



Allegany County
**VISION
zero**

Zero Compromises on Safety For All

DRAFT



ALLEGHENY COUNTY

Comprehensive Safety Action Plan



Leadership Commitment

DRAFT DOCUMENT

This page will include signed leadership commitments in the final version of the plan



Zero Compromises on Safety For All

As leaders responsible for the safety, mobility, and quality of life for the people who live, work, and travel in Allegheny County, we recognize that traffic deaths and serious injuries are unacceptable and preventable.

This Allegheny County Comprehensive Safety Action Plan reflects the principles of Vision Zero and was developed through a collaborative, data-driven process with input from partners, stakeholders, and the public. It identifies priority safety issues, outlines strategies grounded in the Safe System Approach, and proposes projects to reduce severe crashes across our roadways.

We endorse this plan and its goal to **work toward zero traffic fatalities and serious injuries in Allegheny County by 2050**.

We will:



Support the Plan's Implementation

Integrate its findings, strategies, and priority projects into our respective planning, design, operations, and maintenance programs where feasible.



Prioritize Safety for All Users

Focus on improvements that address the most dangerous parts of the network and protect those most at risk, including pedestrians, bicyclists, and people using transit.



Collaborate Across Jurisdictions

Continue to work collaboratively across jurisdictions, agencies, and disciplines to deliver safety projects efficiently and effectively.



Track and Share Progress

Monitor safety performance and review strategies regularly to progress toward the long-term goal.

By endorsing this plan, we affirm our shared intention to make measurable, sustained progress toward a transportation system in which every journey in Allegheny County ends safely.

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County Executive
Allegheny County

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Mayor
City of Pittsburgh

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Acknowledgments

The development of the Allegheny County Comprehensive Safety Action Plan was a collaborative effort involving numerous agencies, organizations, and individuals committed to improving roadway safety across the county. Their time, expertise, and insights were essential in shaping a data-driven, practical, and locally informed plan that reflects the shared responsibility required to eliminate traffic fatalities and serious injuries.

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BikePGH

POGOH Bike Share Pittsburgh

Carnegie Mellon University

Community College of Allegheny County

Congress of Neighboring Communities

Friends of the Riverfront

Mobilify Southwestern Pennsylvania

Oakland Transportation Management Association

Pittsburgh Downtown Partnership

Pittsburghers for Public Transit

Riverlife

University of Pittsburgh

Acronyms and Abbreviations

A – Suspected Severe Injury Crash	EPDO – Equivalent Property Damage Only	PRT – Pittsburgh Regional Transit
ADA – Americans with Disabilities Act	EVP – Emergency Vehicle Preemption	RPM – Raised Pavement Marker
ADAS – Advanced Driver-Assistance Systems	FHWA – Federal Highway Administration	RRFB – Rectangular Rapid Flashing Beacon
ARLE – Automated Red Light Enforcement	FSI – Fatal or Serious Injury	RSA – Road Safety Audit
ATIIP – Active Transportation Infrastructure Investment Program	HIN – High-Injury Network	SHSP – Strategic Highway Safety Plan
ATTIMD – Advanced Transportation Technologies and Innovative Mobility Deployment	HRN – High-Risk Network	SMART – Strengthening Mobility and Revolutionizing Transportation
B – Suspected Minor Injury Crash	HSIP – Highway Safety Improvement Program	SPC – Southwestern Pennsylvania Commission
Boro – Borough	IJA – Infrastructure Investment and Jobs Act	SR – State Route
BRT – Bus Rapid Transit	K – Fatal Crash	SS4A – Safe Streets and Roads for All
BUILD – Better Utilizing Investments to Leverage Development	LED – Light-Emitting Diode	SSOA – State Safety Oversight Agency
C – Possible Injury Crash	LPI – Leading Pedestrian Interval	STLC – Smart Transportation Through Livable Communities
CFA – Commonwealth Financing Authority	LRTP – Long-Range Transportation Plan	TA – Transportation Alternatives
CMAQ – Congestion Mitigation and Air Quality	LSA – Local Share Account	TASA – Transportation Alternatives Set-Aside Program
CMF – Crash Modification Factor	MPO – Metropolitan Planning Organization	TIM – Traffic Incident Management
CRP – Carbon Reduction Program	MTF – Multimodal Transportation Fund	TIP – Transportation Improvement Program
CSAP – Comprehensive Safety Action Plan	NHTSA – National Highway Traffic Safety Administration	TMA – Transportation Management Association
DCED – Department of Community and Economic Development	NTD – National Transit Database	Twp – Township
DOMI – Department of Mobility and Infrastructure	O – No Injury Crash	TYP – Twelve Year Program
	PCIT – Pennsylvania Crash Information Tool	USDOT – United States Department of Transportation
	PDO – Property Damage Only	VRU – Vulnerable Road User
	PennDOT – Pennsylvania Department of Transportation	
	PIB – Pennsylvania Infrastructure Bank	
	PIP – Public Involvement Plan	

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The plan sets a clear,
countywide commitment to
eliminate traffic fatalities
and serious injuries.

Executive Summary

Vision and Purpose

The Allegheny County Comprehensive Safety Action Plan (CSAP) sets a clear, countywide commitment to eliminate traffic fatalities and serious injuries. The plan is grounded in the Safe System Approach, which acknowledges that people will inevitably make mistakes. By treating safety as a shared responsibility, the approach focuses on creating multiple layers of protection within the transportation system to help ensure these mistakes do not lead to serious injuries or fatalities.



The Southwestern Pennsylvania Commission (SPC), in partnership with the Pennsylvania Department of Transportation (PennDOT), Allegheny County, the City of Pittsburgh, and Pittsburgh Regional Transit (PRT), developed this plan to help achieve their goal to work toward zero traffic fatalities and serious injuries in Allegheny County by 2050.

The CSAP was developed with Safe Streets and Roads for All (SS4A) Program Planning and Demonstration grant support and qualifies Allegheny County and its municipalities to seek future SS4A Implementation Grants.

The Safety Need

Between 2019 and 2023, Allegheny County experienced 55,733 crashes, including 339 fatalities and 1,757 serious injuries. Vulnerable road users (people walking and biking) and motorcyclists face disproportionately severe outcomes, and underserved communities¹ bear a notably higher burden of fatal and serious injury crashes.



High-Injury Network

Only **9%** of road miles account for **79%** of fatal and serious injury crashes.



Overrepresented Factors In Severe Crashes

Lane departures, unbelted occupants, impaired driving, motorcycles, pedestrians, and speeding.



Community Impact

Despite containing **26%** of the population and road miles, underserved communities contain **43%** of fatal and serious injury crashes.

Community-Driven Planning

A robust Public Involvement Plan guided two phases of county-wide outreach. Community members engaged with plan development through surveys, an interactive map, virtual and in-person meetings, and targeted tabling to identify priority corridors and systemic safety concerns. Stakeholders included SPC, PennDOT, Allegheny County, City of Pittsburgh, PRT, local governments, first responders, advocacy groups, and institutions. Community input validated corridor priorities and emphasized speed management, consistent pedestrian/bicycle design and crossings, connectivity gaps, and operations/maintenance needs.

