



# SAFE STREETS AND ROADS FOR ALL SAFETY ACTION PLAN

INDIANAPOLIS METROPOLITAN PLANNING ORGANIZATION  
MAY 2023



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## OVERVIEW

# 1. OVERVIEW

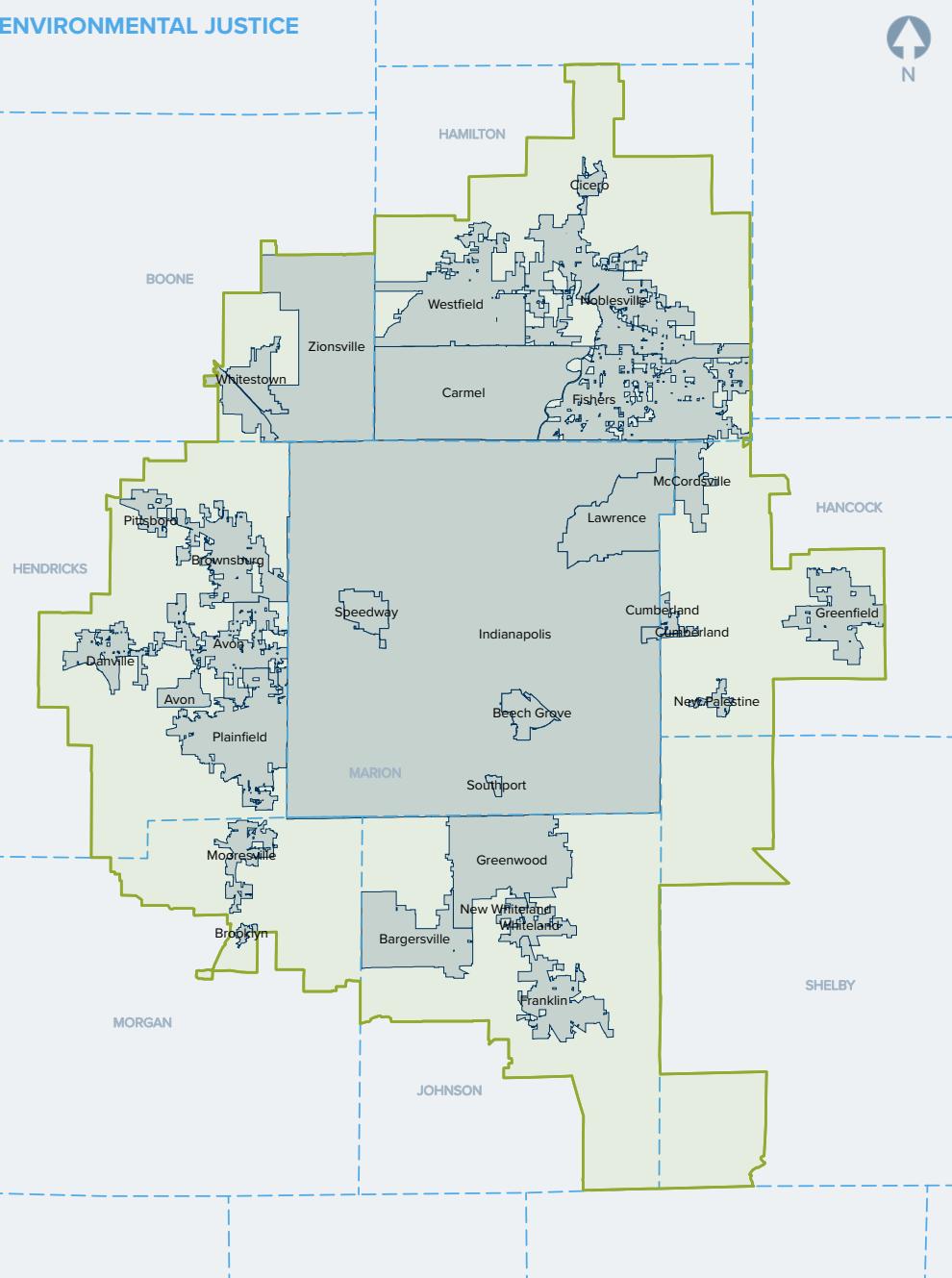
Each year, more than 40,000 people are killed on America's streets and hundreds of thousands more are seriously injured. In 2020 in Indiana alone, there were 175,821 total collisions reported by law enforcement. 808 of these were fatal crashes, resulting in 896 fatalities. An estimated 38,913 people were injured in 2020 according to the Indiana University Public Policy Institute in partnership with the Indiana Criminal Justice Institute. These deaths are often called traffic "accidents," but we have the responsibility, knowledge, and resources to prevent them. Vision Zero is a worldwide initiative focused on the belief that every death or serious injury resulting from a traffic crash is preventable. Vision Zero champions efforts to reduce the number of deaths and injuries on our roadways to zero. The Indianapolis MPO is on the forefront of making Vision Zero a reality.

## 1.1 The Indianapolis Metropolitan Planning Organization

The Indianapolis MPO (IMPO) is the regional entity that plans and programs federal transportation funds for highways, transit, non-motorized transportation and other means of moving people and goods in Central Indiana. The IMPO works within federal transportation requirements to guide the development of a multi-modal transportation system within the Metropolitan Planning Area (MPA) - an area that includes urbanized land plus areas expected to urbanize over the next 20 years.

The IMPO's Transportation Policy Committee (TPC) is comprised of over 30 cities, towns, and counties in Central Indiana that pay dues to qualify for project programming and funding from the IMPO. Membership also includes regional transit agencies, the Indiana Department of Transportation (INDOT), and other planning partners.

## ENVIRONMENTAL JUSTICE



### 8 Counties

Boone, Hamilton, Hancock, Hendricks, Johnson, Marion, Morgan, and Shelby.

### 11 Cities

Beech Grove, Carmel, Fishers, Franklin, Greenfield, Greenwood, Indianapolis, Lawrence, Noblesville, Southport, and Westfield.

### 17 Towns

Avon, Bargersville, Brooklyn, Brownsburg, Cicero, Cumberland, Danville, McCordsville, Mooresville, New Palestine, New Whiteland, Pittsboro, Plainfield, Speedway, Whiteland, Whitestown, and Zionsville.

### Planning Partners

IndyGo, CIRTA, INDOT, Federal Highway Administration, Federal Transit Administration, Indianapolis Airport, and Ports of Indiana.

## **1.2 IMPO Safety Commitment**

**The IMPO operates under the vision that Central Indiana will thrive when we continuously improve our built environment and expand economic opportunities for all residents.**

Ensuring safe, accessible, and desirable transportation in the region is central to the IMPO's mission. The IMPO strives to support safety across its core programs and works to create a regional transportation system designed to safely and comfortably accommodate all users, of all ages and abilities. This includes motorists, cyclists, pedestrians, transit users, school bus riders, delivery and service personnel, freight haulers, and emergency responders.

Safety is particularly important for more vulnerable road users — those who are bicycling and walking. Of the total severe injury/fatal crashes reported in the MPA between 2017 and 2021, 6.9% involved a bicyclist or pedestrian while 27% of fatal crashes involved a person walking, rolling, or biking. In the Central Indiana MPA, 6% of households do not have access to a car, 37% of people are over 65 or under 18 years of age, and 12% of households are living below the poverty level. Throughout its programs, the IMPO strives to address the significant transportation challenges these residents may face.

The IMPO prioritizes safety through various aspects of our work, including plans, studies, and funding. Despite these efforts, roadway crashes are increasingly depriving individuals of their lives. The trend, tragically, is moving in the wrong direction.

**On average, 167 people were killed in traffic crashes annually between 2017 and 2021 while driving, riding in a car, walking, rolling, or riding a bicycle.**

In 2020, the first year of the pandemic, traffic crashes resulting in a fatality increased 47% above the five-year average from 2015-19 in the IMPO

region. While fatal crashes dropped from 182 in 2020 to 179 in 2021, the most recent year for which data are available, average annual fatal crashes remain significantly higher than pre-pandemic levels. The trends are clear nationwide: in 2021, traffic fatalities jumped 10.5% according to National Highway Traffic Safety Administration (NHTSA) data, totaling an estimated 42,915 deaths. The increase represents the highest number of deaths since 2005 and the steepest increase in the Fatality Analysis Reporting System (FARS) history. We must act.

Hazards faced by people walking and biking are high and rising in the post-Covid world. When compared to the five-year average 2015-19, fatal pedestrian and bicyclist crashes each increased over 100% in 2020. Thankfully, fatal pedestrian crashes fell back to the previous baseline in 2021, but this number remains unacceptably high. The U.S. has observed disturbing increases in the deaths of people walking and biking over the last decade, which has been compounded over the pandemic. Nationwide, drivers struck and killed 46% more people walking and rolling in 2020 than they did in 2011, resulting in 6,515 deaths.

The plan discusses current safety practices and leverages previous safety studies to advance the goal of reducing, and eventually eliminating roadway serious injuries and fatalities.

### **Crash Dashboard**

The [IMPO's crash dashboard](#) displays seven years (2015 – 2021) of fatal and incapacitating injury crash records in the eight-county region. The dashboard enables the IMPO's Local Planning Agencies and the public to view the crash data with interactive filters that allow the user to select a specific year, crash type, or jurisdiction. Each individual crash location can also be selected for further crash details.

## **1.3 IMPO Pillars: Convene, Inform, Plan, Fund**

IMPO operates using its four foundational pillars: convene, inform, plan, and fund. These pillars help the IMPO develop plans and programs that are guided by the IMPO Transportation Policy Committee (Policy Committee) in cooperation with our state and Federal planning partners. The Policy Committee is made up of elected officials and town managers from across the region who vote to approve all federally required IMPO transportation actions. The ability to convene such influential stakeholders on a monthly basis has been instrumental in identifying and implementing safety strategies within the region for some time.

The following describes how IMPO uses the four pillars in general; the specific activities undertaken in conjunction with this Action Plan are addressed throughout the document.

### **Convene**

The IMPO regularly brings together regional partners to discuss issues in their fields, analyze data trends, and better understand the root cause of issues. The IMPO's goal is to identify collaborative solutions to move Central Indiana forward. A key strategy in the IMPO Convene pillar is Public Engagement. The IMPO Public Involvement Process (PIP) ensures all segments of the public have an opportunity to be involved in regional transportation planning and programming at all stages of the processes.<sup>1</sup>

### **Inform**

The IMPO informs members and the region about safety by setting benchmarks, tracking data and trends, and reporting data to our members and the general public. This "observe and report" role will support planning and decision-making across Central Indiana.

<sup>1</sup> As required by "23 CFR 450.316" of the Code of Federal Regulations

### **Plan**

The IMPO's professional planning staff document expert discussions, formalize strategies, and track implementation strategies. The IMPO makes both short- and long-term plans to improve safety and other transportation goals across Central Indiana. This safety action plan serves as a roadmap for future activities to make roadways in the Central Indiana MPA safer for all roadway users.

### **Fund**

The Indianapolis MPO receives an annual allocation of federal funds and operates a program to select projects to fund with federal money. We use [existing plans](#), direction from the [Transportation Policy Committee](#), and [public input](#) to select projects that provide Central Indiana with the highest regional transportation benefit.

Major goals for projects that receive federal funding from the IMPO include:

- Improving air quality (generally by making automobile movements more efficient or reducing automobile usage)
- Efficient movement of goods (on trucks and trains) through the region
- Improving safety for all users of regional travel ways
- Reducing congestion that affects movements of work commuters and goods
- Creating an interconnected transportation system suitable for users of all ages and abilities in Central Indiana

## **2019 Road Safety Audit of High Crash Intersections**

The IMPO's [2019 Safety Studies](#) identify 24 high-crash locations within the Indianapolis Metropolitan Planning Area (MPA). This includes 5 high-priority pedestrian and bicycle locations. For each location, the team reviewed crash data and existing conditions, created a collision diagram, conducted a field check, met with local engineering and police representatives, and identified specific improvements to remedy existing safety issues. Recommended improvements range from lower-cost maintenance items, such as signage and pavement markings, to higher-cost capital improvements. The final result includes both a [map](#) and [technical report](#) with more information about the intersections.

The IMPO will be completing 19 Intersection Safety Studies in 2023. 5 of the 19 are high-priority pedestrian and bicycle locations.

### **1.4 The Purpose of this Action Plan**

As the central planning organization for the region, the IMPO is uniquely positioned to advise and educate its member communities on all transportation topics, including how to address traffic-related deaths and serious injuries. The purpose of this Safe Streets and Roads for All Safety Action Plan (SS4A SAP) is to document the extensive amount of safety-related work that has been done by the IMPO already, conduct a systemic safety analysis that includes documentation of the High Injury Network (HIN), set performance measures for improving all-modes safety throughout the region, and provide policy recommendations for next steps the IMPO can take in improving safety.

### **USDOT Safe Streets and Roads for All Grant Program**

The 2021 Bipartisan Infrastructure Law (BIL) created the Safe Streets and Roads for All (SS4A) grant program, allocating \$5 billion over five years to fund regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. In Spring 2023 the U.S. Department of Transportation (USDOT) published a [notice of funding opportunity](#) for SS4A Discretionary Grants.

This program provides funding to develop or augment Comprehensive Safety Action Plans as a first stage. With an Action Plan that satisfies the program requirements, jurisdictions can seek implementation funding. At either stage of local program development, applicants can seek funding for demonstration projects and additional planning or analysis to further develop strategies which will reduce serious and fatal crashes.

## 1.5 The Need for Safety Improvements

According to data pulled from the Automated Reporting Information Exchange System (ARIES) covering 2017 through 2021, the Central Indiana MPA experienced nearly 149 fatal crashes per year and 3,234 crashes resulting in an incapacitating injury, for a combined annual average of 3,382 severe crashes.<sup>2</sup> In total, there were 290,218 crashes reported in the MPA over this period. Included in this figure are all crashes that occurred in the public way including interstates, expressways, and the local road network inclusive of all roads owned by INDOT, the eight IMPO counties, and local municipalities. Of these crashes, 743 resulted in fatalities with 835 people killed during the five-year period, as summarized in the "MPA Crashes by Type" table on page 12. Each of these crashes represents a preventable tragedy with spillover effects on individuals, families, and communities throughout Central Indiana. As state, federal, regional, and local partners strive to realize goals to achieve zero deaths on public roadways, action must be taken to improve traffic safety on MPA roadways.

Central Indiana has seen an increasingly severe crash trend since 2012, with fatal crashes nearly doubling over the period (from 102 in 2012 to 179 in 2021), as demonstrated in the "Fatal Crashes by User" graph on page 12. (annual data by user may be found in the Appendix).<sup>3</sup> Within that time frame, fatal crashes rose rapidly in Central Indiana between 2017 and 2021. Prior to 2017, the region had seen minimal increases in fatal traffic crashes.

### Safe Streets and Roads for All Safety Action Plan (SS4A SAP)

Securing additional funding for members is one of the IMPO's core pillars – to facilitate IMPO members' ability to apply for the implementation grants the IMPO is pursuing a collective Safety Action Plan for the Central Indiana planning region. The compilation and completion of this Action Plan is intended to enable all IMPO members to pursue SS4A implementation grants in FY 23. What follows in this document is a regional safety action plan consisting of effective analysis, convening, and identification of action items to address the mounting roadway safety crisis in Central Indiana, and comply with USDOT required components including:

- goal setting,
- safety analysis,
- public engagement,
- equity analysis,
- policy and process proposals, and
- progress reporting.

<sup>2</sup> ARIES defines an incapacitating injury as any injury sustained in a severe crash for which the injured person is transported by ambulance from the crash scene. This definition differs slightly from the FHWA definition, which can be found at: <https://safety.fhwa.dot.gov/hsip/spm/docs/factsheet-mmucc-4edition.pdf>

<sup>3</sup> Due to changes in ARIES data definitions, incapacitating injury crashes prior to 2016 cannot be compared to later data, so these data points have been dropped from this analysis.

## MPA Crashes by Type (2016-2020)

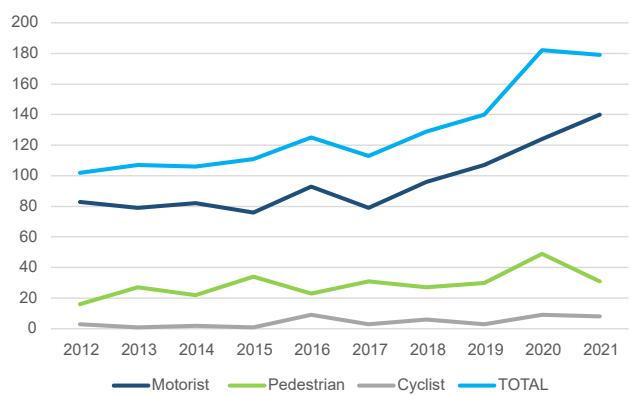
	Count	Annual Average
Total Number of Crashes*	293,502	58,700.4
Number of Fatal Crashes**	743	148.6
Number of Incapacitating Injury Crashes**	16,168	3,234
Number of Non-Incapacitating... Injury Crashes*	27,188	5,438
Number of Property Damage Only Crashes*	247,034	49,406.8
Number of People Killed**	835	167
Number of People Sustaining Incapacitating Injuries**	22,921	4,584.2

Sources: \* ARIES 2017-2021, queried by Date of Collision (01/01/2017-12/31/2021), Counties fully within the MPA, and IMPO Municipalities in counties not fully contained within the MPA; \*\*ARIES data 2017-2021 cleaned and spatially located by IMPO

In 2018 fatal crashes rose 14% year over year, increasing again in 2019 by 8%, and culminating in a 30% increase from 2019 to 2020. Fatal crashes edged down in 2021, hovering just below 2020 levels. Crash fatalities in Central Indiana fell 5% while the rest of the country saw a 10.5% increase between 2020 and 2021. However, the growth in fatal crashes grew so fast locally in 2020 that the region is still ahead of the national average.

Although the overall numbers are more modest, fatalities from traffic crashes have grown at a faster rate for people who walk and bike than for the region's motorists. In the five years before the pandemic, the Central Indiana MPA averaged 29 fatal pedestrian crashes per year. In 2020, the number of pedestrian deaths nearly doubled to 49. Over the same period, the region averaged four fatal bicyclist crashes, which more than doubled to nine in 2020. In comparison, fatal

## Fatal Crashes by User - Central Indiana MPA 2012-21



Source: ARIES Fatal and Incapacitating Injury Crashes 2016-2020 cleaned and spatially located by IMPO

crashes involving motorists increased 38% in 2020 when compared to 2015-19 levels. Although not one death can be discounted, crash trends since the onset of the pandemic have had a more severe impact on people walking and biking.

While fatalities from traffic crashes grew much faster for people walking and biking in 2020 when compared to pre-pandemic trends, they fell in 2021 while fatal crashes involving motorists. Prior to the pandemic, the region averaged 90 fatal motorist crashes per year. In 2021, this number spiked to 140. In the five years before the pandemic, the Central Indiana MPA averaged 29 fatal pedestrian crashes per year. In 2020, the number of pedestrian deaths doubled to 49 but fell back to 31 in 2021. Over the same period, the region averaged four fatal bicyclist crashes, which more than doubled to nine in 2020, falling slightly to eight in 2021. Although there has been significant variation year-on-year, crash trends since the onset of the pandemic have severely impacted all users.

IMPO recognizes and acknowledges that pedestrians and bicyclists are much more vulnerable to serious injury or death in the event of a crash. With the sharp uptick in pedestrian and bicyclist deaths since the onset of the pandemic, it is clear that implementation of infrastructure improvements utilizing proven crash countermeasures are critically needed in order to improve safety and equity for the most vulnerable users of the region's transportation network.

These upward trends demonstrate the need for comprehensive safety strategies and safety improvements in the MPA if Vision Zero is to be achieved. An existing crash analysis highlighting roadway features that have a significant proportion of severe crashes is shown in later sections of this document. This will assist IMPO in determining countermeasures for road features associated with higher levels of severe crashes.

**Vision Zero** is the strategy to eliminate traffic fatalities and severe injuries on all roadways. Vision Zero is built on the basis that traffic deaths and severe injuries are preventable. Vision Zero emphasizes a Safe Systems approach, which acknowledges that people make mistakes, and focuses on influencing system-wide practices, policies, and designs to lessen the severity of crashes.

## **1.6 Complete Streets and Safe Systems Design**

The implementation of crash countermeasures typically results in what is commonly referred to as Complete Streets. The National Complete Streets Coalition defines Complete Streets as “an approach to planning, designing, building, operating, and maintaining streets that enables safe access for all people who need to use them, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.” Complete Streets is not a “one-size fits all” approach to improving safety. Instead, safety countermeasures are applied to the design of a street based on community context, traffic volumes, and roadway classification and characteristics. Complete Streets countermeasures include, but are not limited to, the following: sidewalks, curb ramps, bike lanes, bus or transit lanes, accessible bus stops, crosswalks, medians, pedestrian refuge islands, pedestrian crossing signals, curb extensions, narrower vehicular travel lanes, streetscape enhancements, and roundabouts.

When applied, these safety countermeasures help to reduce the risk of crashes for all users of a street or road - including motorists - by slowing vehicle speeds and by providing safe and accessible spaces for pedestrians and bicyclists. A National Transportation Safety Board report found that speeding increases the risk of crashes in two ways: (1) by increasing the likelihood of a crash and (2) by increasing the severity of injuries resulting from a crash. Slowing vehicle speeds has a positive impact on improving safety for vulnerable users in particular, as pedestrian fatalities and serious injuries increase rapidly at vehicle speeds 30 mph and above.

When combined with land use strategies that encourage non-vehicular modes of travel, Complete Streets will provide a more safe and equitable transportation network by increasing mobility options and reducing overall vehicular travel. According to research compiled by the Victoria Transport Policy Institute, in higher income countries where annual vehicle miles traveled data is available, research has shown that increased vehicular travel leads to a corresponding increase in traffic deaths per capita. Reducing vehicle miles traveled leads to reduced exposure to vehicular crashes and has been proven to decrease traffic death rates. One way this can be accomplished is through the construction of active transportation and transit projects that together create a safe and accessible multimodal transportation network.

Through the provision of funding for the planning, design, and construction of safe multimodal transportation projects, the IMPO is committed to increasing active transportation and transit access throughout the Central Indiana region. However, the sharp upward trend of pedestrian and bicyclist fatalities in the MPA demonstrates the urgent need for comprehensive safety strategies and safety improvements if Vision Zero is to be achieved. At a macro-level, this requires a continued shift towards viewing and planning the region's transportation network through the lens of mobility and safety as opposed to through the lens of vehicle throughput and speed. At a micro-level, this requires an expedited adoption of transportation infrastructure that incorporates safe systems design principles in order to rebuild the region's transportation network as a truly multi-modal system that is safe for even the most vulnerable users. As a starting point, an existing crash analysis highlighting roadways that have a significant proportion of severe crashes is shown in later sections of this document. This will assist IMPO in determining countermeasures for road features associated with higher levels of severe crashes.

## 1.7 Prior Plans and Studies

The development of this action plan has been a coordinated effort between the IMPO, the Safety Steering Committee comprised of stakeholders from the IMPO TPC, and the public. This plan is heavily impacted by previous plans completed and publicly adopted by the IMPO between 2017 and 2021.

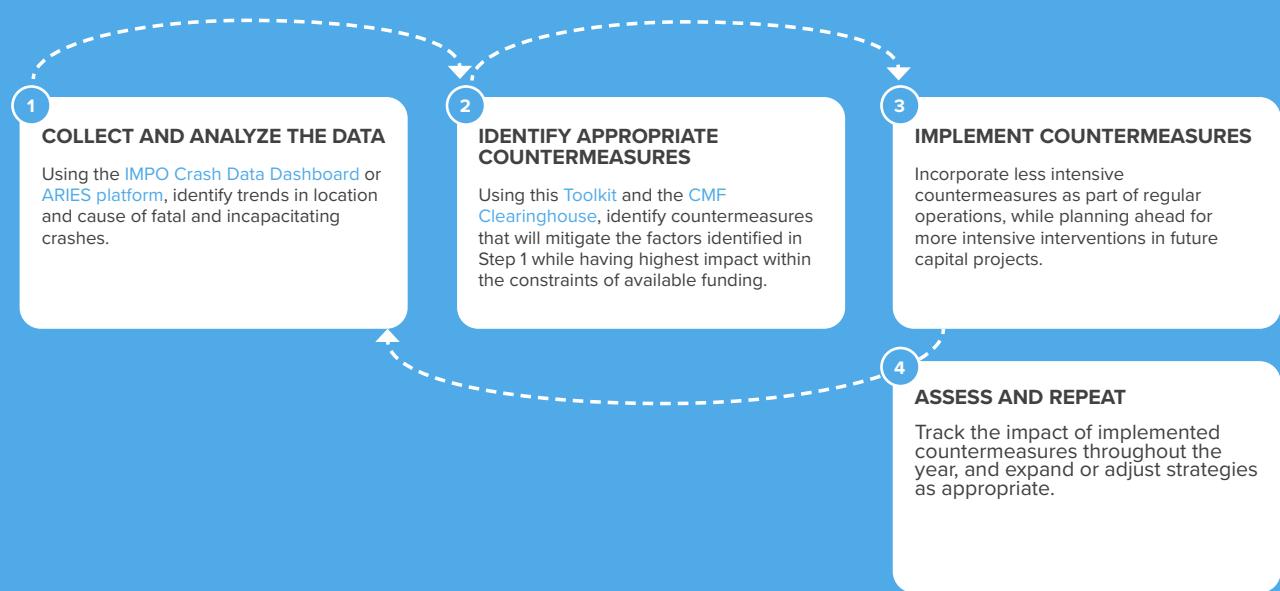
The IMPO's long-standing dedication to improving roadway safety for all users is documented in the following current plans completed between 2017 and 2021. These plans contain substantial engagement, safety, and equity components and have been used to inform the Action Plan's approach to public and stakeholder engagement, inform the project selection process, and set measurable goals, in addition to other contributions.

## Vision Zero Toolkit

The [Vision Zero Toolkit](#) provides Central Indiana communities with information on resources on Vision Zero — the commitment to reach zero traffic fatalities through the implementation meaningful design and policy strategies. The toolkit includes a review of the history of Vision Zero; information on data collection and benchmarking; an overview of policy best practices, a comprehensive guide of design countermeasures; numerous national and local case studies; and communications tools and templates.

### Data-Driven Decision Making

from the Vision Zero Toolkit



## ***Design Strategies***

The Toolkit includes a decision-making matrix organized by type of physical design countermeasures and problems they most effectively combat. Countermeasures are organized into four categories: General Strategies, Pedestrian Strategies, Bicycle Strategies, and Automotive Strategies. Additionally, countermeasures are indexed based on cost and type of approach.

- *Temporary Approach:* countermeasures that can be “tested” to determine success before finalizing the change (with various exceptions)
- *System-Wide Approach:* countermeasures that are implemented at all locations (across the community)
- *Risk-Reduction Approach:* countermeasures that are implemented at locations with the greatest risk (specific locations within the community)
- *Site-Specific Approach:* countermeasures that are implemented based on crash data that supports continual crashes at one specific site that needs to be addressed (one location within the community)

For more information, and to view the complete Vision Zero Toolkit, visit the [IMPO's Vision Zero landing page.](#)

## **2050 Metropolitan Transportation Plan**

The MTP lays out the long-range transportation vision for Central Indiana. Every four years, the region revisits the MTP. The plan will guide the region's transportation network from its present state through 2050.

IMPO completed a significant plan update in 2017 for the 2045 Long Range Transportation Plan (LRTP) – now referred to as the MTP – including the addition of peer region comparisons, an updated vision and goals for the region, and setting a number of regional transportation performance measures, in addition to the federally required ones established by federal transportation bills like MAP-21 and the FAST Act. Many of the policies, goals, and recommendations within that 2045 LRTP has been reviewed and maintained within this 2050 MTP.

<b>Engagement</b>	<b>Safety Analysis</b>	<b>Equity</b>	<b>Policy Review</b>	<b>Progress</b>
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## **2020 Regional Bikeways Plan**

The IMPO Regional Bikeways Plan documents existing and proposed facilities in the region and provides recommendations to increase the number and length of safe bikeways in Central Indiana.

The Regional Bikeways Plan has an updated vision statement, and updated goals that include increasing cycling ridership, improving safety for bicyclists, increasing bikeway access for underserved populations, enhancing the convenience of cycling by focusing on end of trip facilities like bike parking, and strategically increasing connectivity within the bikeway network. This vision and goals were updated with input from the Plan's steering committee.

<b>Engagement</b>	<b>Safety Analysis</b>	<b>Equity</b>	<b>Policy Review</b>	<b>Progress</b>
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## 2020 Regional Pedestrian Plan

The Indianapolis MPO plans for all types of transportation, including walking. This plan sets regional priorities for walkway investments. The Regional Pedestrian Plan builds on the previous pedestrian planning efforts of counties and communities throughout the region and focuses on regional connectivity and pedestrian facilities. It examines and prioritizes gaps in the existing regional pedestrian network. Local roads and interstates were not included as part of this study as pedestrians are prohibited on interstates and local roads are inherently low-volume, narrow roads with less chance of pedestrian/vehicular conflicts occurring.

