashes underscores pedestrian safety as an issue that needs to be brought to the forefront in the region's transportation planning discussions and efforts.

St. Louis is a Bicycle/Pedestrian Safety Focus City, as designated by the Federal Highway Administration's (FHWA) Safety Office. A Bicycle/Pedestrian Safety Focus City is designated as such if it falls within the top 20 cities with the highest number of bicycle and pedestrian fatalities over a three-year average from 2011-2013. Since bicycle and pedestrian crash types are more common in urban areas, any state that contains a Focus City is by default a Focus State. Currently, both Missouri and Illinois are designated Bicycle/Pedestrian Safety Focus States.

In addition, transportation law at the national level is also addressing pedestrian safety. The Fixing America's Surface Transportation (FAST) Act was signed into law in 2015 and guides how project planning and programming is conducted by state departments of transportation (DOTs) and metropolitan planning organizations (MPOs). The FAST Act continues the National Highway Performance Program (NHPP) established under the Moving Ahead for Progress in the 21st Century Act (MAP-21) which requires a performance-driven, outcome-based planning and programming process. A crucial element of the NHPP process is the establishment of performance measures and targets to achieve desired outcomes across the transportation system. Reducing the number of non-motorized fatalities and non-motorized serious injuries is one of five required safety performance measures. For 2018, EWG has established a target of reducing this number by 2 percent for the metropolitan planning area, equating to a combined total of no more than 205.3 non-motorized serious injuries and fatalities. This performance target is in line with current trends and funding availability, and takes into consideration the already established state (DOT) targets of 2 percent for Illinois, and 4 percent for Missouri.

The purpose of the *2018 Pedestrian Crash Analysis* is to examine the issue of pedestrian safety through regional crash data by tracking existing and emerging trends, analyzing data spatially to identify problem areas, and providing established safety countermeasures and strategies on how to reduce crashes and plan for safe walking facilities and environments. This document, along with the corresponding 2*018 Bicycle Crash Analysis* is intended to be an informational tool for our regional partners, local public agencies, and project sponsors to inform their decision-making and transportation planning processes, and ultimately, to improve the safety and mobility of people walking and bicycling.

1 http://www.pedbikeinfo.org/topics/completestreets.cfm

Data and Methodology

The EWG planning area is comprised of an eight-county region spanning Illinois and Missouri. It includes Madison, Monroe, and St. Clair counties in Illinois, and the city of St. Louis, St. Louis, St. Charles, Jefferson, and Franklin counties in Missouri. It is a diverse region, representing urban, suburban, and rural areas and presenting unique challenges to transportation planning.

EWG staff compiled and analyzed data for all reported crashes in the region involving a pedestrian over the five-year period from 2011 to 2015, with breakdown by county, crash severity, and a variety of other contributing factors and demographic indicators.

Crash data is derived from police reports, which has certain limitations. As a bi-state region, differences in reporting between Missouri and Illinois means that the data does not always align perfectly, resulting in slightly different figures for each state. To ensure accuracy, consistency, and fair comparison in this analysis, some data has been omitted, and will be noted as such.

Another limitation of the data is unreported crashes. Various sources, including the National Highway Traffic Safety Administration (NHTSA), estimate that close to half of all motor vehicle crashes are not reported to police.[2] Typically, unreported crashes are those that result in minor or insignificant property damage, not fatalities or serious injuries. Although this is a generic estimate for all types of motor vehicle crashes, it can be inferred that there are likely large numbers of minor, unreported crashes involving pedestrians as well.

Certain demographic data, such as race, is not included on crash reports, which limits socio-economic analysis. Historically, communities of color and low-income communities have struggled with disinvestment in transportation infrastructure, which is reflected in issues of access and safety. Environmental Justice was introduced as federal policy in 1994 as a means of addressing racial, ethnic, and socioeconomic equity, and is used in this analysis for the same purpose. As the term is used in this document, and as it is defined by EWG, environmental justice areas are those areas with a disproportionately high concentration of not only low-income and minority populations, but also zero-vehicle households, seniors, persons with disabilities, and those with limited English proficiency (LEP). Taking a closer look at these often underrepresented populations is helpful in examining issues of equity in the region, in regards to transportation safety and infrastructure.

In addition, results from EWG's 2017 Bicycling and Walking Survey have also been included to shed light on local perceptions of safety while walking. Relevant insights are highlighted where appropriate to illustrate how perceived safety also impacts pedestrian behavior and individual transportation choices.

2 M. Davis & Co. (2015, July). National telephone survey of reported and unreported motor vehicle crashes. (Findings Report. Report No. DOT HS 812 183). Washington, DC: National Highway Traffic Safety Administration.

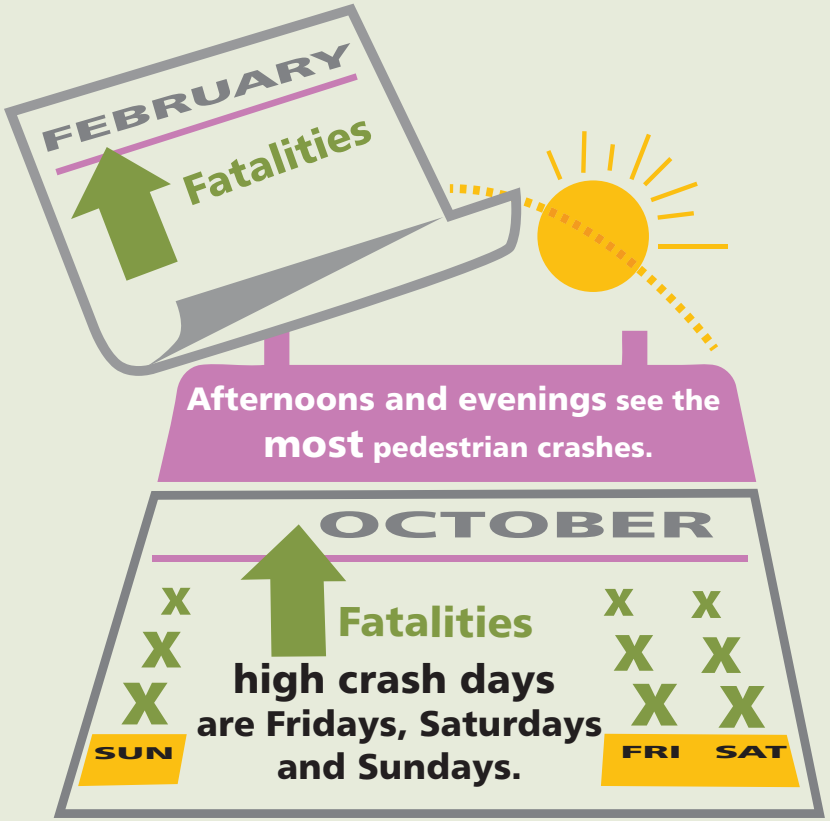
Key Findings

Over the five-year period from 2011 to 2015, the St. Louis region has seen an average of 756 pedestrian crashes annually. While the majority of the region's 3,782 pedestrian crashes are minor- or non-injury crashes, it is important to note that 23 percent of crashes resulted in a fatality or serious injury.

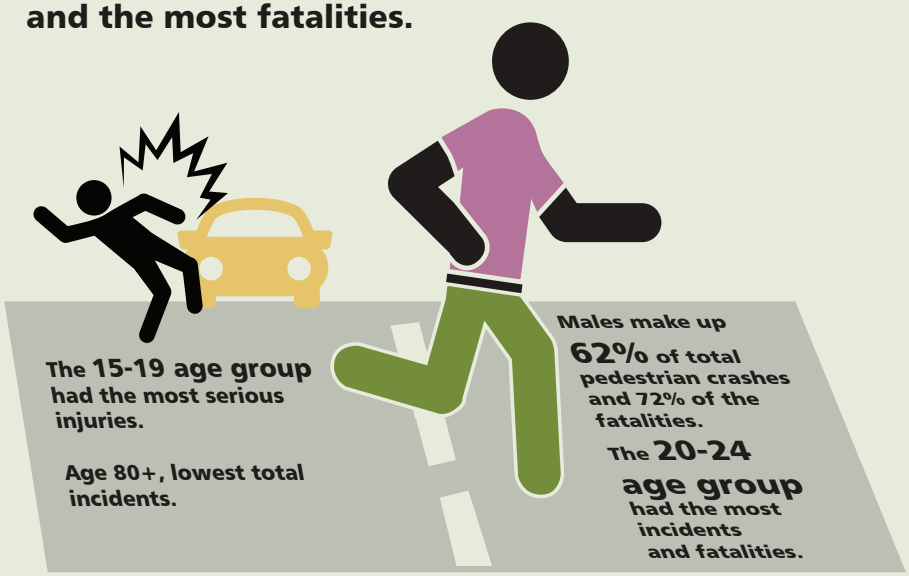
There is an overwhelming concentration of pedestrian crashes in the city of St. Louis and north St. Louis County, with clusters of crashes in many of the region's outlying cities.

The highest density of pedestrian crashes occurs in the city of St. Louis. North St. Louis County, and the area within the I-270 loop see a larger number of pedestrian crashes as well.

Most pedestrian crashes happen on a ...



Pedestrians age 20-24 have the most crashes and the most fatalities.



most were in the afternoon

42% were in darkness

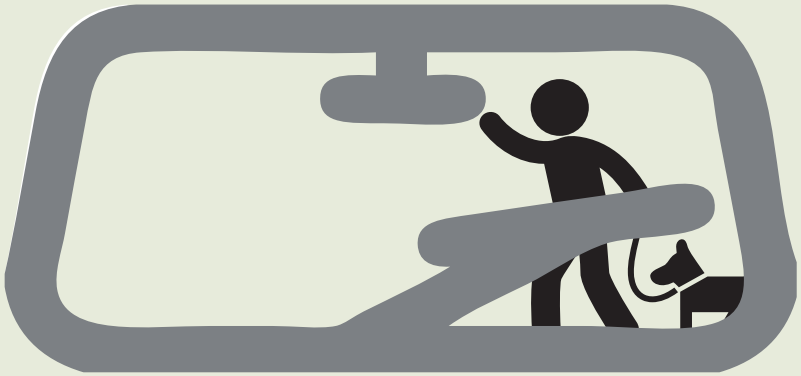
The St. Louis region has an annual average of **756** pedestrian crashes

Cities with larger **populations** see the most pedestrian crashes and injury levels.

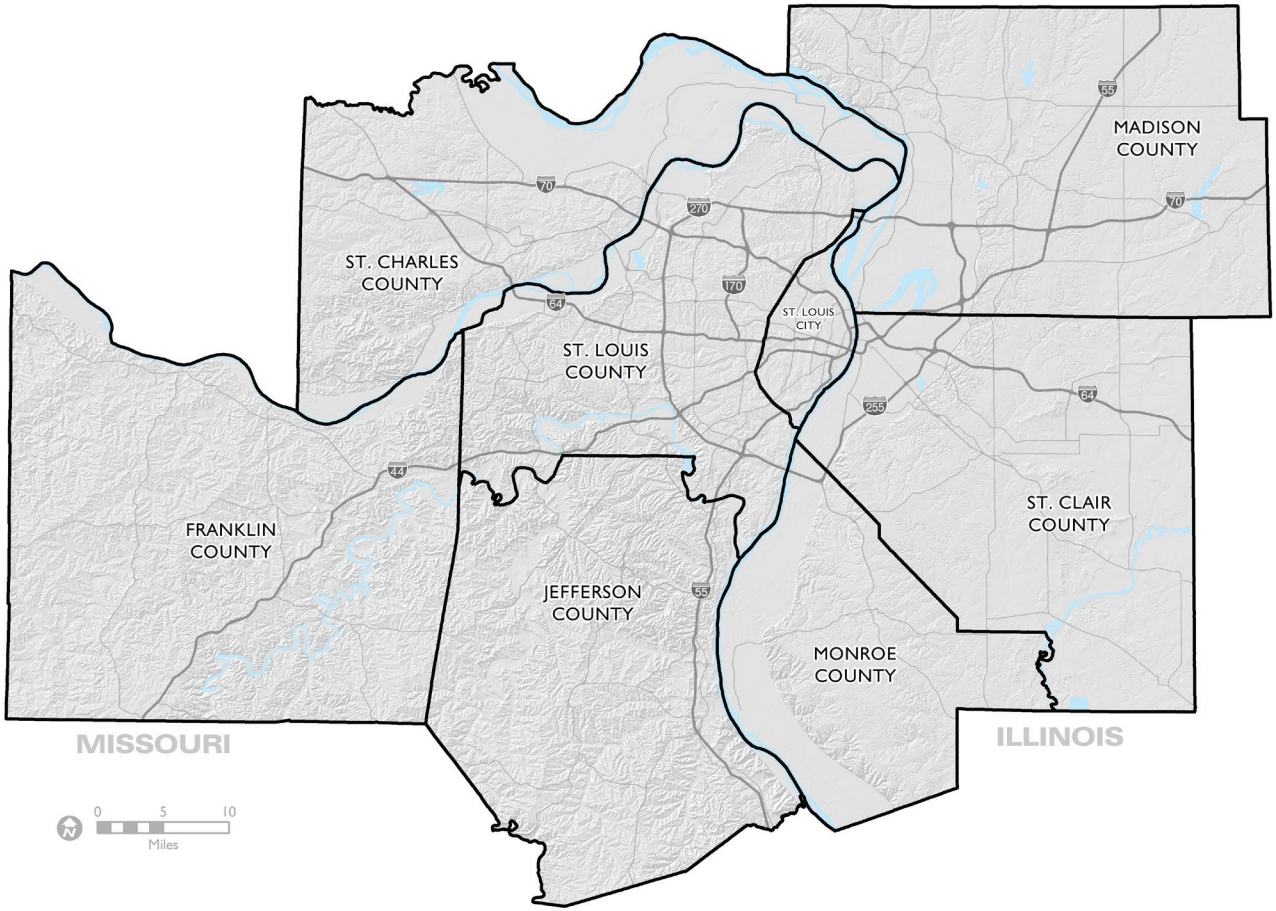
Most pedestrian crashes were on local roads.

The **top 2** known causes of pedestrian crashes:

1) Distracted or Inattentive Driving.
2) Failure to Yield.



East-West Gateway Region



Pedestrian Crash Trends

Over the five-year period from 2011 to 2015, the St. Louis region has seen an average of 756 pedestrian crashes annually. When comparing the St. Louis region to state and national numbers, the region is seeing a higher five year average of pedestrian crashes per 100,000 residents (29.3) than the state of Missouri (26.4) and the United States (23.4). The state of Illinois is ranking the highest out of the St. Louis region, Missouri and nationally with 37.8 pedestrian crashes per 100,000 residents.

Table 1: Pedestrian Crashes

Year	2011	2012	2013	2014	2015	Total	Average
Total	742	740	752	747	801	3,782	756

Figure 1: Pedestrian Crashes

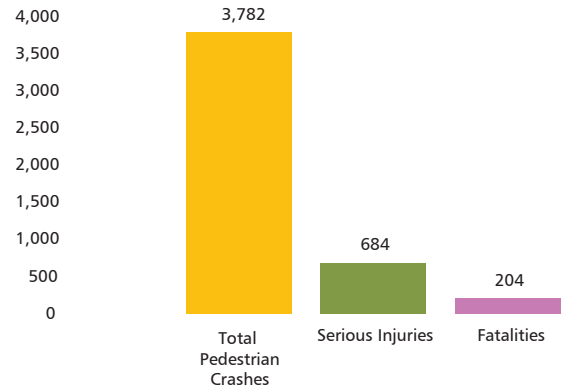


Figure 2: Fatalities as Percent of Total Pedestrian Crashes

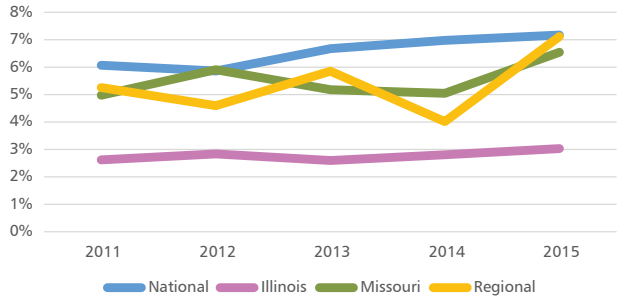


Figure 3: Serious Injury as Percent of Total Pedestrian Crashes

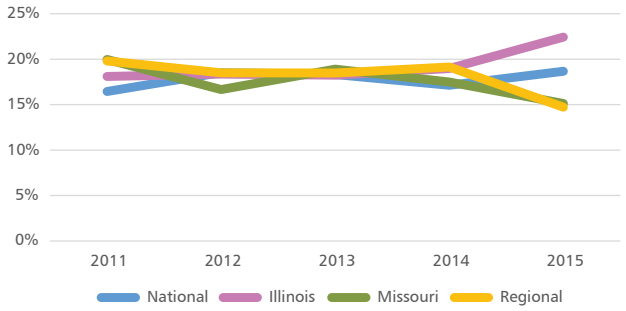
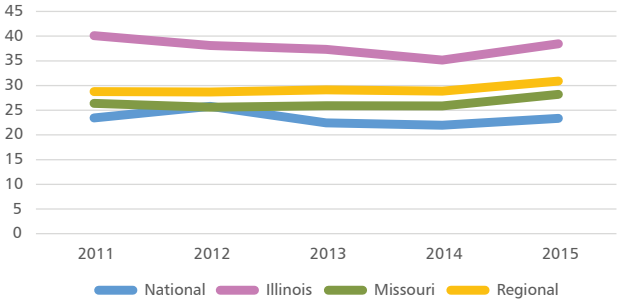
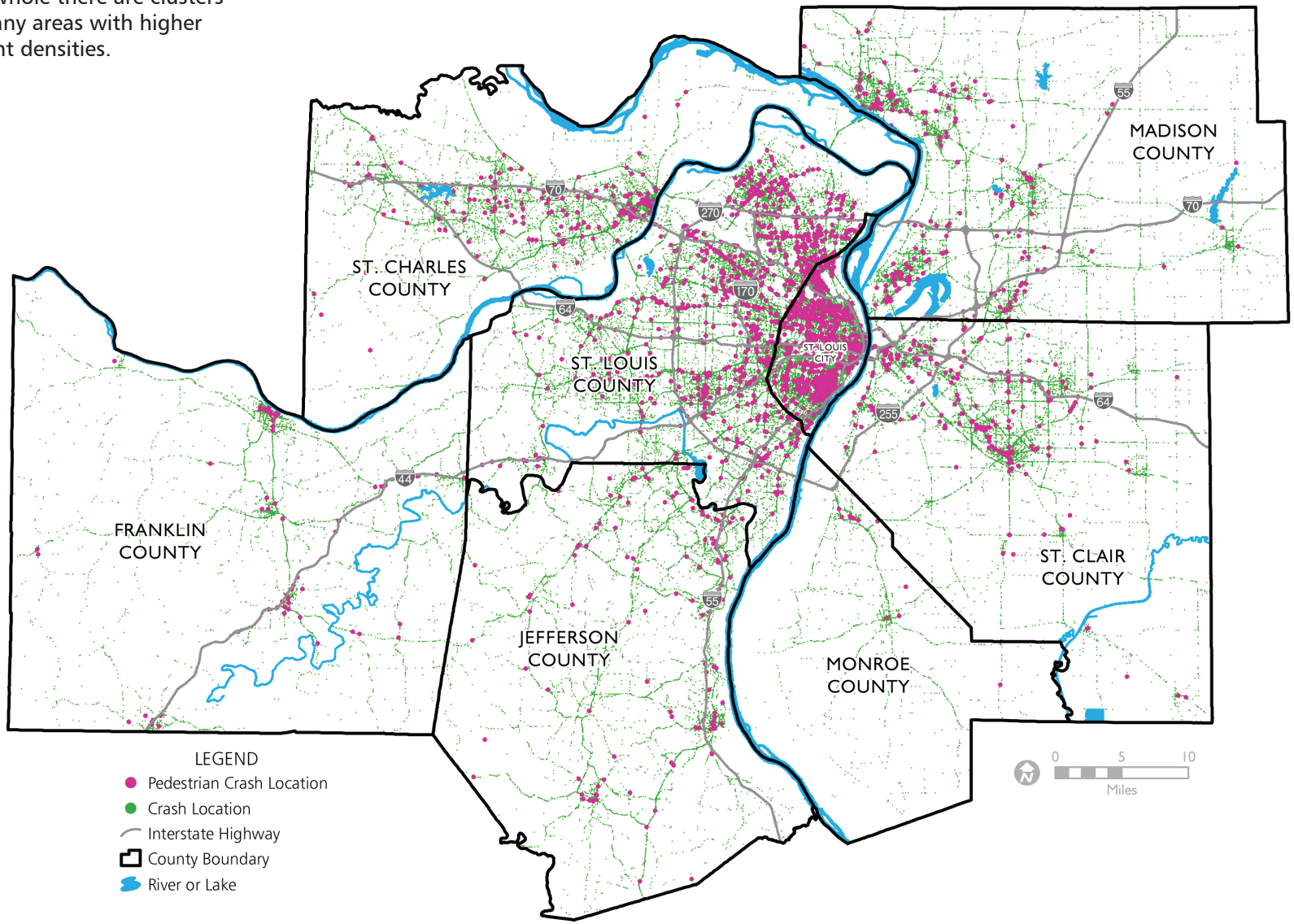