Safety Strategies and Actions

The CSAP prioritizes infrastructure-based solutions and supportive policies, processes, and programs to maximize safety impact:



Policy and Process Change

Align Complete Streets policies, support context-sensitive design, and advocate for reforms to enable effective speed management and enforcement. Improved coordination and capacity among agencies and municipalities is essential for consistent implementation.



Countermeasure Toolbox

Deploy proven treatments focused on pedestrian and bicyclists, speed reduction, intersection enhancements, roadway departures, and other cross-cutting safety measures.



Systemic Safety Solutions

Apply packages of countermeasures across the High-Injury Network to address prevalent crash types and common risk factors.



Ten Priority Corridors

Advance targeted projects on key corridors on the High-Injury Network identified through a data-driven prioritization process.

1. Underserved communities are defined using the United States Department of Transportation (USDOT) designation of Areas of Persistent Poverty

Implementation

The Action Plan is organized by the Safe System pillars, and actions are assigned short-, mid-, long-term, or ongoing timelines. Implementation relies on collaboration among roadway owners, municipalities, and regional partners. The plan does not identify a dedicated funding stream, but rather highlights funding opportunities that leverage federal, state, and local programs.

Progress Monitoring and Evaluation

Progress should be tracked and communicated using outcome, system, and implementation measures, with annual reporting through an Allegheny County Vision Zero Progress Report. The CSAP is a living document, refined through ongoing evaluation, crash reviews, and stakeholder feedback.

Zero Compromises on Safety for All.

The CSAP calls on road users, roadway owners, elected officials, public health and enforcement partners, and community organizations to act. This includes using roads safely and responsibly, designing safer streets, managing speeds, and learning from every serious crash. With focused investments on the High-Injury Network, systemic countermeasures, and countywide coordination, Allegheny County can accelerate toward Vision Zero.



Our Goal

Eliminate traffic fatalities and serious injuries (Vision Zero).



Why Act Now

339 lives lost and 1,757 people seriously injured in five years; most severe crashes concentrate on just **9% of the roadway network**.



How We'll Succeed

Apply a Safe System Approach using data-driven priorities, systemic countermeasures, and targeted investment on the **High-Injury Network**.



Who's Involved

SPC, PennDOT, Allegheny County, the City of Pittsburgh, PRT, municipalities, enforcement, public health, other community partners, and road users. **Safety is a shared responsibility.**



Funding Path

Leverage federal, state, and local funding programs, including eligibility for **USDOT SS4A Implementation Grants**.

“

This plan advances
Vision Zero and positions
Allegheny County for
SS4A funding.

1

Introduction and Background

Plan Purpose

Allegheny County, located in southwestern Pennsylvania (Exhibit 1-1), is home to over 1.25 million residents and encompasses the City of Pittsburgh, its surrounding suburbs, and rural areas. The county is served by a complex roadway system with multiple owners and maintenance entities, linking local communities and neighboring regions. Like many communities across the Commonwealth of Pennsylvania, Allegheny County faces significant roadway safety challenges. Between 2019 and 2023, the county recorded 55,733 crashes, resulting

in 339 fatalities and 1,757 serious injuries. These statistics, however, represent more than numbers—they reflect the lives of individuals, families, and communities profoundly impacted by roadway incidents.

The Southwestern Pennsylvania Commission (SPC), along with the Pennsylvania Department of Transportation (PennDOT), Allegheny County, the City of Pittsburgh, and Pittsburgh Regional Transit (PRT), developed this Allegheny County Comprehensive Safety Action Plan (CSAP) to help achieve their goal of zero traffic-related fatalities on roads in the county.

The CSAP acknowledges that current traffic-related injuries and fatalities are unacceptable and identifies high-priority safety issues and projects. The plan provides a framework for the county, municipalities, transportation agencies, and partner organizations to prioritize, fund, and implement effective safety interventions.

By combining community experiences and data analysis, the CSAP identifies practical actions and solutions to make roads within Allegheny County safer for all.

Between 2019 and 2023...

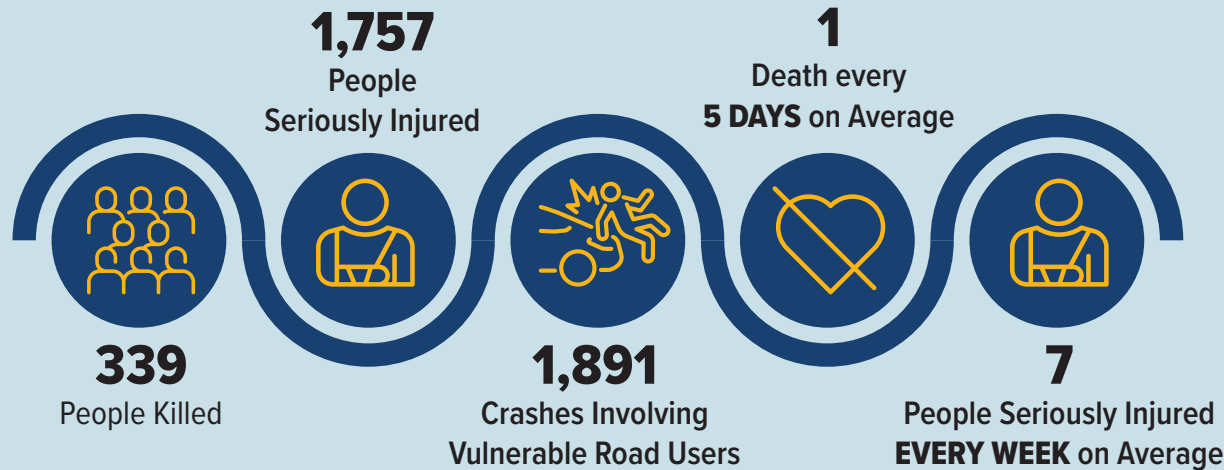
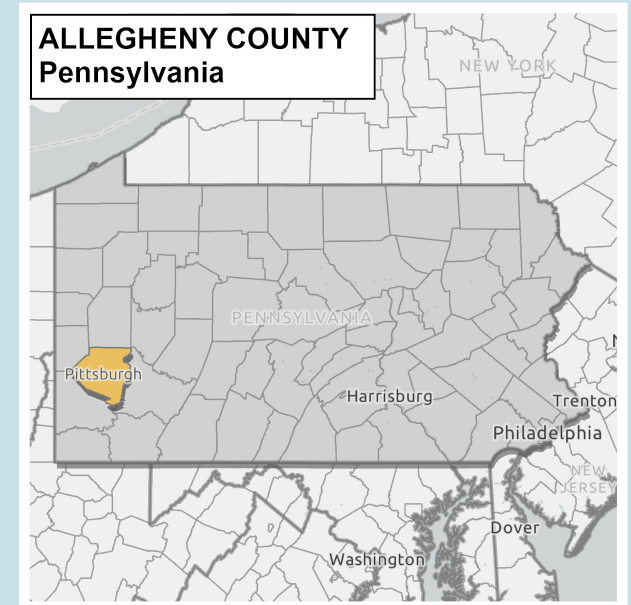


Exhibit 1-1: Allegheny County Location Map



Safe Streets and Roads for All (SS4A) Grant Program

The planning activities to develop the CSAP were funded through a Planning and Demonstration Grant under the Federal SS4A competitive grant program. The Infrastructure Investment and Jobs Act (IIJA) established the SS4A competitive grant program, allocating \$5 billion over five years (2022–2026) to support regional, local, and Tribal initiatives aimed at preventing roadway fatalities and serious injuries. The SS4A program aligns with the United States Department of Transportation (USDOT) National Roadway Safety Strategy and its vision of zero roadway deaths through a Safe System Approach. This critical funding source continues to empower communities to implement life-saving roadway safety improvements.