**Engagement      Safety Analysis      Equity      Policy Review      Progress**



## 2019 Safety Studies

The IMPO 2019 Safety Studies project used a data-driven approach to identify 24 intersection locations in need of safety improvements. To locate these intersections, the IMPO implemented a data driven process with a wealth of stakeholder feedback. The process began with a regional analysis of all serious and fatal crashes. This analysis identified a list of 70 potential top crash locations that was further refined to 24 through a stakeholder led process involving LPA transportation officials and emergency services providers. The 24 intersections that were ultimately selected each received a mini-traffic safety study that included additional data analysis, site visits with stakeholders, proposed improvements, and preliminary cost estimates. Of the 24 chosen intersections, five were pedestrian and/or bike focused.

**Engagement      Safety Analysis      Equity      Policy Review      Progress**





## PUBLIC ENGAGEMENT

## 2. PUBLIC ENGAGEMENT

The IMPO is the largest metropolitan planning agency in the State of Indiana, encompassing 8 counties that contain the entirety of the Indianapolis metropolitan area and its estimated 2.1 million people. Though the agency does implement a data-driven approach to much of the work it does, engaging the regional stakeholders and general public is perhaps the most important facet of the regional planning process.

When it comes to traffic safety, no one knows the issues better than the people who travel throughout the region every day. Whether walking down the street to grab groceries or driving to work on the other side of town, there is a lot to be gained by valuing the experiences of the people in our region. The IMPO engages residents and visitors through bi-weekly “TeMPO” Newsletters, posting on social media, holding monthly committee meetings that are open to the public, publishing project-specific public surveys, convening project-specific stakeholder committees, providing time for public comments on all final documents, and more.

The following sections summarize the detailed engagement completed in the development of both previous plans and the Safety Action Plan.

## **2.1 Previous Plan Engagement**

Between 2017 and 2021 the IMPO completed four plans, each with a significant safety component.

### **2050 MTP Engagement**

During the development of the 2050 MTP, the public was asked to provide input and feedback during two major phases of plan development.

The first phase began in August 2020 with the development and distribution of a statistically significant survey. The survey informed the resource allocation that enables the IMPO to generate a fiscally constrained list of proposed future projects and also included questions to help prioritize transportation concerns and inform plan recommendations. The 2,000 public responses collected were proportional to the number of people living in each Central Indiana county.

Once an early version of the recommended project list was formed, a draft map was posted online between March 22 and April 2, 2021, and the public were encouraged to review it and add comments to specific projects. These comments were shared with the communities who proposed the projects. This input helped shape final project selection and ultimately impacted the projects selected for inclusion in the final document.

In the second phase of engagement, a public comment period on the draft 2050 MTP was held between August 30 and October 15, 2021. The comment period was promoted in the teMPO newsletter, social media accounts, and in local newspapers. The IMPO also provided a video describing the plan, in addition to on-site listening sessions at public libraries throughout the region where the concentration of traditionally

underrepresented populations is highest. In response to plan changes, a second public comment period was held in November 2021.

Engagement efforts ended with a public hearing that was held at the Transportation Policy Committee meeting on December 15, 2021.

### **2020 Bikeways Plan Engagement**

Development of the Regional Bikeways Plan was guided by public engagement throughout the process, including four steering committee meetings, 10 focus group meetings, a public survey, several update presentations to the IMPO's Transportation Policy Committee, draft plan public reviews, and a final public hearing.

Four steering committee meetings were held in March, June, and November 2019, and October 2020. The plan's steering committee was comprised of people representing state, county, and local government agencies, transit operators, and bike infrastructure advocates. The purpose of these meetings was to gather feedback on key components of the plan including goals and objectives, survey content, public input strategy, prioritization maps and criteria, and the draft final plan.

Ten focus group meetings were held in two phases; first in June 2019 and then again in October 2020. Each meeting was held in a separate county within the region to maximize the number of community representatives that could attend. In total, 23 community representatives attended these focus group meetings. Community representatives came from a diverse range of backgrounds including local government, community nonprofits, and health and education entities. Over the course of the plan, the groups were asked for their feedback on the draft vision

and goals for the plan, their concerns or ideas regarding the bicycle facility types that the plan focuses on, the draft prioritization criteria, the preliminary public survey results, and the draft plan itself.

A MetroQuest survey was active on the IMPO website from May 1 – June 21, 2019. The survey was advertised in TeMPO (5 times), Facebook (11 posts), Twitter (3 posts), Local News, and shared amongst the counties and municipalities included in the IMPO area. Approximately three weeks after the survey was opened, MPO staff reviewed the demographic results. When compared to the actual demographic proportion of racial/ethnic and income groups within the Metropolitan Planning Area, the survey was skewing toward white, middle/high income people. To attempt to correct this, the survey was extended, translated into Spanish, and a local public engagement firm was tasked with sharing the survey with Black/African American and Latinx people, and to organizations representing the interests of Black/African American, Latinx, and low-income populations. In total, 1,500 people responded to the survey.

Between November 2 and 15, 2020, a complete draft of the plan was made available for public comment. Comments received during this process were responded to and necessary changes were made. A final public hearing was held December 2, 2020 and resulted in plan adoption.

### **Pedestrian Plan Engagement**

During the development of the 2020 Pedestrian Plan, the IMPO relied heavily upon stakeholder and public engagement to inform the plan development and influence project selection. The IMPO used two public surveys to identify regional pedestrian infrastructure priorities. In total, the IMPO received more than 1,000 responses. Four

rounds of steering committee meetings provided the opportunity for stakeholders to evaluate three ranking strategies and develop what would ultimately become the priority investment areas indices used to rank strategies for prioritizing implementable strategies.

#### *Steering Committee Meetings:*

- November 9, 2018
- March 21, 2019
- September 11, 2019
- November 19, 2019

#### *Public Engagement:*

- Community Outreach – the IMPO attended eight public events in May 2019.
- Website and Social Media Materials – The IMPO used their website, existing social media accounts, and the teMPO newsletter for all feedback opportunities, including the public engagement materials, Public Surveys #1 and #2, and the Facebook Live.
- Public Survey #1 – The survey was active online from Friday, November 9, 2018, to Saturday, December 15, 2018. A total of 283 people responded to the survey
- Public Survey #2 – The survey was active online from May 1, 2019 to June 21, 2019. A total of 897 people responded to the survey.
- Facebook Posts and Facebook Live Events
- Public Comment Period

## **2019 Safety Studies Engagement**

IMPO and consultant staff met with various Local Public Agencies (LPA) officials and professionals and with emergency services providers to share findings of the 2019 IMPO Safety Studies project to date. The IMPO and consultants solicited information regarding the identified high crash intersections. They also discussed countermeasures, recent improvements to the various intersections, and information about locally initiated planned projects. LPAs and emergency services providers also had the opportunity to identify other intersections that they consider high-crash locations.

After the 24 intersections of highest need were defined, the IMPO and consultant staff met with LPA professionals and representatives, and in most cases with emergency services providers, on-site to discuss the crash patterns and to identify the preferred countermeasures. In most cases consensus was reached on-site. In some cases the consultant performed additional analysis after the site visit, and IMPO and consultant staff had a follow-up conference call with the LPA representative to discuss findings and obtain consensus for the preferred countermeasure. The proposed improvements identified in each of the individual safety studies is based on consensus between the IMPO and their LPA partners.

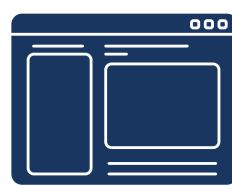
## **Action Plan Engagement Toolkit**



Stakeholder Committee



Surveys



Website



Presentations



Public Comment

## Safety Stakeholder Committee

The IMPO convened a stakeholder committee made up of representative members and planning partners from around the region. The committee met three times between July 11, 2022 and August 8, 2022 to help develop the vision, refine the goals, and steer the plan towards adoption.

### Committee Members

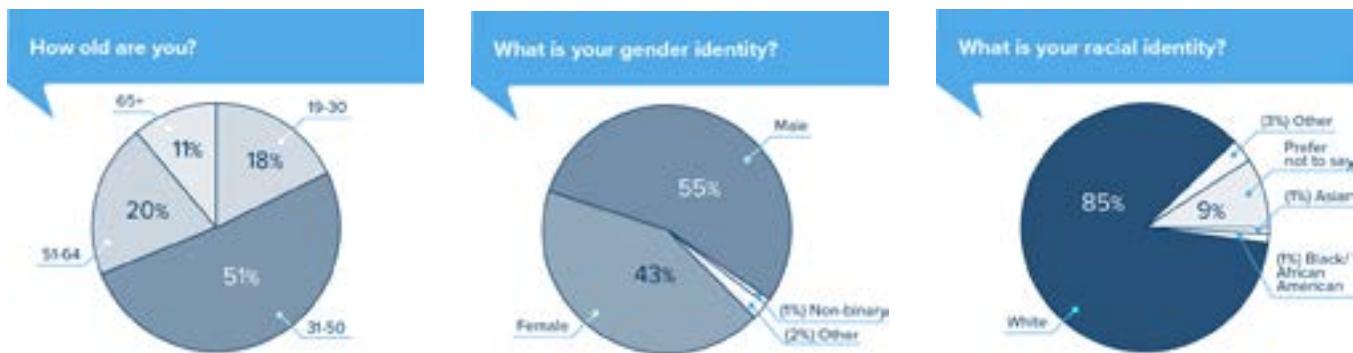
- Ryan Wilhite<sup>5</sup> – IndyGo
- Jeremy Kashman – City of Carmel
- Jill Palmer – City of Indianapolis
- Steve Maple – Town of Pittsboro
- Andrea Miller – IMPO
- Jennifer Dunn – IMPO

July 11, 2022 “Develop the Vision”	July 25, 2022 “Refine the Goals”	August 8, 2022 “Setting the Target”
The project team worked collaboratively with members of the committee to understand the goals of the SS4A SAP, discuss potential progress measures to implement, and get ideas on how to improve existing safety related policies.	Building on the initial meeting, the second committee meeting benefited from a detailed discussion on project selection criteria, existing and proposed safety policies, and moved towards defining a long-range safety goal.	The final stakeholder meeting provided an opportunity to reflect on the work completed by the project team to-date and set Vision Zero targets and performance measures.

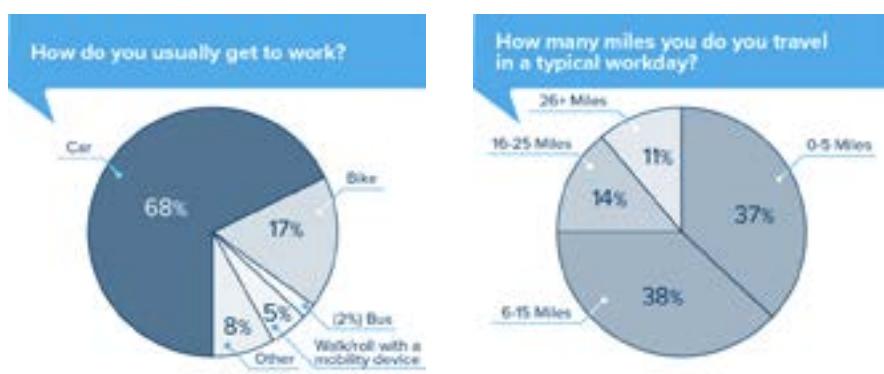
<sup>5</sup> Ryan Wilhite was later replaced by Trevor Preddy (IndyGo)

## 2.2.3 Action Plan Public Engagement (2022) Survey Results

When the survey closed on July 1st, the IMPO reviewed the MetroQuest results and coded written responses to define key themes. The survey told us some demographic information about survey responders, how safe they perceive the network to be, which transportation mode (Car, bike, etc.) they typically use, and any specific safety concerns they have.



Most survey responders were white males between the ages of 31 + 50.



Typically survey responders travel less than 15 miles in a typical workday; usually via car.

**44** The roads and streets I take on my commute are generally safe. 



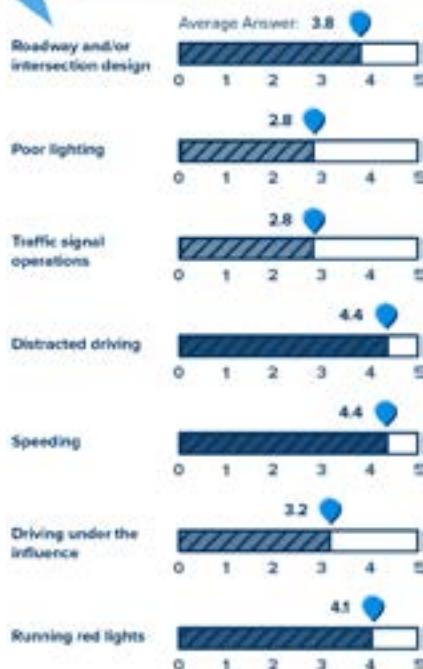
Average Answer: 2.8

**45** I have witnessed or passed by more crashes along my commute this year than last year. 



Average Answer: 3.4

Rank the following factors by how much they contribute to crashes and safety issues in Central Indiana:





What about this road or intersection feels unsafe?



The survey's open format question prompted responders to share specific concerns they have. Speeding and roadway design jumped to the top of the list that included over 1,000 individual answers!

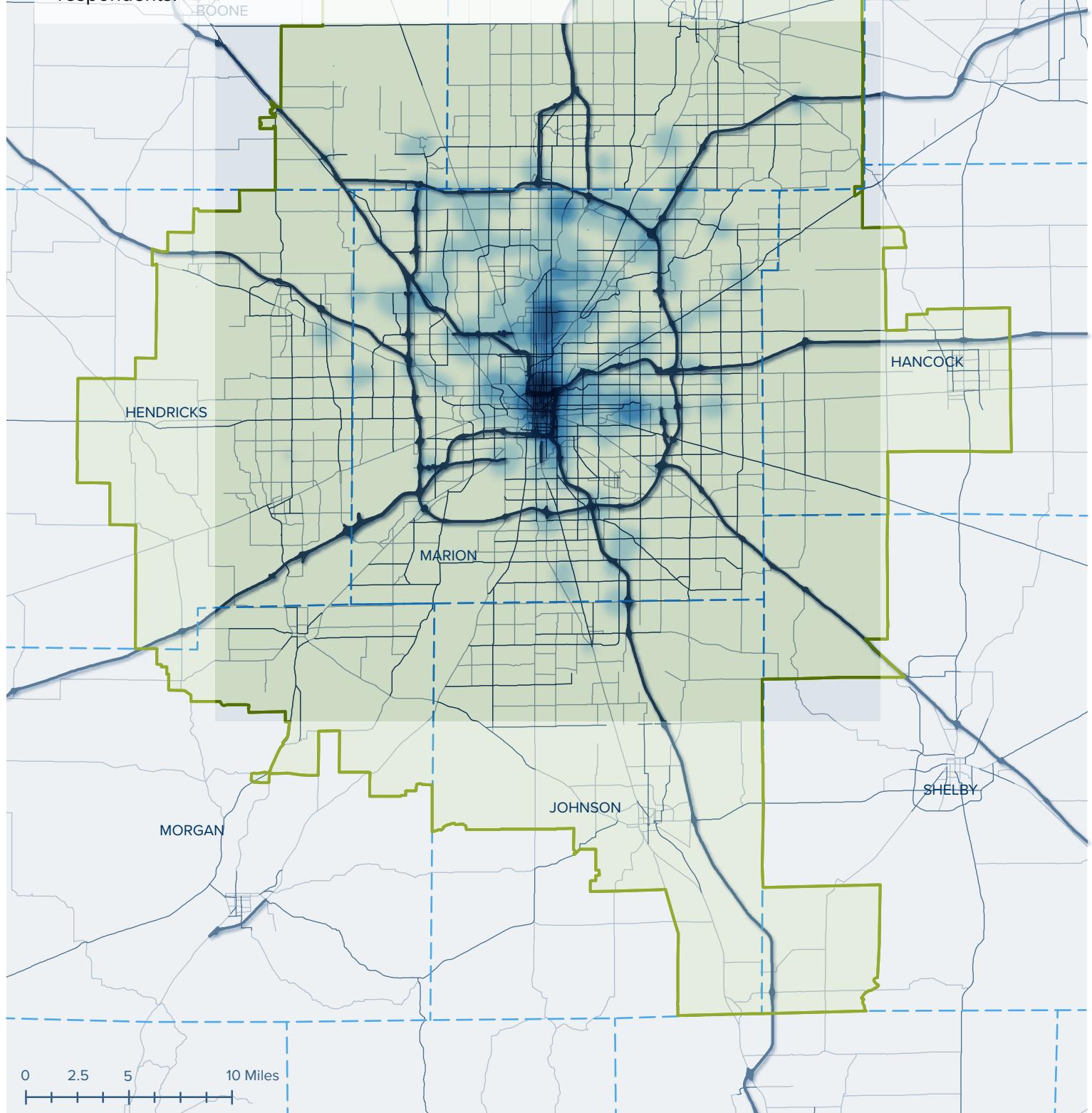
## SURVEY RESPONSES

### IMPO asks the public: Where are our unsafe roads and intersections?

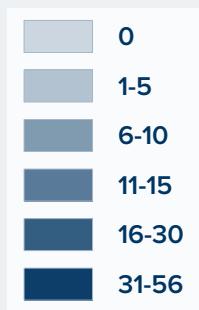
When asked to drop a pin on the map at the location of an unsafe road or intersection, the IMPO received over 1,000! The results were used to create this heatmap showing the distribution of roads and intersections that are perceived as unsafe by respondents.



N

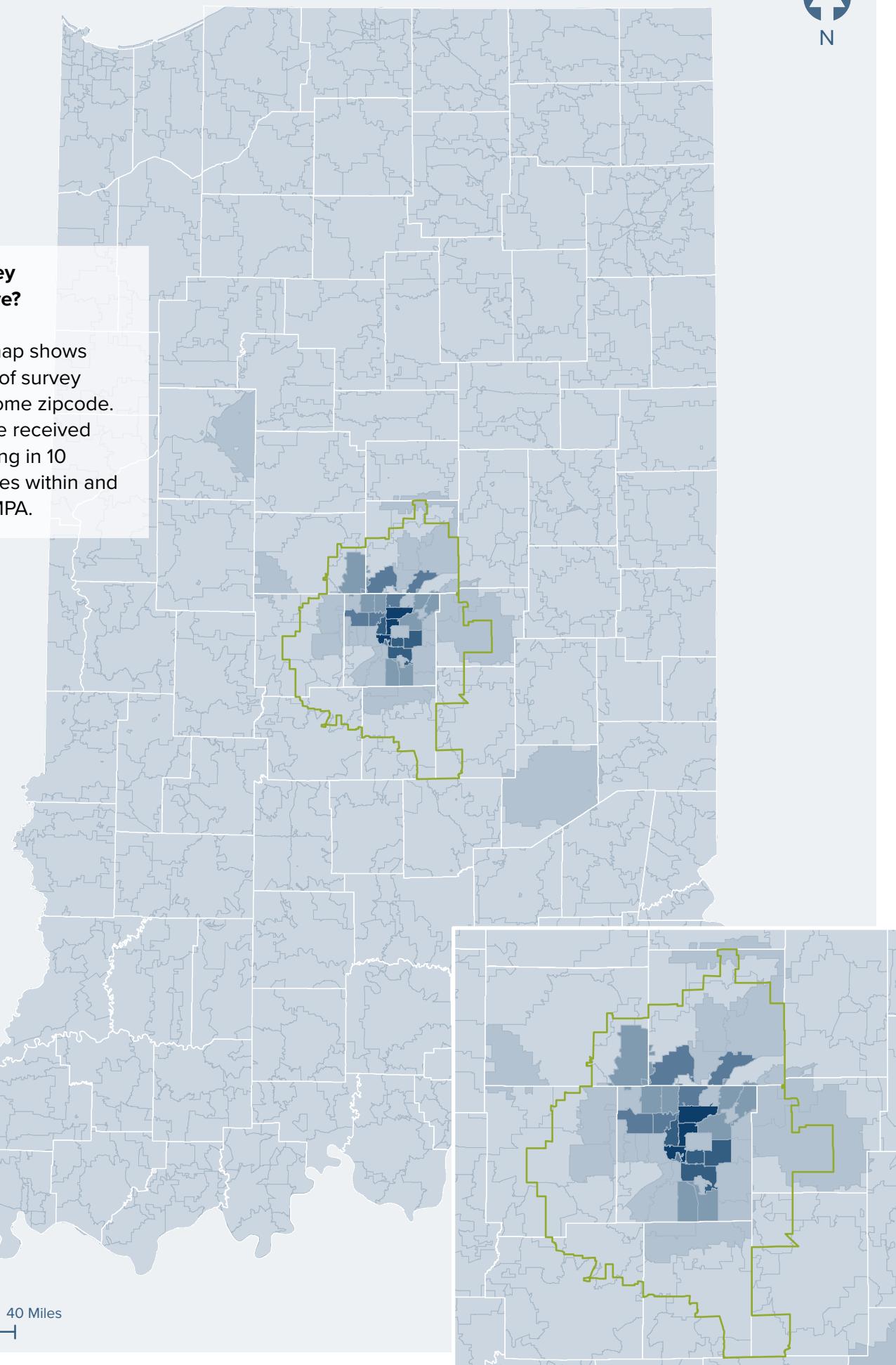


## SURVEY RESPONSES



### Where do survey respondents live?

The following map shows the distribution of survey respondent's home zipcode. Responses were received from people living in 10 different zipcodes within and outside of the MPA.



#### **2.2.4 Summary of Public Comment**

During the public comment period of August 5th – 12th, 2022, the IMPO received 32 submitted comments from the public and institutional stakeholders. Many of these comments expressed support for improving road and street safety, as well as communicating their own concerns about street safety in their neighborhood. Additionally, these same commenters voiced questions of how this Safety Action Plan would be implemented and what measures the IMPO would put into place to make the plan a reality.

Beyond general comments regarding safety there were several recommendations for future additions to the Safety Action Plan. These included:

- Additional analysis and breakdowns of data by county.
- More information on design suggestions for improving safety.
- Interest in advocating on state laws for red light and speed cameras.
- Interest in how the IMPO's funding mechanisms would contribute to addressing safety issues.
- The role that improved transit, bike infrastructure, and walkability plays in improving safety.
- In addition to general comments AARP Indiana submitted a letter of support for the plan.

The 2023 update to this plan incorporates recommendations to the items above highlighted in blue.

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## SAFETY ANALYSIS

## 3. Safety Analysis

### 3.1 Existing Crash Analysis

To identify crash factors associated with elevated risk of fatal and incapacitating crashes occurring in the region, IMPO analyzed crashes from the Indiana State Police Automated Reporting Information Exchange System (ARIES) between 2016 and 2020 to compare factors. From the analysis of this data, the following trends were discovered:

#### Vehicle Crash Types and Primary Factors

Three vehicle crash types are associated with 76% of all severe crashes in ARIES over the study period:

- **Ran Off Road** accounted for 24% of severe crashes but only 10% of all crashes.
- **Right Angle and Left Turn** accounted for 27% of severe crashes but only 20% of total crashes.
- **Rear Ends** accounted for 25% of severe crashes, but 30% of all crashes.

Responding officers also note the primary crash factor for all crashes to identify common behaviors associated with crash severity. It is important to note that because the responding officer is not present to observe the crash, the primary factor in causing the crash is often under-reported. Responding officers conduct thorough investigations of each crash. Due to conflicting narratives from the users involved, a definite root cause of the crash is often not apparent. The following summarizes the most common primary factors reported by law enforcement:

- **Following Too Closely** accounted for 16% of all severe crashes but 23% of all crashes. This is likely due to its association with rear end crashes, which tend to be less severe. It is likely that vehicles following too closely have a less significant speed differential, and thus a lower risk of incapacitating injury or death than other crash types.
- **Failure to Yield Right of Way and Disregard Signal/Regulatory Sign** accounted for 30% of the total severe crashes and 24% of the total crashes. These types of crashes are more likely to result in a severe outcome due to the potential for higher speed impacts, since these crashes involve running a red light or pulling into oncoming traffic unexpectedly, leaving little time for other users to adjust and avoid collisions.
- **Unsafe Speed** is the primary factor in 5% of severe crashes but only accounts for 2% of all crashes. Unfortunately, the data only captures the primary factor of crash and not all of the contributing factors can be assigned or listed; however, speed could be a secondary factor in nearly every crash factor. The differential with the primary factor alone (2.5 times more likely to be severe) is cause for concern. As the responding officer is not at the scene prior to the crash, this primary factor may also be under-reported.

### **3.2 Systemic Crash Analysis**

In addition to identifying high-severity crash types and behaviors in the region, IMPO analyzed design and contextual features of roads that were associated with a high risk of injury (such lane configuration or whether the roadway was in a rural or urban area). This information can be used to proactively identify opportunities to reduce severe crashes through speed reduction, geometric improvements, or through the implementation of other countermeasures.

Roadway feature data were extracted from local GIS data sets created by IMPO and partners as well as the Highway Performance Monitoring System (HPMS) data set and Open Street Map. The IMPO then spatially joined roadway segments and intersections to severe crashes cleaned by the IMPO to determine the roadway features that are most frequently associated with severe crashes. To increase the predictive power of the analysis, particularly for crashes involving vulnerable users, IMPO expanded the number of crash years to 2015-2021.

Unlike previous analyses previously included in this plan, interstates and expressways were not included in the high-risk feature analysis. Highway design differs significantly from that of arterial, collector, and local roadways as there are few, if any, intersections. Furthermore, posted speed limits on interstates and expressways are considerably higher and non-motorized users are not allowed access. To provide the greatest insights into which roadway features are most over-represented in severe crashes, all public arterial, collector, and local roadways are included, regardless of ownership.

In total, IMPO analyzed 55,813 roadway segments, of which 7,575 segments were associated with at least one severe crash. IMPO analyzed contextual features such as equity areas, land use, and pedestrian/bicyclist exposure as well as roadway features including: functional classification, lane configuration, presence of a median or left turn lane, speed limits, average annual daily traffic (AADT), and presence of sidewalks and bike lanes. All features are based on GIS spatial analysis, not information provided in the ARIES crash report. Where possible a risk factor, the ratio of the share of severe crashes between 2015 and 2021 to the share of centerline miles of the feature, has been included to indicate where severe crashes are over- or under-represented.

IMPO produced a risk score system to knit together contributing factors into an intelligible index for use by IMPO and regional partners to prioritize and coordinate safety investments alongside the HIN.

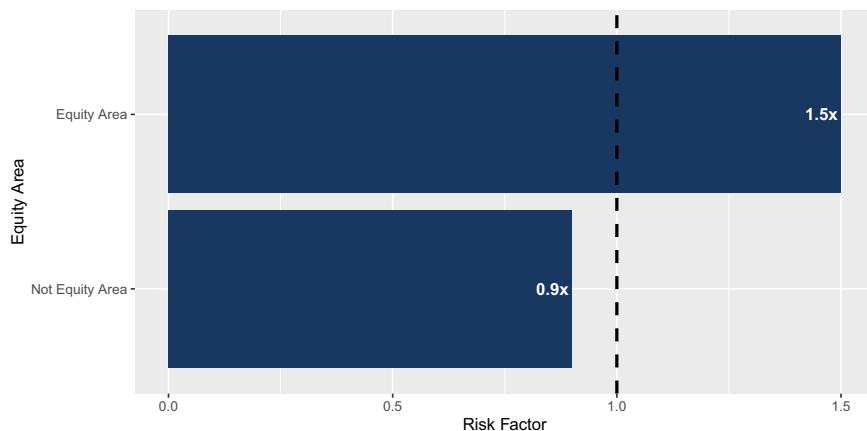
### **Place Context**

Roadway operations, behaviors, and design are shaped by the surrounding built environment, diversity and intensity of local activities and trip types, socioeconomic and demographic characteristics, and other contextual factors. For instance, the number and types of conflicts on a two-lane road in an urban area are very different from those in a rural area, even if motor vehicle volumes are similar. This analysis considered the impact of equity geographies (historically disadvantaged tracts), area types (IMPO place types), and bicycle/pedestrian exposure patterns to determine where severe crashes are overrepresented based on context.

## Equity Areas

### Historically Disadvantaged Census Tracts

(HDC's), as defined by the US Department of Transportation, have a larger share of fatal and serious injury roadways relative to the number of centerline miles. More information on the federal definition of 'Historically Disadvantaged Census Tracts' can be found [here](#).



### How to Interpret These Results

These risk factors are based on the proportion of fatal and serious injury crashes to roadway miles. Roadway characteristics with a risk feature above 1 have a higher-than-average risk. For example, a roadway feature with a risk factor of 1.5 has 1.5 times average regional concentration of fatal and serious injury crashes.