Figure 4: Pedestrian Crashes Per 100,000 Residents



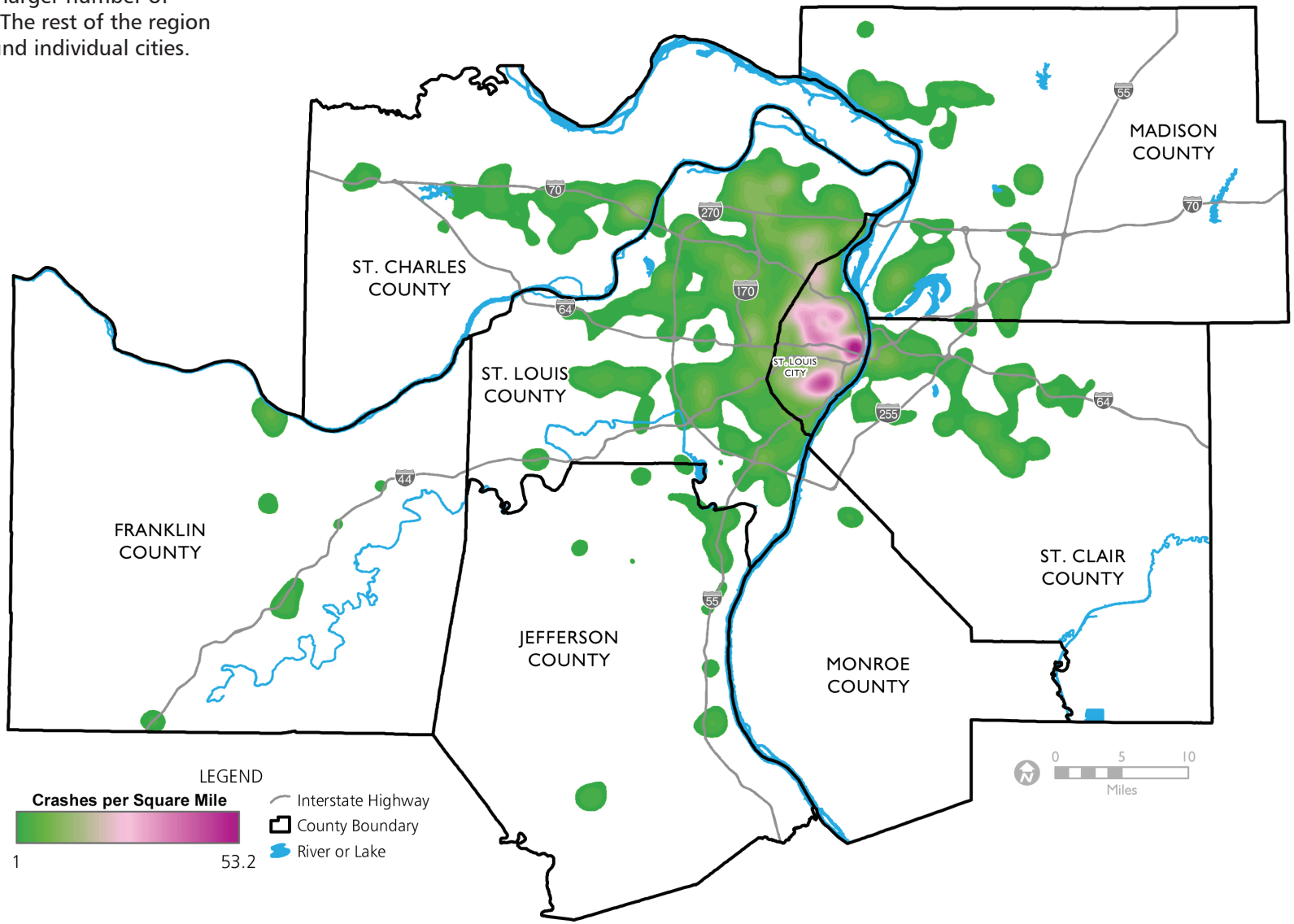
Pedestrian Crash Locations

This map shows an overwhelmingly high concentration of pedestrian crashes in the city of St. Louis and north St. Louis County. When looking at the region as a whole there are clusters of pedestrian crashes in many areas with higher population and employment densities.



Pedestrian Crashes per Square Mile

This map shows the highest density of pedestrian crashes happen in the city of St. Louis. North St. Louis County and the remainder of the area within the I-270 loop see a larger number of pedestrian crashes as well. The rest of the region has high density areas around individual cities.



Crashes by Time of Day

The highest number of pedestrian crashes occurred between 3:00-3:59 p.m., with a total of 333 crashes reported during this time period from 2011-2015. Generally, there are more pedestrian crashes between 3:00 p.m. and 9:59 p.m., with an uptick in the severity of crashes at this time and in the overnight hours.

Figure 5: Pedestrian Crashes by Time of Day

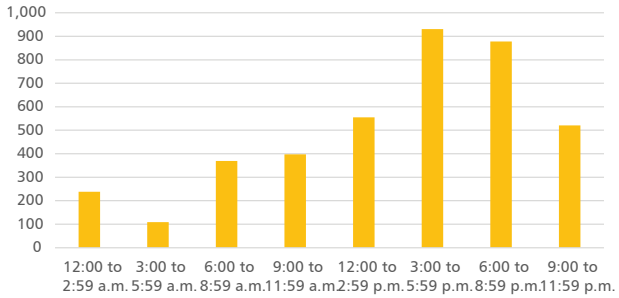


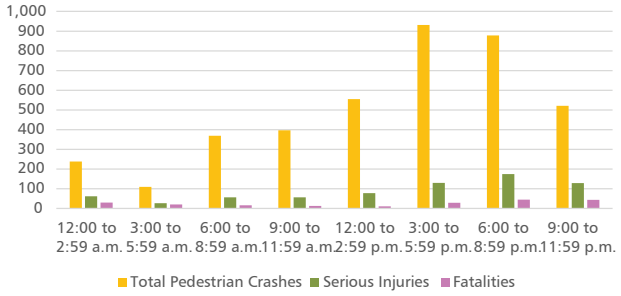
Table 2:

Time	2011	2012	2013	2014	2015	Total	Average
12:00 to 12:59 a.m.	27	14	20	16	14	91	18
1:00 to 1:59 a.m.	16	20	14	18	15	83	17
2:00 to 2:59 a.m.	13	12	14	14	11	64	13
3:00 to 3:59 a.m.	5	8	8	5	10	36	7
4:00 to 4:59 a.m.	6	2	5	4	6	23	5
5:00 to 5:59 a.m.	13	6	9	11	11	50	10
6:00 to 6:59 a.m.	21	15	16	21	21	94	19
7:00 to 7:59 a.m.	30	25	35	23	33	146	29
8:00 to 8:59 a.m.	33	26	25	21	24	129	26
9:00 to 9:59 a.m.	20	27	21	34	25	127	25
10:00 to 10:59 a.m.	17	28	17	25	26	113	23
11:00 to 11:59 a.m.	29	31	31	28	38	157	31
12:00 to 12:59 p.m.	44	31	38	39	51	203	41
1:00 to 1:59 p.m.	33	37	34	30	32	166	33
2:00 to 2:59 p.m.	41	39	38	35	33	186	37
3:00 to 3:59 p.m.	66	51	80	70	66	333	67
4:00 to 4:59 p.m.	52	45	58	54	67	276	55
5:00 to 5:59 p.m.	63	82	52	68	57	322	64
6:00 to 6:59 p.m.	70	69	63	53	75	330	66
7:00 to 7:59 p.m.	71	52	53	48	57	281	56
8:00 to 8:59 p.m.	44	41	68	55	59	267	53
9:00 to 9:59 p.m.	28	48	44	51	46	217	43
10:00 to 10:59 p.m.	31	36	26	29	42	164	33
11:00 to 11:59 p.m.	33	34	22	26	25	140	28

Table 3:

Time	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
12:00 to 12:59 a.m.	91	58	23	10
1:00 to 1:59 a.m.	83	51	22	10
2:00 to 2:59 a.m.	64	37	17	10
3:00 to 3:59 a.m.	36	19	12	5
4:00 to 4:59 a.m.	23	13	7	3
5:00 to 5:59 a.m.	50	31	7	12
6:00 to 6:59 a.m.	94	70	14	10
7:00 to 7:59 a.m.	146	116	24	6
8:00 to 8:59 a.m.	129	111	18	0
9:00 to 9:59 a.m.	127	101	21	5
10:00 to 10:59 a.m.	113	91	18	4
11:00 to 11:59 a.m.	157	136	17	4
12:00 to 12:59 p.m.	203	169	29	5
1:00 to 1:59 p.m.	166	140	23	3
2:00 to 2:59 p.m.	186	159	25	2
3:00 to 3:59 p.m.	333	277	50	6
4:00 to 4:59 p.m.	276	236	35	5
5:00 to 5:59 p.m.	322	259	45	18
6:00 to 6:59 p.m.	330	256	61	13
7:00 to 7:59 p.m.	281	210	55	16
8:00 to 8:59 p.m.	267	193	58	16
9:00 to 9:59 p.m.	217	145	54	18
10:00 to 10:59 p.m.	164	122	30	12
11:00 to 11:59 p.m.	140	82	45	13

Figure 6: Pedestrian Crashes by Time of Day and Severity Level



Crashes by Day of Week

Pedestrian crashes are dispersed fairly evenly throughout the week, with the most crashes occurring on Fridays, the most serious injuries occurring on Saturdays, and the most fatalities on Sundays.

Figure 7: Pedestrian Crashes by Day of Week

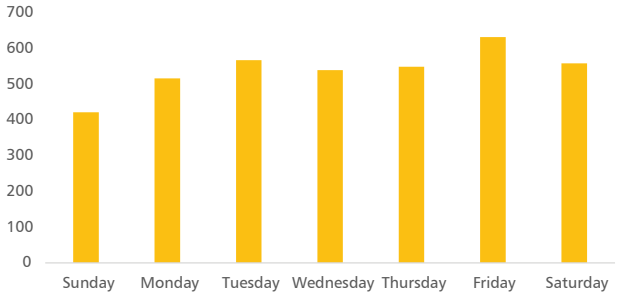


Table 4:

Day	2011	2012	2013	2014	2015	Total	Avg.
Sunday	79	99	87	98	89	452	90
Monday	142	91	101	105	109	548	110
Tuesday	112	118	115	115	141	601	120
Wednesday	130	107	113	110	100	560	112
Thursday	102	104	128	114	128	576	115
Friday	117	145	136	127	149	674	135
Saturday	124	115	111	109	128	587	117

Figure 8: Pedestrian Crashes by Day of Week and Severity Level

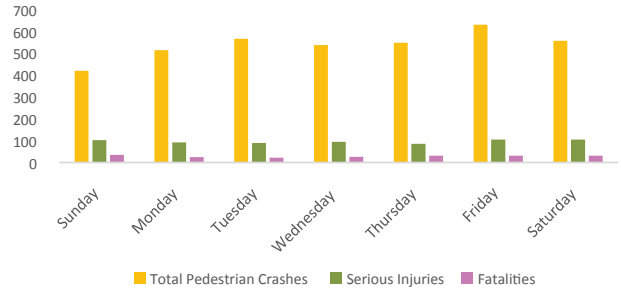


Table 5:

Day	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Sunday	452	307	109	36
Monday	548	427	96	25
Tuesday	601	480	98	23
Wednesday	560	435	99	26
Thursday	576	454	90	32
Friday	674	535	107	32
Saturday	587	444	111	32

When do you typically Walk?

Out of 671 survey respondents, the majority (78 %) reported walking on both weekdays and weekends. This is consistent with the crash data, which shows an even distribution of crashes involving pedestrians throughout the week.

Crashes by Month

The highest total amount of pedestrian crashes occurred in October. According to Streetsblog, Halloween is the single biggest night for child pedestrian fatalities, likely pushing up the average for October.[3] The highest months for pedestrian fatalities are February and October, and October was the highest month for serious injuries. The summer months, particularly June and July, see the lowest number of pedestrian fatalities.

Figure 9: Pedestrian Crashes by Month

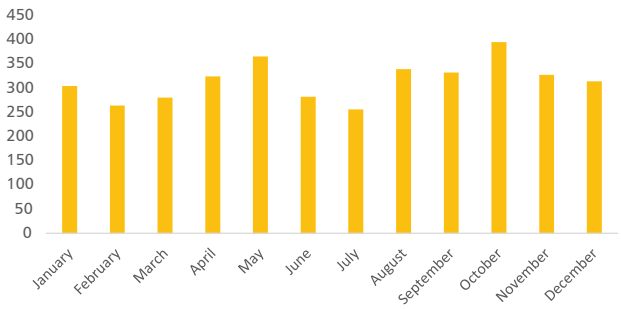


Figure 10: Pedestrian Crashes by Month and Severity

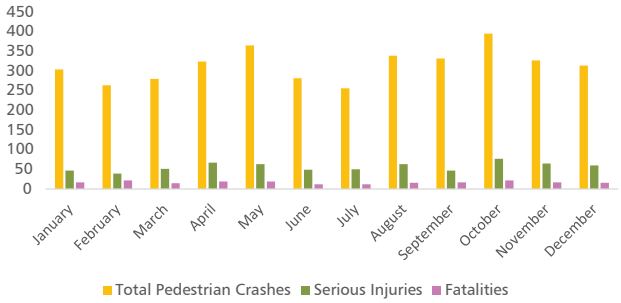


Table 6:

Month	2011	2012	2013	2014	2015	Total	Avg.
January	70	73	75	55	58	331	66
February	56	61	61	58	42	278	56
March	61	60	45	68	59	293	59
April	69	75	62	65	73	344	69
May	77	83	72	74	74	380	76
June	59	53	57	62	69	300	60
July	40	38	66	65	55	264	53
August	57	58	90	72	74	351	70
September	73	67	62	65	78	345	69
October	97	71	79	79	99	425	85
November	79	69	60	56	87	351	70
December	68	71	62	59	76	336	67

Table 7:

Month	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
January	331	264	48	19
February	278	215	41	22
March	293	227	51	15
April	344	254	71	19
May	380	293	68	19
June	300	233	55	12
July	264	201	51	12
August	351	272	63	16
September	345	278	50	17
October	425	319	84	22
November	351	269	65	17
December	336	257	63	16

3 https://www.vox.com/science-and-health/2017/10/31/16582594/halloween-car-crashes

Crashes by Weather Conditions

Most crashes occurred under clear weather conditions, which is when there are higher pedestrian volumes to begin with. This is consistent with pavement condition, which shows most crashes occur on dry pavement. It is important to note that multiple weather conditions can apply to a single crash, increasing the total number of crashes in this category. For example, it can be cloudy with freezing temperatures. It's also expected that the St. Louis region experiences more days of clear, cloudy, or rainy weather each year than instances of snow, sleet, or hail.

Table 8:

Weather Conditions	2011	2012	2013	2014	2015	Total	Average
Clear	519	577	554	549	586	2,785	557
Cloudy	143	98	125	126	133	625	125
Rain	69	58	66	59	84	336	67
Snow	10	3	15	11	3	42	8
Sleet/Hail	2	1	2	3	1	9	2
Freezing (Temp)	11	5	14	25	9	64	13
Fog or Mist	5	4	4	3	4	20	4
All Other Categories	7	9	9	9	5	39	8

Table 9:

Weather Conditions	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Clear	2,785	2,142	500	143
Cloudy	625	481	101	43
Rain	336	254	64	18
Snow	42	32	9	1
Sleet/Hail	9	7	2	0
Freezing (Temp)	64	40	12	12
Fog or Mist	20	13	6	1
All Other Categories	39	28	9	2

Figure 11: Pedestrian Crashes by Weather Conditions

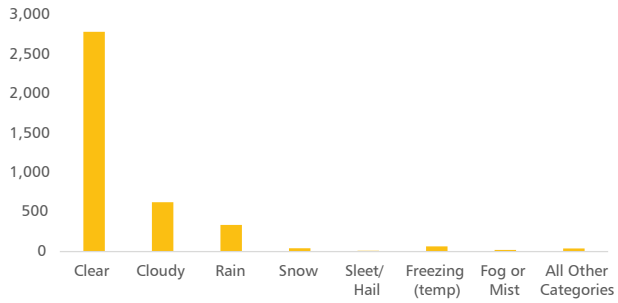
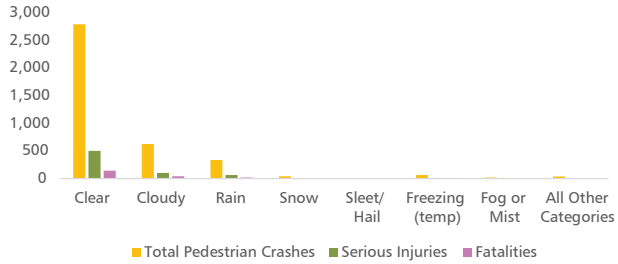


Figure 12: Pedestrian Crashes by Weather Conditions and Severity



What prevents you from walking more or at all?