The SS4A program offers two main types of grants: Planning and Demonstration Grants and Implementation Grants. Applicants must have a qualified Action Plan to apply for an Implementation Grant, and the USDOT offers a pre-application review to confirm eligibility.

Vision Zero

Vision Zero is a traffic safety initiative that originated in Sweden in 1997 and since then has spread around the world. It is focused on eliminating all traffic fatalities and severe injuries through safe road design, enforcement, education, and community engagement to achieve this goal. It recognizes human error and advocates for road systems that reduce the impact of mistakes. It represents a comprehensive approach to improving quality of life, safety, and mobility of communities through crash-related injury reduction.

Vision Zero has been embraced by countries, states, and local governments worldwide. In the United States, the USDOT has reinforced this philosophy through its Zero Deaths initiative (<https://highways.dot.gov/safety/zero-deaths>), which supports the vision of eliminating traffic fatalities and serious injuries on the nation's roadways.

Vision Zero represents a fundamental shift in how communities approach traffic-related injuries and fatalities. It rejects the idea that serious crashes are inevitable and instead emphasizes shared responsibility and proactive action to eliminate deaths and serious injuries.



Planning and Demonstration Grant

Planning and Demonstration Grants are used to develop, complete, or supplement an Action Plan. These grants also fund supplemental safety planning activities and safety demonstration activities in support of an Action Plan.



Implementation Grant

To implement projects and strategies identified in an Action Plan to address a roadway safety problem. Projects and strategies may be infrastructural, behavioral, and/or operational activities. Implementation Grants may also include supplemental safety planning and safety demonstration activities to inform an existing Action Plan, and project-level planning, design, and development activities.

The Allegheny County CSAP satisfies eligibility requirements, enabling Allegheny County and its municipalities to pursue SS4A supplemental Planning and Demonstration Grants or Implementation Grants. Beyond SS4A, the CSAP also identifies strategies and projects that may be advanced through a range of other funding and implementation programs.

Safe System Approach

The CSAP is grounded in the Safe System Approach to transportation safety shown in Exhibit 1-2. This approach is strongly supported by the USDOT, which has identified the Safe System Approach as the national framework for eliminating traffic fatalities and serious injuries. The Safe System Approach recognizes that people make mistakes and that the transportation system should be designed so those mistakes do not result in serious injury or death. It emphasizes shared responsibility among all stakeholders—designers, policymakers, vehicle manufacturers, road users, and emergency responders—rather than placing responsibility solely on the individual user.

Exhibit 1-2: Principles of a Safe System Approach



Source: Graphic adapted from the USDOT Safe System Approach framework.

The Safe System Approach creates multiple layers of protection against crashes, ensuring that no single failure results in a fatal or serious injury.

There are five complementary objectives outlined by the USDOT to support implementation of the Safety System Approach.



SAFE ROAD USERS

Encourage safe, responsible driving and behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed.



SAFE VEHICLES

Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact of crashes on both occupants and non-occupants.



SAFER SPEEDS

Promote safer speeds in all roadway environments through a combination of thoughtful, fair, context-appropriate roadway design, appropriate speed-limit setting, targeted education, outreach campaigns, and enforcement.



SAFE ROADS

Design roadway environments to mitigate human mistakes and account for injury tolerances, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users.



POST-CRASH CARE

Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices.

Plan Development

The CSAP effort was a 17-month-long analysis, planning, and public engagement process that involved community members, county and municipal officials, and transportation experts. Exhibit 1-3 shows the steps of the planning process.

SPC established a planning structure to guide development, implementation, and monitoring. The Steering Committee included representatives from all CSAP partner agencies—SPC, PennDOT, Allegheny County, the City of Pittsburgh, and Pittsburgh Regional Transit—bringing diverse perspectives that strengthened the plan’s analysis and recommendations.

Throughout the development of this plan, SPC, the Steering Committee, and the project team relied on a shared set of guiding principles to shape analysis, engagement, and recommendations. These principles reflect the region’s commitment to Vision Zero and a Safe System approach and informed decisions at each stage of the planning process.

The Plan’s Guiding Principles



ALL TRANSPORTATION

Eliminate traffic deaths for people walking, biking, accessing transit, and driving.



DATA-DRIVEN SOLUTIONS

Base solutions on industry best practices, evidence, and data analysis.



EQUITY

Prioritize areas of greatest need to ensure safe access is available to everyone.



COMMITMENT AND ACCOUNTABILITY

Align funding, policies, and processes among decision-makers.



PUBLIC INPUT

Ensure the community is informed and involved through active participation.



EDUCATION

Teach the importance of Vision Zero and the shared responsibility of all roadway users.