## Equity Risk

Equity Area	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
Not Equity Area	11,282	7,072.1	82.2	73.3	0.9
Equity Area	4,102	1,531.8	17.8	26.7	1.5

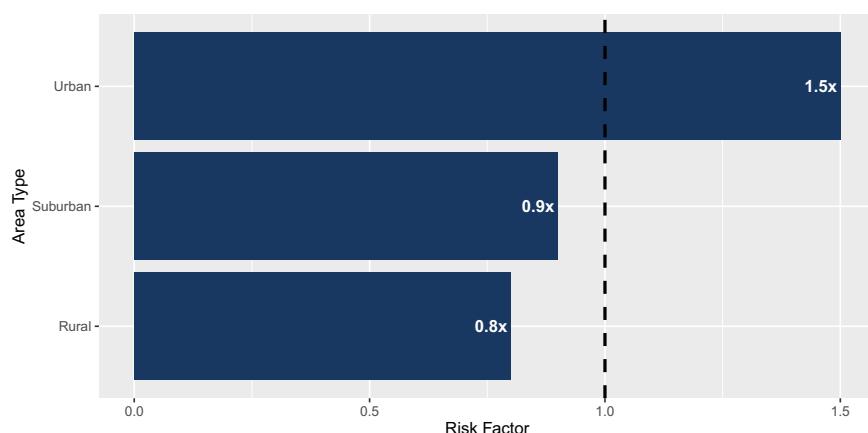
Source: HPMS 2022, USDOT 2023, ARIES data 2015-2021 cleaned and spatially located by IMPO

## Area Types

High-level area types were based on IMPO's Scenario Planning place types:

- **Rural:** Agriculture/Conservation, Rural Estate
- **Suburban:** Airport, Manufacturing/Mining, Office Park/Corporate Campus, Strip Commercial, Suburban mixed Use, Suburban Residential, Warehouse/Logistics
- **Urban:** Campus, Downtown Indy, Mixed-use Urban Infill, Special Events/Uses

Rural and Suburban place types had below average risk factors, where urban place types had above average risk factors.



## Area Type Risk

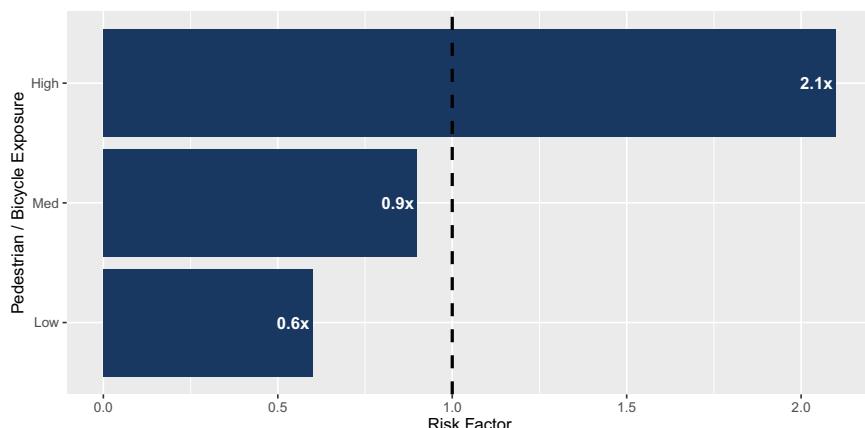
Area Type	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
Rural	2,954	2,117.9	24.6	19.2	0.8
Suburban	7,914	4,822.7	56.1	51.4	0.9
Urban	4,516	1,663.3	19.3	29.4	1.5

Source: HPMS 2022, IMPO, ARIES data 2015-2021 cleaned and spatially located by IMPO

## Pedestrian Bicycle Exposure

Higher levels of pedestrian and bicycle exposure, measured based on estimated mode share statistics provided by Replica, were also associated with higher than average levels of risk for all motor vehicle crashes (1.3x the average risk). They were also associated with elevated levels of risk for pedestrian/bicycle crashes (2.1x the average risk).

Pedestrian and bicycle exposure is the amount of walking and biking likely to occur in a particular area. Bicycle and pedestrian exposure were estimated using Replica, a nationwide activity-based model. To create categories of bicycle and pedestrian exposure, the share of walking and biking trips were summarized at the Census Tract level. Census Tracts were divided into Low, Medium, and High pedestrian exposure based on whether they were in the lowest (0-8.3% of trips), middle (8.3%-10.4% of trips), or upper third (10.4% of trips or more) of Census Tracts for walking and biking activity.



## Pedestrian / Bicycle Exposure Risk

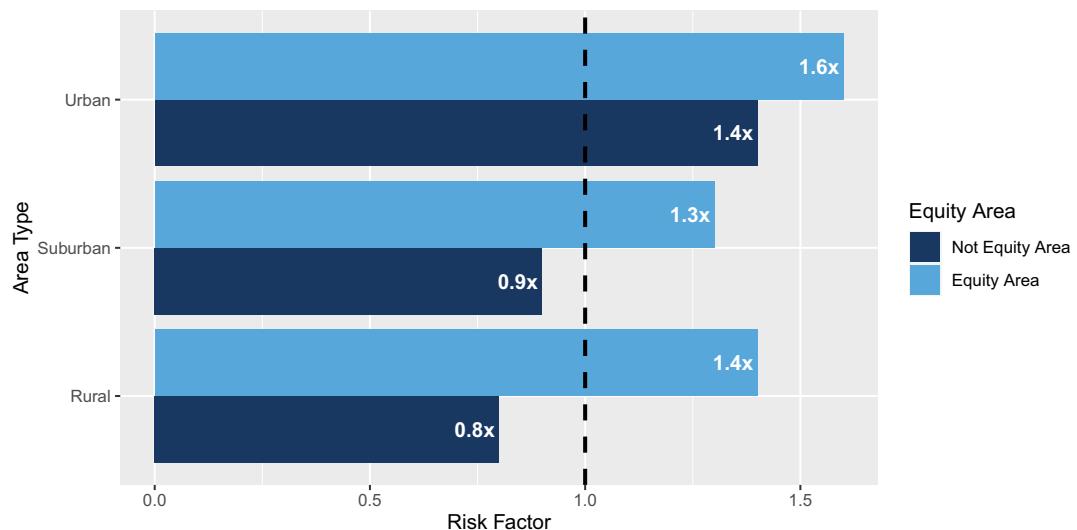
Pedestrian / Bicycle Exposure	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
Low	378	4,105.4	47.7	29.9	0.6
Medium	374	2,823.0	32.8	29.5	0.9
High	514	1,675.6	19.5	40.6	2.1

Source: HPMS 2022, Replica Fall 2021, ARIES data 2015-2021 cleaned and spatially located by IMPO

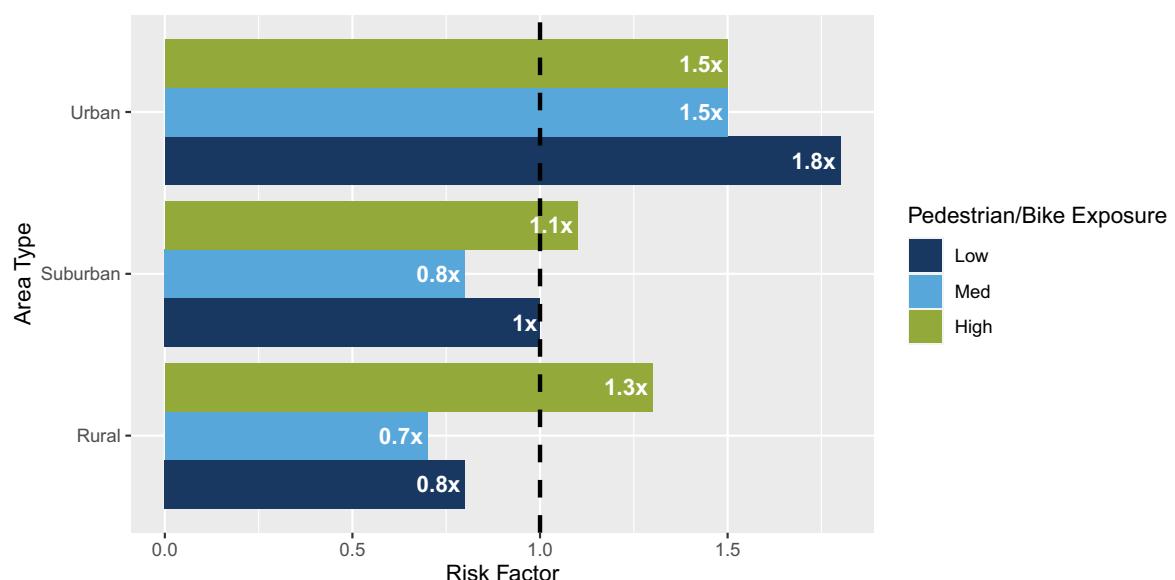
## Interactions Between Contexts

Roadways in HDCs were associated with greater risk regardless of whether they were in Urban, Suburban, or Rural contexts. Urban areas, regardless of the amount of bicycle and pedestrian exposure, and rural and suburban areas with higher levels of bicycle and pedestrian exposure had higher levels of risk. HDCs, regardless of whether they were in low, moderate, or high pedestrian exposure areas, had higher levels of risk.

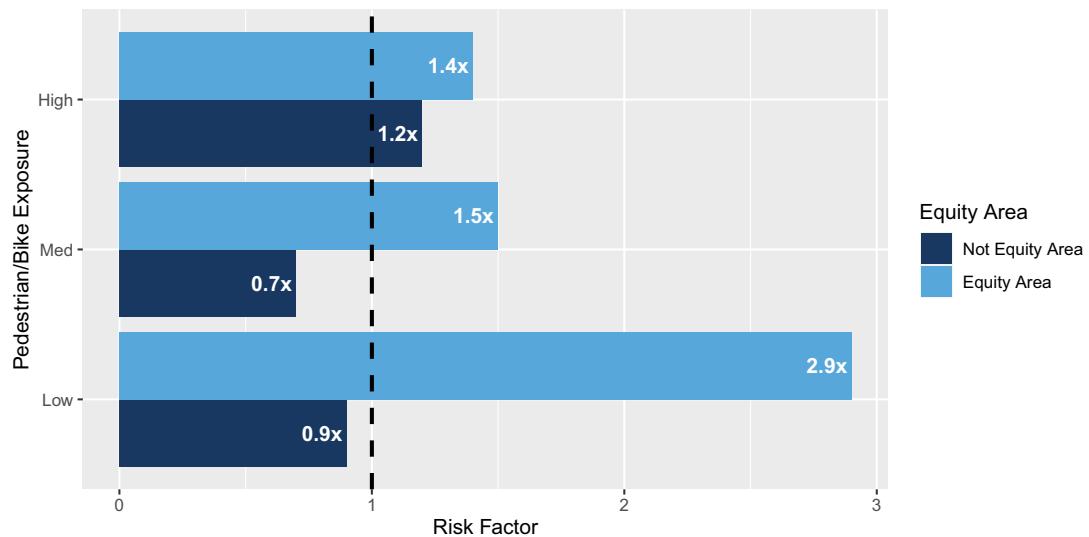
### Area Type by Equity Area



### Area Type by Pedestrian/Bicycle Exposure



### **Pedestrian/Bicycle Exposure by Equity Area**



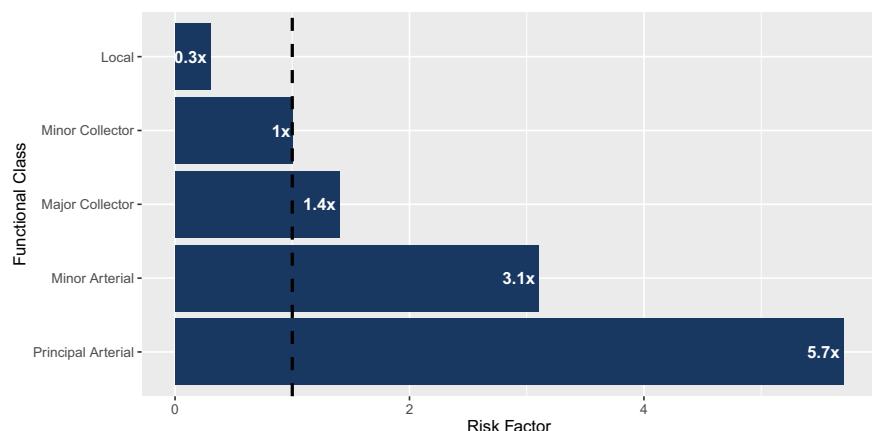
## Risk Factor by Defining Roadway Features

Based on data aggregated from HPMS, the IMPO's regional model, and regional bicycle facility and sidewalk data, IMPO calculated the relative risk of different street types, operational characteristics such as speed limits and traffic volumes, and design features.

**Importantly, these data are associations, they do not prove causation. Many of the risk factors are intertwined; for instance, a principal arterial is likely to have more lanes, higher vehicular volumes, and higher motor vehicle speeds.** The risk factors are helpful, however, in describing the risk relative within each feature class. These roadway features and context elements will contribute to a composite risk score shown on page 51.

### Functional Class

Principal and Minor Arterial streets had higher concentrations of fatal and serious injury crashes than other roadway types. Interstate Highways and Limited Access Expressways were excluded from this analysis.



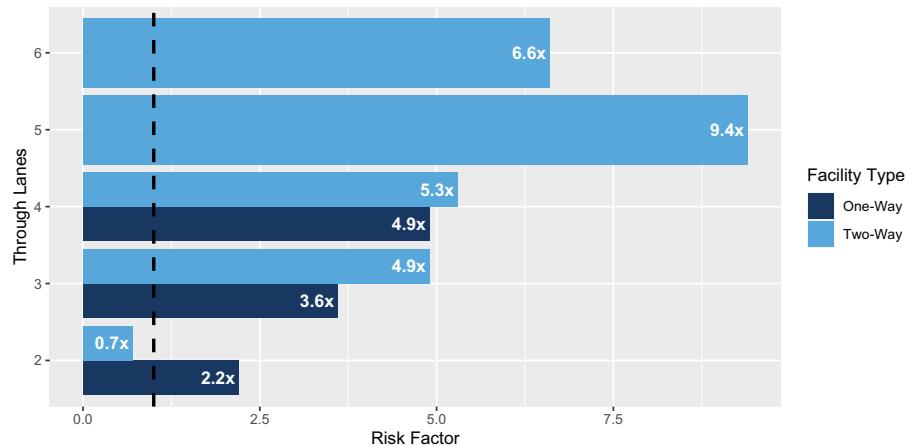
### Functional Class Risk

Functional Class	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
Principal Arterial	4,761	464.1	5.4	30.9	5.7
Minor Arterial	4,337	784.2	9.1	28.2	3.1
Major Collector	2,557	1,016.6	11.8	16.6	1.4
Minor Collector	525	300.7	3.5	3.4	1.0
Local	3,204	6,038.3	70.2	20.8	0.3

Source: HPMS 2022, ARIES data 2015-2021 cleaned and spatially located by IMPO

## Lane Configuration & Roadway Type

One-Way streets were generally higher risk than two-way streets with a similar number of lanes. Roadways with more lanes also had higher risk factors.



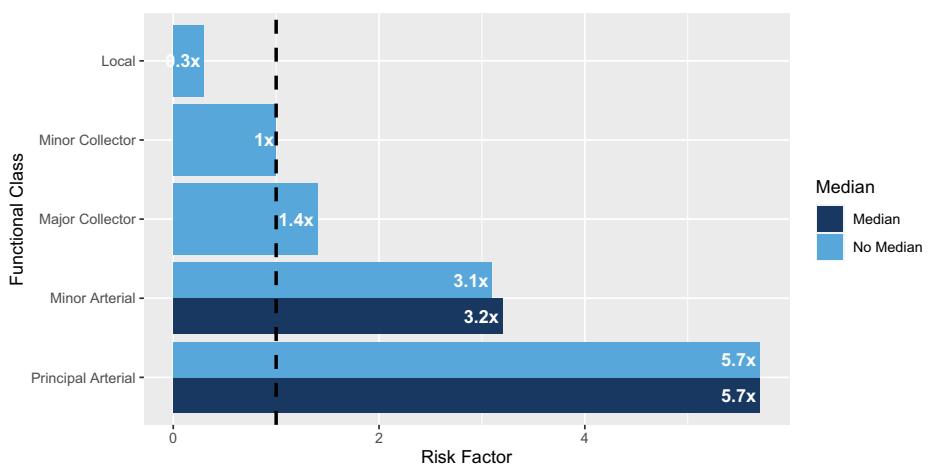
### Lane Configuration

Facility Type	Through Lanes	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
One-Way	2	168	42.6	0.5	1.1	2.2
One-Way	3	91	14.3	0.2	0.6	3.6
One-Way	4	62	7.1	0.1	0.4	4.9
Two-Way	2	9,659	7,977.3	92.7	62.8	0.7
Two-Way	3	198	22.4	0.3	1.3	4.9
Two-Way	4	4,445	472.6	5.5	28.9	5.3
Two-Way	5	178	10.6	0.1	1.2	9.4
Two-Way	6	548	46.4	0.5	3.6	6.6

Source: HPMS 2022, ARIES data 2015-2021 cleaned and spatially located by IMPO

## Median

While roadways with a median generally had a higher risk factor than those without a median, when grouped by functional class, there is little difference in the risk between roadways with or without a median barrier.



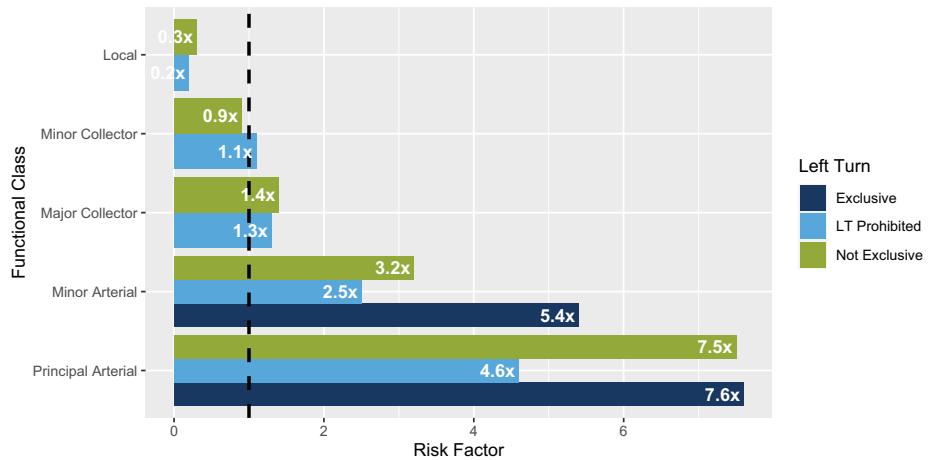
## Lane Configuration

Median	Functional Class	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
Median	Principal Arterial	1,476	144.4	1.7	9.6	5.7
Median	Minor Arterial	142	24.9	0.3	0.9	3.2
No Median	Principal Arterial	3,285	319.7	3.7	21.4	5.7
No Median	Minor Arterial	4,195	759.2	8.8	27.3	3.1
No Median	Major Collector	2,517	1,003.5	11.7	16.4	1.4
No Median	Minor Collector	524	298.7	3.5	3.4	1.0
No Median	Local	3,160	6,014.6	69.9	20.5	0.3

Source: HPMS 2022, ARIES data 2015-2021 cleaned and spatially located by IMPO

## Left Turn Lanes

For higher functional class roadways, roadways with prohibited left turns generally had lower risk than exclusive left turn lanes or shared left turn lanes.



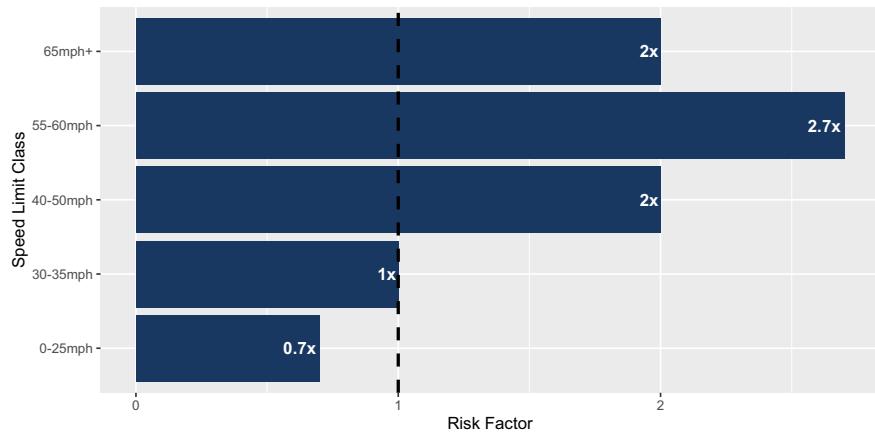
## Left Turn Lanes

Left Turn	Functional Class	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
Exclusive	Principal Arterial	1,056	77.3	0.9	6.9	7.6
Exclusive	Minor Arterial	214	22.1	0.3	1.4	5.4
LT Prohibited	Principal Arterial	2,388	288.5	3.4	15.5	4.6
LT Prohibited	Minor Arterial	1,035	227.4	2.6	6.7	2.5
LT Prohibited	Major Collector	627	263.4	3.1	4.1	1.3
LT Prohibited	Minor Collector	92	45.4	0.5	0.6	1.1
LT Prohibited	Local	280	648.0	7.5	1.8	0.2
Not Exclusive	Principal Arterial	1,317	98.2	1.1	8.6	7.5
Not Exclusive	Minor Arterial	3,088	534.7	6.2	20.1	3.2
Not Exclusive	Major Collector	1,881	747.7	8.7	12.2	1.4
Not Exclusive	Minor Collector	427	254.5	3.0	2.8	0.9
Not Exclusive	Local	2,896	5,385.4	62.6	18.8	0.3

Source: HPMS 2022, ARIES data 2015-2021 cleaned and spatially located by IMPO

## Speed Limits

Higher speed limits were generally associated with higher risk. 40-50mph roadways were 2x riskier, and 55-60 mph roadways were 2.7x riskier. There were only 52 miles of 65mph+ roadways that were analyzed (Interstate and Limited Access Freeways were excluded from this analysis), but they had a slightly lower risk factor than 55-60mph roadways.



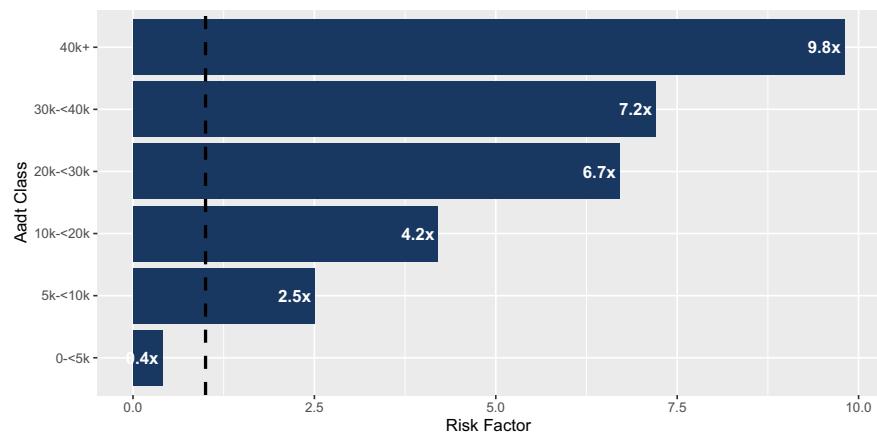
## Speed Limits

Speed Limit Class	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
0-25mph	7,234	5,690.6	66.1	47.0	0.7
30-35mph	2,290	1,327.3	15.4	14.9	1.0
40-50mph	4,891	1,370.7	15.9	31.8	2.0
55-60mph	786	163.9	1.9	5.1	2.7
65mph+	183	51.5	0.6	1.2	2.0

Source: HPMS 2022, ARIES data 2015-2021 cleaned and spatially located by IMPO

## AADT (Annual Average Daily Traffic)

Roadways with higher traffic volumes – in particular, those with more than 20,000 vehicles per day--had a higher level of crash risk.



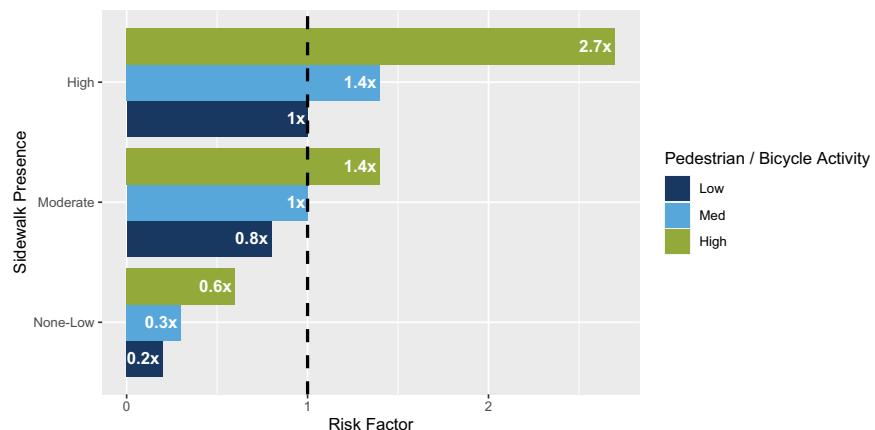
### AADT Class

AADT Class	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
0-<5k	5,775	7,267.7	84.5	37.5	0.4
5k-<10k	2,487	546.0	6.3	16.2	2.5
10k-<20k	4,162	553.1	6.4	27.1	4.2
20k-<30k	2,037	168.9	2.0	13.2	6.7
30k-<40k	756	58.7	0.7	4.9	7.2
40k+	167	9.5	0.1	1.1	9.8

Source: HPMS 2022, ARIES data 2015-2021 cleaned and spatially located by IMPO

## Sidewalks

Sidewalks are not an inherently dangerous roadway feature. However, there is an increase in walking and biking on streets with sidewalks. Areas with more pedestrian activity should be carefully examined to make sure that roadway and intersection elements support safe speeds and safe crossings.



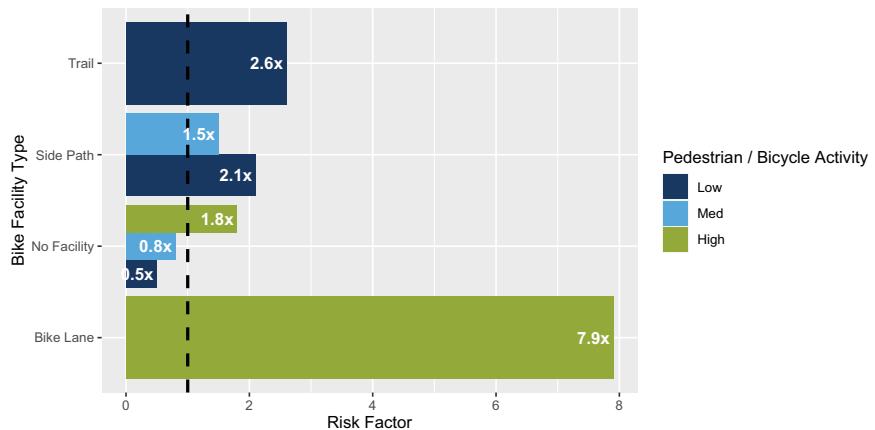
### Sidewalk Presence

Sidewalk Presence	Pedestrian / Bicycle Activity	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
None-Low	Low	67	1,987.0	23.1	5.3	0.2
None-Low	Med	49	1,134.7	13.2	3.9	0.3
None-Low	High	36	402.2	4.7	2.8	0.6
Moderate	Low	26	227.6	2.6	2.1	0.8
Moderate	Med	32	216.2	2.5	2.5	1.0
Moderate	High	36	170.4	2.0	2.8	1.4
High	Low	285	1,890.8	22.0	22.5	1.0
High	Med	293	1,472.1	17.1	23.1	1.4
High	High	442	1,102.9	12.8	34.9	2.7

Source: HPMS 2022, IMPO, ARIES data 2015-2021 cleaned and spatially located by IMPO

## Bike Facilities

Similar to sidewalks, bike facilities are not dangerous in and of themselves and are likely to lead to increased user activity. Bike facilities, however, should be carefully selected and planned. As the number of lanes, speeds, and vehicular volumes increase, so to should separation to provide a safe, comfortable, and accessible facility for people of all ages and abilities.



## Bike Facility Presence

Bike Facility Type	Pedestrian / Bicycle Activity	Crashes	Length	Percentage of Total Centerline Miles	Percentage of Total Crashes	Risk Factor
Bike Lane	High	53	45.9	0.5	4.2	7.9
No Facility	Low	261	3,742.3	43.5	20.6	0.5
No Facility	Med	324	2,699.6	31.4	25.6	0.8
No Facility	High	423	1,575.2	18.3	33.4	1.8
Side Path	Low	86	273.3	3.2	6.8	2.1
Side Path	Med	15	69.1	0.8	1.2	1.5
Trail	Low	31	82.6	1.0	2.4	2.6

Source: HPMS 2022, ARIES data 2015-2021 cleaned and spatially located by IMPO

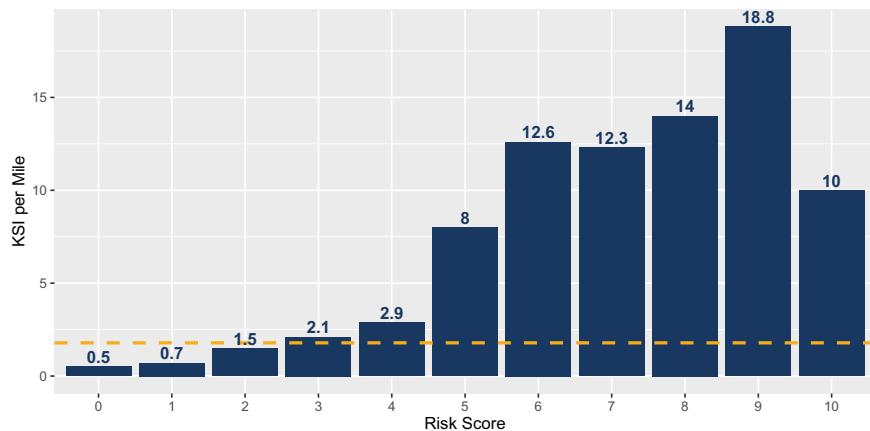
## Proposed Risk Score System

The below table outlines higher-risk roadway attributes and a proposed composite risk score for evaluating the relative safety of streets and roads in the IMPO region.