According to survey results, bad weather ranked sixth in terms of what prevents people from walking more or at all, with 47 percent of respondents citing weather as minor reason and 24 percent citing it as a major reason. Bad weather ranked behind distance, lack of sidewalks, speed/number of cars, crossing busy roads, and lack of crosswalks, respectively.

Crashes by Pavement Conditions

When looking at the pavement conditions at the time of a pedestrian involved crash, the majority of pedestrian crashes (83 percent), as well as a majority of serious injuries (82 percent) and fatalities (82 percent), happened on dry pavement.

Table 10:

Pavement Conditions	2011	2012	2013	2014	2015	Total	Avg.
Dry	593	647	631	619	656	3,146	629
Wet	127	84	103	101	129	544	109
Snow/Ice/Frost/Slush	24	8	18	44	10	104	21
Other	7	6	8	8	14	43	9

Figure 13: Pedestrian Crashes by Pavement Conditions

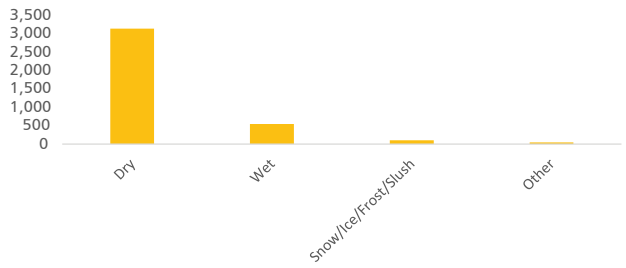
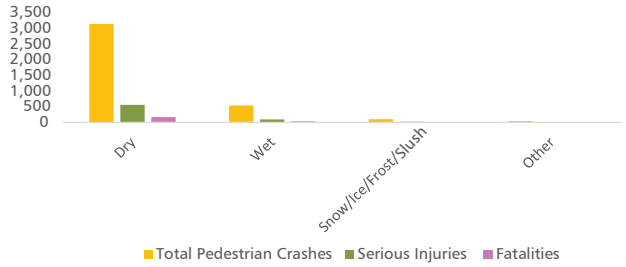


Table 11:

Pavement Conditions	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Dry	3,146	2,413	565	168
Wet	544	418	93	33
Snow/Ice/Frost/Slush	104	78	21	5
Other	43	33	9	1

Figure 14: Pedestrian Crashes by Pavement Conditions and Severity



Crashes by Lighting Conditions

The majority of pedestrian crashes (62 percent) occurred during daylight hours. The most fatalities (42 percent) occurred in darkness, on a lighted road.

Table 12:

Lighting Conditions	2011	2012	2013	2014	2015	Total	Average
Daylight	470	439	472	451	503	2,335	467
Darkness/Lighted Road	242	261	224	237	252	1,216	243
Darkness	80	77	89	85	88	419	84
All Other	14	2	6	5	1	28	6

Table 13:

Lighting Conditions	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Daylight	2,335	1,963	320	52
Darkness/Lighted Road	1,216	869	262	85
Darkness	419	231	123	65
All Other	28	19	5	4

Location of Crash

Local roads[4] see the highest numbers of pedestrian crashes, of all severity levels, across the board.

Pedestrians are not allowed on interstates, although it is important to note that someone getting out of their vehicle on an interstate due to car breakdown would be considered a pedestrian if they are outside the vehicle. Overall, the number of pedestrian crashes increased as city population increased, demonstrating a correlation between crash frequency and population density.

Crashes by Type of Roadway

Safer crossings at intersections was the most-desired improvement according to survey results, with almost two-thirds of respondents (65.6 percent) citing safer crossings as very important to supporting walking in the region.

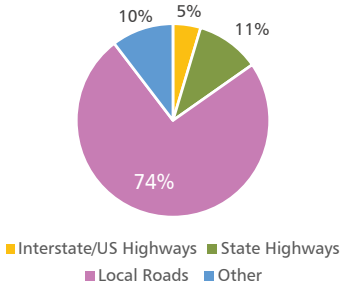
Table 14:

Type of Roadway	2011	2012	2013	2014	2015	Total	Average
Interstate/US Highways	38	28	43	37	39	185	37
State Highways	81	71	81	93	99	425	85
Local Roads	656	584	564	558	611	2,973	595
Other	31	96	103	90	95	415	83

Table 15:

Type of Roadway	Pedestrians	Minor and Non-Injuries	Serious Injuries	Fatalities
Interstate/US Highways	185	103	47	35
State Highways	425	255	120	50
Local Roads	2,973	2,365	494	114
Other	415	359	49	7

Figure 15: Pedestrian Crashes by Roadway Classification



4 Local roads are defined in crash report data being owned/maintained by a city or county.

Crashes by City Size

Table 16:

City Size	2011	2012	2013	2014	2015	Total	Average
Unincorporated	116	109	102	109	125	561	112
Less than 5,000	36	46	38	35	44	199	40
5,000 to 9,999	47	60	74	46	65	292	58
10,000 to 24,999	115	105	129	141	138	628	126
25,000 to 99,999	151	151	168	158	184	812	162
100,000 or more	341	308	280	289	288	1506	301

Figure 16: Pedestrian Crashes by City Size

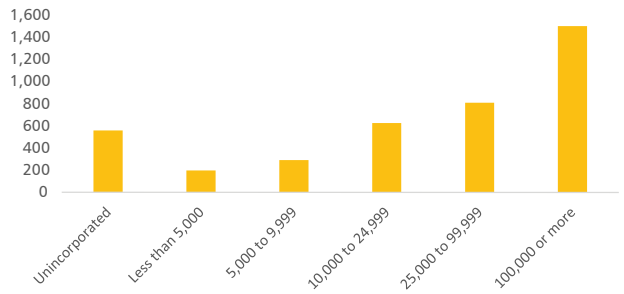
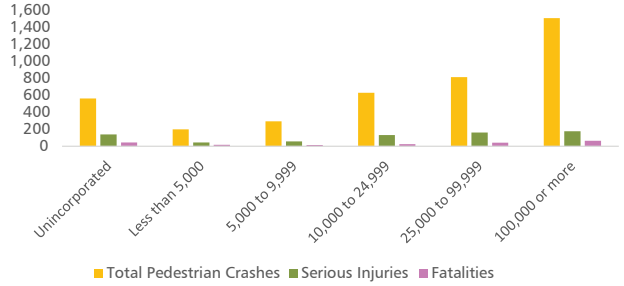


Table 17:

City Size	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Unincorporated	561	378	139	44
Less than 5,000	199	137	45	17
5,000 to 9,999	292	221	57	14
10,000 to 24,999	628	471	132	25
25,000 to 99,999	812	609	161	42
100,000 or more	1,506	1,266	176	64

Figure 17: Pedestrian Crashes by City Size and Severity



Crashes by Location on Roadway

Table 18:

Crash Location on Roadway	2012	2013	2014	2015	Total	Average
On Roadway	588	616	631	659	2,494	624
On Sidewalk	29	18	12	26	85	21
In Driveway Access	26	34	26	34	120	30
Off Roadway	95	78	75	88	336	84
All Other	41	45	34	37	157	39

Figure 18: Pedestrian Crash Locations

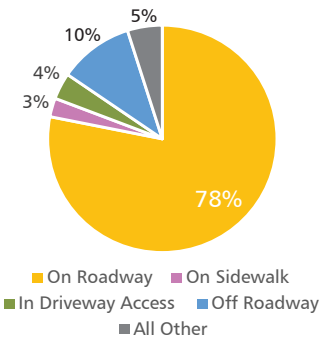


Table 19:

Crash Location on Roadway	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
On Roadway	2,494	1,901	455	138
On Sidewalk	85	74	8	3
In Driveway Access	120	101	15	4
Off Roadway	336	277	44	15
All Other	157	121	30	6

Cause of Crash

The two most common known causes of pedestrian crashes were distracted/inattentive drivers and failure to yield. It is difficult to pinpoint an accurate or conclusive trend regarding the causes of pedestrian crashes because the vast majority did not have a known cause. While it appears that distracted/inattentive driving saw a steep decline after 2011. This is likely due to administrative changes in the way that probable contributing circumstances are being reported by police on the new (2012) crash report form.

It is important to note that any crash can have more than one cause or vehicle movement, resulting in the number of driver actions depicted to exceed the total number of crashes.

Driver Actions

Table 20:

Driver Actions	2011	2012	2013	2014	2015	Total	Average
Distracted/Inattentive	195	86	90	82	90	543	109
Alcohol/Drugs	22	23	15	19	19	98	20
Driver Condition	7	4	7	4	7	29	6
Improper Backing	13	18	16	17	22	86	17
Improper Lane Change/Usage/ Passing/Wrong Way	24	15	20	18	23	100	20
Improper Turn/Signal	6	9	6	6	7	34	7
Improper Stoppage/Parking/ Starting/Riding	17	10	18	13	11	69	14
Failed to Yield	100	98	125	113	100	536	107
Speed Related	44	46	35	42	49	216	43
Vehicle Condition	13	6	6	6	11	42	8
Violation of Sign/Signal	17	12	12	7	6	54	11
Vision Obstructed	0	38	51	29	49	167	33
Other/Unknown	32	161	168	173	200	734	147
None	378	338	312	345	362	1735	347

Close to half of survey respondents (45 %) cited enforcement of traffic laws as a very important improvement to support walking in the St. Louis region, and roughly a third (34 %) cited enforcement as somewhat important.

Pedestrian Actions

Table 21:

Pedestrian Actions	2011	2012	2013	2014	2015	Total (2012-2015)	Average (2012-2015)*
Unknown/Blank/None/Other	108	443	362	348	380	1,533	383
Walking/Turning	61	238	259	249	261	1,007	252
Working/Standing in Roadway/ On Off Vehicle	111	90	81	77	87	335	84
Playing	24	14	24	22	26	86	22
Entering Vehicle/Area/Waiting	4	10	14	10	18	52	13
Crossing	549	117	134	130	142	523	131
Intoxicated	5	5	5	11	6	27	7

Driver and Pedestrian Actions

Table 22:

Under the Influence of Drugs/Alcohol	2011	2012	2013	2014	2015	Total	Average
Drivers	37	35	21	22	26	141	28
Pedestrians	35	42	54	55	60	246	49

Table 23:

Under the Influence of Drugs/Alcohol	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Drivers	141	74	52	15
Pedestrians	246	173	71	33

* 2011 data was omitted from this data set due to a change in reporting in Missouri which made 2011 data not comparable to data from 2012 and beyond.

Vehicle Movement

The top three most common vehicle movements prior to both non-fatal and fatal pedestrian crashes are going straight, starting/parked, and turning. These movements exclude the actual collision with the pedestrian.

Table 24:

Prior Movement of Vehicles Involved in Pedestrian Crashes	2011	2012	2013	2014	2015	Total	Average
Avoiding	2	2	0	6	5	15	3
Backing	41	34	37	23	52	187	37
Changing Lanes	2	0	0	7	2	11	2
Wrong Way	0	1	0	0	0	1	0
Entering Traffic/Merging	1	2	0	1	0	4	1
Crossing Center of Road/ Downhill Runaway	0	1	2	0	0	3	1
Slow/Stop	18	11	4	12	21	66	13
Turning	105	98	124	123	106	556	111
Skidding/Sliding	2	2	3	2	24	33	7
Starting/Parked	129	195	146	139	176	785	157
Passing/Overtaking	0	1	0	1	0	2	0
Going Straight	661	551	582	602	668	3,064	613
Ran Off Road/Struck by Object	1	3	0	2	0	6	1
Vehicle Failure	0	1	0	0	1	2	0
Other	3	0	0	2	0	5	1
Unknown	7	11	6	2	10	36	7

Table 25:

Prior Movement of Vehicles Involved in Pedestrian Crashes	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Going Straight	2,940	2,166	578	196
Starting/Parked	735	625	95	15
Turning	525	451	68	6
Backing	163	142	19	2
Slow/Stop	62	50	8	4
All Other (including unknown)	96	55	30	11

Crashes by Age of Pedestrian

Pedestrians in the 20-24 age group are involved in the highest total and average number of pedestrian crashes, as well as the highest number of fatalities. Those aged 15-19 saw the most serious injuries, and those age 80 and over saw the lowest number of crashes.

Figure 19: Pedestrian Crashes by Age

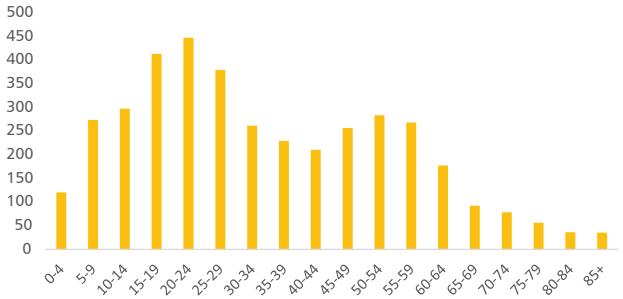


Figure 20: Pedestrian Crashes by Age and Severity

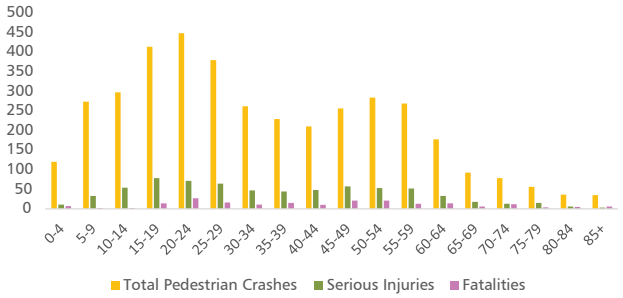


Table 26:

Age	2011	2012	2013	2014	2015	Total	Average
0-4	31	17	25	22	25	120	24
5-9	58	59	60	46	50	273	55
10-14	80	49	56	56	56	297	59
15-19	104	79	63	71	96	413	83
20-24	65	87	93	111	91	447	89
25-29	74	66	76	72	91	379	76
30-34	37	58	51	55	60	261	52
35-39	49	43	46	43	48	229	46
40-44	48	39	39	44	40	210	42
45-49	56	64	49	47	40	256	51
50-54	52	54	58	56	63	283	57
55-59	45	55	63	56	49	268	54
60-64	31	42	36	25	43	177	35
65-69	14	14	21	16	27	92	18
70-74	14	15	21	13	15	78	16
75-79	15	8	9	10	14	56	11
80-84	4	9	3	12	8	36	7
85+	7	6	7	6	9	35	7

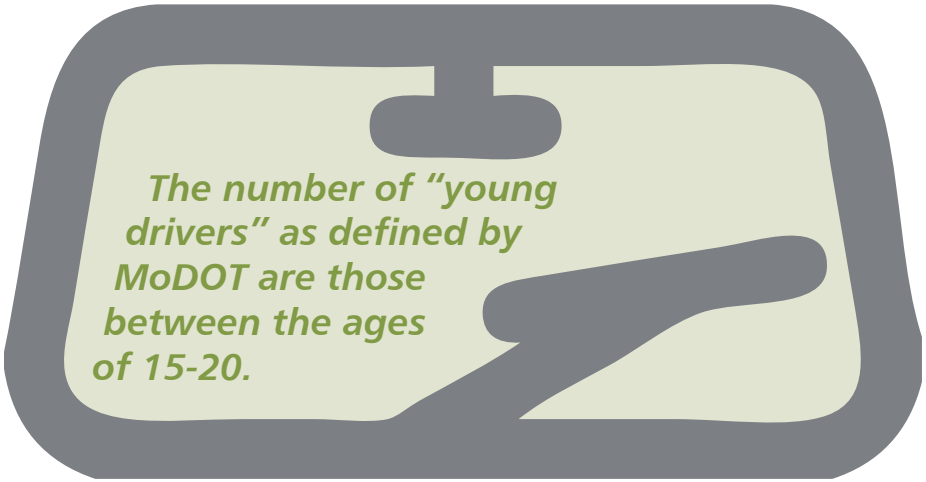
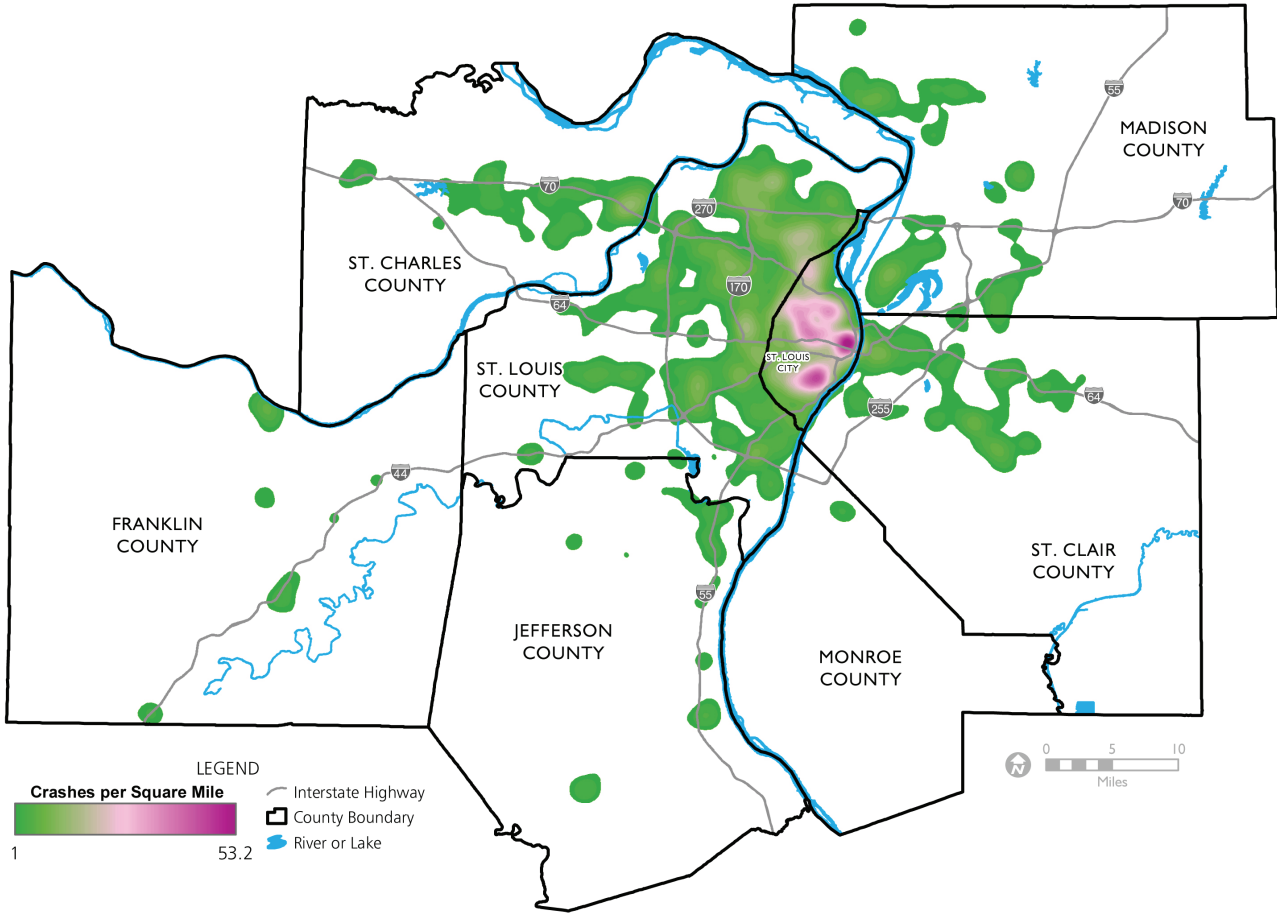