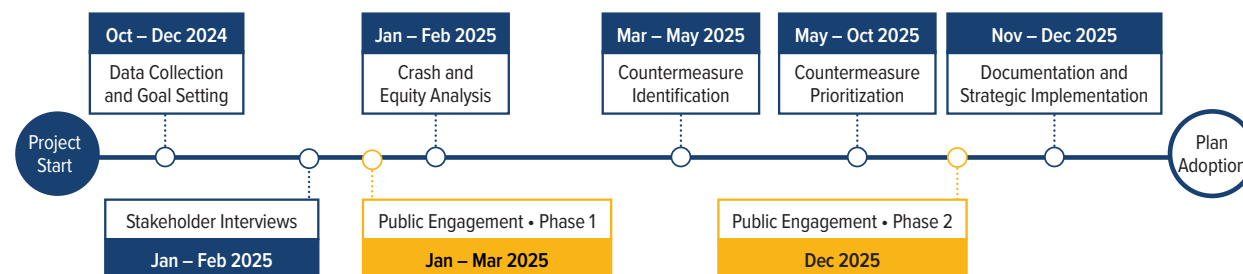


Urgency

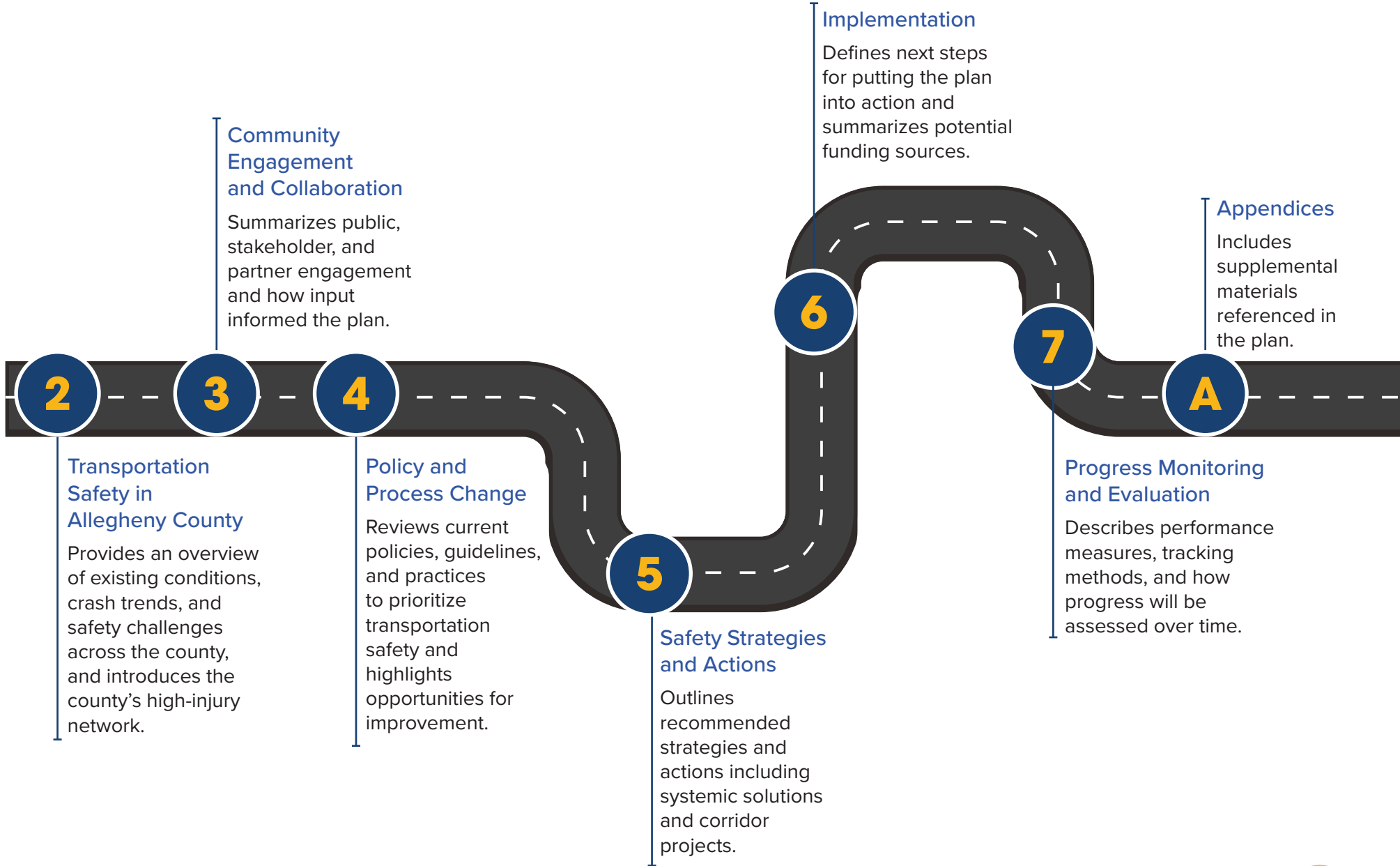
Focus actions on the urgent need to stop loss of life and severe injuries.

Exhibit 1-3: Planning Process

Project Schedule



What's Ahead in the Plan?



“

Vulnerable road user safety
is a countywide concern
and not limited to
a single jurisdiction.

2

Transportation Safety in Allegheny County

Overview

This section highlights the data-driven safety analysis conducted for Allegheny County. The analysis provides a comprehensive understanding of existing conditions, historical trends, and risk attributes associated with fatal and serious injuries from traffic crashes. This information provides the baseline for understanding the most pressing transportation safety issues and informs the recommended strategies and actions contained in the CSAP.

The analysis is based on historical crash data from PennDOT's Pennsylvania Crash Information Tool (PCIT) for reported crashes between 2019 and 2023. This was the latest five years of data available at the time of analysis in early 2025.

According to PennDOT's Pennsylvania Crash Facts and Statistics Report, a reportable crash is identified when an injury or fatality occurs or at least one of the vehicles involved requires towing from the scene. Non-reportable crashes are not included in the PCIT database; therefore, it is likely that more crashes occurred within Allegheny County during the study period than are included in this assessment.

1. Calculated using PennDOT's Pennsylvania Crash Facts and Statistics, Comprehensive Loss Due to Reportable Traffic Crashes
2. Underserved communities are defined using the USDOT's designation of Areas of Persistent Poverty

Key Takeaways

Several key takeaways from the safety analysis are shown below.



Between 2019 and 2023, Allegheny County experienced over 55,000 reported crashes, resulting in **339 fatalities and 1,757 suspected serious injuries.**



Vehicle lane departures make up 22% of all crashes and **32% of roadway fatalities and serious injuries.**



Bicyclists are 4 times more likely to die in a crash than vehicle drivers.



The economic loss per Allegheny County resident due to traffic crashes is over **\$9,000** per year. ¹



The high-injury network makes up only **9% of road miles** in Allegheny County but accounts for **79%** of all fatal and serious injury crashes.



Motorcyclists are 10 times more likely to die in a crash than vehicle drivers.



Pedestrians are 9 times more likely to die in a crash than vehicle drivers.



Factors that are overrepresented in fatal and serious injury crashes, compared to all crashes, include **lane departures, unbelted occupants, impaired driving, motorcycle-involved crashes, pedestrian-involved crashes, and speeding.**