**Risk Score**

Attributes	Points	
<b>Equity Area</b>	No	0
	Yes	1
<b>Area Type</b>	Rural	0
	Suburban	0
<b>Pedestrian / Bicycle Exposure</b>	Urban	1
	Low	0
<b>Lanes</b>	Medium	0
	High	1
<b>Left Turn</b>	One-way	2
		3-4
<b>Speed Limits</b>	2	1
	3-4	2
<b>AADT</b>	Two-way	0
	5+	1
<b>Restricted</b>	Under 5k	0
	5k to <10k	1
<b>Unrestricted</b>	10 to <20k	2
	20k+	3
<b>Total Points Possible</b>	<b>10</b>	

A review of the crash data shows more fatal and serious injury crashes per mile on roads with a higher composite risk score.

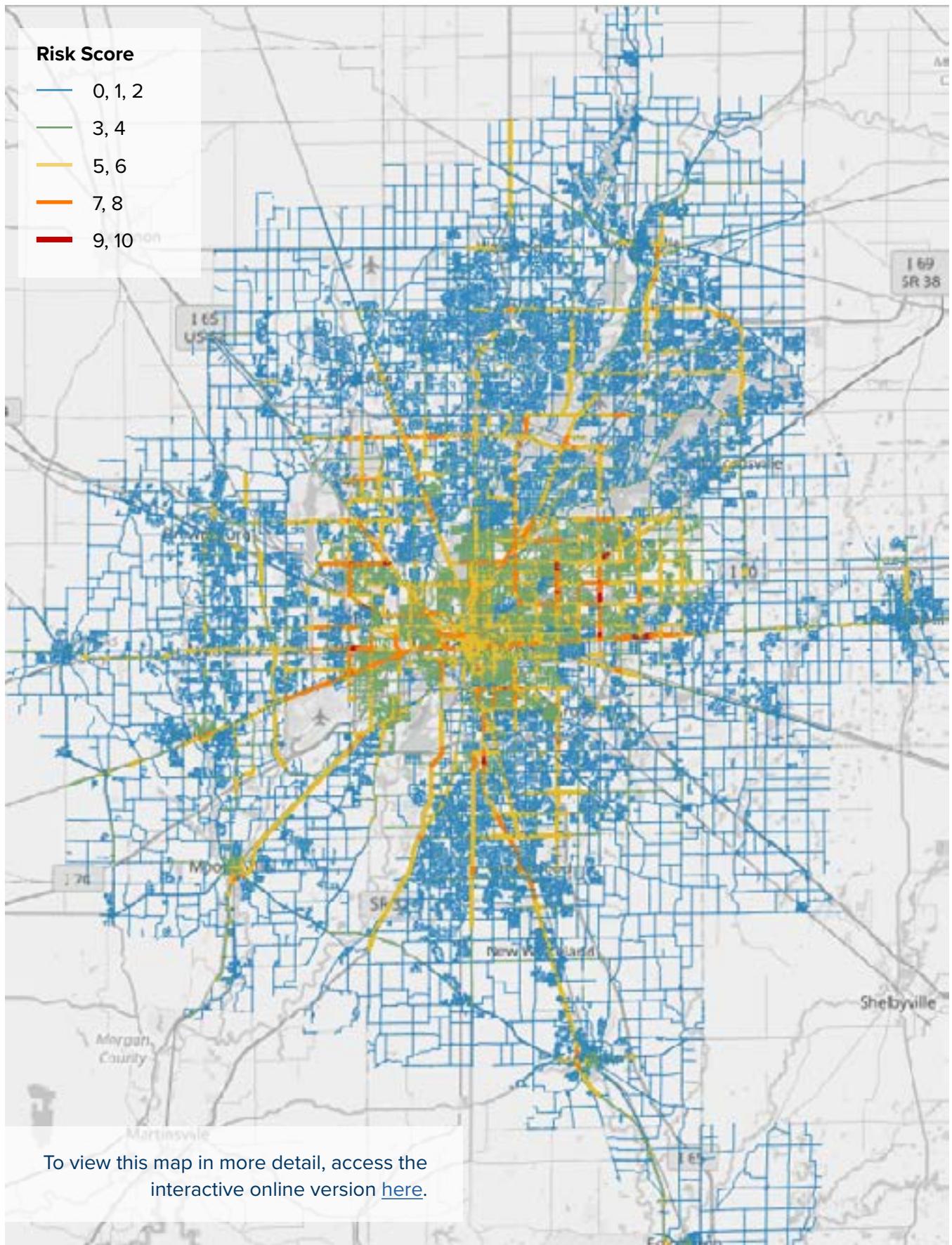


*Fatal and serious injury crashes with a risk score of 10 are likely underrepresented due to limited data availability.*

Risk Score	Miles	KSI Crashes	KSI per Mile
0	626.0	295	0.5
1	3,779.5	2,531	0.7
2	1,925.2	2,794	1.5
3	986.5	2,096	2.1
4	770.5	2,257	2.9
5	245.0	1,949	8.0
6	178.9	2,262	12.6
7	67.1	826	12.3
8	20.8	292	14.0
9	4.3	81	18.8
10	0.1	1	10.0

#### Comparing the HIN and High Risk Maps

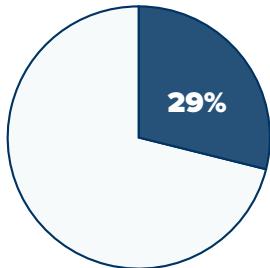
The High Risk Network is a map representation of higher-risk roadway features, where each roadway is assigned a risk score of 0 to 10. This map represents today's best available data, but recently completed safety improvements may result in a lower risk score. While the High Injury Network shows roadways with higher history of crashes, the High Risk Network highlights roadways with higher risk roadway features and contexts.



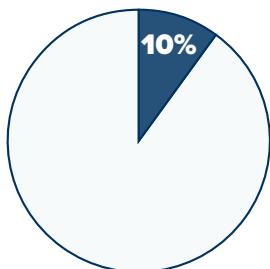
### 3.3 High Injury Network

The IMPO developed a High Injury Network (HIN) to identify the local corridors with the highest frequencies of crashes resulting in incapacitating injuries and fatalities within the MPA.<sup>7</sup> The HIN represents the top 10% (234 centerline miles) of regional collector and arterial streets scored by the number of incapacitating injury and fatal crashes per centerline mile. The HIN enables IMPO and LPAs to prioritize safety investments and other strategies on the streets with the highest number of severe crashes to make rapid progress towards regional safety goals.

**The HIN represents 29% of crashes resulting in an incapacitating injury or fatality reported on local streets between 2016 and 2020...**



**...but only 10% of locally owned collector and arterial streets and roads.**



Unlike other crash analysis in this plan, the HIN is limited to the arterial and collector streets that LPAs have jurisdiction over. Thus, all routes owned by INDOT were dropped prior to analysis. INDOT routes typically include interstates, state routes, and numbered US routes. The HIN also excludes all crashes on local roads – typically low volume residential streets – which are not

directly comparable to high volume roadways that connect local and regional destinations. This enables the IMPO to conduct an apples to apples comparison of corridors throughout the region.

To construct the HIN, the IMPO used spatially verified vehicle, pedestrian, and cyclist crashes that occurred in the public right of way between 2016 and 2020, excluding crashes on interstates and expressways (with the exception of at-grade intersections and ramp intersections).<sup>8</sup> Severe crashes were joined to eligible intersections and roadway segments. Candidate corridors spanning two or more intersections in the top 20th percentile by severe crash frequency were then identified. Over 500 centerline miles of candidate corridors across the region were scored by the number of severe crashes per mile, with fatal crashes receiving a higher weight. The top 234 miles, representing approximately 10% of the 2,358 miles of arterial and collector centerline miles not owned by INDOT, were then assigned to the HIN.

The HIN is shown in the map on page 55, "High Injury Network + Environmental Justice". Between 2016 and 2020, 3,108 incapacitating injury and fatal crashes occurred within 100 feet of the HIN, representing 35% of all severe crashes on the local collector and arterial network.<sup>9</sup> Across the region, pedestrian and bicyclist fatal and incapacitating injury crashes represented 8.3% of all severe crashes. Of the 59 corridors on the HIN, severe bicycle and pedestrian crashes are overrepresented on 21 corridors spanning 73.2 miles. A full list of HIN corridors with scores and crash calculations can be found in the Appendix.

<sup>7</sup> Based on limitations with Indiana crash data, incapacitating injury crashes, those resulting in one or more people being taken from the scene by medical transportation, was used in lieu of instead of serious injuries and approved by USDOT. <sup>8</sup> For a total of 11,996 of 15,552 fatal and incapacitating injury reported crashes between 2016 and 2020. Totals may vary between raw data pulled from ARIES and crash data cleaned and verified by IMPO. <sup>9</sup> Other cities and regions have identified more concentrated patterns of crashes on their HINs. Differences in concentration of KSI crashes may be driven by land use, activity patterns, and the overall share of KSI crashes involving people walking and biking, among other factors.

## HIGH INJURY NETWORK + ENVIRONMENTAL JUSTICE

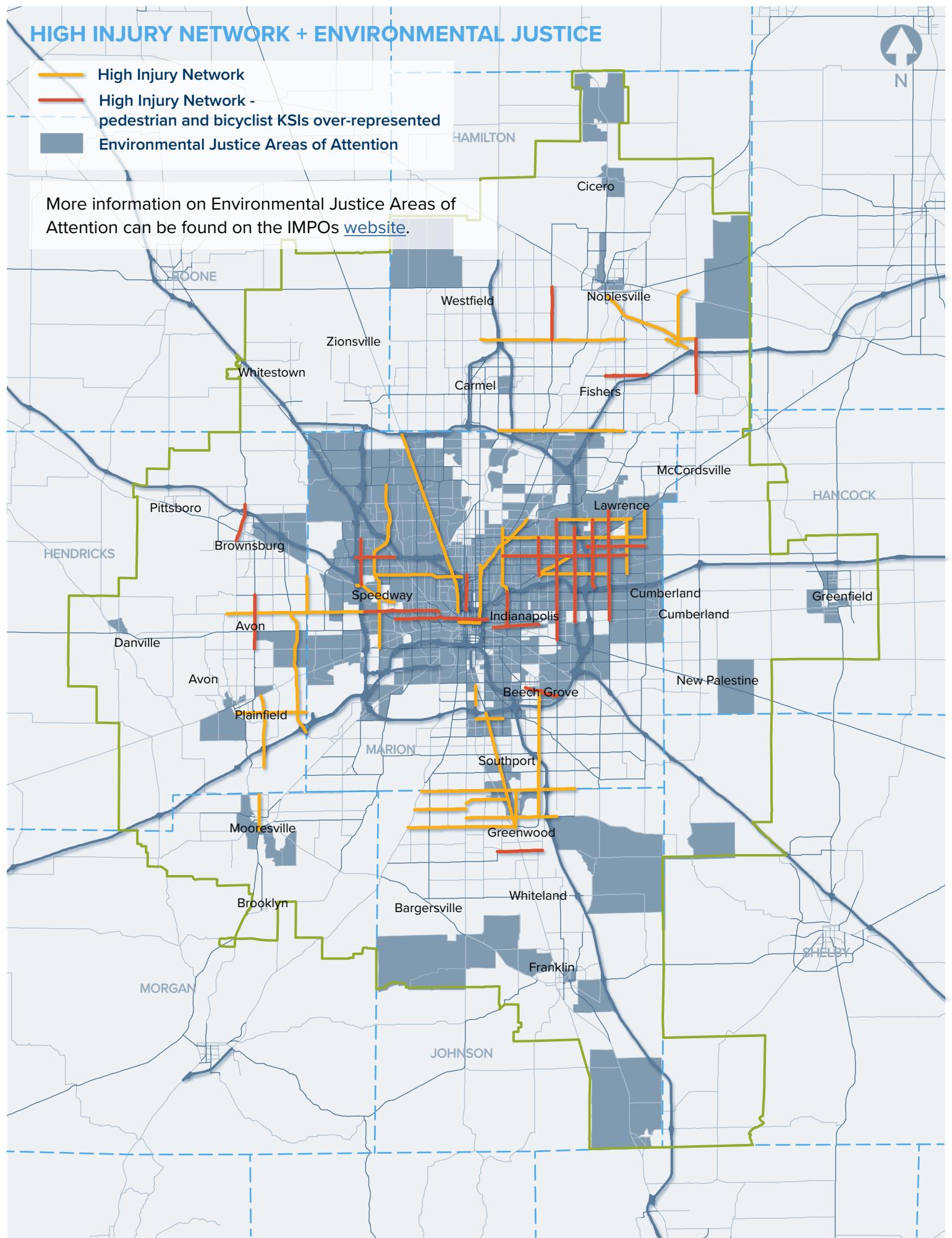


High Injury Network

High Injury Network -  
pedestrian and bicyclist KSI over-represented

Environmental Justice Areas of Attention

More information on Environmental Justice Areas of Attention can be found on the IMPOs [website](#).



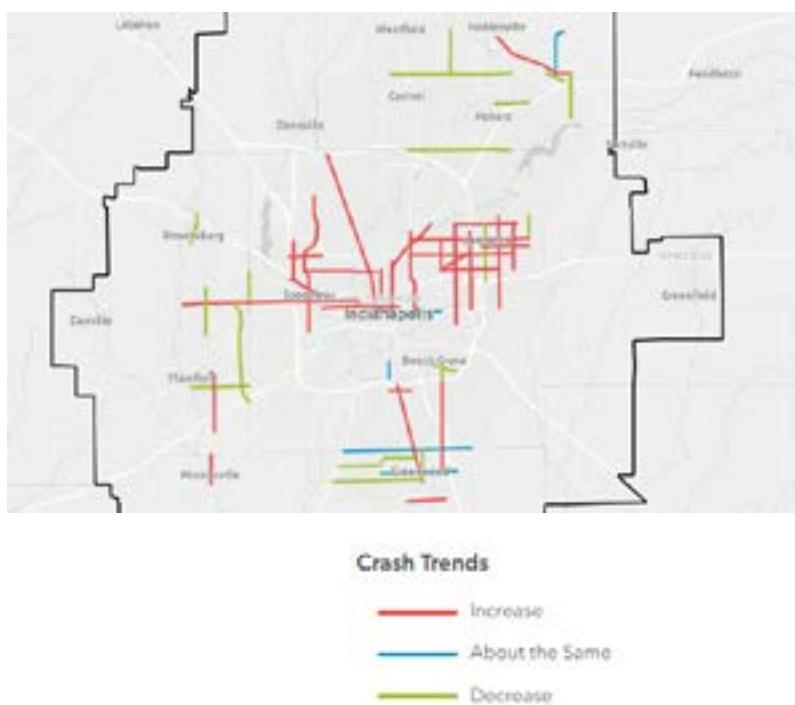
### 3.4 High Injury Network Corridors

In the 2023 update to the IMPO Safe Streets and Roads for All Action Plan, the IMPO completed an additional analysis on the HIN to identify crash trends and how users are impacted by them.

#### Crash Trends

People using HIN roads have generally experienced an increase in fatal and serious injury crashes from 2015 to 2021. Along all of the HIN corridors, fatal and serious injury crashes increased from an average of 425.7 crashes per year in 2015-2017 to 680.0 crashes from 2019-2021, or an increase of 60% (or around 9% per year). Three year averages of KSI crashes were grouped by the first three and final three years to avoid 1 or 2 anomalous years on any corridor. Not all corridors had an increase in crashes. Some corridors were about the same (didn't change more than 10% in total) and some actually decreased. The top 10 relative increase and decrease corridors are shown in the table below, and trends for corridors are shown in the map to the right and on [this interactive map](#).

It is worth noting that while the rise in crashes is a serious issue that should be addressed the reason for the dramatic percentage increases is because the initial number of crashes for 2015 – 2017 for most of these corridors are small numbers (anywhere from 1 – 4 serious or fatal crashes. The table below.

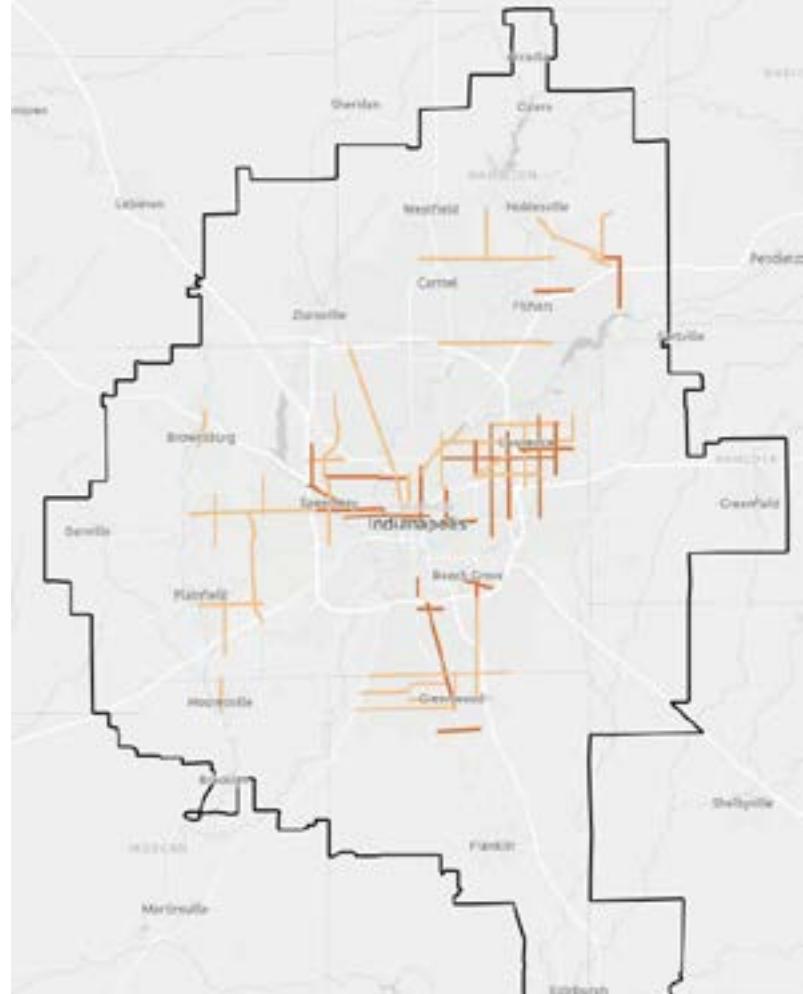


**Top 10 Increasing and Top 10 Decreasing Corridors (three year averages comparison)**

Increasing		Decreasing	
Corridor	Change	Corridor	Change
30TH ST	1 to 14.7 (1366.7%)	126TH ST	7.3 to 0.7 (-90.9%)
MITTHOEFFER RD	2.7 to 16 (500%)	FAIRVIEW RD	6.3 to 2.7 (-57.9%)
EMERSON AVE	2.7 to 15.7 (487.5%)	RONALD REAGAN PKWY	27.7 to 14.3 (-48.2%)
38TH ST	1.3 to 7 (425%)	E 96TH ST	21 to 11 (-47.6%)
COLLEGE AVE	3.7 to 16 (336.4%)	CHURCHMAN AV	3 to 1.7 (-44.4%)
THOMPSON RD	1.3 to 5.7 (325%)	DAN JONES RD	7 to 4 (-42.9%)
ILLINOIS ST	2 to 7.7 (283.3%)	STAFFORD RD	8.7 to 5 (-42.3%)
38TH ST	12 to 43.3 (261.1%)	OLIO RD	6.7 to 4 (-40%)
MASSACHUSETTS AV	2 to 7 (250%)	GREEN ST	7.7 to 5 (-34.8%)
M L KING JR ST	11.7 to 37.7 (222.9%)	1ST AVE	4 to 2.7 (-33.3%)

## Bicycle/Pedestrian Crashes

Bicyclists and pedestrians were about 7.9% of fatal and serious injury crashes in the years 2015-2021. Yet several High Injury Network corridors had a higher than average share of bicycle/pedestrian crashes. The below table shows the top 10 corridors for fatal and serious injury Bicycle & Pedestrian crashes as well as whether the rate of crashes has been increasing, decreasing, or staying about the same.



Percent Bike/Ped

- Higher than Average Bike/Ped
- Lower than Average Bike/Ped

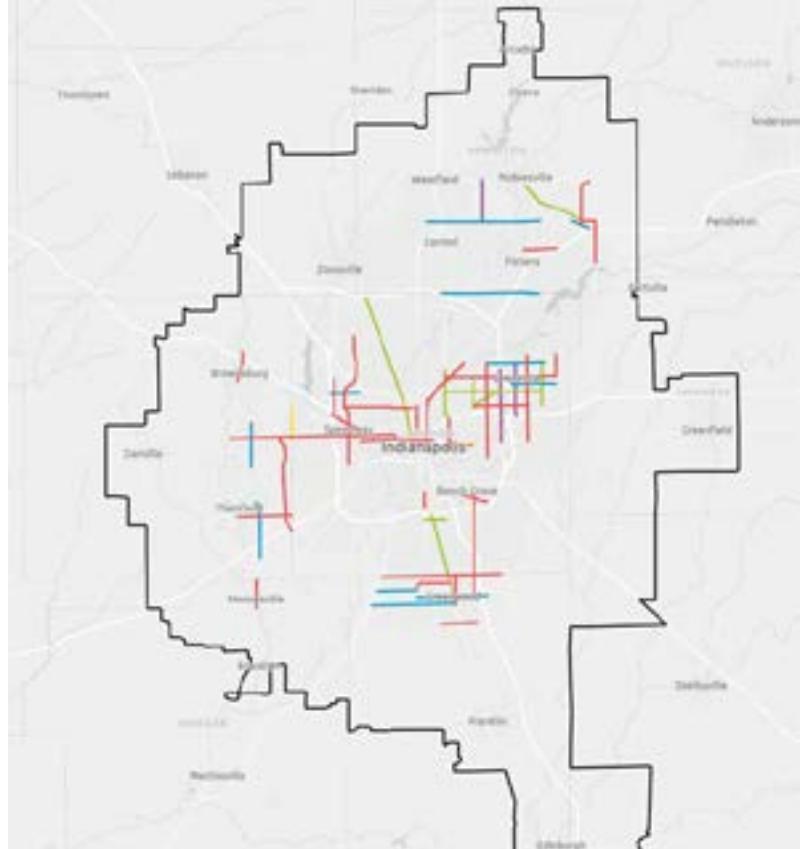
Corridor	Bicycle	Pedestrian	Bike Ped KSI / Mi. / Yr.	Percent KSI involving Bike/ Ped	Trend
WASHINGTON ST	3	11	0.79	36%	About the Same
SHADELAND AVE	3	15	0.49	14%	Increase
38TH ST	2	18	0.41	11%	Increase
EMERSON AVE	1	5	0.40	10%	Increase
WORTHSVILLE RD	4	3	0.40	16%	Increase
HIGH SCHOOL RD	0	7	0.39	19%	Increase
NEW YORK ST	1	2	0.38	27%	About the Same
RURAL ST	0	5	0.37	10%	Increase
1ST AVE	0	2	0.34	8%	Decrease
CRAWFORDSVILLE RD	2	4	0.34	12%	Increase

## Crash Movements

Each HIN corridor has a variety of crash types. The primary crash movements per corridor are shown in the map to the right and on this [interactive map](#), as well as in a table attached to this report. Right-angle crashes were the top crash movement for most corridors on the High Injury Network. This was also the top crash movement for the region.

### Crash Movements

- |             |                |
|-------------|----------------|
| Right Angle | Left Turn      |
| Rear End    | Bike/Ped Crash |
| Other       | Ran Off Road   |



Crash Movement	Number of Corridors
Right Angle	34
Rear End	11
Left Turn	3
Bike/Ped	1
Ran Off Road	1
Other	9

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## EQUITY CONSIDERATIONS

## 4. Equity Considerations

### 4.1 Environmental Justice Areas and Underserved Communities

Environmental Justice (EJ) refers to the process of evaluating and analyzing the planning process in reference to the most underserved populations with the purpose of enhancing potential benefits and mitigating potential harms. Environmental Justice populations are most often composed of low-income and minoritized people who have been systemically disadvantaged by governmental policies and ensuing investment decisions. As part of our planning process, we are committed to acknowledging and addressing past harms and are committed to evaluating impact projects and strategies funded and advanced by the IMPO have on these populations.

Recent research has shown that EJ populations, especially people of color, are disproportionately impacted by traffic violence. The Governors Highway Safety Administration found that Black and Indigenous people were overrepresented in traffic crash deaths between 2015 and 2019 when compared to the U.S. population as a whole.<sup>10</sup> When accounting for exposure, the disparity in traffic deaths experienced by Black and Hispanic Americans is stark. Regardless of mode, land use intensity, and time of day, Black and Hispanic Americans are subject to statistically significant higher fatality rates than white and Asian Americans.<sup>11</sup> Inequities in traffic deaths are especially pronounced among Black people who bike or walk, who face a risk of death two to four times higher than white peers, respectively.<sup>12</sup> Social determinants of health, built environment factors, and access to vehicles with contemporary safety features are all potential contributing factors to this disparity.

The IMPO identifies Environmental Justice Areas of Attention (EJAs) at the Census block group level across the MPA using 2015-2019 ACS Five-Year estimates. Block groups were identified if the rate of historically disadvantaged populations exceeded the regional rate within the MPA.<sup>13</sup> IMPO's EJAs include greater shares of minoritized people and low-income households than the regional mean, but also reflect populations disproportionately impacted by transportation projects including people with limited English proficiency, people without a college degree, households with no vehicles available, people over the age of 65, and people with disabilities. The IMPO host a link to a web version of this map on their website. A version of this map is included in Appendix C.

Consistent with national findings, EJAs have greater needs and lack critical infrastructure necessary not only for safe mobility, but access to good jobs, healthy behaviors, and recreation. Past plans, like the 2020 Regional Pedestrian Plan, identified that underserved populations across Central Indiana lack safe, convenient routes for walking and may have inadequate transportation options, which affect employment opportunities, school performance, and access to healthcare.<sup>14</sup>

During the development of this Action Plan, the IMPO relied heavily on inputs received from the public through an SS4A safety survey. As part of the survey, respondents were asked to use a provided map to identify intersections and roadways throughout the region that they perceive as the most dangerous. Of all the map responses, 70% were located within IMPO identified EJAs, indicating that the greatest need for safety improvements are in the region's EJAs.

<sup>10</sup> <https://www.ghsa.org/sites/default/files/2021-06/An%20Analysis%20of%20Traffic%20Fatalities%20by%20Race%20and%20Ethnicity.pdf> <sup>11</sup> [https://www.gjponline.org/article/S0749-3797\(22\)00155-6/fulltext](https://www.gjponline.org/article/S0749-3797(22)00155-6/fulltext) <sup>12</sup> Ibid. <sup>13</sup> The rate was determined by dividing the EJ population of an area by the total population of the same area <sup>14</sup> Regional Pedestrian plan, page 81.

The areas of the MPA covered by IMPO's EJAs are substantially similar to Areas of Persistent Poverty and Historically Disadvantaged Communities as defined by USDOT.

## 4.2 Disparities in Traffic Crashes

### Fatal and incapacitating injury crashes are overrepresented in EJAs.

Severe crash data from 2016 to 2020 extracted from ARIES and cleaned by the IMPO indicate that nearly twice as many severe crashes occur in EJAs than in other areas of Central Indiana. EJAs account for approximately 25% of the area of the IMPO region by land area. Of the 15,552 severe crashes in the metropolitan planning area between 2016 and 2020, 46% (7,128) occurred in EJAs. When compared by area, severe crashes are overrepresented by nearly 100%. Consistent with this finding, over half of the HIN mileage by centerline mile (54%), are located in EJAs.

As the Environmental Justice (EJ) score increases, so too does the overrepresentation of severe crashes. Census tracts with EJ scores greater than or equal to 20 make up just 7.5% of the regional land area, but account for 22.5% of all severe crashes, representing a disparity of 200%.

Data cleaned by the IMPO did not indicate where victims of severe traffic crashes reside. In lieu of these data points, IMPO approximated population-level risk factors based on spatial location of the crash. When normalized by population, severe crashes remain overrepresented in EJAs, but at an attenuated level when compared to area. Nearly 41% of the people living in the MPA – 722,076 of 1,769,964 people as of 2020 – reside in EJAs, but 46% of crashes between 2016 and 2020 resulting in incapacitating injuries or death

occur within their boundaries. In the Central Indiana MPA, there were 17.8 crashes resulting in incapacitating injuries and deaths per 10,000 residents, as compared to 19.8 severe crashes per 10,000 residents in EJAs. Best available data indicate that EJAs have an elevated severe crash risk of 11% when compared to the MPA-wide average.

Based on data queried through ARIES, traffic crashes could not be broken down by the race, ethnicity, income, or other demographic information beyond the age and gender of the victim or the at-fault party to the crash. EJAs represent nearly two-thirds (65.5%) of the MPA's non-white and Hispanic population (413,479 of 631,198 people). The disproportionate concentration of severe crashes in EJAs may suggest that minoritized people in the MPA experience severe crashes at higher rates than their white, non-Hispanic neighbors, but additional research is necessary to demonstrate an association.