Table 27:

Age	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
0-4	120	102	11	7
5-9	273	238	33	2
10-14	297	241	54	2
15-19	413	321	78	14
20-24	447	349	71	27
25-29	379	299	64	16
30-34	261	203	47	11
35-39	229	170	44	15
40-44	210	152	48	10
45-49	256	178	57	21
50-54	283	209	53	21
55-59	268	203	52	13
60-64	177	130	33	14
65-69	92	68	18	6
70-74	78	53	13	12
75-79	56	37	15	4
80-84	36	25	6	5
85+	35	26	3	6

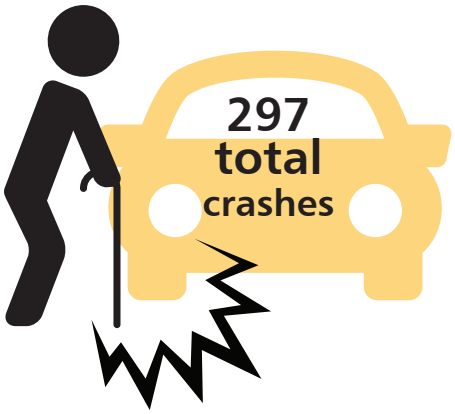
Pedestrian Crashes, Under 18 Years of Age per Square Mile

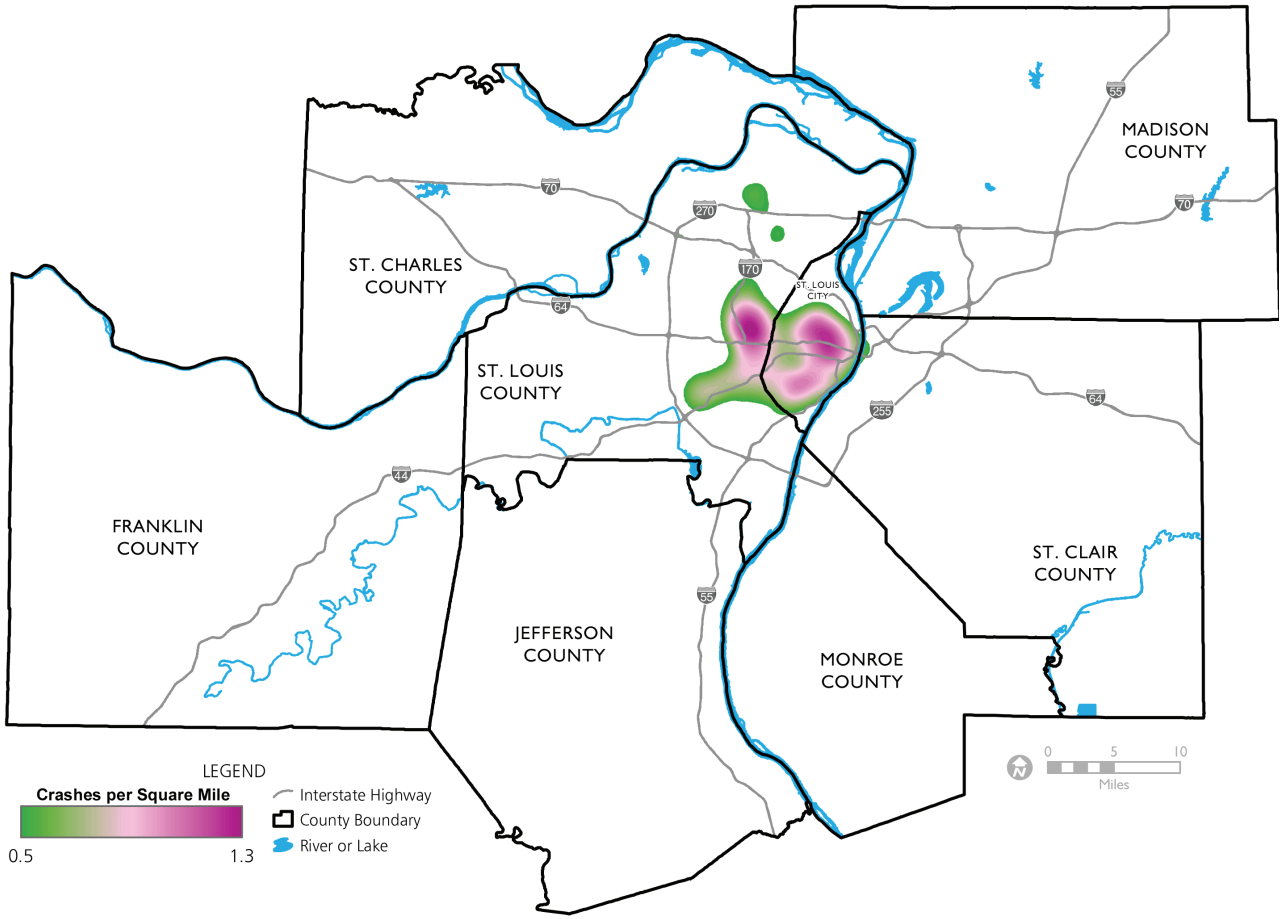
When looking at the age of the pedestrian involved in a crash, pedestrians under 18 years of age show a higher concentration of being involved in a crash in northern and southern portions of the city of St. Louis. There are clusters of pedestrian crashes involving this younger age group within the I-270 loop, as well.



Pedestrian Crashes, Over 65 Years of Age per Square Mile

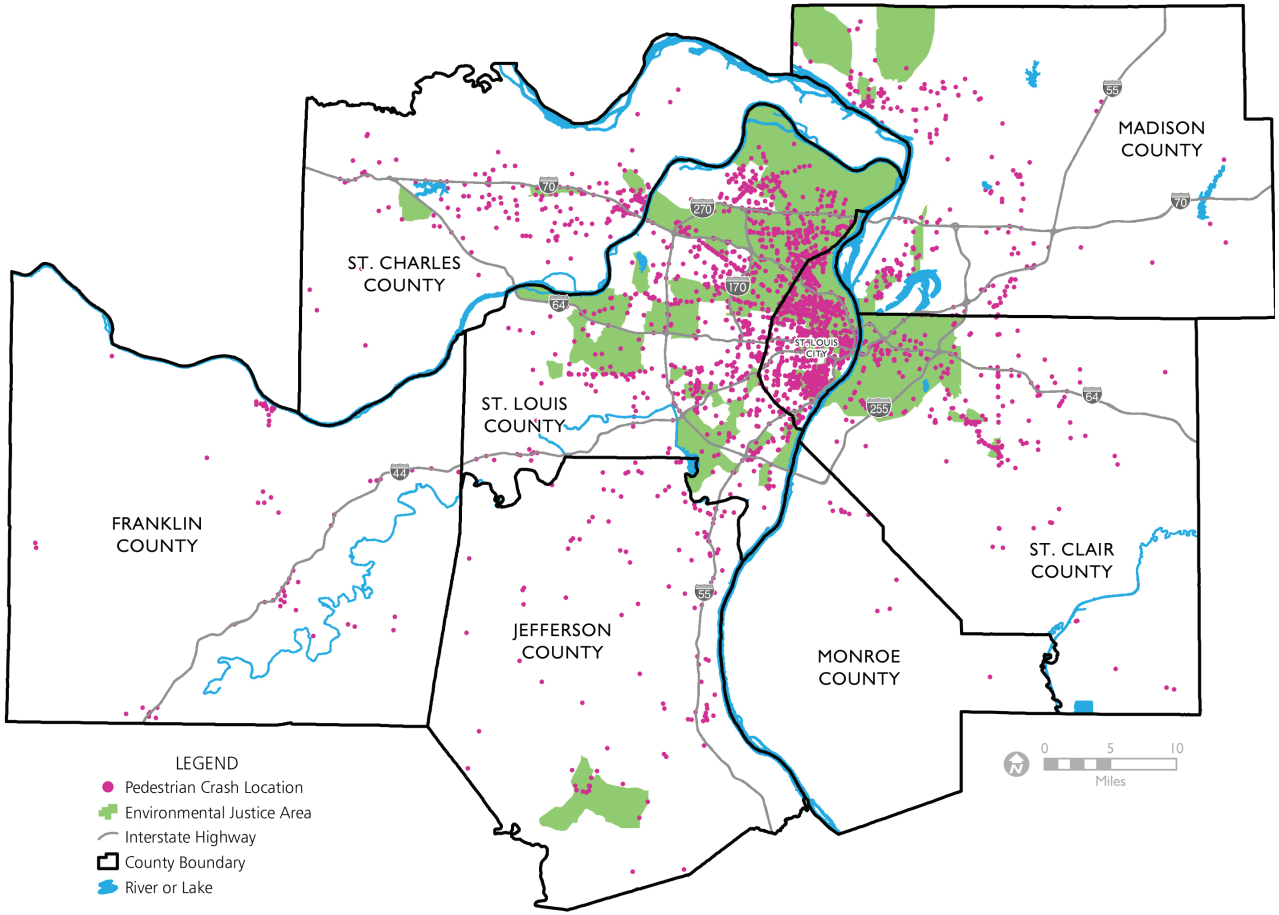
When looking at pedestrian crashes involving a pedestrian over the age of 65, it is almost strictly confined to the city of St. Louis and St. Louis County.





Pedestrian Crash Locations with Environmental Justice Areas

Many of the crashes happening in the northern portion of the city of St. Louis and north St. Louis County occur in Environmental Justice (EJ) areas. Much of the EJ tract within St. Louis County shows an overlap with pedestrian crashes. The EJ tract that stretches from the Mississippi River to the northern border of St. Clair County to the Fairview Heights and down to Cahokia shows a larger number of pedestrian crashes as well.



Crashes by Gender of Pedestrian

Table 28:

Gender	2011	2012	2013	2014	2015	Total	Average
Female	326	312	341	305	346	1,630	326
Male	479	461	447	470	489	2,346	469

Figure 21: Pedestrian Crashes by Gender

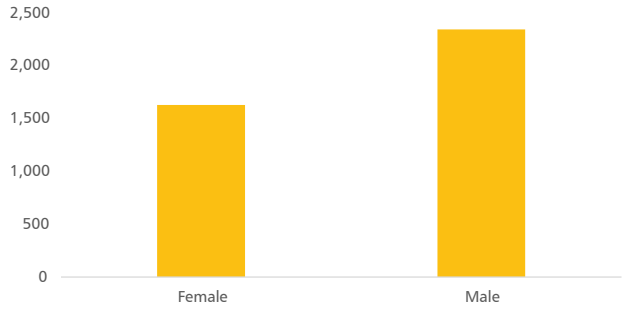
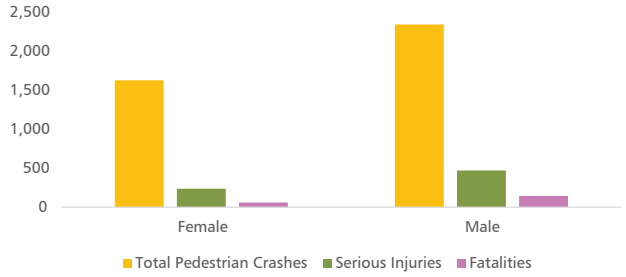


Table 29:

Gender	Total Pedestrian Crashes	Minor and Non-Injuries	Serious Injuries	Fatalities
Female	1,630	1,334	236	60
Male	2,346	1,727	473	146

Figure 22: Pedestrian Crashes by Gender and Severity Level



Strategies

The Federal Highway Administration, Missouri Department of Transportation and Illinois Department of Transportation have many proven and recommended strategies and countermeasures for sponsors to use to make roadways a safer place for pedestrians. When talking about roadway safety, the Four E's are usually discussed: education, emergency medical services, enforcement and engineering. In this document we have combined the emergency medical services and enforcement strategies. The strategies and countermeasures provided in this document are a summary of strategies listed in Illinois and Missouri's strategic highway safety plans, the city of St. Louis' Pedestrian Safety Action Plan and the Federal Highway Administration's website.

Education

These strategies focus on educating the general public and roadway users about traffic safety. Those who can help implement these strategies are advocacy groups, safety coalitions, community groups, educators, communication professionals, etc.

- Educate the public about the dangers of:
  - exiting and walking around a disabled vehicle or vehicles involved in an incident.
  - distracted pedestrians (e.g., texting, talking, listening to music, etc.).
- Educate pedestrians on the importance of:
  - being visible to motorists (e.g., establish eye contact with drivers, etc.).
  - utilizing crosswalks and obeying crosswalk signals.
- Educate drivers on the importance of:
  - being aware and alert of pedestrians on the roadway, especially in or near intersections and downtown areas.
  - obeying traffic laws, with emphasis on yielding to pedestrians.
- Conduct public outreach campaigns such as PSAs, safety fairs and partnering with transit agencies.
- Use social media and new technologies to provide information and promote pedestrian safety.
- Increase school programs that address pedestrian safety.
- Educate and encourage pedestrians to increase their visibility by wearing bright and reflective clothing.
- Promote awareness and increase enforcement of existing laws regarding pedestrians' right-of-way.
- Continue to improve driver's education by incorporating components into licensure, including for CDLs.

Emergency Medical Services(EMS)/Enforcement

These strategies focus on what first responders can do to help lower pedestrian crashes. Partners who can help implement these strategies include first responders, fire, rescue, paramedics and law enforcement.

- Increase enforcement of traffic laws to prevent pedestrian injuries and deaths (e.g., failure to use crosswalk, jaywalking, failure of drivers to yield, etc.).
- Increase enforcement for speeding and aggressive driving.
- Identify funding sources, opportunities and partnerships to implement enforcement strategies.
- Have first responders receive Traffic Incident Management (TIM) training. This training helps first responders gain the knowledge of the major principles of TIM and basic instruction methods for training first responders. This course trains first responders to set up a safe work environment for those attending to a traffic incident.

Engineering

These strategies include countermeasures that can be physically made to roadways, sidewalks, intersections, etc. Engineering partners include highway design, traffic, maintenance, operations, and planning professionals.

- Utilize best practices for Complete Streets design from AASHTO and NACTO sources.
- Promote systemic design solutions that reduce conflict points, minimize exposure at roadway crossings, separate modes and reduce speed when practical.
- Design with pedestrians in mind to reduce conflict points and improve safety at crossings.
- Enhance intersection and roadway design to be more pedestrian friendly, including refuge islands and traffic calming designs.
- Improve lighting in selected urban locations.
- Improve pedestrian signalization (e.g., countdown pedestrian signals, advanced walk phase, all-scramble walk phase, etc.).
- Install/improve pedestrian signs, road markings and devices.
- Upgrade sidewalks and curb ramps to ADA standards.
- Install crosswalk signs and pavement markings at all schools.
- Install pedestrian mid-block crossing signals.
- Restrict parking near intersections.
- Install curb extensions and bulb outs.
- Require appropriate apparel and traffic control devices for school crossing guards.
- Update inventory of sidewalk gaps and non-compliant ADA locations.
- Prioritize improvements based on various factors, including but limited to, crash data, activity and cost.
- Use high visibility crosswalk markings as appropriate.
- Remove unwarranted traffic control devices.
- Improve pedestrian accommodations in work zones.
- Evaluate and consider opportunities for access management or diverting vehicular traffic to nearby routes to avoid high pedestrian travel areas.
- Provide school route improvements.

Funding for Pedestrian Improvements

This section identifies possible state and federal funding sources that sponsors can use for implementing pedestrian safety strategies. It is important to note that this list is not an all-inclusive list and sponsors can use other funding such as local funds, grants, and donations.

Surface Transportation Block Grant Program – Suballocated (STP-S)

STP-S is a federally funded program that is administered by EWG. STP-S provides flexible funding that may be used by State and local governments for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals. This program is funded through the Surface Transportation Block Grant Program which was authorized by the current transportation law the FAST Act. Under this program, bicycle and pedestrian facilities may be constructed regardless of the roadway functional classification.

Transportation Alternatives Program (TAP)

TAP is a federally funded program that is administered by EWG. TAP provides funding for a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to storm water and habitat connectivity. This program is authorized by the current transportation law the FAST Act. TAP projects must have a direct relationship to surface transportation and funding may be used for any phase of the project, including preliminary engineering/design, environmental, right-of-way, or construction.

Congestion Mitigation and Air Quality Improvement (CMAQ) Program

CMAQ is a federally funded program that is administered by EWG. The CMAQ program provides a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas, including the St. Louis region, that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former non-attainment areas that are now in compliance (maintenance areas). This program is authorized by the current transportation law the FAST Act. Bicycle and pedestrian facilities are eligible activities under CMAQ.

Highway Safety Improvement Program (HSIP)

HSIP is a federally funded program that is administered by the state Department of Transportation. The goal of HSIP is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. This program is authorized by the current transportation law the FAST Act.

Illinois Transportation Enhancement Program (ITEP)

ITEP is a federally funded program that is administered by the Illinois Department of Transportation. ITEP provides funding for projects that expand travel choices and enhance the transportation experience by improving the cultural, historic, aesthetic and environmental aspects of our transportation infrastructure. The ITEP is designed to promote and develop alternative transportation options, including bike and pedestrian travel, along with streetscape beautification. The federal funds are awarded competitively, and projects must be related to surface transportation.

Eligible applicants include all entities that were previously eligible to apply for TAP funds, and include any local or state government with taxing authority. In addition, the FAST Act allows nonprofit entities responsible for the administration of local transportation safety programs to apply. Local matching funds are required.

Traffic Engineering Assistance Program (TEAP)

TEAP is administered by the Missouri Department of Transportation (MoDOT) with funds coming from MoDOT and the local public agencies (LPA). The Missouri Highway and Transportation Commission (MHTC) developed TEAP to provide Missouri LPAs with assistance to proficiently study traffic engineering problems. LPAs facing a traffic safety or operational problem can utilize the LPA On-Call Consultant List to perform a traffic study. Typical studies may include corridor safety and/or operational analysis, intersection(s) safety and/or operational analysis, speed limit review, sign inventory, pedestrian/bike route analysis, parking issues, and other traffic studies including elements necessary to develop an ADA transition plan.