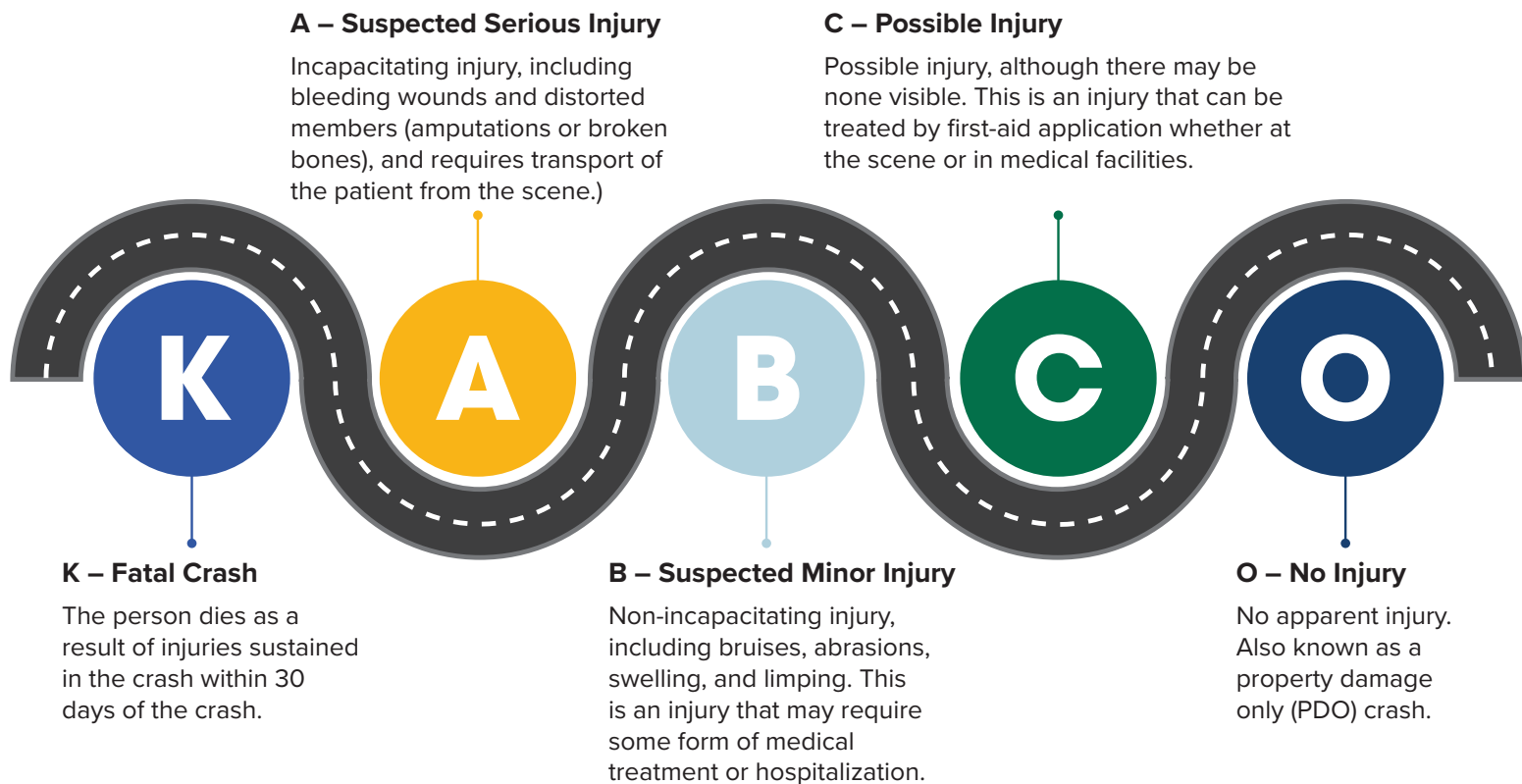
Underserved communities² experience a disproportionate share of severe crashes. While these areas account for just 14% of land area, 26% of the residents, and 26% of road miles in Allegheny County, they experience **43% of fatal and serious injury crashes and 57% of vulnerable road user crashes.**

Data Analysis Methods

Crash data from PCIT were classified by infrastructure type and assigned to one of three categories: roadway segments, signalized intersections, and unsignalized intersections. Interstate highways and private roadways were excluded from the analysis to better reflect safety conditions on locally accessible roadways within Allegheny County. Additional roadway attributes including ownership, traffic volumes, and number of intersection approaches were also assigned.

While no type of crash is acceptable, this analysis places greater emphasis on higher-severity crashes, particularly those resulting in fatalities and serious injuries, to better align with the goals of the Safe System Approach and the SS4A program.

Understanding Crash Severity Types



Crash Trends and Existing Conditions

Countywide Crash Trends

Between 2019 and 2023, there were 55,733 crashes in Allegheny County, an average of 11,150 crashes per year. Exhibit 2-1 shows the five-year trend of total crashes and fatal and serious injury crashes. Fatal and serious injury crashes accounted for about 4% of all crashes, though this share has increased from 3.3% in 2019. Total crashes declined in 2020, reflecting reduced travel during the COVID-19 pandemic; however, fatal and serious injury crashes decreased by a much smaller margin during the same period. This suggests that while overall traffic volumes fell, the most severe crashes remained relatively persistent. As travel rebounded in 2021, both total crashes and fatal and serious injury crashes increased, with severe crashes rising at a faster rate. In 2022, fatal and serious injury crashes declined more rapidly than total crashes, but this pattern reversed in 2023, when total crashes declined more substantially than fatal and serious injury crashes. This underscores ongoing concerns about the severity of crashes despite fewer overall incidents.

Exhibit 2-2 provides an annual breakdown of crash severity. Over the five-year period, traffic fatalities increased by almost 28%, while serious injury crashes rose but eventually declined back to approximately their 2019 numbers.

Exhibit 2-1: Total and Fatal and Serious Injury Crash Summary (2019-2023)

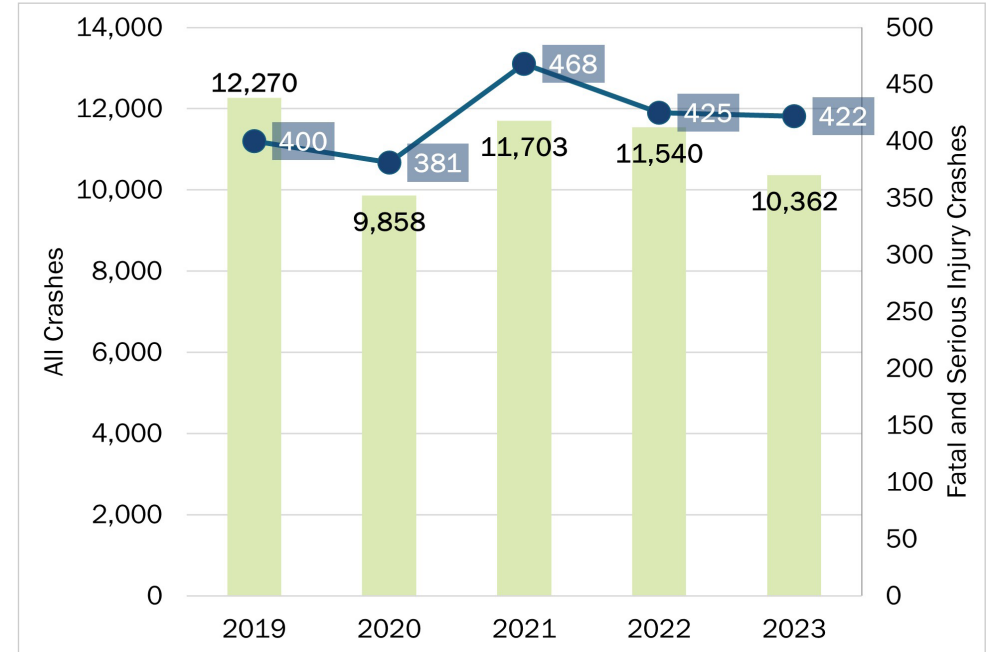


Exhibit 2-2: Crashes by Severity (2019-2023)

Injury Severity	2019	2020	2021	2022	2023	Total
Fatal Injury (K)	58	57	67	83	74	339
Suspected Serious Injury (A)	342	324	401	342	348	1,757
Suspected Minor Injury (B)	2,214	1,799	2,234	2,227	2,111	10,585
Possible Injury (C)	2,429	1,666	1,981	1,839	1,698	9,613
No Injury (O)	7,227	6,012	7,020	7,049	6,131	33,439
Total	12,270	9,858	11,703	11,540	10,362	55,733

Road Users Involved

Exhibit 2-3 breaks down the distribution of fatal and serious injury crashes by the type of road user involved—pedestrians, bicyclists, motorcyclists, and vehicle-only occupants. It provides a snapshot of which groups are most affected by severe crashes in Allegheny County.