## POLICY + PROCESS REVIEW

## 5. POLICY + PROCESS REVIEW

During the creation of this Action Plan, the IMPO reviewed existing safety-related policies, plans, and guidelines currently held both internally and by our LPA members. The purpose of this review was to reflect on the measures we're currently taking within the region and propose changes that better prioritize safety.



## LPA Policy Review

LPA	Policy Name	Summary
<b>Town of Avon</b>	<a href="#">Neighborhood Traffic Calming Policy</a>	Recommends practices in assessing, planning, designing, and constructing neighborhood traffic calming devices for existing streets in the Town of Avon.
<b>City of Beech Grove</b>	<a href="#">Vision Zero Initiative</a>	Aims to eliminate motorist, bicyclist, pedestrian, transit and other transportation related deaths.
<b>Town of Cumberland</b>	<a href="#">Transportation Master Plan</a>	Seeks to integrate people and place into the planning, design, construction, operation and maintenance of Cumberland's transportation infrastructure and network.
<b>City of Indianapolis</b>	Pedestrian Safety Action Plan (Appendix D)	While not a policy, the Action Plan offers key insights for process and policy changes specific to the Indianapolis jurisdiction as well as pedestrian crash analysis and effective countermeasures based on crash type.
	Complete Streets Policy (Appendix E)	Aims to create a multimodal transportation system that is safe, dependable, efficient, integrated, and connected. The policy establishes performance reporting and details implementation of the policy through
	Policy for Tactical Urbanism (Appendix F)	Guides placement of small-scale, low-cost, and temporary demonstration initiatives, such as placing objects and/or pavement markings within the rights-of-way to slow down traffic and trying out new safety measures.
<b>City of Westfield</b>	<a href="#">Complete Streets Policy</a>	Promotes the use of an interdisciplinary approach by developers, elected officials, government agencies, planners, engineers, and architects in the design and construction of roadway projects within the City of Westfield.
<b>Town of Whitestown</b>	<a href="#">Complete Streets Policy</a>	Aimed at making multimodal transportation more comfortable and convenient on the public ways.

## **5.1 IMPO Policies and Processes**

### **Vision Zero Policy**

In 2018, the IMPO Policy Committee approved a resolution supporting Vision Zero. As part of this Safety Action Plan the IMPO updated this Vision Zero statement to include the specific goal of reducing serious injuries and deaths by 35% BY 2040. This update was adopted by the IMPO Policy Committee on August 17, 2022. The Vision Zero resolution is listed on the [IMPO Safe Streets and Roads for All webpage](#) under “Resources”. In addition, to help communities move in this direction, the IMPO developed a Vision Zero Toolkit (completed 2023). The IMPO’s Vision Zero Toolkit offers a resource for Central Indiana communities to enable communities to pursue a contextually appropriate reduction in transportation deaths and serious injuries. With educational materials, short, information-packed brochures, and an inspiration guide of design ideas, the Vision Zero Toolkit can be applied to existing trouble areas in a community or community-wide to prevent future deaths and serious injuries. The [Vision Zero Toolkit landing page](#) hosts these tools.

### **Complete Streets Policy**

The IMPO’s Complete Streets Policy was adopted in 2014 and amended in October 2016. The policy requires projects using IMPO managed STBG and TAP funds to implement complete streets where reasonable. Projects funded under HSIP and the CMAQ program, the other two funding sources administered by the IMPO, are excluded from the policy. Instead those projects are required to complete a benefit/cost analysis (BCA). As such, complete street design elements could affect the benefit/cost ratio without a proportional increase

in emissions reductions or safety benefits for CMAQ and HSIP respectively. The project scoring criteria for each of the MPO-administered funds are discussed in the section below.

### **Crash Data Reporting**

The IMPO started a project in 2017 to relocate the records of fatal crashes and incapacitating injuries in the ARIES (Automated Reporting Information Exchange System). The crash dashboard for the IMPO shows crash records for fatalities and incapacitating injuries for the 7 years (2015 – 2021) in the region. The dashboard will be updated annually with the previous year’s crash data. The dashboard offers interactive filters that let users choose a certain year, crash type, or jurisdiction while viewing the crash statistics for the IMPO’s Local Planning Agencies and the public. The dashboard promotes transparency and can help transportation decision-makers understand crash data.

### **IRTIP + MTP Process**

The Indianapolis Regional Transportation Improvement Program (IRTIP) is a four-year schedule of transportation projects proposed by government and transportation agencies in the Indianapolis Metropolitan Planning Area using Federal Highway Administration (FHWA) funds, Federal Transit Administration (FTA) funds, or Indiana Department of Transportation (INDOT) funds. In addition, other projects that are considered regionally significant (for air quality conformity purposes) are included, regardless of the funding source. Projects selected for inclusion in the IRTIP reflect the region’s transportation priorities as established by the Metropolitan Transportation Plan (MTP) and include transit, pedestrian and bicycle, roadway and highway infrastructure construction, operations, and rehabilitation.

## MPO-Administered Funds

The MPO administers the competitive selection process for the CMAQ, HSIP, STBG, and TAP funds. These funds are readily available to deploy in the region, in accordance with the IRTIP and the MTP. **This funding process is central to how the MPO does its work, and through the programming of projects, the MPO can impact safety outcomes of the transportation system.**

- **Surface Transportation Block Grant (STBG)** – the STBG is the largest source of federal funding for the IMPO. Funds can be used for any type of project.
- **Congestion Mitigation and Air Quality (CMAQ)** – CMAQ is the second largest source of revenue for projects. Funds can only be used on projects that improve air quality such as bus purchases, roundabouts, and trails.
- **Highway Safety Improvement Program (HSIP)** – HSIP funds can be used only for projects and plans that improve the safety of the network including but not limited to roundabouts, signage projects, and safety studies.
- **Transportation Alternatives Program (TAP)** – TAP is a popular funding that primarily serves to fund non-motorized transportation modes. Project examples are trails and streetscape improvements.

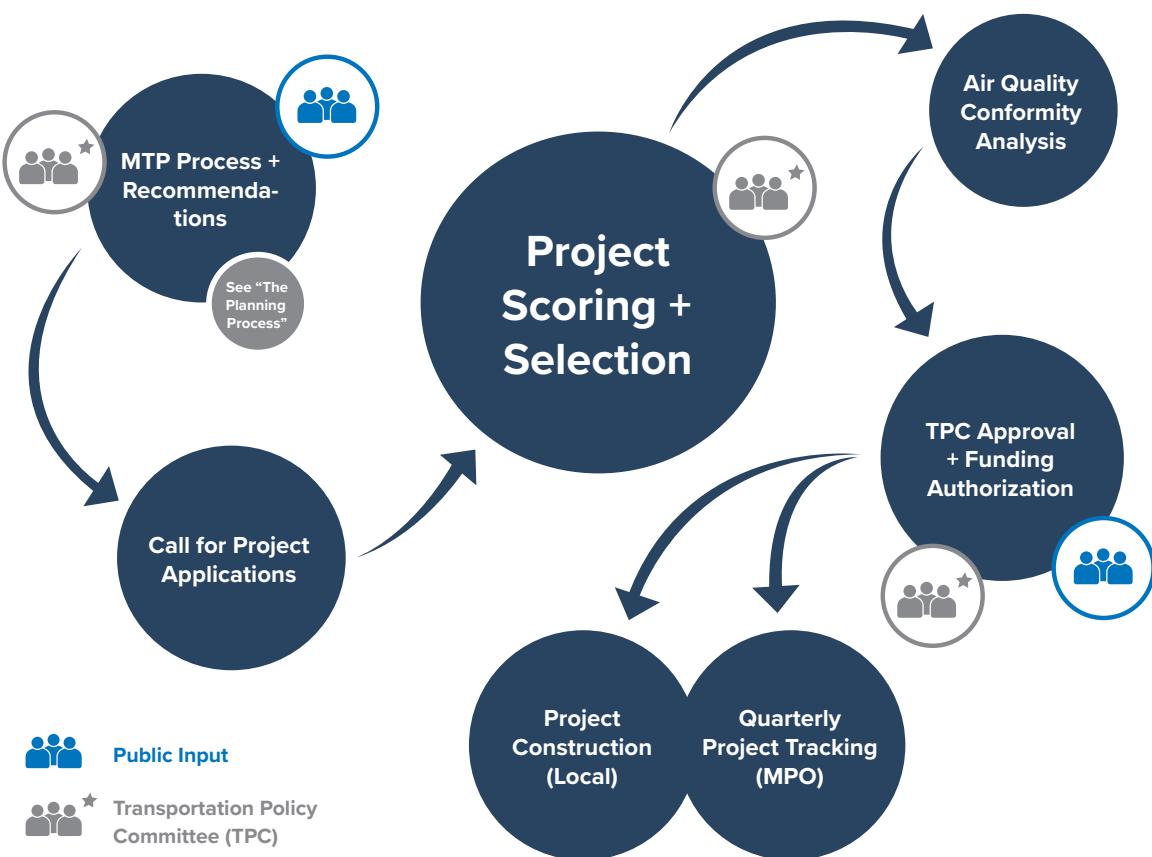
## Programming Projects

The IMPO receives an annual allocation of funds for each of the federal funding programs detailed

above. Annually, a call for projects is opened for member communities from within the IMPO area to complete locally for the federal funds allocated to Central Indiana. Existing plans, direction from the Transportation Policy Committee, and public input help guide the selection of projects that provide Central Indiana with the highest regional transportation benefit. Programming projects at the IMPO generally consists of:

- **Create Scorecards** – Best practices, federal guidelines, and Transportation Policy Committee inputs shape the scorecard for each funding category. The Project Selection Criteria and Weighting section below further discusses specific project selection criteria for each funding category and potential considerations for safety.
- **Call for Projects** – Annually the MPO's Transportation Policy Committee is alerted to an open call for projects, how much funding is available for the current call, and a deadline to submit projects.
- **Review Submitted Projects** – Towns, cities, and counties within the MPO area may submit projects for funding. LPAs self-score their projects upon submission. IMPO staff validate the scoring, and to finalize the ranking/recommendation phase, the recommended distribution of funds is checked against the regional Resource Allocation Goals. The MTP establishes the Resource Allocation Goals to guide what percentage of the IMPO's federal funding is dedicated to each of the six project types: capacity expansion, preservation (repair), bike and pedestrian projects, and transit.
- **Public Comment** – The Transportation Policy Committee and public provide input on the list of recommended projects.

## IMPO Programming Process



- **Seek Approval** – The final list of recommended projects is submitted to the Transportation Policy Committee for final approval.
- **Track Projects** – Every project is tracked to ensure the project meets its deadlines and will be able to spend its allocated money.

### Project Selection Criteria and Weighting

Setting the project selection criteria and each criteria's weight is a key policy area that the IMPO

may leverage to generate different outcomes in the transportation network. In 2018, IMPO revised selection criteria for the four sources of funds it programs. The MPO's adopted criteria informs the relative importance of projects and implements the MPO's vision and goals through funding eligible transportation projects. Currently only the Intersection Improvement project type within an STBG call for projects receives any explicit safety consideration within the criteria.

### State laws

Currently, Indiana state law prohibits the use of automated enforcement. The use of cameras and

## Recommendations

The following recommendations are potential solutions that would support improved safety in the Central Indiana Metropolitan Planning Area. Further exploration of these topics needs to be undertaken with the support of the IMPO's members and its committees.

For Widening and Reconstruction projects in particular, the IMPO may opt that its member communities consult the High Injury Network map to identify any overlaps between their proposed project and high crash locations. Scoring criteria could be modified to assign points to projects that include proven countermeasures to the crash types occurring within the project area. Alternatively, if an expansion project is located on the HIN and does not include an appropriate countermeasure to address a specific safety problem, IMPO could make that project ineligible, or conduct a review of the project similar to the Red Flag Investigation.

For CMAQ projects, the same approach may or may not be feasible. While the goal of the CMAQ program is to reduce congestion, addition of KSI countermeasures could impact expected emissions reductions potential of a design, lessening the cost competitiveness. However, additional revisions could be made to the benefit/cost calculations to ensure that if a high injury location is within the limits of a proposed project, unmitigated risks to human life is being quantified.

Critically, restrictive state laws that prohibit automated enforcement of speed limits Indiana communities' ability to drastically reduce reckless driving behavior. This low-cost tool is a vital strategy for making Indiana roads safer, and the State Legislature must act to enable it.

automated ticketing has been proven to be a cost-effective strategy to address speeding and make roadways safer. Without state action, this strategy is not available to the Central Indiana region to advance safety.

## 5.2 Roadway safety best practices

### Safe System Approach

This systematic approach to roadway safety was adopted by US DOT and is guiding future investments in safety. The approach is human centered in that it acknowledges human mistakes as well as our physical vulnerability to crash forces. To better protect all users, the Safe System approach implements redundancies to layer safeguards aimed at reducing serious injury and death on the road. Currently the IMPO has not explicitly incorporated the Safe System approach — collaborating with IMPO members to pursue its different elements could be one way to improve safety in the MPA.

**Ensure accountability, collaboration, and leadership** – Developing collaborative leadership & accountability is a key step that the IMPO should take into consideration. Strong, shared leadership includes, among other things, promoting internal champions and encouraging a shared ownership of set out strategies across agencies. All stakeholders should jointly agree to specific interim goals that are measurable on the path to ensure safety on all streets; these drives individuals out of their comfort zones and fosters shared accountability and investment in outcomes. (Source: visionzeronetwork.org)

**Collect, analyze, and use data** – Data should be used at every stage to prioritize programmatic initiatives as well as scarce funding and staffing resources. It is crucial to comprehend which

locations and behaviors result in the most severe injury crashes. Of course, local knowledge about specific places or behaviors for which collisions go unreported should be balanced with this information, and analysis should be modified for this.

**Prioritize equity and engagement** – Data analysis and feedback from the general public should clarify which areas and community members are most seriously affected by unsafe traffic conditions. These categories usually are low-income people, people of color, children, senior citizens, people with disabilities, and people walking and bicycling. A stronger, more inclusive effort can be created by addressing equity early in the Vision Zero planning process and collecting the opinions of different voices, especially those from the neighborhoods most severely affected but not often active in the conversation about traffic safety. (Source: [visionzeronetwork.org](http://visionzeronetwork.org))

**Road and streets design** – Roadway design should prioritize safety by incorporating the fundamental E's of Engineering, Education, Enforcement and Evaluation. Roadways must be

physically designed (or redesigned) in order to promote safe behavior. This calls for the design of a safe network for all forms of transportation, where design decisions are made in accordance with intended behavior and context, and where the most physically vulnerable users — those who are bicycling and walking — have access to contiguous, secure, and practical infrastructure. (Source: [visionzeronetwork.org](http://visionzeronetwork.org))

**Design elements** – The lane widths, corner radius, horizontal and vertical curves, and sight distance of different geometric elements of a road are all influenced by the design speed choice. The chosen speed should take into account the physical constraints of the roadway, the function of the roadway, and the speed that cars can reasonably expect to travel on that section of road. (Source: National Association of City Transportation Officials, [nacto.org](http://nacto.org))

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## STRATEGY + PROJECT SELECTION

## 6. STRATEGY + PROJECT SELECTION

Along with the development of this action plan, the IMPO has cultivated an SS4A project list that is shaped by data, implements best practices, considers equity and climate, and is informed by stakeholder and community input. Consistent with the IMPO pillars outlined in section 1.3 of this plan, the project list is an output of the convene, inform, and plan pillars. The creation of this project list highlights and prioritizes safety projects to fund for the region.

### 6.1 Project Identification

#### Previously Identified Safety Projects

Projects that were identified in the 2019 Safety Studies (Appendix) are automatically included in the SS4A Project List. Recently completed projects identified in the 2019 safety studies include:

- CR 100N (10th Street) at Raceway Road
- 116th Street at Olio Road
- 146th Street at River Road
- Averitt Road (CR 100W) at Smith Valley Road
- CR 300N at Franklin Street/Fortville Pike
- Mount Comfort Road (CR 600W) at CR 600N

#### IMPO SS4A Call for Projects

The IMPO opened a call for projects for consideration for the FY22 IMPO SS4A project list from July 20-29 and opened a new call for project proposals in the first half of 2023. Each cycle, projects will be scored and selected for inclusion in the region's action plan.

See Appendix H for a copy of the IMPO SS4A Project Selection Application.

## Scoring Criteria for SS4A Project Proposals

Criteria	Requirements	Max. Points
<b>Effective practices and strategies</b>	<p>The project must implement at least one of a), b) or c)</p> <ul style="list-style-type: none"> <li>a) FHWA Proven Safety Countermeasures (for Arterials and Collectors)</li> <li>b) At least 2 of 5 National Roadway Safety Strategies (Safer People, Safer Roads, Safer Speeds, Safer Vehicles, and Post-Crash Care)</li> <li>c) Complete Streets</li> </ul>	40 points
<b>Project location</b>	<p>An infrastructure project must be located in either a) or b); Non-infrastructure programs must align with c)</p> <ul style="list-style-type: none"> <li>a) High Injury Network (HIN)</li> <li>b) Project is intended to primarily address issues of one of the “Top 70 Intersections”. To this end the project may incorporate corridor-level solutions which contribute to issues at the intersection.</li> <li>c) Program will be occurring over entire jurisdiction.</li> </ul>	15 points
<b>Public engagement</b>	<p>Project is in a “hot spot area” identified in the IMPO SS4A public survey and/or has been previously noted by the public as an issue. Provide a link to other documentation providing evidence that members of the public have previously cited safety concerns in this area.</p>	15 points
<b>Underserved communities</b>	<p>Infrastructure projects should be at least 50% within an IMPO EJA or Justice40 underserved community; non-infrastructure projects should consider how the project will connect with EJ populations.</p>	15 points

## Scoring Criteria, cont.

<b>Climate change, sustainability, and economic competitiveness</b>	<p>Project should address at least one climate change, sustainability, or economic competitiveness goal from below. Each of the below subcategories is worth 7.5 points.</p> <p><i>Climate change and sustainability (7.5 points):</i></p> <ul style="list-style-type: none"><li>• Reduce transportation-related greenhouse gas emissions.</li><li>• Increase safety of lower-carbon travel modes such as transit and active transportation.</li><li>• Incorporate lower-carbon pavement and construction materials.</li><li>• Support fiscally responsible land use and transportation efficient design that reduces greenhouse gas emissions.</li><li>• Includes storm water management practices and incorporates other climate resilience measures or feature, including but not limited to nature-based solutions that improve built and/or natural environment while enhancing resilience.</li></ul> <p><i>Economic competitiveness (7.5 points):</i></p> <ul style="list-style-type: none"><li>• Lead to increased economic or business activity due to enhanced safety features for all road users.</li><li>• Increase mobility and expand connectivity for all road users to jobs and business opportunities, including people in underserved communities.</li><li>• Improve multimodal transportation systems that incorporate affordable transportation options such as public transit and micromobility.</li><li>• Demonstrate a plan or credible planning activities and project delivery actions to advance quality jobs, workforce programs, including partnerships with labor unions, training providers, education institutions, and hiring policies that promote workforce inclusion.</li><li>• Result in high-quality job creation by supporting good-paying jobs with a free and fair choice to join a union, incorporate strong labor standards (e.g., wages and benefits at or above prevailing; use of project labor agreements, registered apprenticeship programs, pre-apprenticeships tied to registered apprenticeships, etc.), and/or provide workforce opportunities for historically underrepresented groups (e.g., workforce development program, etc.).</li></ul>	15 points
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To prioritize funding and subsequent construction of each project, attributed a time range and tier ranking system.

Project time ranges were generated by self-response indicating when they would be able to deploy the project upon receipt of funding. Ranges are categorized as follows:

- Short-term: 2023 – 2025
- Mid-term: 2026-2028
- Long-term: 2029-later

For the safety studies projects which were automatically included in the project list, a timeline of mid-term was selected.

Project tiers were created based on the amount of points a project scored. A project was able to score a maximum of 100 points if all criteria were met. Since the minimum criteria a project needed to meet in order to be included was worth 40 points (the effective practices and strategy criterion), that means no projects could score less than 40 points and be included in the plan. Tiers are categorized as follows:

- Tier 1: 90 – 100 points
- Tier 2: 66 – 89 points
- Tier 3: 40 – 65 points

Project Name	Project Time Range for Deployment	Project Jurisdiction & Agencies	Tier/Prioritization
29th/30th St - One-Way to Two Way Conversions	Short	Indianapolis, IndyGo	1
E. 30th Street - Transit Access	Short	IndyGo, Indianapolis	1
East Franklin Road - Transit Access	Short	IndyGo, Indianapolis	1
Ped infrastructure to transit Thompson Rd between East ST and Madison	Short	IndyGo	1
Pedestrian Safety and Access Improvements on E Washington	Short	IndyGo, Indianapolis	1
Safety Projects through Data Analysis	Short	IndyGo	1
Dr. Martin Luther King Jr. St. Corridor Signal Improvement	Mid	Indianapolis	1
Michigan Rd Corridor Signal Improvements	Mid	Indianapolis	1
Pedestrian Infrastructure North Michigan Road	Mid	IndyGo	1
Rural St Corridor Signal Improvements	Mid	Indianapolis	1

Project Name	Project Time Range for Deployment	Project Jurisdiction & Agencies	Tier/Prioritization
W 38th St Multi-use and IMS Path	Mid	Indianapolis	1
46th St and Mitthoeffer Rd Intersection Improvement	Long	Indianapolis	1
E 38th St. Multi-Use Path	Long	Indianapolis	1
10th St between Raceway and Porto Alegre	Short	IndyGo	2
Carmel Connecting Pathways	Short	Carmel	2
E 21st St. Multi-use Path from Sherman to Post Rd.	Short	Indianapolis	2
Emergency Vehicle Preemption/Opticom	Short	Indianapolis Fire Department, Wayne Township Fire Dept; Pike, Hamilton, Decatur, and Hendricks County Fire Dept.	2
Franklin & Davis Intersection Improvement	Short	Greenfield	2
Merchants Square Mobility Improvements	Short	Carmel	2
Monon Greenway Grade Separation Projects	Short	Carmel	2
Monon Trail Under 161 St	Short	Westfield	2
Near miss video analysis	Short	IndyGo	2
Ped infrastructure to transit 42nd between Franklin and Mitthoefer	Short	IndyGo, Indianapolis	2
Ped infrastructure to transit Lynhurst between Morris and 22nd	Short	IndyGo	2
Roundabout Raised Pedestrian Crosswalk Installation	Short	Carmel	2
Sidewalk (Auburn St from Bertha St to 350 S Auburn St)	Short	Indianapolis	2
Sidewalk (Bradbury Ave from 3820 Bradbury Ave to Holt Rd)	Short	Indianapolis	2

Project Name	Project Time Range for Deployment	Project Jurisdiction & Agencies	Tier/Prioritization
Sidewalk (Ida St from Gerrard Dr to Dead End)	Short	Indianapolis	2
Sidewalk (Lynhurst Dr from Kentucky Ave to Seerley Rd)	Short	Indianapolis	2
Sidewalk (Raymond St from 4815 Raymond St to Sloan Ave)	Short	Indianapolis	2
Sidewalk (Rinehart Dr from 5130 Rinehart Dr to Auburn St)	Short	Indianapolis	2
Sidewalk (Wayne Ave from Gerrard Dr to Dead End)	Short	Indianapolis	2
Sidewalk along 54th from Guilford to Winthrop	Short	Indianapolis	2
Sidewalk along Zionsville Rd from Windward Way to 6602 Zionsville Rd	Short	Indianapolis	2
Sidewalk on 18th st from Post Rd to 9500' east of 18th St	Short	Indianapolis	2
Sidewalk on 39th Street from Keystone Ave to Meadows Dr	Short	Indianapolis	2
Sidewalk on High School from school to 56th	Short	Indianapolis	2
Sidewalk on Mickley Ave from Beachway Dr to Vermont St	Short	Indianapolis	2
Sidewalk on Rural from 38th to Meadows	Short	Indianapolis	2
Sidewalk Pleasant Run from 6040 Pleasant Run to Kenyon St	Short	Indianapolis	2
Tacoma Avenue Neighborway	Short	Indianapolis	2
71st St. Complete Street/ Northtown Trail	Mid	Indianapolis	2

Project Name	Project Time Range for Deployment	Project Jurisdiction & Agencies	Tier/Prioritization
86th Street Corridor Signal Improvement	Mid	Indianapolis	2
Allisonville Rd Corridor Signal Improvements	Mid	Indianapolis	2
Arlington Ave Protected Bike Lane	Mid	Indianapolis	2
CR 700W at CR 350N Intersection Improvement	Mid	Hancock County	2
Dean and 71st Street Intersection Improvement	Mid	Indianapolis	2
E Raymond St Corridor Signal Improvements	Mid	Indianapolis	2
Franklin Rd Multi-use Path	Mid	Indianapolis	2
Girls School Road Complete Streets Upgrade/Multi-Use Path	Mid	Indianapolis	2
Hanna Ave/Sherman Dr Multi-Use Path and Complete Streets upgrade	Mid	Indianapolis	2
Harding Street Corridor Signal Improvement	Mid	Indianapolis	2
High School Rd Corridor Signal Improvements	Mid	Indianapolis	2
Intersection Improvement at Arlington, Hanna, and Elmwood	Mid	City of Beech Grove, Indianapolis	2
Lafayette Rd Corridor Signal Improvements	Mid	Indianapolis	2
N Meridian St Corridor Signal Improvements	Mid	Indianapolis	2
N Rural St Corridor Signal Improvements	Mid	Indianapolis	2
N Shadeland Ave Corridor Signal Improvements	Mid	Indianapolis	2

Project Name	Project Time Range for Deployment	Project Jurisdiction & Agencies	Tier/Prioritization
Ped infrastructure to transit Madison 465 to County Line	Mid	IndyGo	2
Post Rd Corridor Signal Improvements	Mid	Indianapolis	2
Post Road Multi-Use Path Phases 1 & 2	Mid	Indianapolis	2
Shadeland Ave Ped Improvements	Mid	Indianapolis	2
Sherman Drive Multi-Use Path	Mid	Indianapolis	2
Smith Valley Rd and Woodmen Blvd Intersection Improvement	Mid	Greenwood	2
South Emerson Ave - Transit Access	Mid	IndyGo	2
Southeastern Ave Corridor Signal Improvement	Mid	Indianapolis	2
W 38th St Corridor Signal Improvement	Mid	Indianapolis	2
W Raymond St Corridor Signal Improvement	Mid	Indianapolis	2
County Line Rd and Combs Rd Intersection Improvement	Long	Indianapolis	2
Dean and 65th Street Intersection Improvement	Long	Indianapolis	2
Interurban Trail/Multi-Use Path	Long	Indianapolis	2
Kentucky/Harding Multi-use path and Minnesota St. Neighborway	Long	Indianapolis	2
Troy Ave and Post Rd Intersection Improvement	Long	Indianapolis	2
Washington Street Complete Streets Upgrades	Long	Indianapolis	2

Project Name	Project Time Range for Deployment	Project Jurisdiction & Agencies	Tier/Prioritization
10th St at Girls School Road	Mid	Indianapolis	2
116th St at Olio Rd	Mid	Fishers	2
146th St at Carey Rd	Mid	Carmel	2
146th St at Gray Rd	Mid	Westfield	2
146th St at Hazeldell Pkwy	Mid	Noblesville	2
24th St at Keystone Ave	Mid	Indianapolis	2
38th St at Commercial Dr	Mid	Indianapolis	2
38th St at Franklin Rd	Mid	Indianapolis	2
38th St at High School Rd	Mid	Indianapolis	2
46th St at Shadeland Ave	Mid	Lawrence	2
Crawfordsville Rd at Cunningham Rd	Mid	Speedway	2
Elmwood Ave at Emerson Rd	Mid	Beech Grove	2
Emerson Ave at Victory Dr	Mid	Beech Grove	2
Main St at Sheek Rd	Mid	Greenwood	2
New York St at University Blvd	Mid	Indianapolis	2
Northfield Dr at Green St	Mid	Brownsburg	2
Ohio St at Pennsylvania St	Mid	Indianapolis	2
Rural St at Washington St	Mid	Indianapolis	2
South St at Virginia Ave	Mid	Indianapolis	2

Project Name	Project Time Range for Deployment	Project Jurisdiction & Agencies	Tier/Prioritization
10th St Sidwalk (Mitthoefer Rd to 1000' E)	Short	Indianapolis	3
New sidewalk along 79th St from 3575 E 79th St to Dean Rd	Short	Indianapolis	3
Sidewalk 34th from High School to Moller	Short	Indianapolis	3
Sidewalk on 38th 475' west of German Church to German Church	Short	Indianapolis	3
Sidewalk on German Church from 3810 German Church to 38th	Short	Indianapolis	3
Sidewalk on Stop 11 Rd from Singleton to Shelby St.	Short	Indianapolis	3
Sidewalk Rockville from Cossell to 4702 Rockville	Short	Indianapolis	3
CR 700W at CR 500N Intersection Improvement	Mid	Hancock County	3
Hickory and Indian Creek Intersection Improvement	Mid	Indianapolis	3
Mt. Comfort Rd & CR 750N Complete Street Project	Mid	McCordsville	3
Shelbyville Rd and Edgewood Ave Intersection Improvement	Mid	Indianapolis	3
Southeastern Ave and Thompson Rd Intersection Improvement	Mid	Indianapolis	3
Southport Rd and Five Points Rd Intersection Improvement	Mid	Indianapolis	3
Southport Rd and Shelbyville Rd Intersection Improvement	Mid	Indianapolis	3
Dean and 75th Street Intersection Improvement	Long	Indianapolis	3
Southport Road and Combs Road in Indianapolis, IN	Long	Indianapolis	3

## 2023 Projects

The following projects were added as part of the 2023 update to this plan. These projects follow the same scoring criteria and tiers established in 2022. Project time ranges are categorized as follows:

- Short-term: 2024 – 2026
- Mid-term: 2027-2029
- Long-term: 2030-later

Project Name	Project Time Range for Deployment	Project Jurisdiction & Agencies	Tier/Prioritization
Keystone Ave/Rural St Corridor Improvement Project	Mid	Indianapolis	1
Smith Valley Road Improvements	Mid	Greenwood	2
86th/82nd St Commercial Connector	Mid	Indianapolis	2
W 30th St Multi-Use Path	Mid	Indianapolis	2
Main St & Sheek Rd Intersection Improvements	Mid	Greenwood	2
Main St & Emerson Ave Intersection Improvements	Mid	Greenwood	2
Greenfield and Marilyn Intersection Improvement	Mid	Noblesville	2
Greenfield and Summer Intersection Improvement	Mid	Noblesville	2

Project Name	Project Time Range for Deployment	Project Jurisdiction & Agencies	Tier/Prioritization
Greenfield and 16th Intersection Improvement	Mid	Noblesville	2
Greenfield and Herriman Intersection Improvement	Mid	Noblesville	2
Road Reconstruction of Boden Road from 156th to 166th	Long	Noblesville	3
Greenfield and Dry Creek Intersection Improvement	Mid	Noblesville	2
Greenfield and Arbor Grove Intersection Improvement	Mid	Noblesville	2
Greenfield and Fox Intersection Improvement	Mid	Noblesville	2



## MEASURING PROGRESS

## 7. MEASURING PROGRESS

The SAP supplements performance measures established through other regional plans. IMPO's 2050 MTP defines four goals — Move, Prosper, Make Safe, and Sustain — that are specific, measurable, available, relevant, and timely. The goals and associated performance measures align directly with the Biden administration's priorities and national planning measures set by the Federal Highway Administration.