Resources

Federal Highway Administration: Pedestrian Safety

https://safety.fhwa.dot.gov/ped_bike/

https://safety.fhwa.dot.gov/ped_bike/ped_focus/

https://safety.fhwa.dot.gov/ped_bike/ped_focus/focus_cities_states2015.cfm

http://pedbikesafe.org/

Illinois Strategic Highway Safety Plan

http://www.idot.illinois.gov/Assets/uploads/files/Transportation-System/Reports/Safety/SHSP/SHSP_2017.pdf

Missouri Strategic Highway Safety Plan

http://s3-us-west-2.amazonaws.com/modot-pdfs/Blueprint_2016-2020.pdf

City of St. Louis Pedestrian Safety Action Plan

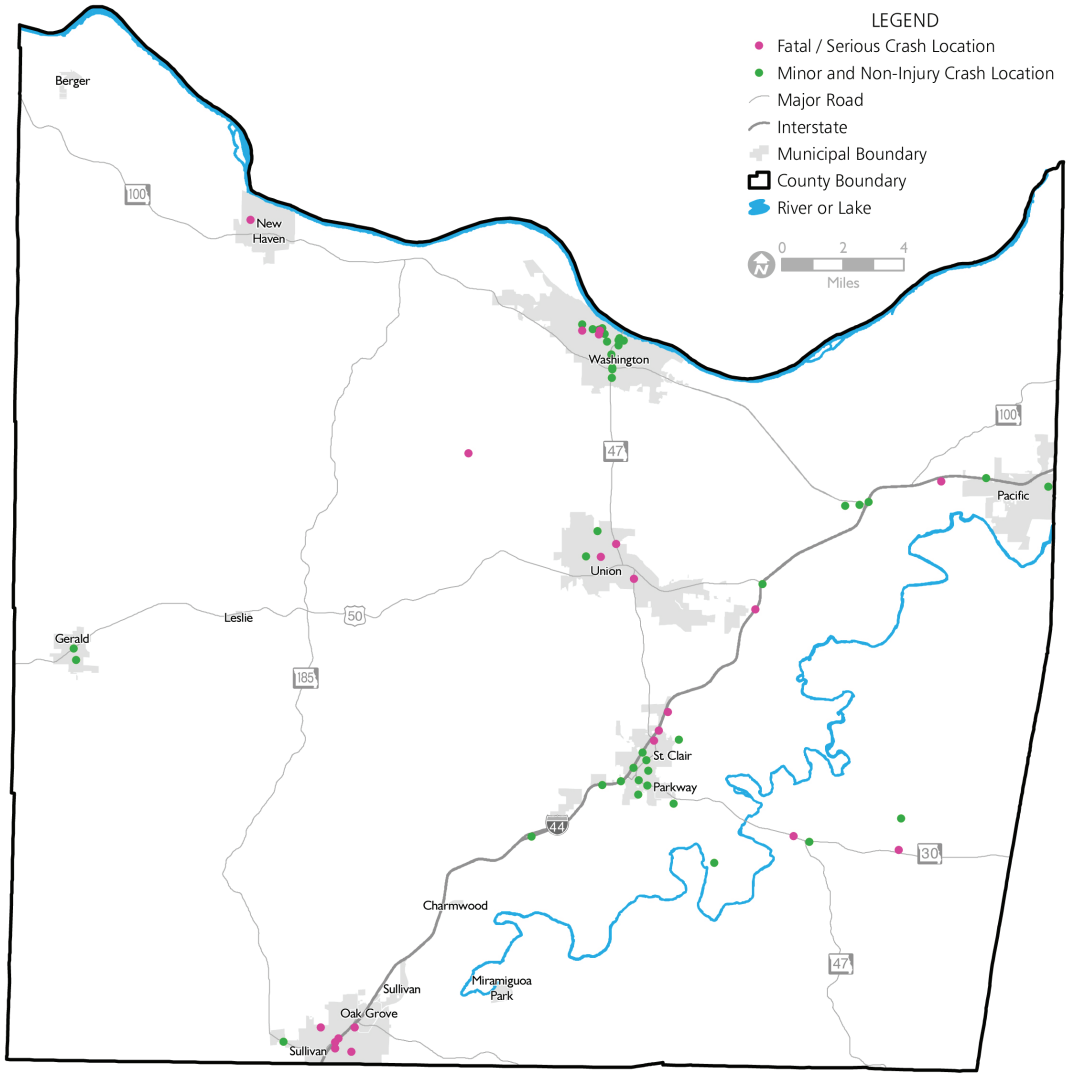
https://www.stlouis-mo.gov/government/departments/street/documents/pedestrian-safety.cfm