Pedestrians, bicyclists, and motorcyclists are disproportionately represented in fatal and

serious injury crashes compared to their share of total road users. While vehicle-only crashes account for the largest number of severe incidents, motorcyclists and vulnerable road users (pedestrians and bicyclists) experience a much higher risk of severe outcomes per crash. This is highlighted in Exhibit 2-4.

There are substantial differences in outcomes for people walking, biking, and riding motorcycles compared to vehicle-only crashes.

Crashes involving pedestrians, bicyclists, and motorcyclists are far more likely to result in fatal or serious injuries, with little to no share of no-injury outcomes. In contrast, nearly two-thirds of vehicle-only crashes result in no injury. These patterns underscore the heightened vulnerability of non-motorized and two-wheeled road users and reinforce the need for safety strategies that prioritize protection for people outside of enclosed vehicles.

Exhibit 2-3: Distribution of Fatal and Serious Injury Crashes by Users Involved (2019-2023)

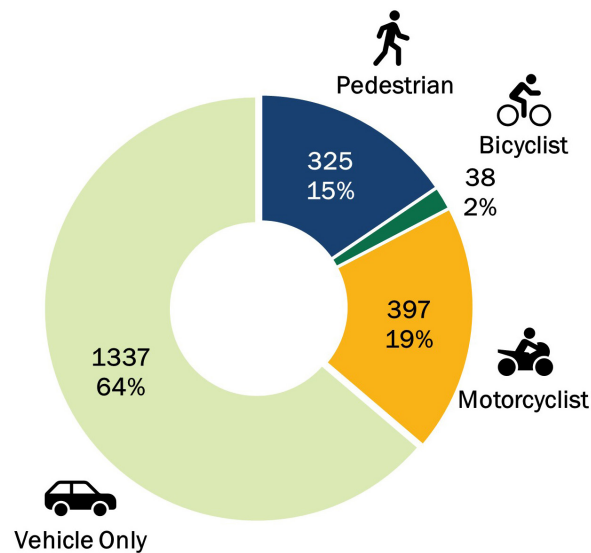
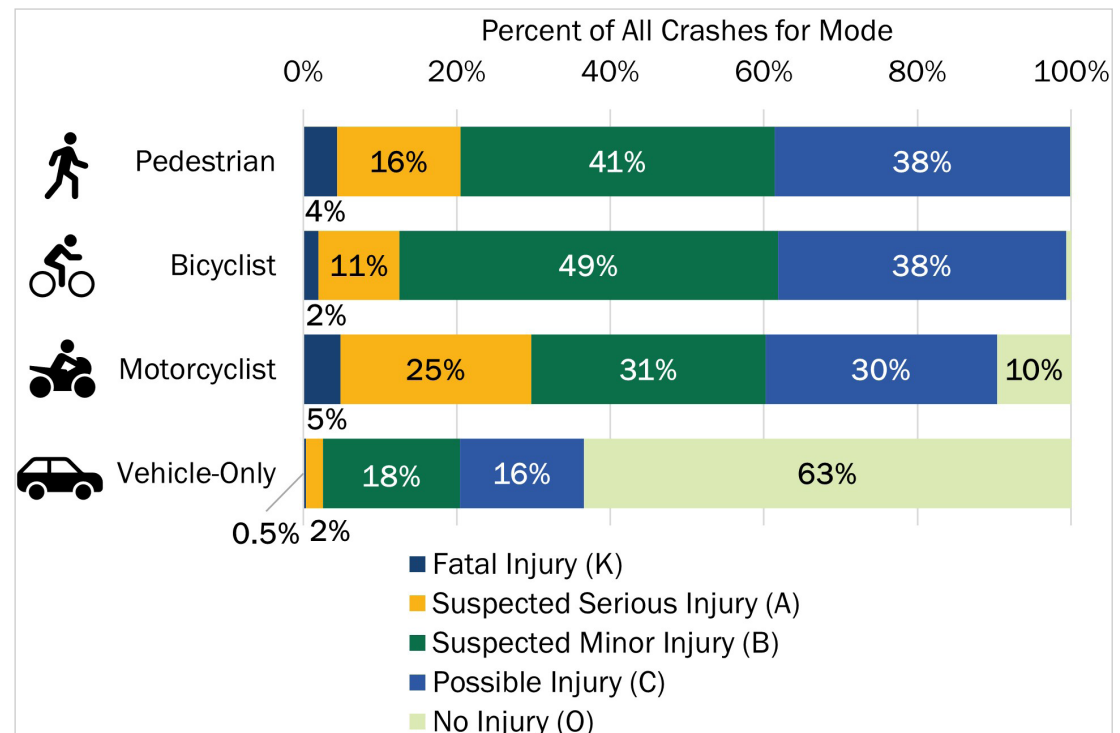


Exhibit 2-4: Crash Severity by Mode (2019-2023)



In the crash data, vulnerable road users are defined as a pedestrian, pedestrian conveyance, bicyclist, or other pedalcyclist. Exhibit 2-5 details the number and severity of crashes involving pedestrians and bicyclists.

Exhibit 2-6 indicates 22% of all fatal crashes and 16% of all serious injury crashes involved a vulnerable road user.

Exhibit 2-7 compares where pedestrian and bicycle crashes occurred, distinguishing between intersection and midblock locations. Pedestrian crashes were more evenly split between intersections and midblock locations, while bicycle crashes were more concentrated at intersections.