**Move** – Provide transportation choices for people to easily access homes, jobs, recreation and service.

**Prosper** – Foster shared economic vitality through strategic investments in regional infrastructure to increase competitiveness and affordability.

**Make Safe** – Support a safe traveling environment for all users by making strategic investments in our region's infrastructure that preserve and enhance the existing system

**Sustain** – Ensure a convenient transportation network that offers healthy lifestyle options, is accessible to all people, and preserves or enhances the environment

Two of the four goals are directly relevant to the SAP: Move and Make Safe. Together, these goals aim to make investments in safe streets and connected, complete facilities – key precedence for the region's Vision Zero goal. Additional performance measures identified during the creation of the SAP round off the list of indicators that IMPO will use to track and report out progress towards Vision Zero. Performance measures are summarized in the table on page 91.

### Performance Measures

In concert with the creation of the SAP, the SS4A steering committee evaluated potential Vision Zero performance targets and a corresponding timeline. The performance targets and associated timeframe to reduce and eventually eliminate roadway deaths are included in a standalone Vision Zero policy, separate from the Action Plan. At the conclusion of the Action Plan development process, the SS4A steering committee voted on the adoption of the new Vision Zero policy that specifies a reduction of serious and fatal crashes by 35% by 2040. The IMPO Policy Committee adopted the Vision Zero policy on August 17, 2022.

Type	Performance Measure	Description	Source
<b>Outcomes</b>	Number of serious injuries	The number of serious injuries as the result of a vehicular crash	2050 MTP – Make Safe
	Serious Injuries per 100 million vehicle miles traveled (VMT)	The rate of serious injuries	2050 MTP – Make Safe
	Number of fatalities	The number of fatalities as a result of a vehicular crash	2050 MTP – Make Safe
	Fatalities per 100 million VMT	The rate of fatalities	2050 MTP – Make Safe
	Nonmotorized fatalities and serious injuries	The number of pedestrians killed and serious injuries as a result of a vehicular crash	2050 MTP – Make Safe
	Percentage of people within the metropolitan area who have access to a connected bikeway	The portion of our region's population living close to a connected bikeway.	2050 MTP – Move
	Percentage of people within the metropolitan area who have access to a connected sidewalk	The portion of our region's population living close to a connected sidewalk.	2050 MTP – Move
<b>Outputs</b>	Construct safety improvements on the HIN	Complete at least one safety improvement project on HIN corridors identified in the SAP	New recommendation by this Action plan
	Construct safety improvements on the HIN in EJAs	Complete at least one safety improvement project on HIN corridors identified in the SAP that fall within IMPO EJAs	New recommendation by this Action plan

# 2023 IMPO Annual Safety Report

Tracking progress  
towards our  
Vision Zero Goal



The Annual Safety Report provides a variety of statistics in tracking progress including:

- Percentage change in fatal and serious crashes
- Total number of fatal and serious crashes
- Crashes by travel mode
- How the MPA compares to the state
- Most common crash factors

To view the full 2023 Annual Safety Report [click here](#).

In 2023 the IMPO published its first Annual Safety Report. This report, which will be published each year, fulfills the progress reporting aspect of the plan and will track the Indianapolis MPA's progress towards its Vision Zero Resolution of reducing serious and fatal crashes by 35% by 2040.

## Tracking Progress Towards Our Vision Zero Goal

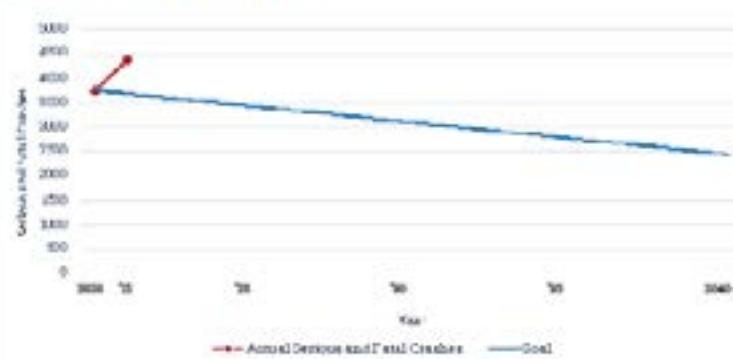
Changes in Crashes in the MPA

Year	Percentage Change in Serious and Fatal Crashes	Percentage Change in Fatal Crashes	Percentage Change in Serious Crashes
2015			
2016	-2%	-13%	-28%
2017	-4%	-10%	-4%
2018	-4%	-14%	-3%
2019	10%	9%	10%
2020	14%	30%	13%
2021	16%	1%	17%

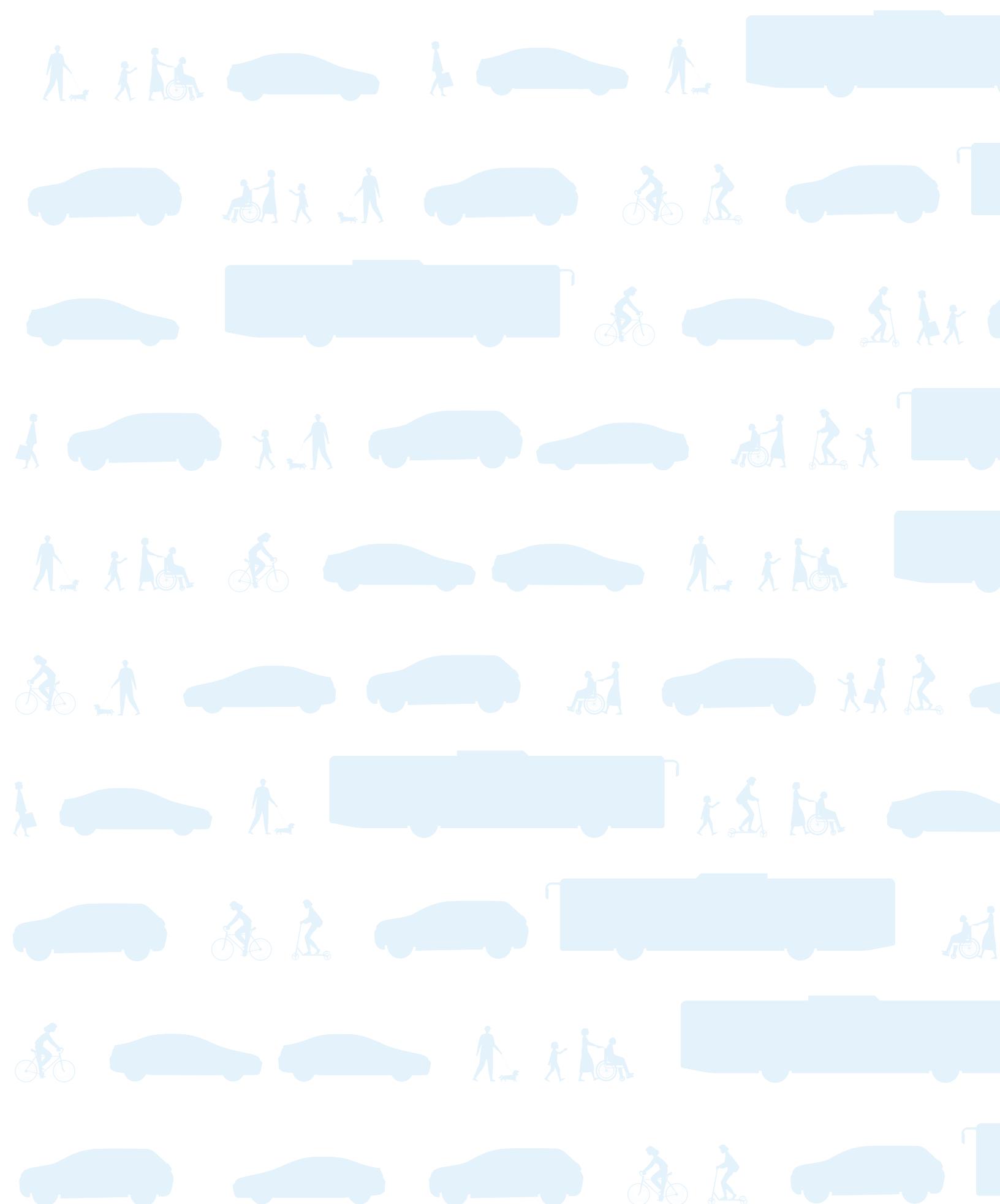
Percentage changes in fatal and serious crashes from the previous year vary significantly. However, with the exception of 2017, fatal and serious crashes have consistently risen each year, with the largest jump occurring in 2020 with a 30% increase in fatalities from 2019.

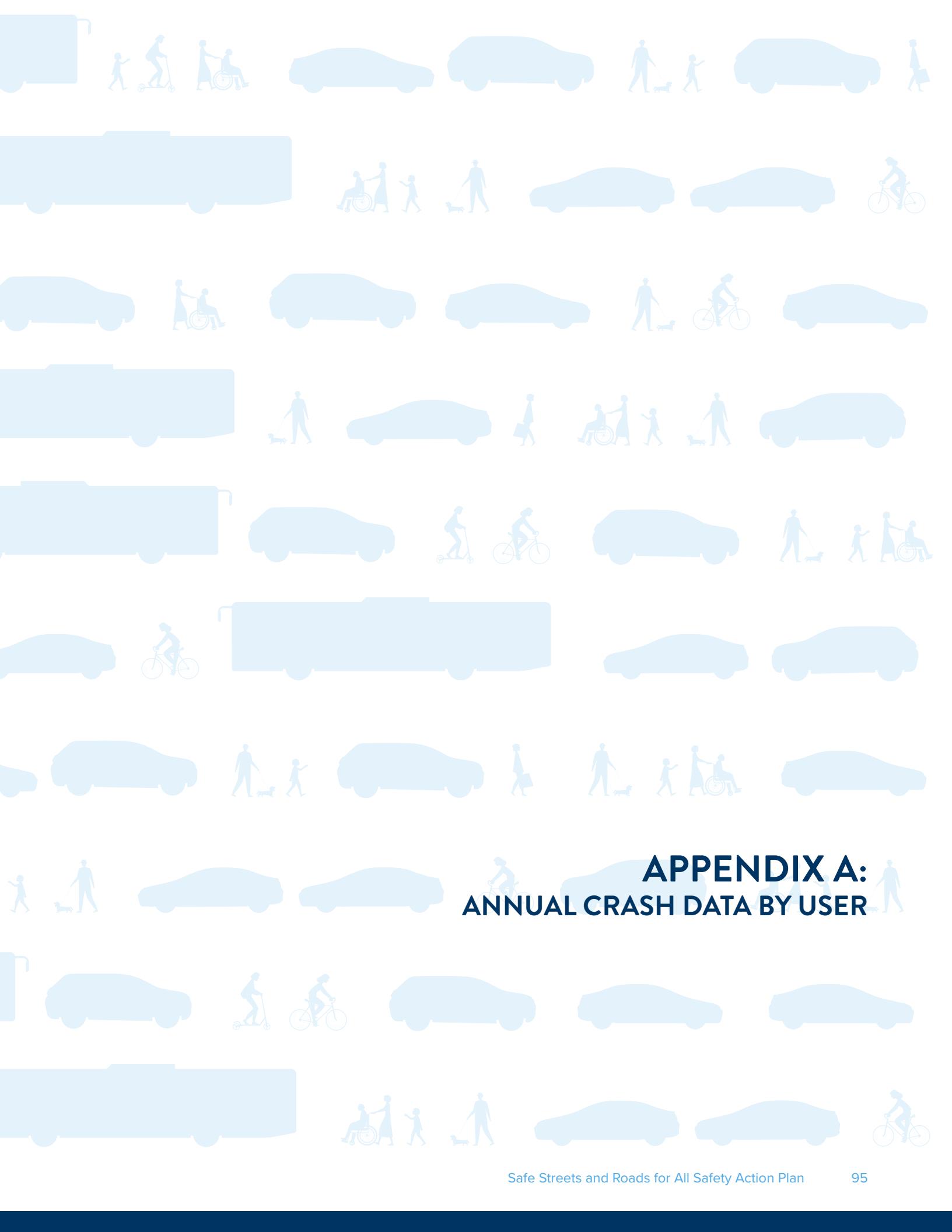
The Vision Zero Resolution of a 35% reduction in fatal and serious crashes by 2040 uses the year 2020 as a baseline. In order to achieve Vision Zero fatal and serious crashes need to decrease 1.75% from 2020 numbers annually. In 2021 the MPA saw an overall increase in fatal and serious crashes by 16%.

Progress Towards Vision Zero Goal









## APPENDIX A: ANNUAL CRASH DATA BY USER

## FATAL CRASHES

User	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL 2016-20	Annual Avg
Motorist	83	79	82	76	93	79	96	107	124	499	99.8
Pedestrian	16	27	22	34	23	31	27	30	49	160	32
Cyclist	3	1	2	1	9	3	6	3	9	30	6
<b>TOTAL</b>	<b>102</b>	<b>107</b>	<b>106</b>	<b>111</b>	<b>125</b>	<b>113</b>	<b>129</b>	<b>140</b>	<b>182</b>	<b>689</b>	<b>137.8</b>

## INCAPACITATING INJURY CRASHES

User	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL 2016-20	Annual Avg
Motorist	580	489	734	2,099	2,658	2,596	2,673	2,956	3,353	14,236	2,847
Pedestrian	49	46	63	103	149	114	133	138	152	686	137
Cyclist	30	30	16	36	59	50	46	55	65	275	55
<b>TOTAL</b>	<b>659</b>	<b>565</b>	<b>813</b>	<b>2,238</b>	<b>2,866</b>	<b>2,760</b>	<b>2,852</b>	<b>3,149</b>	<b>3,570</b>	<b>15,197</b>	<b>3,039</b>

\*Note: ARIES definition of Incapacitating Injury changed in October of 2014

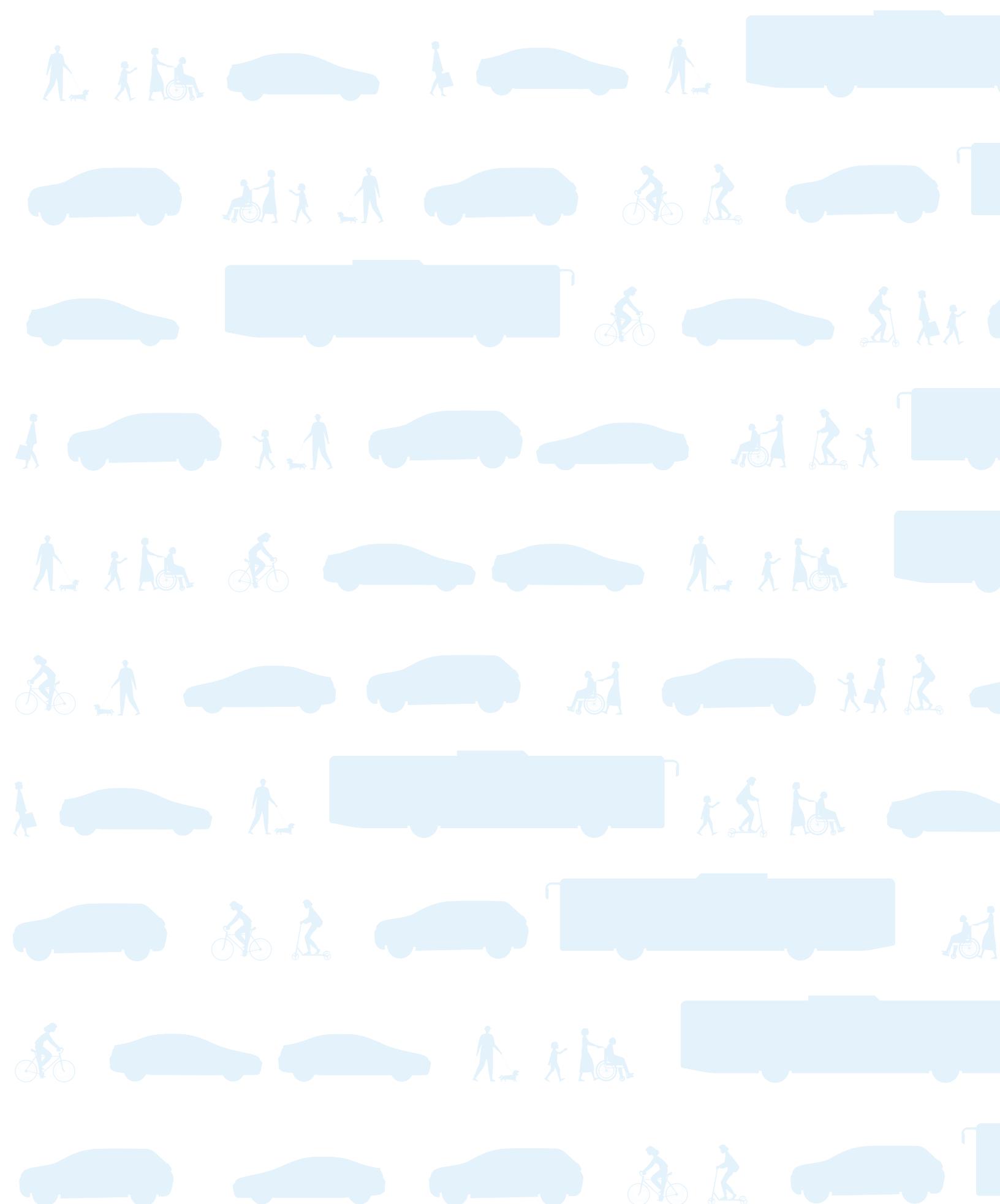
## ALL KSI CRASHES

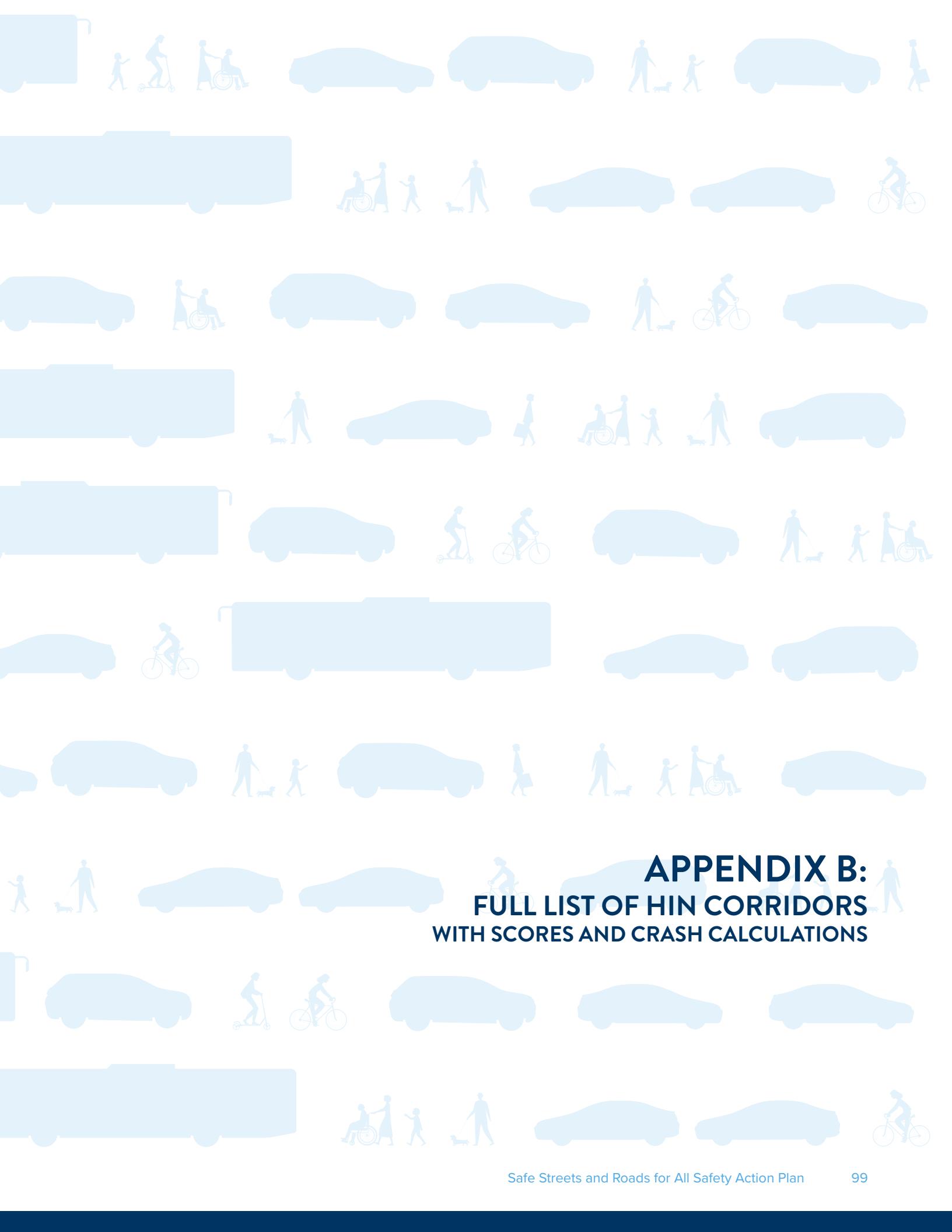
User	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL 2016-20	Annual Avg
Motorist	663	568	816	2,175	2,751	2,675	2,769	3,063	3,477	14,735	2,947
Pedestrian	65	73	85	137	172	145	160	168	201	846	169
Cyclist	33	31	18	37	68	53	52	58	74	305	61
<b>TOTAL</b>	<b>761</b>	<b>672</b>	<b>919</b>	<b>2,349</b>	<b>2,991</b>	<b>2,873</b>	<b>2,981</b>	<b>3,289</b>	<b>3,752</b>	<b>15,886</b>	<b>3,177</b>

\*Note: ARIES definition of Incapacitating Injury changed in October of 2014

Source: ARIES Fatal and Incapacitating Injury Crashes 2016-2020 cleaned and spatially located by IMPO

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## APPENDIX B: FULL LIST OF HIN CORRIDORS WITH SCORES AND CRASH CALCULATIONS

HIN Corridor	From	To	Length (miles)	Severe Crash Score	Severe Crash Score/Mile	Vehicle	Vehicle Fatal	Pedestrian Incapacitating Injury	Pedestrian Fatal	Cyclist Incapacitating Injury	Cyclist Fatal	Pedestrian and Bicyclist Severe Crash Share
1ST AVE	CHURCHMAN AVE	I-465	0.8	38	45.9	35	0	2	0	1	0	8%
GERMAN CHURCH RD	59TH ST	46TH ST	1.5	42	28.1	39	1	0	0	0	0	0%
38TH ST	KEYSTONE AVE	MITTHOEFER RD	6.9	189	27.2	137	9	0	4	0	0	11%
CRAWFORDSVILLE RD	I-465	POLCO ST	2.5	68	27.2	52	4	2	0	2	0	7%
RURAL ST	I-70	WASHINGTON ST	1.9	43	22.2	33	0	1	3	0	0	11%
EMERSON AVE	46TH ST	30TH ST	2.1	47	22.2	40	0	4	1	0	0	11%
SHADELAND AVE	I-465	WASHINGTON ST	5.3	117	22.1	85	1	8	5	3	1	17%
MITTHOEFFER RD	56TH ST	30TH ST	3.1	62	20.3	45	3	2	2	0	0	8%
POST RD	59TH ST	US40	6.1	123	20.1	100	3	8	1	0	1	9%
COUNTY LINE RD	SR37	FIVE POINTS RD	8.6	171	19.9	155	2	6	0	4	0	6%
FRANKLIN RD	56TH ST	I-70	3.8	75	19.6	64	0	5	2	0	0	10%
W 10TH ST	I-465	PORTO ALEGRE ST	4.2	81	19.3	67	2	5	0	3	0	10%
EAST ST	MADISON AVE	MILLS AVE	1.1	21	19.1	15	1	0	0	0	1	6%
RONALD REAGAN PKWY	10TH ST	I-70	7.0	132	18.7	132	0	0	0	0	0	0%
MAIN ST	SR135	GRAHAM RD	5.1	95	18.7	88	1	1	0	3	0	4%
THOMPSON RD	US31	KEYSTONE AVE	1.5	28	18.5	24	1	1	0	0	0	4%
HIGH SCHOOL RD	46TH ST	CRAWFORDSVILLE RD	2.6	47	18.4	34	0	4	3	0	0	17%
KEYSTONE WAY	52ND ST	I-70	3.7	67	18.4	52	3	3	1	0	0	7%
WORTHSVILLE RD	CR125	SHEEK RD	2.5	46	18.3	39	0	3	0	4	0	15%
MADISON AVE	I-465	WALKER ST	6.6	120	18.1	94	4	5	2	0	1	8%
EMERSON AVE	I-465	MAIN ST	6.2	109	17.6	96	1	6	1	1	0	8%
GREEN ST	GARDNER RD	TILDEN RD	2.1	37	17.5	31	1	1	0	2	0	9%
146TH ST	BODEN RD	OLIO RD	1.0	17	17.1	16	0	0	0	1	0	6%
WASHINGTON ST	STATE AVE	EMERSON AVE	2.5	43	16.9	28	1	4	2	2	0	22%
RACEWAY RD	30TH ST	10TH ST	2.0	33	16.3	30	1	0	0	0	0	0%
SMITH VALLEY RD	SR37	MADISON AVE	6.0	96	16.1	88	1	4	0	1	0	5%
30TH ST	EMERSON AVE	POST RD	4.0	63	15.9	46	4	1	1	1	0	6%
46TH ST	KEYSTONE AVE	US36	7.9	124	15.6	97	7	5	0	1	0	5%
MASSACHUSETTS AV	MERSON AVE	SHADELAND AVE	2.3	36	15.6	32	1	1	0	0	0	3%
146TH ST	OAK RIDGE RD	CUMBERLAND RD	8.1	123	15.2	116	0	3	0	4	0	6%
CAMPUS PKWY	MARILYN RD	HARRELL PKWY	1.3	20	15.2	19	0	0	0	1	0	5%
ILLINOIS ST	30TH ST	10TH ST	2.0	30	15.0	21	1	0	2	0	0	8%
56TH ST	ARLINGTON AVE	US36	4.2	61	14.6	57	0	3	0	1	0	7%