National Highway Traffic Safety Administration

https://www.nhtsa.gov/road-safety/pedestrian-safety

Map Appendix

Pedestrian Crash Locations—Maps by County



Franklin County, Missouri

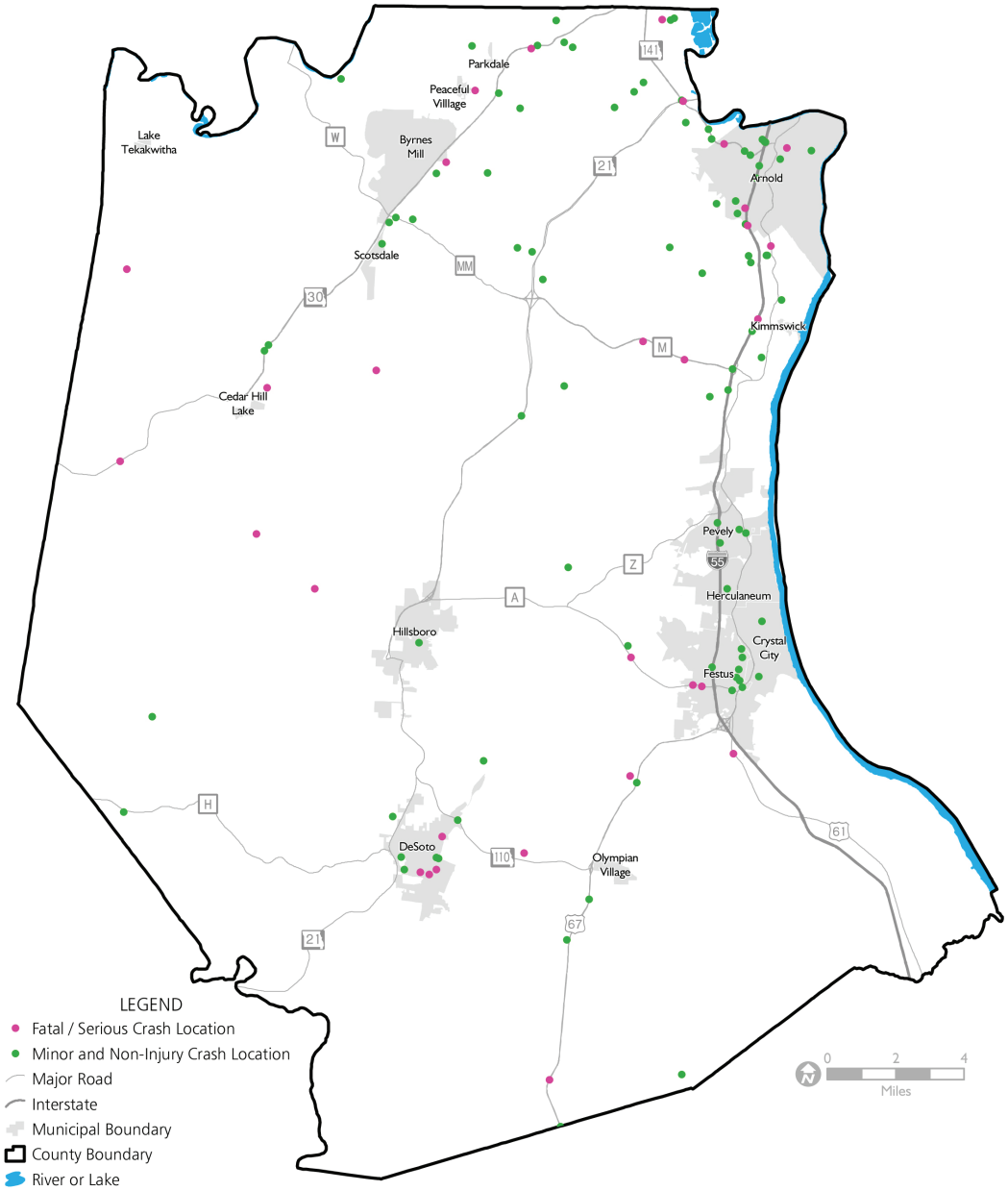
Pedestrian Crash Locations

2011-2015

Jefferson County, Missouri

Pedestrian Crash Locations

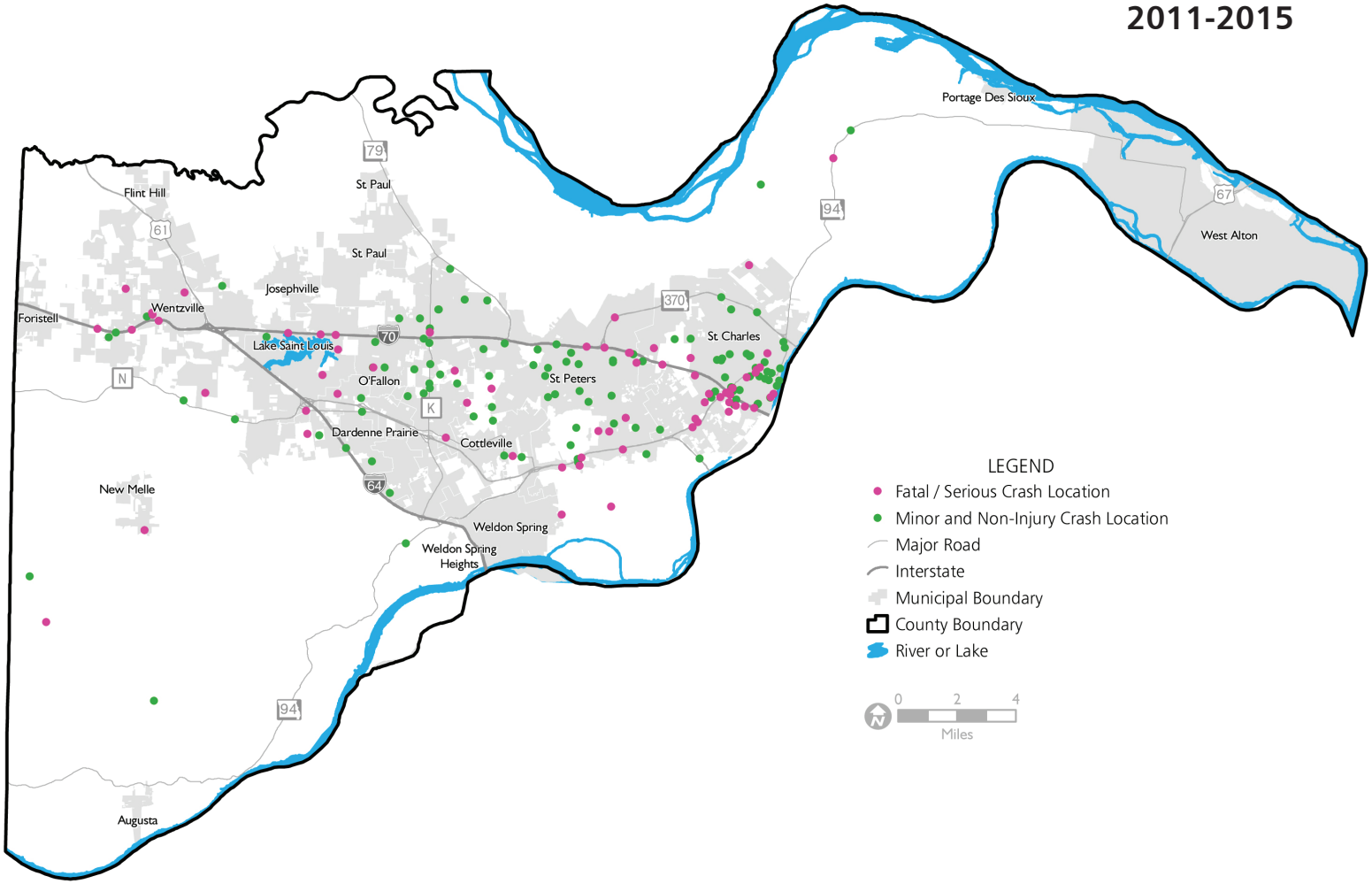
2011-2015



St. Charles County, Missouri

Pedestrian Crash Locations

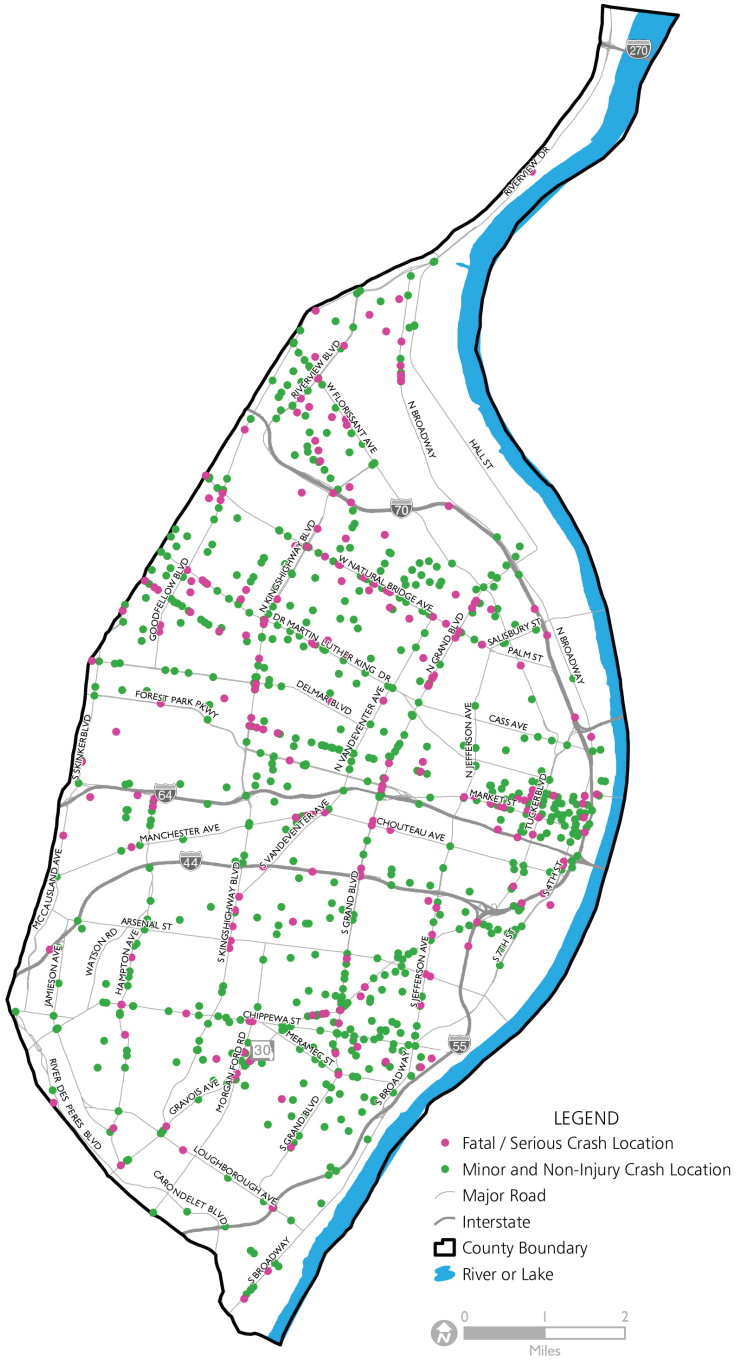
2011-2015

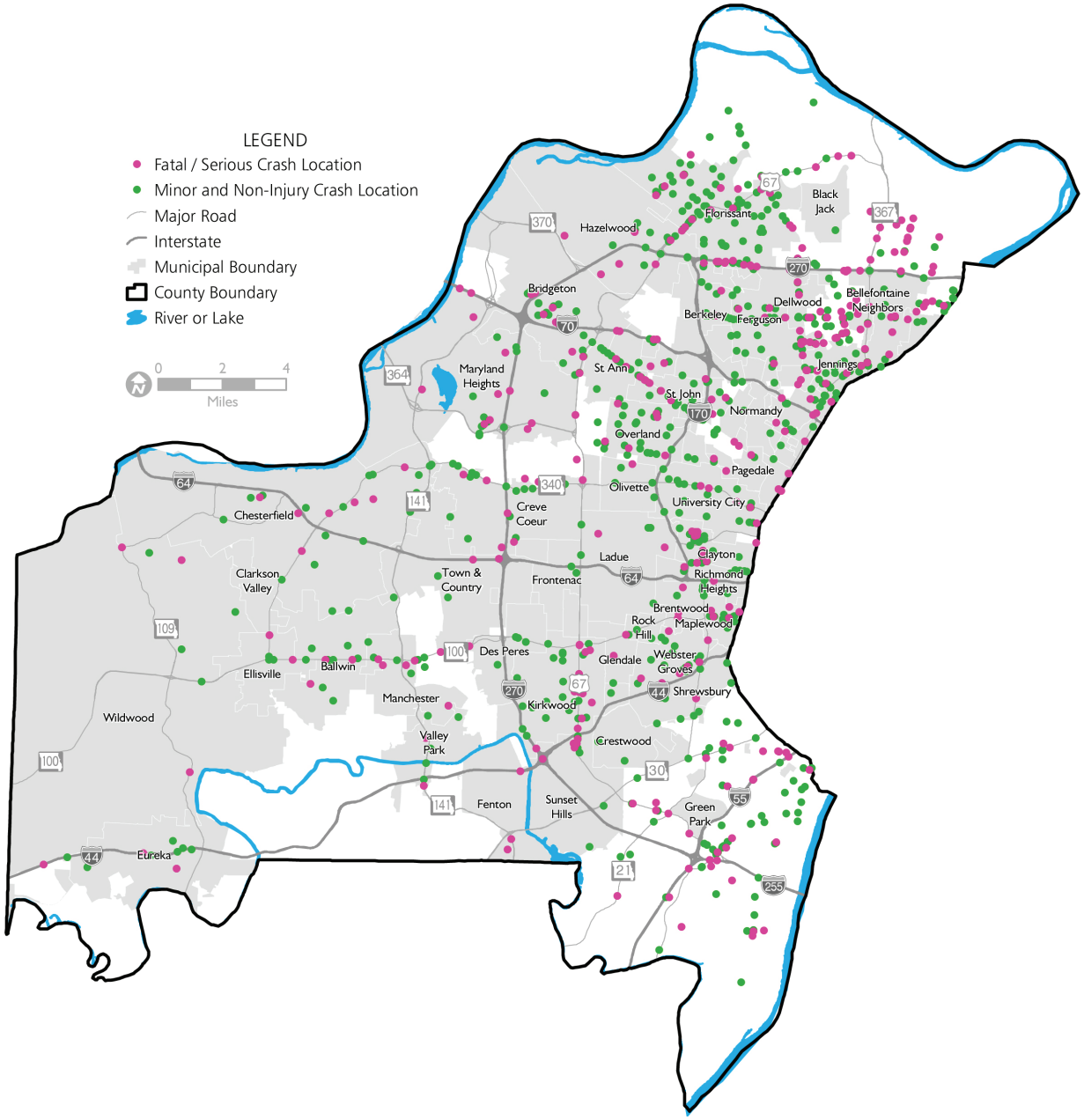


City of St. Louis, Missouri

Pedestrian Crash Locations

2011-2015





St. Louis County, Missouri

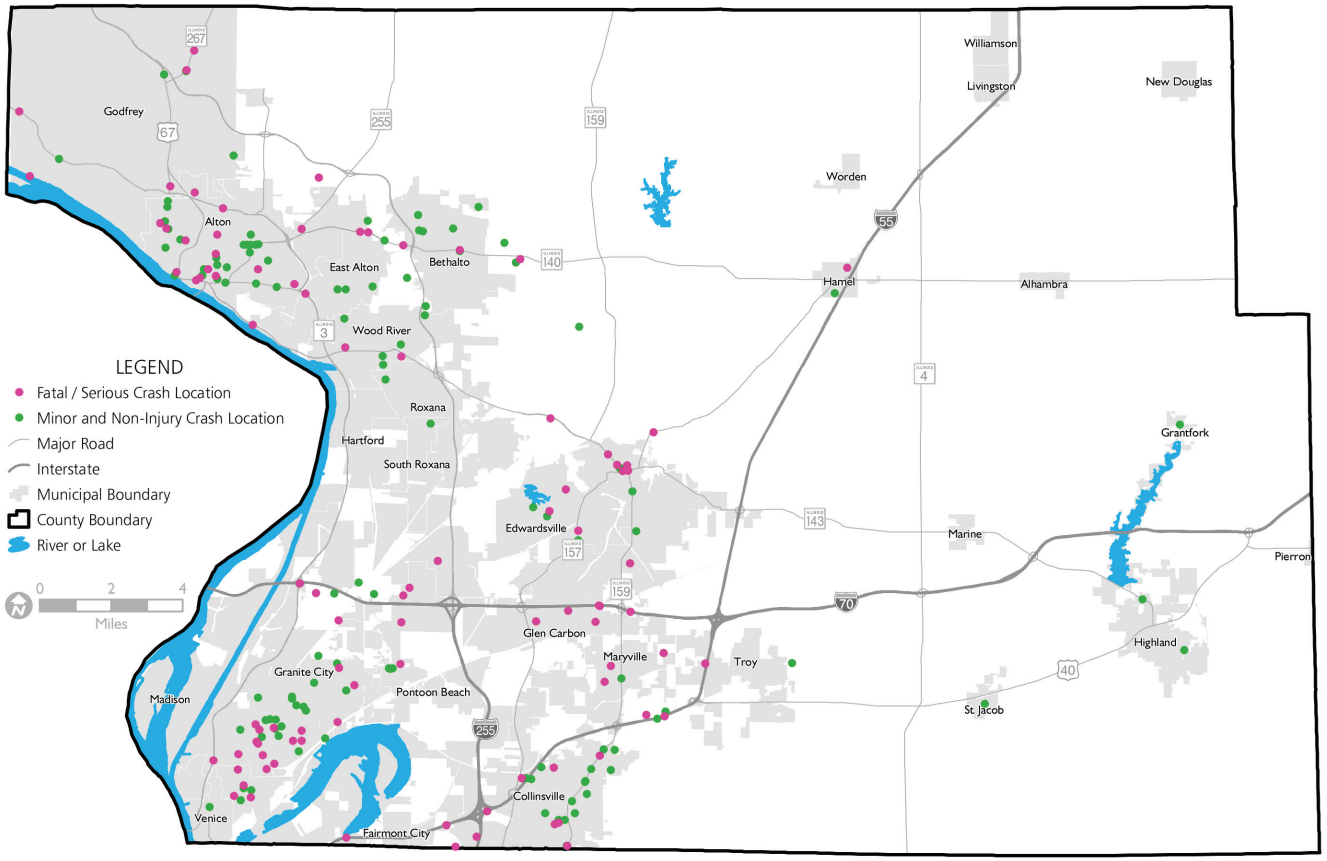
Pedestrian Crash Locations

2011-2015

Madison County, Illinois

Pedestrian Crash Locations

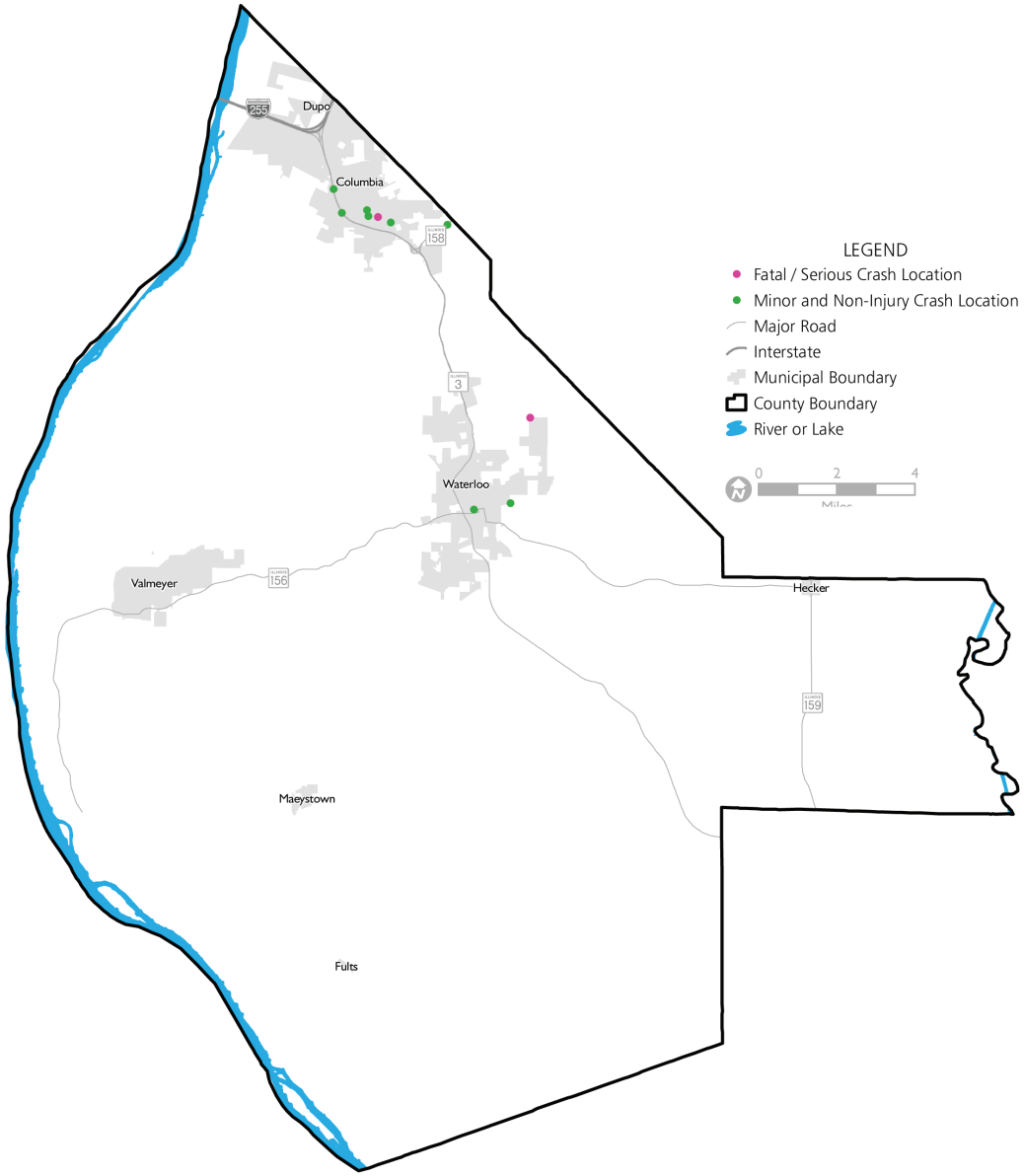
2011-2015



Monroe County, Illinois

Pedestrian Crash Locations

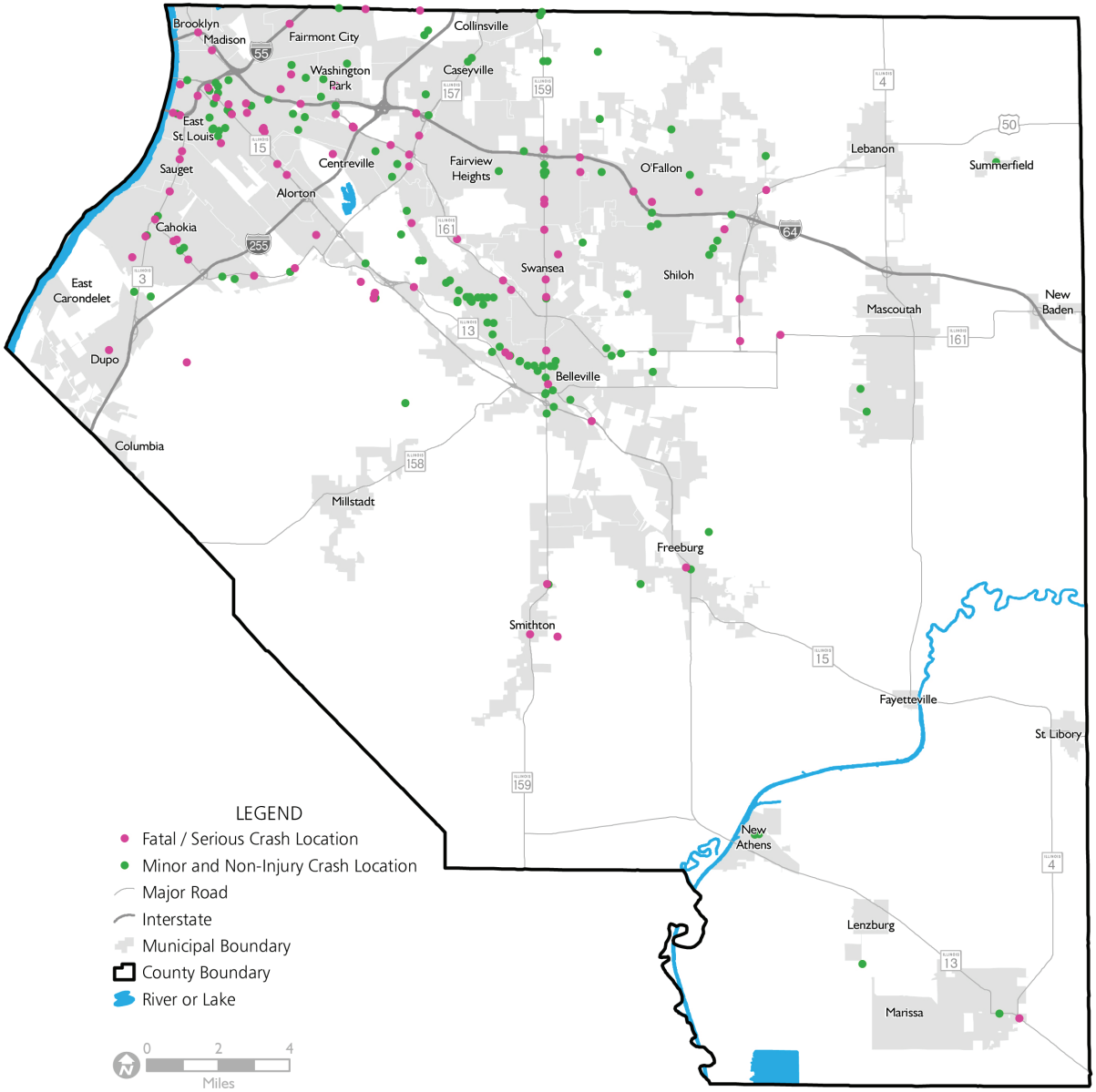
2011-2015



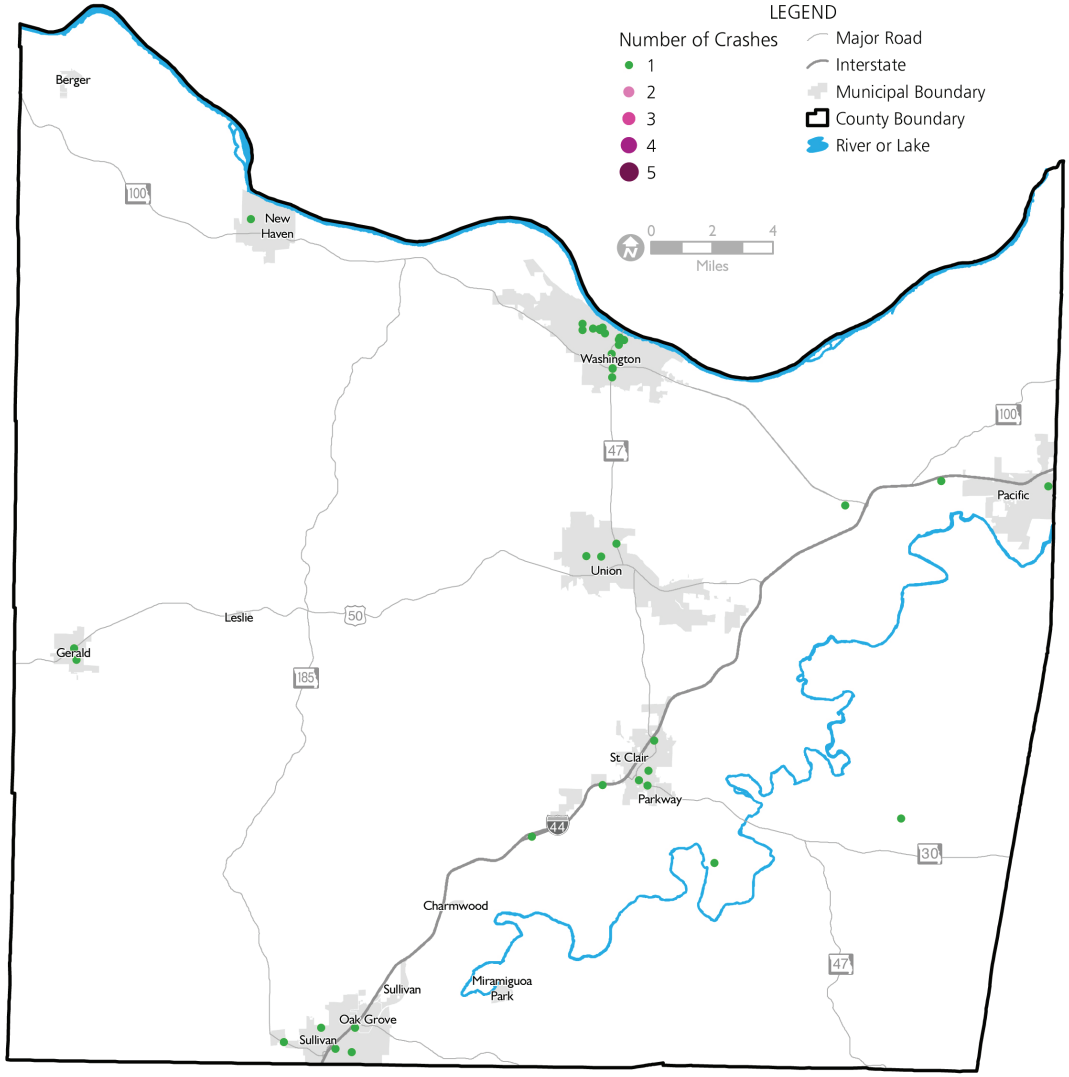
St. Clair County, Illinois

Pedestrian Crash Locations

2011-2015



Pedestrian Crashes by Intersection—Maps by County



Franklin County, Missouri

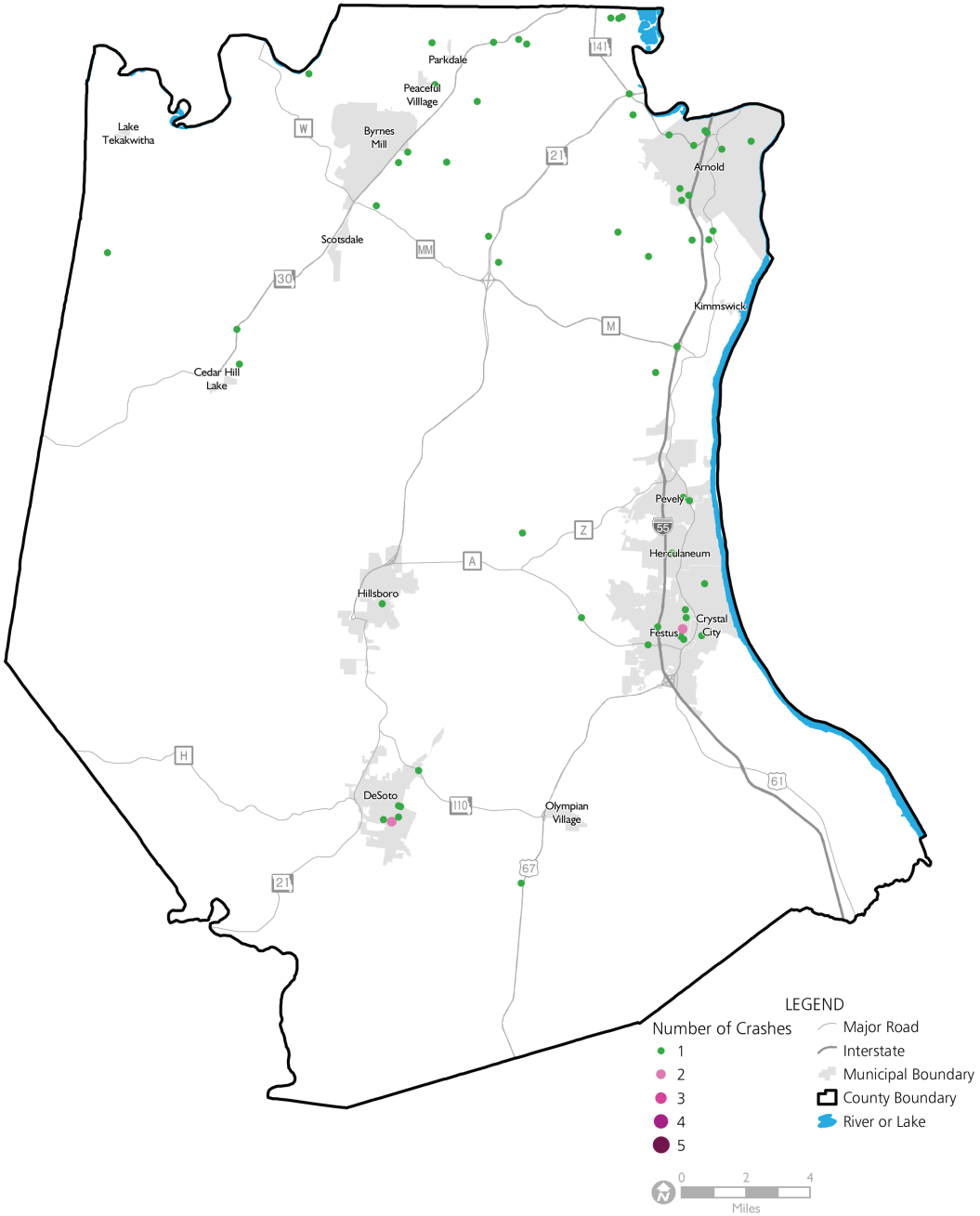
Pedestrian Crashes by Intersection

2011-2015

Jefferson County, Missouri

Pedestrian Crashes by Intersection

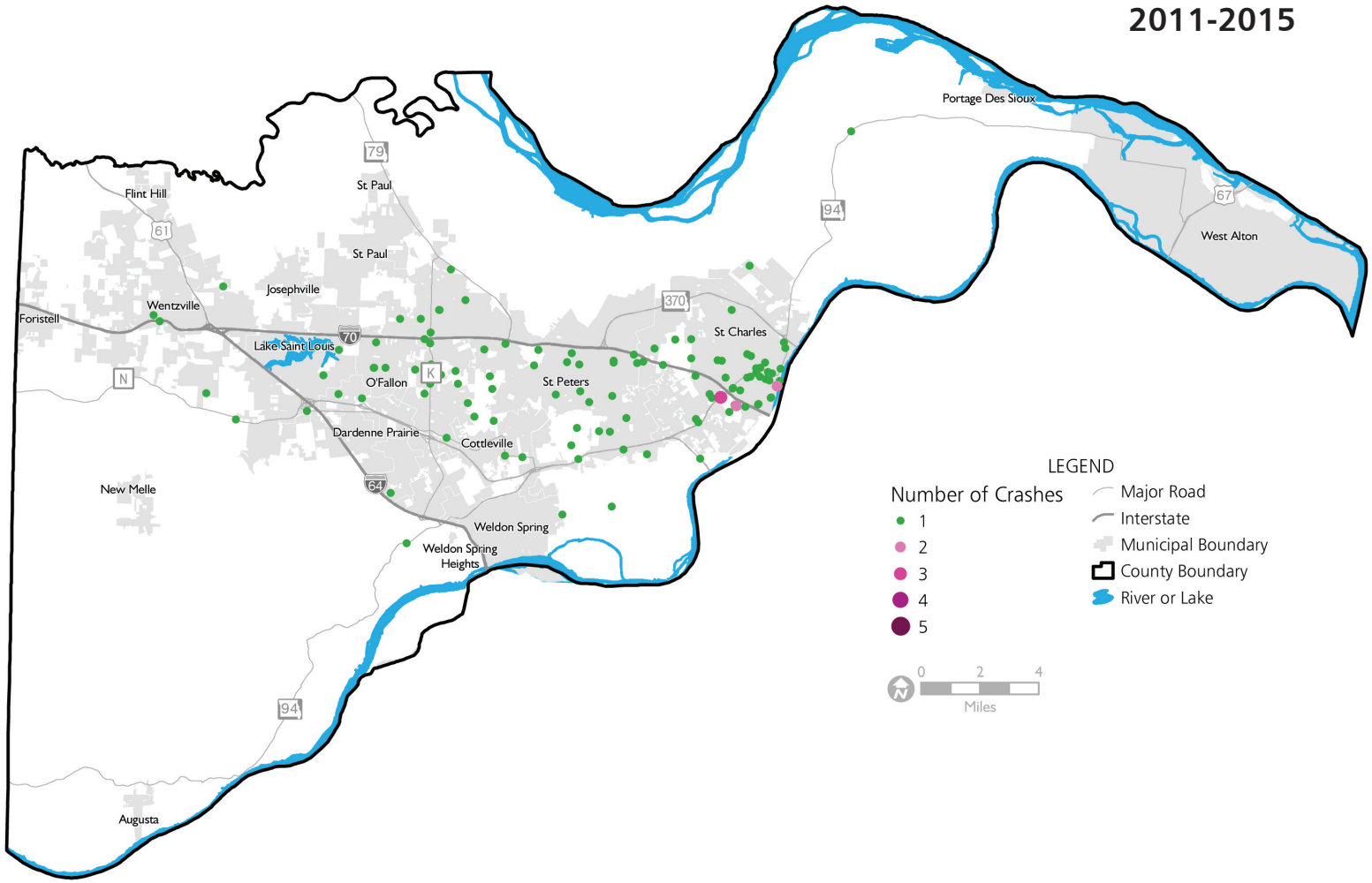
2011-2015



St. Charles County, Missouri

Pedestrian Crashes by Intersection

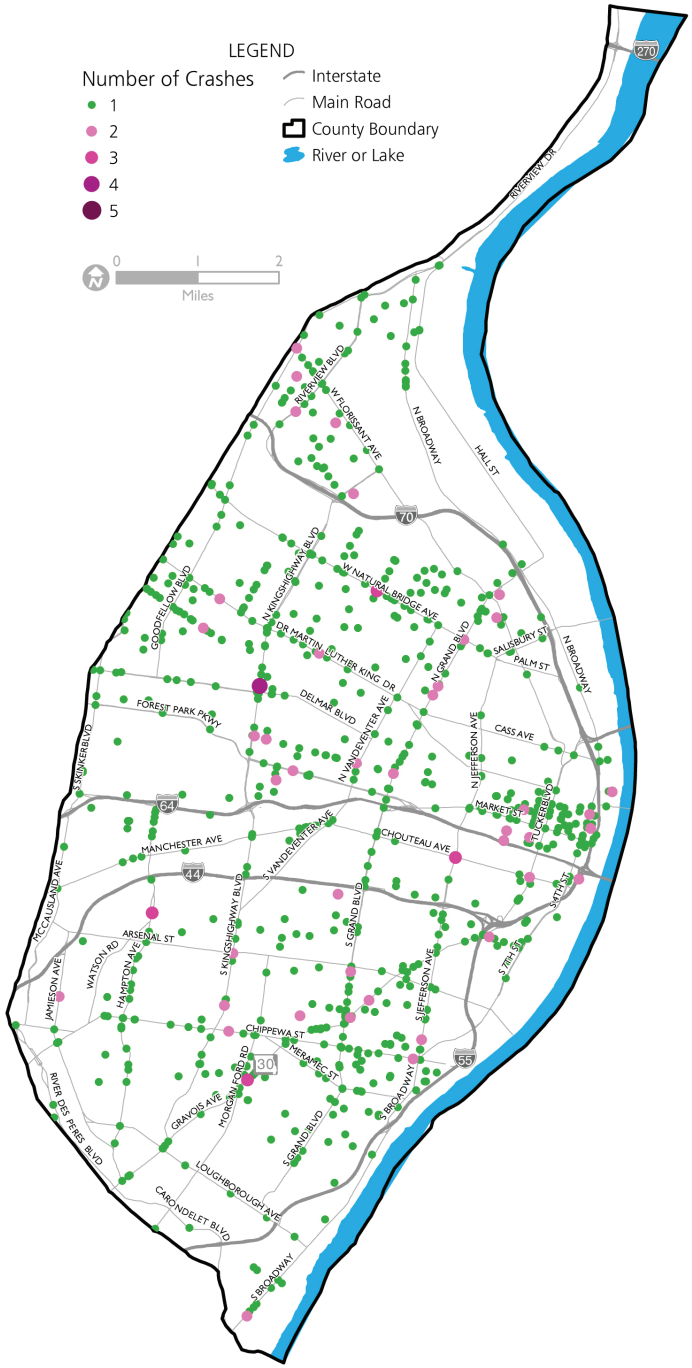
2011-2015

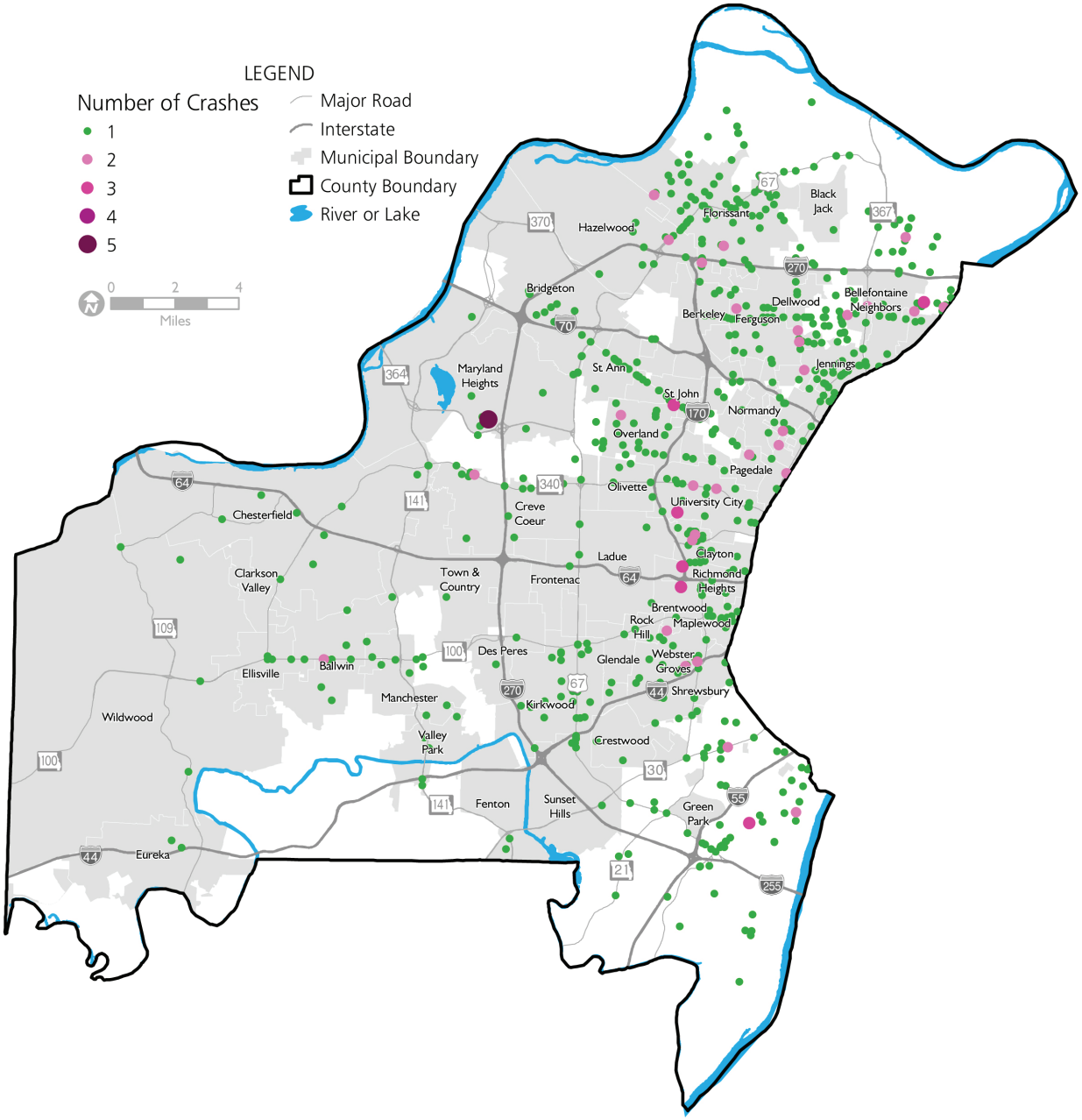


City of St. Louis, Missouri

Pedestrian Crashes by Intersection

2011-2015





St. Louis County, Missouri

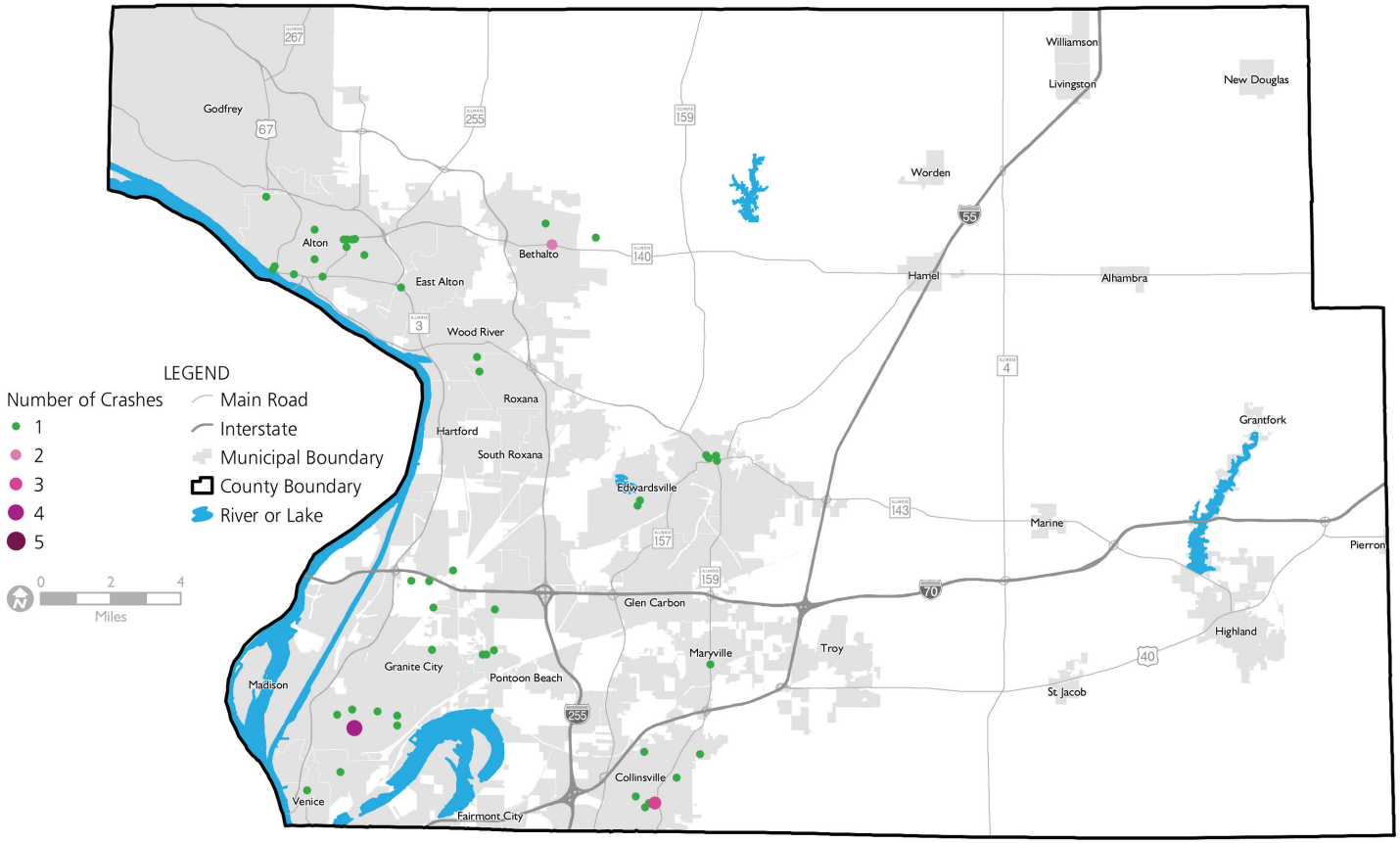
Pedestrian Crashes by Intersection

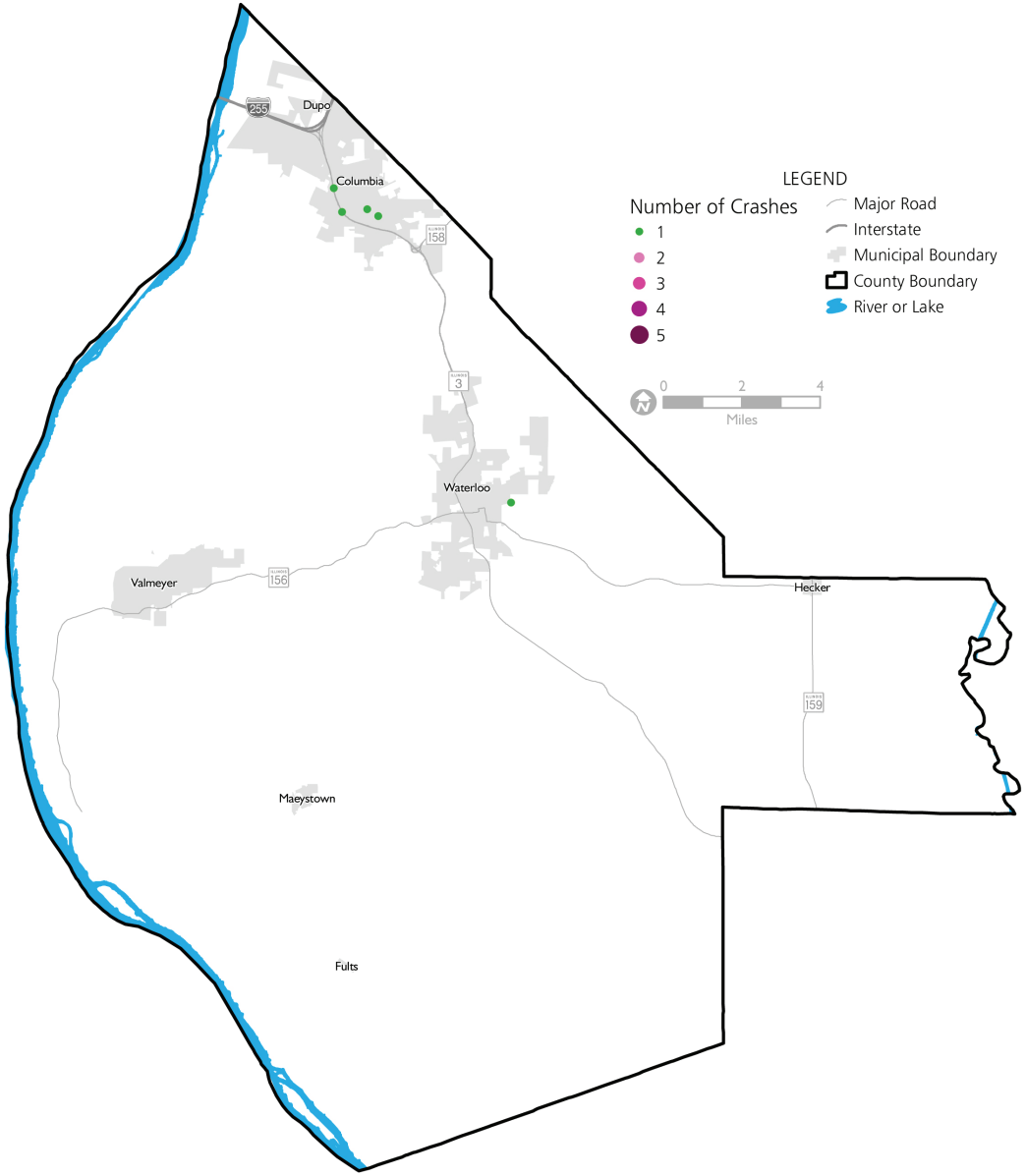
2011-2015

Madison County, Illinois

Pedestrian Crashes by Intersection

2011-2015





Monroe County, Illinois

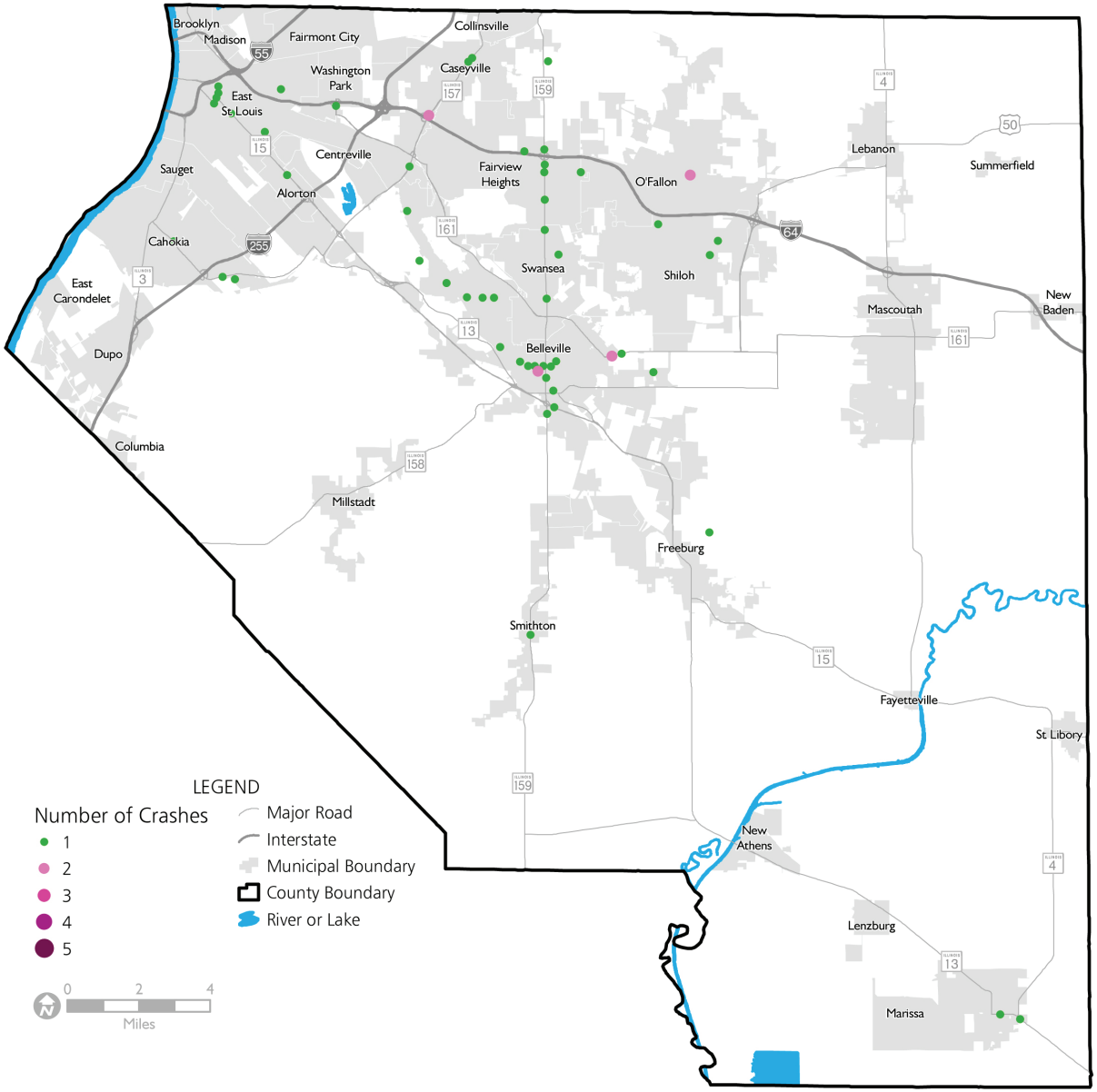
Pedestrian Crashes by Intersection

2011-2015

St. Clair County, Illinois

Pedestrian Crashes by Intersection

2011-2015



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and Economic Opportunity
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Missouri Department of
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Bi-State Development
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Missouri Office of Administration
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James M. Wild

Memo to: Board of Directors

From: Staff

Subject: Consultant Selection for Bevo Great Streets Planning

Date: September 12, 2018

In 2006, the Council launched the Great Streets Initiative, encouraging communities to incorporate a wide range of issues and goals for their significant streets through planning assistance. Council staff identified the Bevo community along Gravois Boulevard in St. Louis City as the location for Great Streets Initiative planning, consistent with the Council's Fiscal Year 2019 Unified Planning Work Program. Plan funding includes Council planning funds (80%) and local match (20%) provided by the Bevo Community Improvement District and the City of St. Louis.

To solicit consulting services for the study, the Council released a Request for Proposals (RFP) on June 29, 2018, with a closing date of August 1. Twelve consulting teams responded to the RFP:

- Alta Planning and Design as the lead consultant with subconsultants E'Little Communication Group, Shockey Consulting Services, Tsquared Traffic and Transportation, The i5Group, and LandUse USA
- Asakura Robinson as the lead consultant with subcontractors CBB Transportation, PGAV Planners, and Vector Communications
- Bates Forum as lead consultant with subconsultants CBB Transportation, Engineering Design Source, Inc., Development Strategies, Vector Communications, and Codametrics
- Design Workshop as lead consultant with subconsultants Sam Schwartz, CBB Transportation, Development Strategies, Duncan Associates, Shockey Consulting Services, and Civil Design Inc.
- Farr Associates as lead consultant with subconsultants Development Strategies, CBB Transportation, DTLS, Inc., Shockey Consulting Services, and EcoDistricts

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- H3 Studio as lead consultant with subconsultants Urban Advisors, Ltd., Shockey Consulting Services, Engineering Design Source, Inc., Ron Fondaw, Ten8 Group, and DTLS, Inc.
- Houseal Lavigne as lead consultant with subconsultants Lochmueller Group, Planning Design Studio, Engineering Design Source, Inc,, and Vector Communications
- MIG as lead consultant with subconsultants CBB Transportation, Vector Communications, Development Strategies, Civil Design Inc., and International Institute of St. Louis
- Object Territories as lead consultant with subconsultants DTLS, Inc., Prosperity Labs, Engineering Design Source, Inc., Dutchtown South Community Corporation, Derek Hoeferlin Design, and MIC-Mobility in Chain.
- RDG Planning and Design as lead consultant with subconsultants CBB Transportation, DTLS, Inc., Engineering Design Source, Inc., Gruen Gruen and Associates, and Venice Communications
- Stantec as lead consultant with subconsultants ABNA Engineering, SWT, Smart Growth America, Development Strategies, W-ZHA, and FPA Group
- WSP as lead consultant with subconsultants CBB Transportation, Development Strategies, Hudson and Associates, Kivindyo Engineering Services, and DTLS, Inc.

After an initial screening by Council staff and review and scoring by a selection committee representing the City of St. Louis, the Missouri Department of Transportation, the Bevo Community Improvement District, and the Council the selection committee recommended that the contract be awarded to the team led by Farr Associates.

The Council will be the responsible contracting party.

Staff Recommendation: Staff recommends that the Executive Director be authorized to negotiate and enter into a contract with Farr Associates. In the event that a contract cannot be successfully negotiated with Farr Associates, staff recommends identical authorization to negotiate and enter into a contract with RDG Planning and Design. The contract amount will not exceed $500,000.

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Missouri Office of Administration
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James M. Wild

Memo to: Board of Directors

From: Staff