Exhibit 2-6: Breakdown of Crash Severity and Vulnerable Road User Involvement (2019-2023)

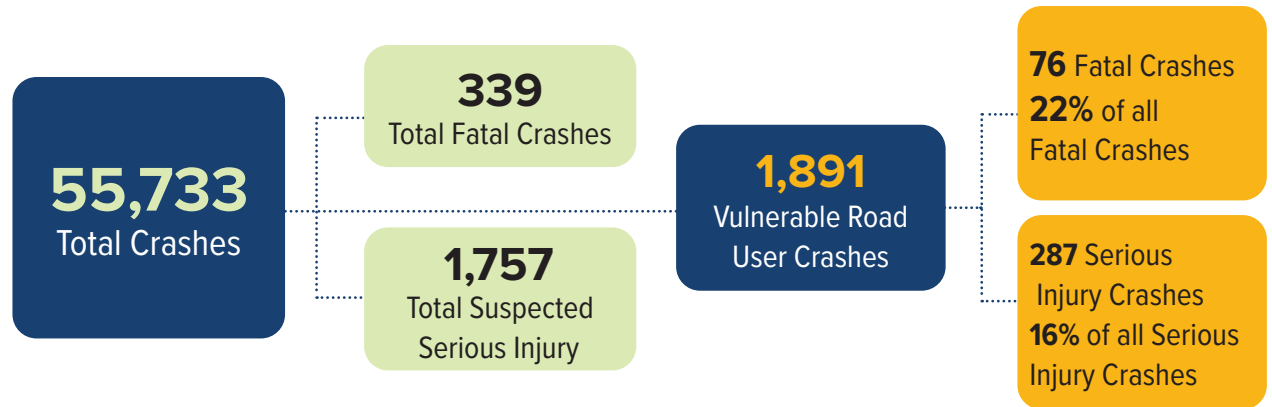


Exhibit 2-5: Vulnerable Road User Crashes (2019-2023)

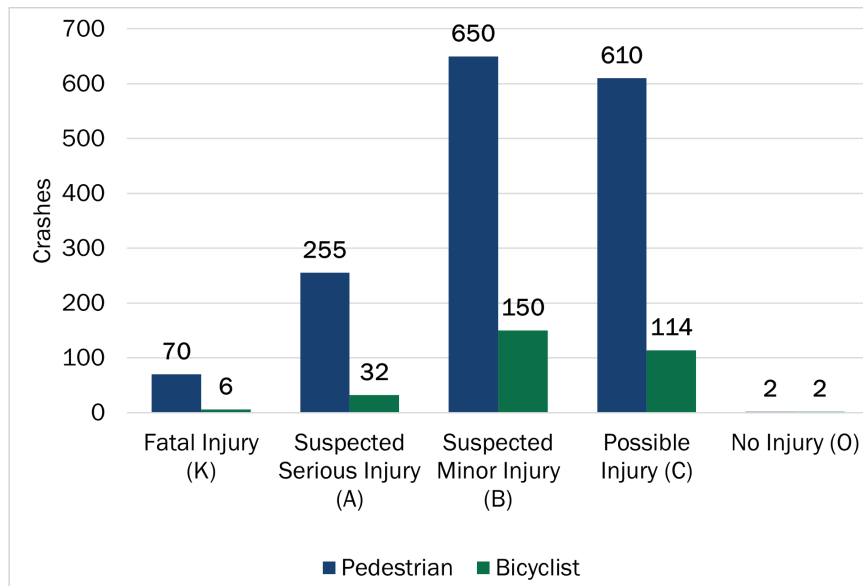
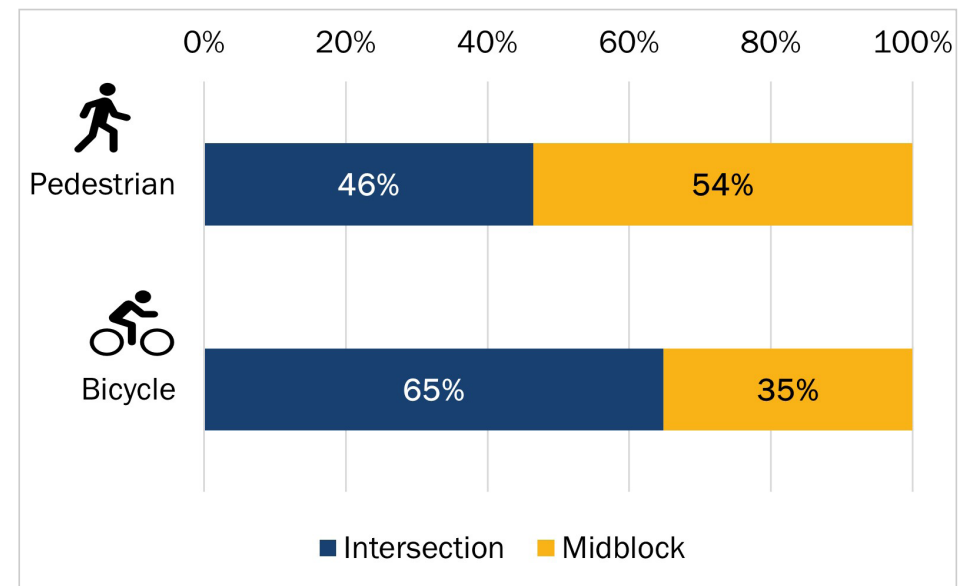


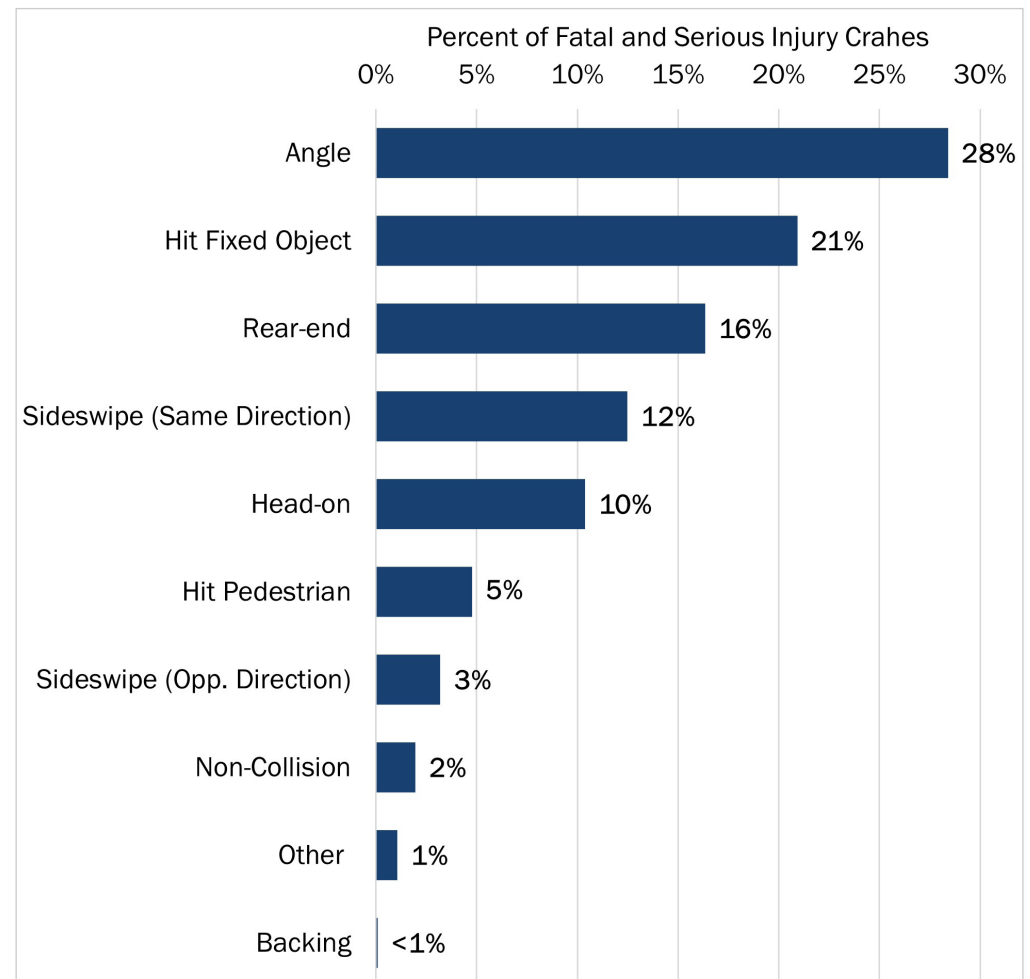
Exhibit 2-7: Vulnerable Road User Crash Location (2019-2023)