HIN Corridor	From	To	Length (miles)	Severe Crash Score	Severe Crash Score/Mile	Vehicle	Vehicle Fatal	Pedestrian Incapacitating Injury	Pedestrian Fatal	Cyclist Incapacitating Injury	Cyclist Fatal	Pedestrian and Bicyclist Severe Crash Share
MERIDIAN ST	COUNTY LINE RD	SMITH VALLEY RD	2.0	29	14.3	27	0	2	0	0	0	7%
38TH ST	I-465	LAFAYETTE RD	2.2	31	14.3	26	0	2	1	0	0	10%
FAIRVIEW RD	SR37	SR135	2.9	41	14.2	40	0	0	0	1	0	2%
42ND ST	US36	GERMAN CHURCH RD	3.3	45	13.7	38	1	4	0	0	0	9%
GREENFIELD AVE	10TH ST	BODEN RD	4.8	65	13.6	61	1	1	0	0	0	2%
INDIANA ST	COUNTY LINE RD	SMITH VALLEY RD	2.0	27	13.6	26	0	1	0	0	0	4%
LYNHURST DR	38TH ST	MORRIS ST	5.1	69	13.4	61	1	4	0	1	0	7%
MICHIGAN ST	COSSELL RD	HIGHLAND AVE	5.2	69	13.4	47	2	7	1	6	0	22%
FRY RD	SR135	MADISON AVE	2.4	32	13.3	27	1	2	0	0	0	7%
29TH ST	MOLLER RD	HIGHLAND PL	4.9	65	13.3	51	2	0	1	2	1	7%
NEW YORK ST	WEST ST	COLLEGE AVE	1.1	15	13.2	14	0	0	0	1	0	7%
10TH ST	CR625	BEACHWAY DR	7.8	102	13.1	89	1	1	2	0	1	4%
CHURCHMAN AV	13TH AVE	ARLINGTON AVE	1.9	24	12.8	22	0	2	0	0	0	8%
M L KING JR ST	I-465	10TH ST	10.7	137	12.7	112	3	3	4	1	0	7%
COLLEGE AVE	34TH ST	NEW YORK ST	3.2	41	12.7	33	1	1	0	1	1	8%
OLD SR 267	US40	BLACK ROCK RD	4.0	51	12.6	49	0	0	0	2	0	4%
E 96TH ST	WESTFIELD BLVD	CUMBERLAND RD	7.2	91	12.6	77	4	1	0	1	0	2%
FALL CREEK PKWY / BINFORD	56TH ST	30TH ST	4.1	51	12.5	39	3	2	0	1	0	7%
126TH ST	LANTERN RD	PROMISE RD	2.6	32	12.3	27	0	0	0	2	1	10%
OLIO RD	146TH ST	116TH ST	3.2	39	12.3	32	0	3	1	1	0	14%
HAZEL DELL RD	SR32	146TH ST	3.0	36	11.9	32	0	1	0	3	0	11%
ARLINGTON AV	56TH ST	BROOKVILLE RD	6.7	79	11.8	57	3	7	2	0	0	13%
STAFFORD RD	CENTER ST	RONALD REAGAN PKWY	3.9	46	11.7	46	0	0	0	0	0	0%
BODEN RD	PENNINGTON RD	CAMPUS PKWY	3.3	39	11.7	39	0	0	0	0	0	0%
GEORGETOWN RD	73RD ST	38TH ST	6.8	77	11.3	60	5	1	0	1	0	3%
DAN JONES RD	CR200	CR100	3.0	34	11.2	27	1	1	0	3	0	13%





## APPENDIX C: ENVIRONMENTAL JUSTICE AREAS

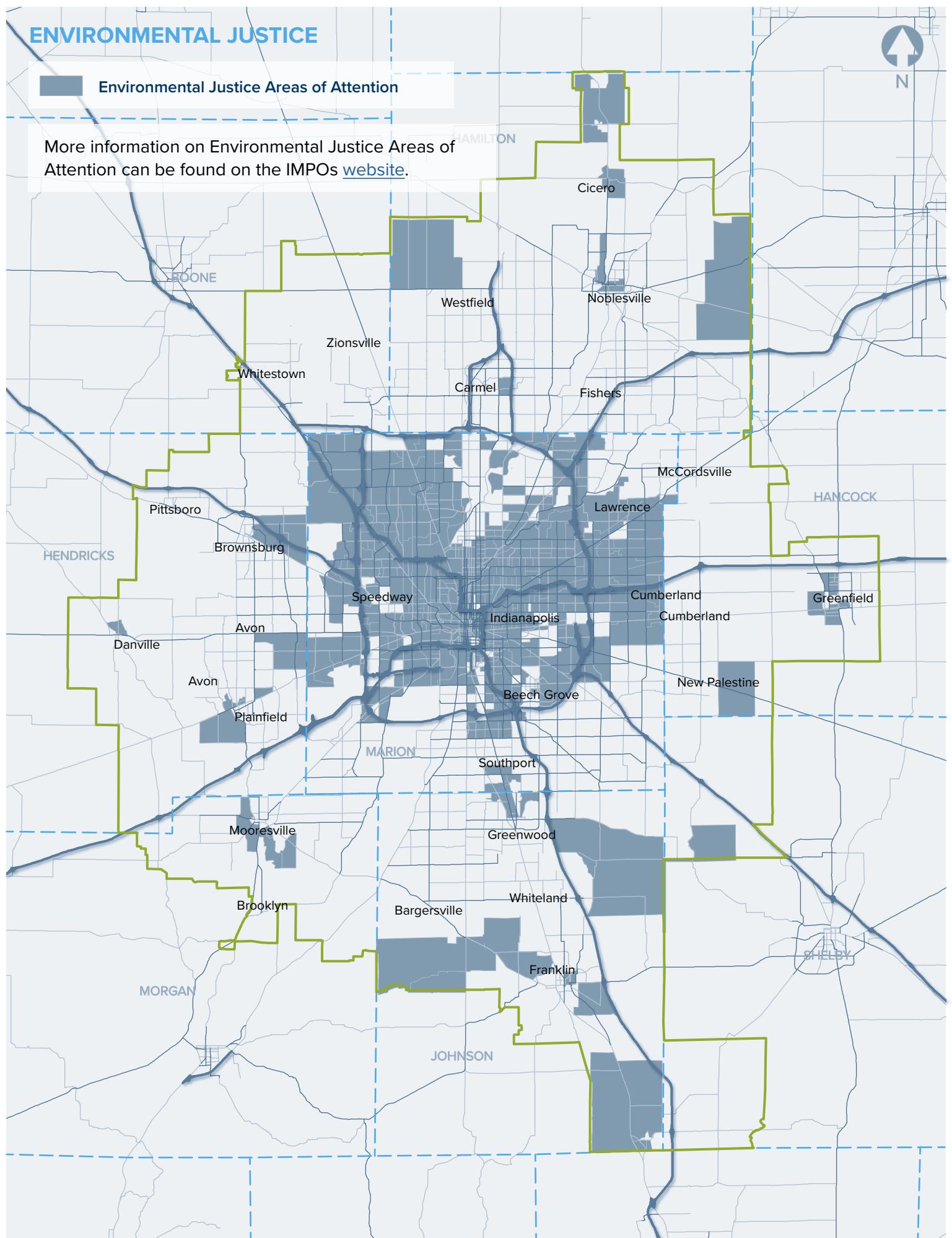
# ENVIRONMENTAL JUSTICE

Environmental Justice Areas of Attention

More information on Environmental Justice Areas of Attention can be found on the IMPOs [website](#).



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## APPENDIX E: INDIANAPOLIS COMPLETE STREETS POLICY

TITLE II - PUBLIC ORDER AND SAFETY  
Chapter 431 - STREETS, SIDEWALKS AND PUBLIC WAYS  
ARTICLE VIII. COMPLETE STREET POLICY

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**ARTICLE VIII. COMPLETE STREET POLICY**

**Sec. 431-801. Definition of complete streets.**

"Complete Streets" means streets that are designed and operated to enable safe access for all users, in that pedestrians, bicyclists, motorists and public transportation users of all ages and abilities are able to safely move along and across a street.

(G.O. 22, 2012, § 1)

**Sec. 431-802. Complete Streets policy.**

The city shall develop a safe, reliable, efficient, integrated and connected multimodal transportation system that will promote access, mobility and health for all users, and will ensure that the safety and convenience of all users of the transportation system are accommodated, including pedestrians, bicyclists, users of mass transit, people of all ages and abilities, motorists, emergency responders, freight providers and adjacent land users.

(G.O. 22, 2012, § 1)

**Sec. 431-803. Scope of Complete Streets applicability.**

- (a) All city-owned transportation facilities in the public right-of-way including, but not limited to, streets, bridges and all other connecting pathways shall be designed, constructed, operated, and maintained so that users of all ages and abilities can travel safely and independently.
- (b) Privately constructed streets and parking lots shall adhere to this policy.
- (c) The city shall foster partnerships with the State of Indiana, neighboring communities and counties, and business and school districts to develop facilities and accommodations that further the city's complete streets policy and continue such infrastructure beyond the city's borders.
- (d) The city shall approach every transportation improvement and project phase as an opportunity to create safer, more accessible streets for all users. These phases include, but are not limited to: planning, programming, design, right-of-way acquisition, construction, construction engineering, reconstruction, operation and maintenance. Other changes to transportation facilities on streets and rights-of-way, including capital improvements, re-channelization projects and major maintenance, must also be included.

(G.O. 22, 2012, § 1)

**Sec. 431-804. Exceptions.**

Any exception to this policy, including for private projects, must be approved by the director of public works and be documented with supporting data that indicates the basis for the decision. Such documentation shall be publicly available.

Exceptions may be considered for approval when:

- 
- (a) An affected roadway prohibits, by law, use by specified users (such as an interstate freeways or pedestrian malls), in which case a greater effort shall be made to accommodate those specified users elsewhere, including on roadways that cross or otherwise intersect with the affected roadway;
  - (b) The activities are ordinary maintenance activities designed to keep assets in serviceable condition (e.g. mowing, cleaning, sweeping, spot repair, and surface treatments such as chip seal or interim measures);
  - (c) The director of public works issues a documented exception concluding that the application of Complete Streets principles is unnecessary, unduly cost prohibitive, or inappropriate because it would be contrary to public safety; or
  - (d) Other available means or factors indicate an absence of need, including future need.

The director of public works shall submit quarterly reports to the board of public works summarizing all exceptions granted in the preceding quarter. These reports shall be submitted at the first board of public works meeting after the end of the quarter, and shall be posted on-line.

(G.O. 22, 2012, § 1)

#### **Sec. 431-805. Design standards.**

The city shall follow accepted or adopted design standards and use the best and latest design standards available.

In recognition of context sensitivity, public input and the needs of many users, a flexible, innovative and balanced approach that follows other appropriate design standards may be considered, provided that a comparable level of safety for all users is present.

(G.O. 22, 2012, § 1)

#### **Sec. 431-806. Performance measures.**

The city shall measure the success of this Complete Streets policy using, but not limited to, the following performance measures:

- Total miles of bike lanes.
- Linear feet of new pedestrian accommodation.
- Number of new curb ramps installed along city streets.
- Crosswalk and intersection improvements.
- Percentage of transit stops accessible via sidewalks and curb ramps (beginning in June 2014).
- Rate of crashes, injuries, and fatalities by mode.
- Rate of children walking or bicycling to school (beginning in June 2014).

Unless otherwise noted above, within six months of ordinance adoption, the city shall create individual numeric benchmarks for each of the performance measures included, as a means of tracking and measuring the annual performance of the ordinance. Quarterly reports shall be posted on-line for each of the above measures.

(G.O. 22, 2012, § 1)

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**Sec. 431-807. Implementation and reporting.**

The City of Indianapolis shall view Complete Streets as integral to everyday transportation decision-making practices and processes. To this end:

- (a) The department of public works, the department of metropolitan development, the office of sustainability and other relevant departments, agencies, or committees will incorporate Complete Streets principles into all existing plans, manuals, checklists, decision-trees, rules, regulations, and programs as appropriate (including, but not limited to, ReZone Indy, ReBuild Indy, the Comprehensive Plan, Transportation Capital Program, the Pedestrian and Bicycle Master Plans, Transit Plan and other appropriate plans);
- (b) The department of public works, the department of metropolitan development, the office of sustainability and other relevant departments, agencies, or committees will review current design standards, including subdivision regulations which apply to new roadway construction, to ensure that they reflect the best available design standards and guidelines, and effectively implement Complete Streets, where feasible;
- (c) When available, the city shall encourage staff professional development and training on non-motorized transportation issues through attending conferences, classes, seminars, and workshops;
- (d) City staff shall identify all current and potential future sources of funding for street improvements and recommend improvements to the project selection criteria to support Complete Streets projects;
- (e) The city shall promote inter-departmental project coordination among city departments with an interest in the activities that occur within the public right-of-way in order to better use fiscal resources;
- (f) An annual report will be made to the city-county council showing progress made in implementing this policy. The department of public works, the department of metropolitan development, the office of sustainability and other relevant departments, agencies, or committees shall report on the annual increase or decrease for each performance measure contained in this ordinance compared to the previous year(s); and
- (g) Every Complete Streets project shall include an educational component to ensure that all users of the transportation system understand and can safely utilize Complete Streets project elements.

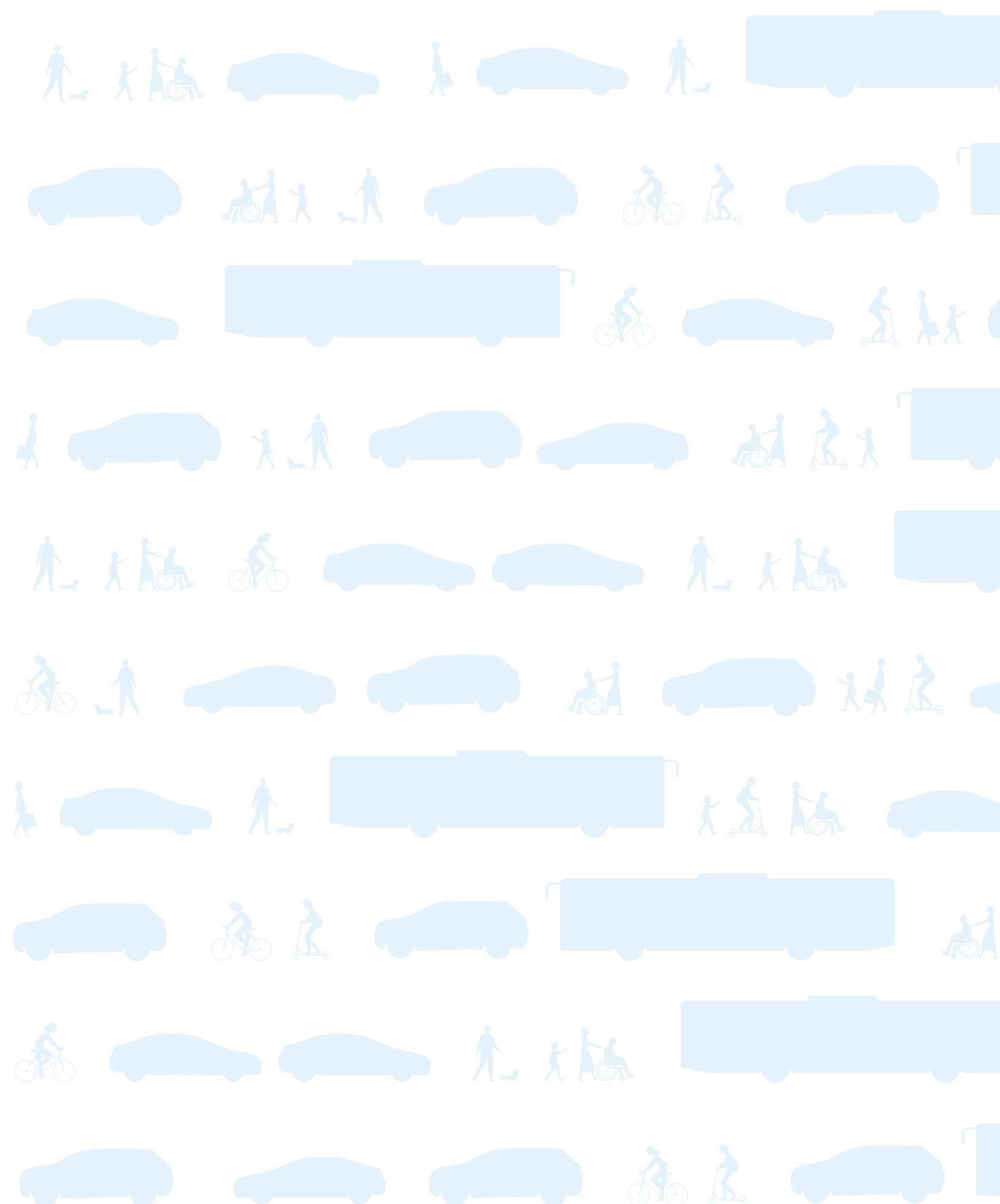
(G.O. 22, 2012, § 1)

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## APPENDIX F: INDIANAPOLIS TACTICAL URBANISM POLICY

## **CONSOLIDATED CITY OF INDIANAPOLIS AND MARION COUNTY POLICY FOR TACTICAL URBANISM**

### **1. Policy and Purpose.**

In the wake of increased traffic fatalities and the public desire to increase the overall livability, vibrancy, walkability and resilience of neighborhoods, tactical urbanism has emerged as a tool to test, pilot, demonstrate and collect data on changes within the public rights-of-way, easements and spaces (collectively, “public right(s)-of-way”) that are owned or controlled by the Consolidated City of Indianapolis (“the City”). The City’s Department of Public Works (“DPW”) has developed this policy to implement a systematic process to evaluate potential tactical urbanism projects (“Policy”). For purposes of this Policy, tactical urbanism consists of small-scale, low-cost and temporary demonstration projects to include, by way of example and not limitation, the placement of objects and/or pavement markings within the rights-of-way for the purpose of slowing motorists and testing new measures for enhancement to street safety.

DPW’s primary purpose for this Policy is to exercise direct control over the strategy, safety, deployment, maintenance and removal of tactical urbanism elements within the public rights-of-way in the City. A process to evaluate potential tactical urbanism projects will further that purpose by enabling the City to ensure that the projects are carried out in a manner that is safe and in accordance with local, state and federal laws. The City also seeks to achieve three secondary purposes in establishing this program: (1) to promote street safety and activity that enhances the aesthetic appeal of public areas; (2) to further a sense of place in Indianapolis’s neighborhoods; and (3) to showcase the creativity and public-spiritedness of individuals and organizations in our community.

Tactical urbanism projects can potentially disrupt transportation and stormwater management services and cause hazards if done without proper evaluation and the use of proper materials. Accordingly, such potential adverse effects of the installation of tactical urbanism in public rights-of-way warrants careful consideration and evaluation through a permitting process.

DPW is responsible for the construction, operation, repair and maintenance of all public streets and stormwater systems and the protection of the City’s investment in its infrastructure systems and facilities. The City’s Department of Business and Neighborhood Services (“BNS”) is responsible for, among other things, controlling all activities and work performed in, on, under and over the public rights-of-way and for enforcing compliance with regulations adopted by the Board of Business and Neighborhood Services (the “BNS Board”).

Chapter 645 of the Revised Code of the Consolidated City of Indianapolis – Marion County (the “Code”) establishes a general policy and regulatory framework for the utilization of the public rights-of-way for the public health, safety and welfare and to promote economic development in the Consolidated City. Code § 645-111. BNS issues permits for activities and work performed in public rights-of-way and for conducting inspections to ensure compliance with the Code and BNS Board regulations. Code § 645-322(a). A permit for work in the public right-of-way is required pursuant to Code § 645-324. Regulations and policies that apply to activities in the public rights-of-way may be proposed by BNS in consultation with DPW.

Code § 645-322(b). This Policy, although developed by DPW, is intended to take effect only with the full approval of BNS and after its presentation to, and approval by, the Board of Public Works. If adopted, the Policy will establish the criteria upon which a tactical urbanism project in the public right-of-way may be granted.

Tactical urbanism projects installed prior to the adoption of this Policy shall not be considered as precedent which would serve to guide any future decisions as to approval or denial of any proposed tactical urbanism projects. Tactical urbanism is considered a temporary occupancy of public rights-of-way. Therefore, DPW reserves the right to remove or require removal of any or all components of tactical urbanism projects with or without written notice to any sponsor thereof.

## 2. **Tactical Urbanism Projects**

Tactical urbanism projects are carried out by neighborhood/community groups, businesses, grassroots organizations and other private sponsors. Tactical urbanism projects are temporary in nature, ranging from a few weeks to a few months. Some of the purposes of tactical urbanism are to:

- improve public awareness of good urban design, street safety, functionality
- improve visibility for vulnerable street users such as pedestrians, bicyclists and those using personal mobility devices
- encourage street-level activity and commerce
- renew a sense of vibrancy within the public realm
- inspire action and change
- test, collect data and analyze impacts of various designs and interventions

### A. Eligible Applicants.

Any person or organization may propose tactical urbanism in the public right-of-way by making an application for a tactical urbanism project. The applicant must be the person or organization who will be the permit holder, the sponsor of the project and the party responsible for the installation and maintenance of the proposed project (the “Project Sponsor”). The Project Sponsor will install and maintain the tactical urbanism project solely at its own expense.

Although the City will not lead tactical urbanism projects, it will provide input on potential designs to the Project Sponsor throughout the process. Project Sponsors must prove their fiscal ability to install, maintain, and remove the project.

### B. Eligible Elements.

One of the primary purposes of tactical urbanism is to encourage creativity and try new ideas. Project Sponsors may pursue projects which include the following elements:

- Protected bike lanes
- Chicanes

- Signage
- Parklets
- Slip lane closures
- Bump outs
- Micro-roundabouts
- Public art
- Overhead décor (with the stipulation that it be high enough for clearance and not interfere with surrounding activity)

Other elements not listed above may be presented by the Project Sponsor for consideration by DPW.

Any public art incorporated into a tactical urbanism project must adhere to the requirements of the City's existing Art in the Right-of-Way Policy, which explicitly prohibits using art as crosswalks. However, art may be placed in other areas of the right-of-way, so long as it does not interfere with the basic functions of the right-of-way or present a safety hazard.

#### C. Materials.

Use of recycled materials and creative re-purposing is encouraged. Listed below, by way of example and not limitation, are some of the acceptable materials that may be used for various purposes:

- Water-based paint
- Traffic tape
- Recycled tires
- Planters
- Rope
- Wood
- Signage
- Reflective items
- Bollards
- Traffic cones
- Straw bales
- Sandbags

When applying for a permit to implement a tactical urbanism project, Project Sponsors must provide a list of proposed materials.

#### D. Pilots vs. Demonstrations.

There are two tracks that Project Sponsors may pursue in proposing a tactical urbanism project: Demonstration Projects and Pilot Projects. Demonstration Projects have a duration of 30 days or less using materials meant to only last for a short period of time. At the end of the demonstration period, the project will be removed and the data regarding its performance will be documented. Pilot Projects, on the other hand, have a duration of more than 31 days, but less than one year. Pilot Projects should use more durable materials that

require minimal maintenance or oversight. An advantage of Pilot Projects is that they allow for the collection of more valuable data over a longer period of time.

Due to safety and efficacy concerns given winter weather events, tactical urbanism projects will generally be prohibited from November through March, though DPW may approve a project during those months on a case-by-case basis, depending on the project type and materials proposed.

**E. Where Tactical Urbanism Projects May Be Implemented.**

Projects may be implemented within the public rights-of-way of residential and local streets or collector streets. DPW may approve projects on primary or secondary arterial streets on a case-by-case basis, depending on the project type and materials proposed. Projects may also incorporate greenway trails into their overall approach but must not interfere with the safe and efficient passage of trail users. Tactical urbanism projects *may not* be carried out on:

- Rights-of way controlled by entities other than the City, such as those controlled by INDOT, the cities of Lawrence, Beech Grove and Southport, and the town of Speedway
- Public transportation assets, such as rapid transit stations and bus lanes
- Railroad rights-of-way
- Crosswalks on any street if the proposed project does not comply with crosswalk pavement marking requirements of the Indiana Manual of Uniform Traffic Control Devices (IMUTCD)

**3. Tactical Urbanism Project Permit Applications.**

Applications for a tactical urbanism project permit may be on a form prescribed by BNS and, at minimum, shall contain the following information:

- A. Applicant Identity. Information about the Project Sponsor, including name, address and contact telephone number and email address. If a permit is issued, the Project Sponsor has a duty to inform BNS of any changes to this information.
- B. Location. Information about the location of the proposed, including:
  - i. A written description using landmarks or GPS coordinates;
  - ii. An aerial image of the location; and
  - iii. Photographs of the location at the time of submission.
- C. Description and Design Plan. A description of the proposed project, including:

- i. A written description describing the elements of the proposed project, including whether it is a Demonstration Project or a Pilot Project, and detailing its duration;
- ii. A written explanation of the Project goals, including any current data or inferences related to the Project area, and what the Project Sponsor hopes to accomplish;
- iii. A visual depiction of the proposed elements to be installed in sufficient detail to convey what the project will look like when completed, including detailed measurements;
- iv. A detailed design plan, including detailed measurements, which depicts the proposed project in relation to the public right-of-way and its components, including the roadway, shoulder, curbs, sidewalks, crosswalks, traffic control devices, signage, drainage facilities and utility facilities, as well as reasonably detailed information sufficient to determine the proposed exact placement of project elements in relation to the surroundings. Project elements that include structural components must be signed and sealed by an Indiana-licensed professional engineer.

- D. Installation Plan. A written plan for installation of the proposed project, including:
  - i. A schedule with an estimate of the time it will take to install the proposed project; and
  - ii. A temporary traffic control plan for installation, maintenance and removal of the project, which comply with all applicable local, state and federal standards regarding maintenance of traffic during work within the public rights-of-way.
- E. Maintenance Plan. A written plan detailing the maintenance of the elements of the proposed project during the duration of the project, including:
  - i. A description of all foreseeable activities required to maintain the project elements;
  - ii. The frequency of proposed maintenance activities;
  - iii. A plan for responding to unforeseeable needs for maintenance, such as the removal of graffiti and repairing damage due to accident, vandalism, or weather events; and
  - iv. A description of the Project Sponsor's financial ability to fund regular and unexpected maintenance expenses.
- F. Public Input. A written description of the Project Sponsor's efforts to obtain input from owners and occupants of property that will abut or be affected by the proposed project and from any registered neighborhood organization covering the location of the proposed project.

#### **4. Approval Criteria, Requirements and Restrictions.**

- A. In General. The determination whether to grant an application for a proposed tactical urbanism project shall be made based on the criteria requirements and restrictions set forth in this section. BNS shall obtain the concurrence of DPW before issuing a permit for proposed projects. BNS and DPW may delegate the responsibility to review applications to a partner organization for recommendation as to whether a project should be approved. During the review process, BNS and/or DPW may request that the Project Sponsor make revisions to the materials submitted as part of the application. **All other provisions of this Policy notwithstanding, DPW will determine, in its sole discretion, whether a project proposal meets the City's overall objectives of allowing for tactical urbanism, and DPW retains the right to reject project proposals which fail to satisfy those objectives, present dangers to the public health, safety and welfare, or which do not comply with the criteria set forth in this Policy.**
- B. Approval Criteria. All applications for proposed tactical urbanism projects shall be reviewed based on the following general criteria:
- i. Conformance to the Spirit of Tactical Urbanism. Tactical urbanism is meant to be a method of temporarily transforming the right-of-way to assess the change for its potential for broader community benefit, such as traffic calming and safety of all users of the public rights-of-way. Tactical urbanism is *not* meant to be used as an opportunity for advertising within the public right-of-way, meeting the desires of individuals with regard to road design, or to serve to benefit only one particular property or business.
  - ii. Public Safety and Security.
    - a. Proposed projects must not negatively impact safety, create a distraction to motorists or create an attractive nuisance. Proposed projects must not obscure sight distance, traffic control devices, signage, or lighting.
    - b. Proposed projects must allow emergency vehicle access with a minimum clearance of twelve (12) feet. Fire hydrants must have a twelve (12) feet of clearance on both sides.
    - c. Proposed projects must not hinder the ability of disabled persons to navigate the built environment.
    - d. Proposed projects must not interfere with regular public service operations, such as solid waste and recycling pickup, public transportation services (bus stops, bus routes, bus-only lanes and rapid transit stations) and utility facilities.
    - e. Proposed projects must not block private driveways and parking lot entrances.
    - f. Proposed projects involving or in close proximity to bus stops of any type, the Project Sponsor must provide written approval from the Indianapolis Public Transportation Corporation (commonly known as "IndyGo") to incorporate elements of the project into IndyGo assets.

- iii. **Visibility**. Proposed projects must contribute positively to street corridor continuity and the view from the road. Project elements must be visible and clearly marked. Signage or other markings identifying the Project Sponsor and how to contact the Project Sponsor in the event of a needed repair or maintenance may be authorized, so long as any such signage or markings complies with applicable City sign ordinances and do not cause confusion with traffic control signs and markings in the area.
- iv. **Asset Preservation**. Proposed projects must not adversely affect the service life of any infrastructure facilities or systems, or the ability to access all infrastructure components for maintenance.
- v. **Social, Cultural, and Environmental Considerations**. Projects must not adversely impact social, cultural and environmental resources. The applicant must abide by all local, state and federal historic preservation and environmental laws, regulations and policies.
- vi. **Potential Conflicts**. Proposed projects must not conflict with existing or planned uses of the public right-of-way at the proposed location, including other uses by the City, public utilities, or other parties authorized to use the public right-of-way at the location.
- vii. **Compliance**. Proposed projects shall be in compliance with all local, state and federal laws, regulations and policies applicable to the use of or activities in the public right-of-way, including but not limited to the Indiana Manual on Uniform Traffic Control Devices (IMUTCD), specifications and regulations of the Indiana Department of Transportation (INDOT), including its Standard Specifications and its Indiana Design Manual (“Indiana Design Manual”), specifications and regulations of BNS and DPW, the Public Rights-of-Way Accessibility Guidelines (PROWAG), and any other standards generally applicable in DPW’s discretion.