Subject: Modification to the FY 2018-2021 Transportation Improvement Program (TIP), *Connected2045*, and the Related Air Quality Conformity Determination – Requested by MoDOT

Date: September 12, 2018

The Missouri Department of Transportation (MoDOT) has requested to amend the FY 2018-2021 TIP, *Connected2045*, and related Air Quality Conformity Determination by adding one new project.

The project is currently included in the draft FY 2019-2022 TIP but needs to be added to the FY 2018-2021 TIP to meet its letting date.

This project is summarized below:

New Project - Missouri					
Sponsor / TIP #	**Title – Limits**	**Description of Work**	**County**	**Federal Cost**	**Total Cost**
MoDOT / 6887G-19	I-70 – At various ramp locations throughout St. Louis District	Adding signing and striping for wrong way counter-measures	Multi-County	$909,900	$1,011,000
			TOTAL:	**$909,900**	**$1,011,000**

Staff Recommendation: Staff recommends that the FY 2018-2021 TIP, *Connected2045*, and the related Air Quality Conformity Determination be revised to add one new project as summarized above and detailed in the attachment. This project is exempt with respect to air quality in accordance with federal regulations (40 CFR 93.126).

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Amendment # **0918-096**
TIP # **6887G-19**
Sponsor # **6I3384**

PROJECT SPONSOR: **MoDOT**

ACTION REQUESTED: Revise FY 2019 of the FY 2018-2021 TIP to add a project

TITLE: I-70

LIMITS: At various ramp locations throughout St. Louis District

DESCRIPTION: Adding signing and striping for wrong way counter-measures

COUNTY: Multi-County

FUNDING SOURCE: Highway Safety Improvement Program (HSIP)

	Federal	Match	Total
PE	$83,700	$9,300	$93,000
ROW	$0	$0	$0
Implementation	$826,200	$91,800	$918,000
Total	$909,900	$101,100	$1,011,000

AIR QUALITY CONFORMITY: Exempt – Highway Safety Improvement Program implementation (§ 93.126)

STAFF RECOMMENDATION: Approval

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Memo to: Board of Directors

From: Staff

Subject: Regional Security Expenditures

Date: September 12, 2018

Staff is requesting authorization to expend funds in support of regional security that will improve the region's disaster preparedness and response capabilities. Funding will come from the U.S. Department of Homeland Security's Urban Areas Security Initiative (UASI) grant program. Attachment A summarizes this purchases totaling **$316,782**. Also attached is a summary description of all budgeted expenditures from the UASI grants (Attachment B).

Metro Air Support – The Metro Air Support Unit provides aerial law enforcement protection for the St. Louis metropolitan region. Their patrol missions vary from supporting all police departments in the region, providing surveillance for Federal authorities and helping to maintain the safety of critical infrastructure within the St. Louis area. In addition, the Unit performs routine patrols around the region's river bridges, power plants and the Melvin Price Locks and Dam in Alton, Illinois. In order to enhance this important regional asset's ability to respond, we are requesting approval to purchase the following equipment items for the Metro Air Support Unit:

1. **Thermal Imaging Digital Map Overlay System** - The purchase of a Digital Mapping Overlay System will greatly improve the flight crews ability to conduct area searches for wanted suspects and when following vehicles that refuse to stop. The Digital Map Overlay System identifies street names and provides rooftop-accurate parcel data which allows the flight crew to identify streets and addresses quicker and more efficiently. The system will allow the tactical flight officers to focus their attention inside the cockpit better. The Mapping system integrates with the Metro Air Support's video downlink system which provides live video feed to ground units. Total costs will not exceed **$118,500.**

2. **Night Vision Compatible Digital Engine Gauges and Radios** - The Metro Air Support flight crews wear night vision goggles during evening patrols and when called to assists ground units. This improves the crew's ability to operate in inclement weather, over difficult terrain and to identify communications towers and

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high power electrical lines. Due to the nature of night vision goggles, the aircraft cockpit instruments need to be modified to be compatible with the operation of night vision goggles. Therefore, we are requesting approval to purchase night vision compatible digital engine gauges and radios to include installations. Total cost will not exceed **$198,282.**

The purchases described in this memo are being made in accordance with the agency's procurement policy.

Staff Recommendation: Staff recommends that the Board approve the expenditure of funds as follows:

- for the purchase of two Thermal Imaging Digital Map Overlay Systems from Churchill Navigation in an amount not to exceed **$118,500**;
- for the purchase and installation of four night vision compatible helicopter engine gauges from Ideal Aviation in an amount not to exceed **$83,333**;
- for the purchase and installation of three night vision compatible Garmin radios with antenna and Helicopter Terrain Awareness Warning Systems from Ideal Aviation in an amount not to exceed **$114,949**;

for a total amount not to exceed **$316,782** from the UASI grant program.

ATTACHMENT A

Expenditures for Equipment and Services
August 2, 2018

Vendor	Description	Jurisdiction/Agency	Quantity	Cost
Emergency Response Equipment (UASI)				
Churchill Navigation (Boulder, CO)	Digital Mapping Overlay System	St. Louis County	2	$118,500
Ideal Aviation (Sauget, IL)	NVG Compatible Helicopter Gauges	St. Louis County	4	$83,333
Ideal Aviation (Sauget, IL)	NVG Compatible Helicopter Radios	St. Louis County	3	$114,949
			TOTAL EXPENDITURES	**$ 316,782.00**

Total UASI Expenditures: $316,782

ATTACHMENT B
Cumulative Budgeted Expenditures for Major Projects under Urban Areas Security Initiative through Fiscal Year 2016

		Total Budgeted	Prior amount approved by EWG Board	This request	Remaining to be approved
Critical Response Teams					