C. **Approval Criteria Restrictions and Requirements**. An application for a proposed tactical urbanism project may be denied on any of the following prohibited characteristics, design parameters, and requirements:

- i. In the view of DPW, the proposed project fails to meet the objectives and spirit of tactical urbanism.
- ii. The proposed project includes characteristics that will distract, pose a safety hazard, or negatively impact traffic flow.
- iii. The proposed project reduces or interferes with intersection sight distance, stopping sight distance and passing sight distance for motorists.
- iv. Elements of the proposed project resemble a traffic control device (e.g., a sign, signal, pavement marking, or other device designed to regulate, warn, or guide traffic).

- vi. The proposed project impedes the accessibility of or otherwise poses a safety hazard to pedestrians and those using mobility assistance devices.
- vii. The proposed project will impede water drainage from the public right-of-way.
- viii. The proposed project will interfere with DPW's ability to perform routine maintenance or cause additional maintenance for DPW.
- ix. The proposed project will be installed on or in proximity to an historic district, bridge, or structure, within an ecologically sensitive area, or conflicts with any local, state, or federal environmental or historical commitments, policies and regulations. Such projects may be approved on a case-by-case basis, depending on the project type and materials proposed.
- x. The proposed project contains advertisement of any form, actual or perceived, including a message, text, slogan, logo, graphic, distinctive emblem, trademark, web address, or phone number that identifies a commercial business or a product or service offered by businesses, business complexes, schools, attractions, historical or tourist locations, malls, or other organizations (charitable, non-profit, fraternal, religious, political organizations, etc.); provided, however, DPW may allow project elements to include a logo, emblem or trademark to acknowledge the Project Sponsor or to provide information to contact the Project Sponsor in the event of a needed repair or maintenance, so long as the inclusion does not have as its primary purpose to serve as an advertisement for the Project Sponsor's products or services.

**5. Permit Conditions.** The terms and conditions set forth in this section shall be incorporated by reference into each permit issued by BNS for a tactical urbanism project

- A. Plans. Details of the Project Sponsor's design plan, installation and maintenance plan, including any revisions thereto required by BNS or DPW, shall be incorporated into the permit.
- B. No Vested Rights. No Project Sponsor of any approved tactical urbanism project shall be vested with any property interest in the public permit or the public rights-of-way, and any such permit shall be revocable and subject to the continuing control of the City under its police powers.
- C. Revocation, Expiration and Removal.
  - i. Permits for tactical urbanism projects shall be at all times subject to revocation, in whole or in part, by BNS whenever BNS, on its own or upon the recommendation of DPW or other government officials, shall consider it necessary or advisable to have any elements authorized by any such permit, or any other use, to be removed, the site vacated and the right-of-way properly restored at Project Sponsor's expense and in accordance with any applicable local, state, or federal standards. If the City must remove project elements and materials due to the Project Sponsor's failure to do so,

then these elements and materials will become property of the City of Indianapolis and Marion County and the Project Sponsor shall liable for the City's costs in doing so.

- ii. BNS shall give written notice to the Project Sponsor of the revocation of a tactical urbanism project permit. Within 30 days of the date of such notice, the Project Sponsor shall (a) remove the tactical urbanism elements and all or any appurtenances thereto, and (b) restore the public right-of-way to a condition reasonably like its condition prior to installation of the project and in accordance with any applicable local, state, or federal standards. BNS may allow the Project Sponsor additional time for the removal and restoration if the sponsor is making reasonable progress toward that end.
- iii. In the event that the Project Sponsor fails to remove all elements of a tactical urbanism project and restore the location within 30 days of the date of notice of revocation of the permit, BNS or DPW may (a) cause the project elements to be removed and the location restored at the Project Sponsor's expense, and/or (b) enjoin and abate the use by appropriate action at law or in equity. In either event, all damages, costs and expenses, including the cost of removal and restoration and reasonable attorneys' fees, incurred or paid by BNS or DPW on account thereof shall be borne by the Project Sponsor and shall be paid to the City upon demand, or be recovered by the City by action thereon.
- iv. If the Project Sponsor removes the tactical urbanism elements, then ownership of all materials composing the project remains with the Project Sponsor. If, however, the tactical urbanism elements must be removed by the City, then the removed materials become the property of the City.
- v. When the duration of an approved project expires, the permit shall expire and the Project Sponsor shall remove the tactical urbanism elements and restore the site as outlined above, and in the event that the Project Sponsor fails to remove the project elements within 30 days following the expiration of the project duration and permit, then the above provisions shall apply as if the permit was revoked.

D. Liability and Indemnity.

- i. The Project Sponsor shall be required to keep the tactical urbanism project and all elements thereof in good order at all times, and upon the Project Sponsor's failure to do so, it shall be responsible to the City and all other persons for any and all damages, judgements and expenses resulting to the City or other persons or property in consequence of any defect or other negligence in the installation, maintenance, or use of a tactical urbanism project or any portion thereof to become and remain out of repair or unsafe.
- ii. The Project Sponsor shall indemnify and hold harmless the Consolidated City of Indianapolis and Marion County, and its officers, agents, officials and employees, for any and all third party claims, actions, causes of action, judgments and liens to the extent they arise out of any negligent or wrongful act or omission or breach of any provision of this Policy, applicable local, state and federal laws, regulations and

standards, or the permit issued for the tactical urbanism project, or arising out of the Project Sponsor's use of the public right-of-way pursuant to said permit, or the existence of the tactical urbanism elements in the public right-of-way. Such indemnity shall include attorney's fees and all costs and other expenses arising therefrom or incurred in connection therewith.

7. **Neighborhood Outreach Prior to Installation.** No fewer than 30 days prior to the date on which the Project Sponsor is to begin installation of an approved tactical urbanism project, the Project Sponsor must provide written notification to all property owners or occupants, including residential and businesses. Ideally, representatives from these demographics will have already been involved in the planning process for the project.
8. **Safety.** The safety of users of the public rights-of-way and those working on behalf of the Project Sponsor in the installation, maintenance, data collection and removal of an approved tactical urbanism project is of utmost importance to the City. Accordingly, all persons involved with the installation, maintenance, data collection and removal of a project, whether they be employees of the Project Sponsor or contractors, agents, or volunteers, must wear bright, visible clothing and adhere to all approved plans for the project when working on the project.
9. **Data Collection.** The primary benefit of tactical urbanism projects is the collection of data concerning its functionality and viability to inform more long-term and permanent solutions. Data collected will vary based upon the type of tactical urbanism elements included in the project. However, the goals of data collection are to examine the following attributes of a project: safety, activity, performance, and public feedback. Project Sponsors must work with DPW to develop a data collection strategy. Examples of the types of data that may be collected are as follows:
  - The number of bicycle riders using the street before and during the project
  - The number of pedestrians using the site before and during the project
  - The number and types of crashes before and during the project
  - The public perception of the impacts of the project
  - Neighborhood survey results

The raw data collected by the Project Sponsor, together with the results of any analysis of the data that is performed, must be shared with DPW for consideration in long-range transportation planning decisions.

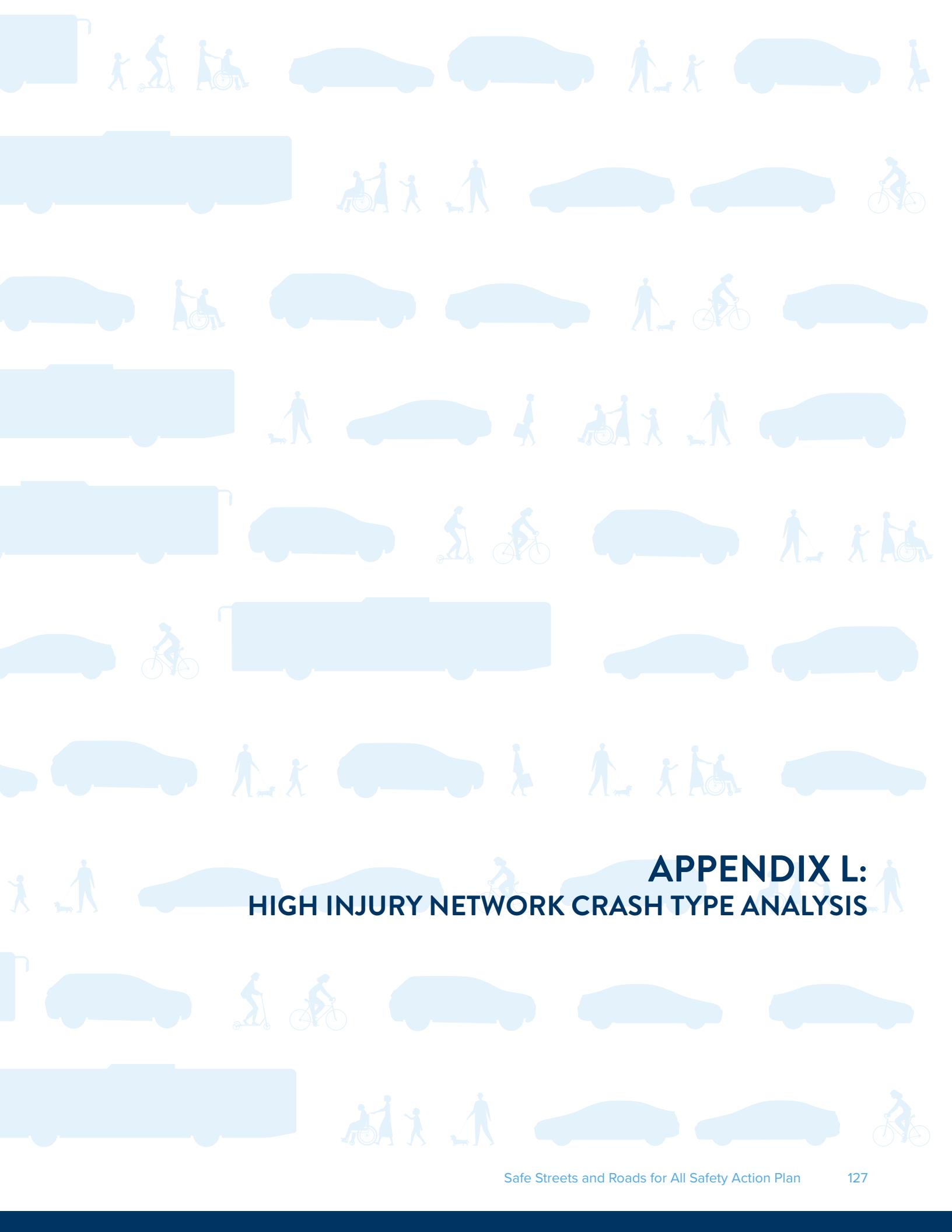
10. **Appeals of Adverse Actions.** Any decision to (1) deny an application for a permit for a tactical urbanism project, or (2) revoke a tactical urbanism project permit, may be appealed by the Project Sponsor as follows:
  - i. **Appeal to Administrator.** The Project Sponsor may appeal the decision by making a written statement to the Administrator of the BNS Division of Construction and Business Services of the Project Sponsor's objection to such a decision not later than 10 days after the date of the notice. The Administrator shall consider the objection in the context of this Policy

and shall render a decision, in writing, and give notice of said decision to the Project Sponsor within 30 days of receipt of the appeal statement.

- ii. **Appeal to Director**. If the Project Sponsor does not agree with the decision of the Administrator, the Project Sponsor may appeal the decision to the Director of DPW (“Director”) by making a written statement to the Director of the Project Sponsor’s objection to such decision not later than 10 days after the date of the notice. The Director shall consider the objections in the context of this Policy and shall render a decision, in writing, and give notice of said decision to the Project Sponsor within 30 days of receipt of the appeal statement. **The decision of the Director shall be final.**
- iii. **Effect of Appeal of Permit Revocation**. If an appeal is from a decision to revoke a tactical urbanism project permit, then the provisions of Section 5 of this Policy shall be stayed pending the outcome of the appeal. If the result of the appeal is to sustain the decision to revoke the permit, the stay shall be lifted, and DPW shall remove the tactical urbanism project and restore the public right-of-way in accordance with Section 5 of this Policy.

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## APPENDIX L: HIGH INJURY NETWORK CRASH TYPE ANALYSIS

Corridor	KSI per Mile per Year										Bike Ped KSI per Mile per Year			Top 3 Crash Movements			Top 3 Crash Factors			Average Annual Crashes 2015-		Average Annual Crashes 2019-		Pct Change	Trend	Length (mi)
	KSI Total			Fatal	Serious Injury	Bike	Ped	Vehicle		Pct. Bike/Ped				Pct at Intersection	17	21										
38TH ST KEYSTONE AVE to MITTHOEFER RD	179	3.68		15	164	2	18	159	0.41	11%	Other, Right Angle, Rear End	Failure To Yield Right Of Way, Following Too Closely, Other (Driver) - Explain In Narrative	84%	12.0	43.3	261%	Increase		7.0							
COUNTY LINE RD SR37 to FIVE POINTS RD	174	2.90		4	170	4	9	161	0.22	7%	Right Angle, Rear End, Left Turn	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	76%	23.3	23.7	1%	About the Same		8.6							
M L KING JR ST I-465 to 10TH ST	163	2.23		8	155	1	9	153	0.14	6%	Other, Right Angle, Rear End	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	83%	11.7	37.7	223%	Increase		10.4							
146TH ST OAK RIDGE RD to CUMBERLAND RD	149	2.63		3	146	2	2	145	0.07	3%	Rear End, Right Angle, Left Turn	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	81%	23.3	20.3	-13%	Decrease		8.1							
EMERSON AVE I-465 to MAIN ST	142	3.26		3	139	1	10	131	0.25	8%	Right Angle, Rear End, Left Turn	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	73%	14.0	28.0	100%	Increase		6.2							
RONALD REAGAN PKWY 10TH ST to I-70	142	2.88		0	142	0	0	142	0.00	0%	Right Angle, Rear End, Left Turn	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	75%	27.7	14.3	-48%	Decrease		7.0							
SHADELAND AVE I-465 to WASHINGTON ST	132	3.57		8	124	3	15	114	0.49	14%	Left Turn, Other, Rear End	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	79%	11.3	28.3	150%	Increase		5.3							
46TH ST KEYSTONE AVE to US36	118	2.13		7	111	1	7	110	0.14	7%	Right Angle, Other, Ran Off Road	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Ran Off Road Right	91%	8.3	23.0	176%	Increase		7.9							
MADISON AVE I-465 to WALKER ST	112	2.41		9	103	2	8	102	0.22	9%	Other, Rear End, Right Angle	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	79%	12.0	23.0	92%	Increase		6.6							
E 96TH ST WESTFIELD BLVD to CUMBERLAND RD	108	2.13		3	105	1	4	103	0.10	5%	Rear End, Right Angle, Left Turn	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	77%	21.0	11.0	-48%	Decrease		7.2							
10TH ST CR625 to BEACHWAY DR	106	1.94		4	102	2	3	101	0.09	5%	Right Angle, Rear End, Left Turn	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	84%	11.0	19.3	76%	Increase		7.8							
SMITH VALLEY RD SR37 to MADISON AVE	103	2.46		1	102	2	4	97	0.14	6%	Rear End, Right Angle, Left Turn	Failure To Yield Right Of Way, Following Too Closely, Other (Driver) - Explain In Narrative	80%	16.3	12.0	-27%	Decrease		6.0							
POST RD 59TH ST to US40	102	2.38		6	96	2	9	91	0.26	11%	Right Angle, Left Turn, Other	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	82%	10.0	21.3	113%	Increase		6.1							
MAIN ST SR135 to GRAHAM RD	93	2.61		1	92	3	3	87	0.17	6%	Rear End, Right Angle, Left Turn	Following Too Closely, Failure To Yield Right Of Way, Disregard Signal/Reg Sign	75%	13.7	14.0	2%	About the Same		5.1							

Corridor	KSI per Mile per Year		Bike Ped KSI per Mile per Year		Top 3 Crash Movements		Top 3 Crash Factors		Average Annual Crashes 2015-		Average Annual Crashes 2019-		Pct Change	Trend	Length (mi)		
	KSI Total		Bike	Ped	Vehicle	Percent Bike/Ped			Pct at Intersection	17	21						
W 10TH ST I-465 to PORTO ALEGRE ST	89	3.04	4	85	3	7	79	0.34	11%	Right Angle, Head On Between Two Motor Vehicles, Other	Failure To Yield Right Of Way, Following Too Closely, Left Of Center	81%	6.3	19.0	200%	Increase	4.2
KEYSTONE WAY 52ND ST to I-70	88	3.44	6	82	1	5	82	0.23	7%	Other, Right Angle, Rear End	Disregard Signal/Reg Sign, Failure To Yield Right Of Way, Following Too Closely	88%	7.7	20.3	165%	Increase	3.7
FRANKLIN RD 56TH ST to I-70	78	2.92	2	76	0	6	72	0.22	8%	Left Turn, Right Angle, Rear End	Failure To Yield Right Of Way, Unsafe Speed, Disregard Signal/Reg Sign	85%	12.7	9.7	-24%	Decrease	3.8
GEOGETOWN RD 73RD ST to 38TH ST	75	1.58	5	70	3	1	71	0.08	5%	Right Angle, Left Turn, Rear End	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	89%	6.3	16.0	153%	Increase	6.8
56TH ST ARLINGTON AVE to US36	73	2.50	1	72	1	4	68	0.17	7%	Rear End, Right Angle, Other	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	95%	8.3	14.0	68%	Increase	4.2
ARLINGTON AV 56TH ST to BROOKVILLE RD	71	1.51	6	65	1	11	59	0.26	17%	Right Angle, Bike/Ped Crash, Other	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Pedestrian Action	89%	5.7	16.7	194%	Increase	6.7
MICHIGAN ST COSSELL RD to HIGHLAND AVE	71	1.27	6	65	7	10	54	0.30	24%	Right Angle, Bike/Ped Crash, Other	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Other (Driver) - Explain In Narrative	89%	6.3	14.3	126%	Increase	8.0
COLLEGE AVE 34TH ST to NEW YORK ST	63	2.78	4	59	2	5	56	0.31	11%	Right Angle, Other, Bike/Ped Crash	Disregard Signal/Reg Sign, Failure To Yield Right Of Way, Following Too Closely	92%	3.7	16.0	336%	Increase	3.2
EMERSON AVE 46TH ST to 30TH ST	62	4.18	1	61	1	5	56	0.40	10%	Other, Right Angle, Left Turn	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Pedestrian Action	94%	2.7	15.7	488%	Increase	2.1
MITTHOEFFER RD 56TH ST to 30TH ST	62	2.90	6	56	0	5	57	0.23	8%	Other, Right Angle, Left Turn	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	81%	2.7	16.0	500%	Increase	3.1
29TH ST MOLLER RD to HIGHLAND PL	61	1.78	5	56	3	3	55	0.17	10%	Right Angle, Other, Bike/Ped Crash	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Unsafe Lane Movement	90%	4.7	14.0	200%	Increase	4.9
LYNHURST DR 38TH ST to MORRIS ST	60	1.42	1	59	0	4	56	0.09	7%	Right Angle, Rear End, Other	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	85%	3.7	11.3	209%	Increase	6.0
GREENFIELD AVE 10TH ST to BODEN RD	55	1.64	1	54	0	1	54	0.03	2%	Other, Ran Off Road, Rear End	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	82%	5.0	9.3	87%	Increase	4.8
42ND ST US36 to GERMAN CHURCH RD	53	2.30	3	50	0	7	46	0.30	13%	Rear End, Left Turn, Ran Off Road	Failure To Yield Right Of Way, Unsafe Speed, Following Too Closely	72%	4.7	11.0	136%	Increase	3.3

Corridor	KSI per Mile per Year		Bike Ped KSI per Mile per Year		Top 3 Crash Movements		Top 3 Crash Factors		Average Annual Crashes 2015-		Average Annual Crashes 2019-		Pct Change	Trend	Length (mi)		
	KSI Total		Bike	Ped	Vehicle	Percent Bike/Ped			Pct at Intersection	17	21						
STAFFORD RD CENTER ST to RONALD REAGAN PKWY	53	1.93	0	53	0	1	52	0.04	2%	Right Angle, Left Turn, Rear End	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	91%	8.7	5.0	-42%	Decrease	3.9
30TH ST EMERSON AVE to POST RD	51	1.84	6	45	0	2	49	0.07	4%	Right Angle, Other, Rear End	Disregard Signal/Reg Sign, Failure To Yield Right Of Way, Other (Driver) - Explain In Narrative	80%	1.0	14.7	1367%	Increase	4.0
RURAL ST I-70 to WASHINGTON ST	50	3.68	3	47	0	5	45	0.37	10%	Right Angle, Other, Head On Between Two Motor Vehicles	Disregard Signal/Reg Sign, Failure To Yield Right Of Way, Unsafe Lane Movement	86%	4.3	10.0	131%	Increase	1.9
CRAWFORDSVILLE RD I-465 to POLCO ST	49	2.80	4	45	2	4	43	0.34	12%	Right Angle, Rear End, Bike/Ped Crash	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	90%	4.7	9.0	93%	Increase	2.5
WORTHSVILLE RD CR125 to SHEEK RD	43	2.44	0	43	4	3	36	0.40	16%	Right Angle, Rear End, Bike/Ped Crash	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	81%	6.0	7.0	17%	Increase	2.5
GERMAN CHURCH RD 59TH ST to 46TH ST	41	3.92	1	40	1	0	40	0.10	2%	Right Angle, Left Turn, Head On Between Two Motor Vehicles	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	85%	5.3	4.0	-25%	Decrease	1.5
BODEN RD PENNINGTON RD to CAMPUS PKWY	40	1.72	1	39	0	0	40	0.00	0%	Right Angle, Other, Left Turn	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Driver Distracted - Explain In Narrative	88%	5.0	5.3	7%	About the Same	3.3
OLD SR 267 US40 to BLACK ROCK RD	40	1.41	0	40	0	0	40	0.00	0%	Rear End, Right Angle, Left Turn	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	90%	5.7	6.3	12%	Increase	4.0
GREEN ST GARDNER RD to TILDEN RD	39	2.64	1	38	2	0	37	0.14	5%	Right Angle, Left Turn, Rear End	Failure To Yield Right Of Way, Other (Driver) - Explain In Narrative, Ran Off Road Right	85%	7.7	5.0	-35%	Decrease	2.1
FRY RD SR135 to MADISON AVE	39	2.32	1	38	0	2	37	0.12	5%	Right Angle, Rear End, Left Turn	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	77%	6.3	5.0	-21%	Decrease	2.4
WASHINGTON ST STATE AVE to EMERSON AVE	39	2.19	7	32	3	11	25	0.79	36%	Bike/Ped Crash, Right Angle, Left Turn	Disregard Signal/Reg Sign, Pedestrian Action, Failure To Yield Right Of Way	87%	5.7	5.7	0%	About the Same	2.5
DAN JONES RD CR200 to CR100	38	1.76	1	37	3	0	35	0.14	8%	Rear End, Right Angle, Head On Between Two Motor Vehicles	Following Too Closely, Failure To Yield Right Of Way, Left Of Center	68%	7.0	4.0	-43%	Decrease	3.1
HIGH SCHOOL RD 46TH ST to CRAWFORDSVILLE RD	37	2.07	5	32	0	7	30	0.39	19%	Right Angle, Bike/Ped Crash, Left Turn	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Pedestrian Action	84%	4.0	7.7	92%	Increase	2.6
126TH ST LANTERN RD to PROMISE RD	37	2.04	1	36	3	0	34	0.17	8%	Right Angle, Left Turn, Rear End	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	92%	7.3	0.7	-91%	Decrease	2.6

Corridor	KSI per Mile per Year										Average Annual Crashes 2015-2019									
	KSI Total			Fatal	Serious Injury	Bike	Ped	Vehicle	Bike Ped KSI per Mile per Year	Percent Bike/Ped	Top 3 Crash Movements	Top 3 Crash Factors	Pct at Intersection	Crashes 2015-	Crashes 2019-	17	21	Pct Change	Trend	Length (mi)
FAIRVIEW RD SR37 to SR135	35	1.74	0	35	1	0	34	0.05	3%	Rear End, Right Angle, Ran Off Road	Failure To Yield Right Of Way, Following Too Closely, Disregard Signal/Reg Sign	77%	6.3	2.7	-58%	Decrease	2.9			
INDIANA ST COUNTY LINE RD to SMITH VALLEY RD	34	2.44	0	34	0	2	32	0.14	6%	Right Angle, Left Turn, Rear End	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	94%	3.0	6.0	100%	Increase	2.0			
OLIO RD 146TH ST to 116TH ST	34	1.53	2	32	2	2	30	0.18	12%	Right Angle, Bike/Ped Crash, Head On Between Two Motor Vehicles	Failure To Yield Right Of Way, Following Too Closely, Other (Driver) - Explain In Narrative	71%	6.7	4.0	-40%	Decrease	3.2			
ILLINOIS ST 30TH ST to 10TH ST	32	2.28	3	29	0	2	30	0.14	6%	Right Angle, Other, Bike/Ped Crash	Disregard Signal/Reg Sign, Failure To Yield Right Of Way, Pedestrian Action	94%	2.0	7.7	283%	Increase	2.0			
RACEWAY RD 30TH ST to 10TH ST	32	2.25	1	31	0	0	32	0.00	0%	Ran Off Road, Right Angle, Other	Failure To Yield Right Of Way, Ran Off Road Right, Disregard Signal/Reg Sign	69%	5.3	4.0	-25%	Decrease	2.0			
MASSACHUSETTS AV MERSON AVE to SHADELAND AVE	32	1.98	2	30	0	1	31	0.06	3%	Other, Ran Off Road, Head On Between Two Motor Vehicles	Ran Off Road Right, Failure To Yield Right Of Way, Left Of Center	78%	2.0	7.0	250%	Increase	2.3			
FALL CREEK PKWY / BINFORD 56TH ST to 30TH ST	31	1.08	0	31	0	2	29	0.07	6%	Right Angle, Rear End, Other	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Ran Off Road Right	87%	2.7	6.7	150%	Increase	4.1			
38TH ST I-465 to LAFAYETTE RD	28	1.85	1	27	0	2	26	0.13	7%	Rear End, Right Angle, Left Turn	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	79%	1.3	7.0	425%	Increase	2.2			
1ST AVE CHURCHMAN AVE to I-465	25	4.31	0	25	0	2	23	0.34	8%	Right Angle, Left Turn, Head On Between Two Motor Vehicles	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	96%	4.0	2.7	-33%	Decrease	0.8			
THOMPSON RD US31 to KEYSTONE AVE	23	2.18	2	21	0	2	21	0.19	9%	Other, Rear End, Right Angle	Following Too Closely, Failure To Yield Right Of Way, Disregard Signal/Reg Sign	87%	1.3	5.7	325%	Increase	1.5			
CAMPUS PKWY MARILYN RD to HARRELL PKWY	21	2.28	1	20	0	0	21	0.00	0%	Rear End, Right Angle, Left Turn	Following Too Closely, Disregard Signal/Reg Sign, Failure To Yield Right Of Way	81%	3.3	2.7	-20%	Decrease	1.3			
MERIDIAN ST COUNTY LINE RD to SMITH VALLEY RD	20	1.41	0	20	0	0	20	0.00	0%	Right Angle, Rear End, Ran Off Road	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	95%	3.3	2.7	-20%	Decrease	2.0			
146TH ST BODEN RD to OLIO RD	19	2.72	1	18	1	1	17	0.29	11%	Right Angle, Head On Between Two Motor Vehicles, Rear End	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Following Too Closely	84%	1.3	3.0	125%	Increase	1.0			
CHURCHMAN AV 13TH AVE to ARLINGTON AVE	16	1.22	0	16	0	2	14	0.15	13%	Right Angle, Left Turn, Bike/Ped Crash	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Other (Driver) - Explain In Narrative	94%	3.0	1.7	-44%	Decrease	1.9			

Corridor	KSI per Mile per Year		Fatal	Serious Injury	Bike Ped KSI per Mile per Year			Percent Bike/Ped	Top 3 Crash Movements	Top 3 Crash Factors	Pct at Intersection	Average Annual Crashes 2015- Crashes 2019-		Pct Change	Trend	Length (mi)	
	KSI Total				Bike	Ped	Vehicle					17	21				
HAZEL DELL RD SR32 to 146TH ST	15	0.71	0	15	0	0	15	0.00	0%	Left Turn, Right Angle, Rear End	Failure To Yield Right Of Way, Following Too Closely, Other (Driver) - Explain In Narrative	93%	2.7	2.0	-25%	Decrease	3.0
EAST ST MADISON AVE to MILLS AVE	11	1.43	1	10	2	0	9	0.26	18%	Right Angle, Bike/Ped Crash, Head On Between Two Motor Vehicles	Disregard Signal/Reg Sign, Failure To Yield Right Of Way, Improper Lane Usage	64%	1.3	1.3	0%	About the Same	1.1
NEW YORK ST WEST ST to COLLEGE AVE	11	1.39	1	10	1	2	8	0.38	27%	Right Angle, Bike/Ped Crash, Other	Failure To Yield Right Of Way, Disregard Signal/Reg Sign, Cell Phone Usage	73%	1.3	1.3	0%	About the Same	1.1