A key goal under the UASI Strategy is to strengthen our critical response teams. We have largely accomplished this goal with hazardous materials and heavy rescue equipment and training. These teams are capable of responding to terrorist attacks, industrial accidents or natural disasters like earthquakes and tornadoes. Another element of critical response includes medical supplies for mass casualty incidents. The MCI trailers represent the first stage of meeting this need for the EMS community. Also included is equipment for Incident Management Teams that will consist of emergency responders from all disciplines. These mobile teams are activated to support emergency responders managing an event where the event continues over many hours or days.	Hazmat / HR	$18,732,753	$18,445,240	$0	$287,513
	Mass Casualty	1,172,980	1,091,753	0	81,227
	Incident Management Teams	2,436,812	2,306,679	0	130,133
Law Enforcement Tactical Team Equipment					
There are 7 law enforcement tactical response units in the region which need communications, tactical lights and personal protective equipment. Three of the teams will receive tactical vehicles and Metro Air Support will receive a helicopter and other equipment to support response to a variety of terrorist incidents.	Misc equipment:	9,534,894	9,080,544	316,782	137,568
	Tactical vehicles:	4,514,819	4,514,819	0	0
Interoperable Communications					
A variety of projects come within the description of Interoperable Communications. Radio caches, satellite phones and video conferencing and the Land Mobile Radio Communications Plan are included, as well as a microwave tower backbone system.	Radios, phones, video conf. etc:	8,758,026	8,579,774	0	178,252
	Microwave system:	9,338,047	9,188,047	0	150,000
	Radio Plan:	694,300	674,300	0	$20,000
The Virtual EOC					
The virtual EOC strengthens regional collaboration on a day to day basis through a web based interactive network that links the region's eight EOC's and numerous other users for planning, preparing for and responding to an incident. In future years we hope to add a robust Geographic Information System capability.		5,278,534	5,278,534	0	0

ATTACHMENT B
Cumulative Budgeted Expenditures for Major Projects under Urban Areas Security Initiative through Fiscal Year 2016

	Total Budgeted	Prior amount approved by EWG Board	This request	Remaining to be approved
Emergency Patient Tracking	$2,422,320	$2,422,320	$0	$0
Patient Tracking allows emergency medical services and hospitals to rapidly enter data about a patient into a secure wireless web-based tracking system. The data includes identification, triage condition and transport information and allows the hospitals to balance patient loads and provide information to families.				
Universal ID Project	557,812	557,812	0	0
This system provides a uniform identification card for fire, law enforcement and volunteers with credential information embedded in the card.				
Expand Public Health Capabilities	2,942,741	2,821,898	0	120,843
Local public health agencies are working to prepare the region and protect citizens and first responders in the event of bioterrorism and natural diseases. Work is underway to establish an automated syndromic surveillance system for the early detection of naturally occurring or man made disease outbreaks.				
Mass Casualty Equipment, Medical Supplies and Software for Hospitals	2,296,305	2,177,244	0	119,061
Hospitals are preparing the region for a response to a medical surge or mass casualty incident (MCI) by staging emergency response trailers that are equipped with medical supplies, cots and bedding at selected hospitals for deployment anywhere in the St. Louis region. In addition, the hospitals will dispense medicine to employees, their families and patients in the event of a large-scale bioterrorist or naturally occurring illness. The hospitals have software that will help with the dispensing of this medicine and the management of an MCI when it occurs.				
Disaster Incident Management System for Hospitals and Tactical Response	$2,270,308	$2,270,308	$0	$0
The disaster incident management software system provides a tactical incident management capability for hospitals and response teams that includes federally required forms and plans. For the hospital systems it also includes a regional bed tracking capability.				

ATTACHMENT B
Cumulative Budgeted Expenditures for Major Projects under Urban Areas Security Initiative through Fiscal Year 2016

	Total Budgeted	Prior amount approved by EWG Board	This request	Remaining to be approved
Terrorism Early Warning Center The TEW is operated by the St. Louis Metropolitan Police Department and the St. Louis County Police Department and serves as a central clearinghouse for information and intelligence to help detect and prevent acts of terrorism.	$ 3,834,597	$3,288,721	$0	$545,876
Citizen Preparedness This program includes Citizen Emergency Response Teams and other similar teams designed to educate the public about disaster preparedness and train them to assist their neighbors. Expenditures include equipment and training to help citizens learn to respond to hazards as part of a team in their neighborhood or workplace, and public information. The program also includes the sheltering project which brings generators and shelters into the region to protect citizens who need shelter.	2,738,666	2,667,466	0	71,200
Regional Coordination Planning Includes regional emergency coordination planning, mutual aid improvements, public information and enhancements to critical infrastructure protection.	1,024,051	1,024,051	0	0
Exercises A regional Full Scale Exercise (FSE) will be held during the second quarter of 2016. The FSE scenario will be terrorist based involving a mass casualty incident and will involve regional hospitals, public health, fire and law enforcement agencies.	471,500	371,500	0	100,000
Training Most disciplines have received and will continue to attend training activities to enhance their skills. Included are heavy rescue, hazmat, incident management teams, law enforcement, public health and hospitals.	4,270,008	4,158,289	0	111,719
Totals:	$83,289,473	[1] $80,919,299	$316,782	$2,053,392

[1] This total represents the sum of UASI funds awarded for equipment and contractual obligations for fiscal years 2003 - 2017. The schedule represents the cumulative amount spent, from both open and closed grants, on major projects since the inception of the Homeland Security Grant Program.