Collision Type

Exhibit 2-8 categorizes fatal and serious injury crashes by collision type. Angle collisions and crashes involving fixed objects were the most common types resulting in severe outcomes—collectively accounting for about half of crashes. Understanding collision types helps inform targeted safety strategies to address the most dangerous scenarios.

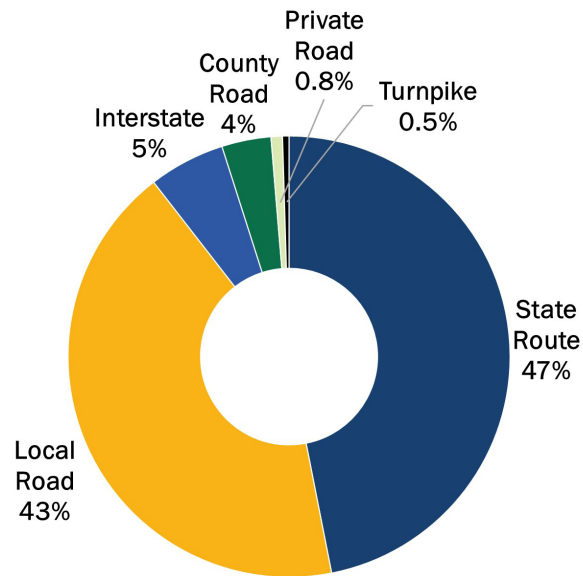
Exhibit 2-8: Fatal and Serious Injury Crashes by Collision Type (2019-2023)



Fatal and Serious Injury Crash Locations

Exhibit 2-9 shows the distribution of fatal and serious injury crashes by roadway ownership. Nearly half of these crashes occurred on state routes, with an additional large share that occurred on locally owned roads. Smaller proportions occurred on county roads, interstates, and other facilities.

Exhibit 2-9: Fatal and Serious Injury Crashes by Road Ownership (2019-2023)



This distribution highlights that severe crashes are not confined to a single roadway system and underscores the need for coordinated safety strategies across state, county, and municipal partners. Because roadway ownership influences design standards, funding sources, and implementation authority, addressing fatal and serious injuries will require collaboration among multiple agencies and jurisdictions.

Exhibit 2-10 summarizes fatal and serious injury crashes by context, illustrating how severe crashes were distributed across urban and rural areas and between intersections and roadway segments. While the majority of fatal and serious injury crashes occurred in urban areas, a substantial share occurred in rural locations, where roadway characteristics and emergency response conditions differ. Across both contexts, severe crashes occurred on both intersections and roadway segments, highlighting the need for a balanced approach that addresses a range of roadway environments.

Exhibit 2-10: Crash Tree of Fatal and Serious Injury Crash Locations

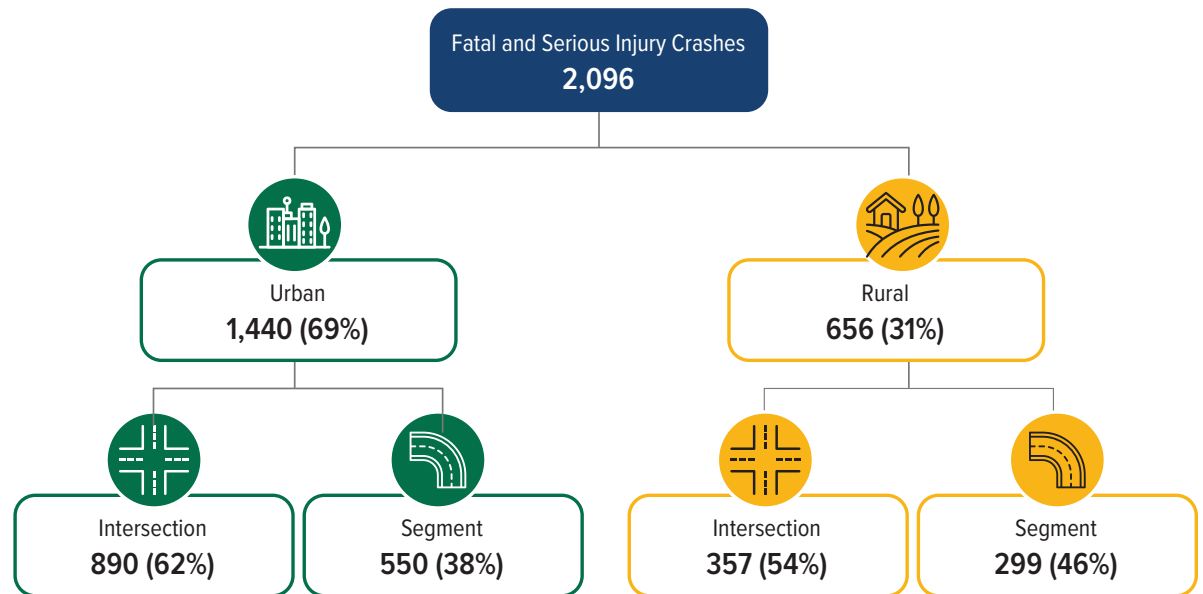


Exhibit 2-11 shows the geographic distribution of all fatal and serious injury crashes across Allegheny County. The map separately shows the points of fatal crash locations. The heat map reveals strong concentrations within and immediately surrounding the City of Pittsburgh, where higher traffic volumes, more complex street networks, and greater interaction among vehicles, pedestrians, and bicyclists increase exposure to severe crashes. These clusters extend outward along major arterial corridors, reflecting the role of high-volume, higher-speed roadways in shaping severe crash risk.

Beyond the urban core, fatal and serious injury crashes are more dispersed but still present throughout suburban and rural areas of the county. This pattern indicates that while severe crashes are most concentrated in dense activity centers, they are not limited to a single jurisdiction or roadway type. Together, these trends underscore the need for a countywide, context-sensitive approach that combines urban safety strategies—such as intersection and speed management—with corridor-based and systemic treatments on suburban and rural roadways.

Exhibit 2-11: Heat Map of Fatal and Serious Injury Crashes (2019-2023)

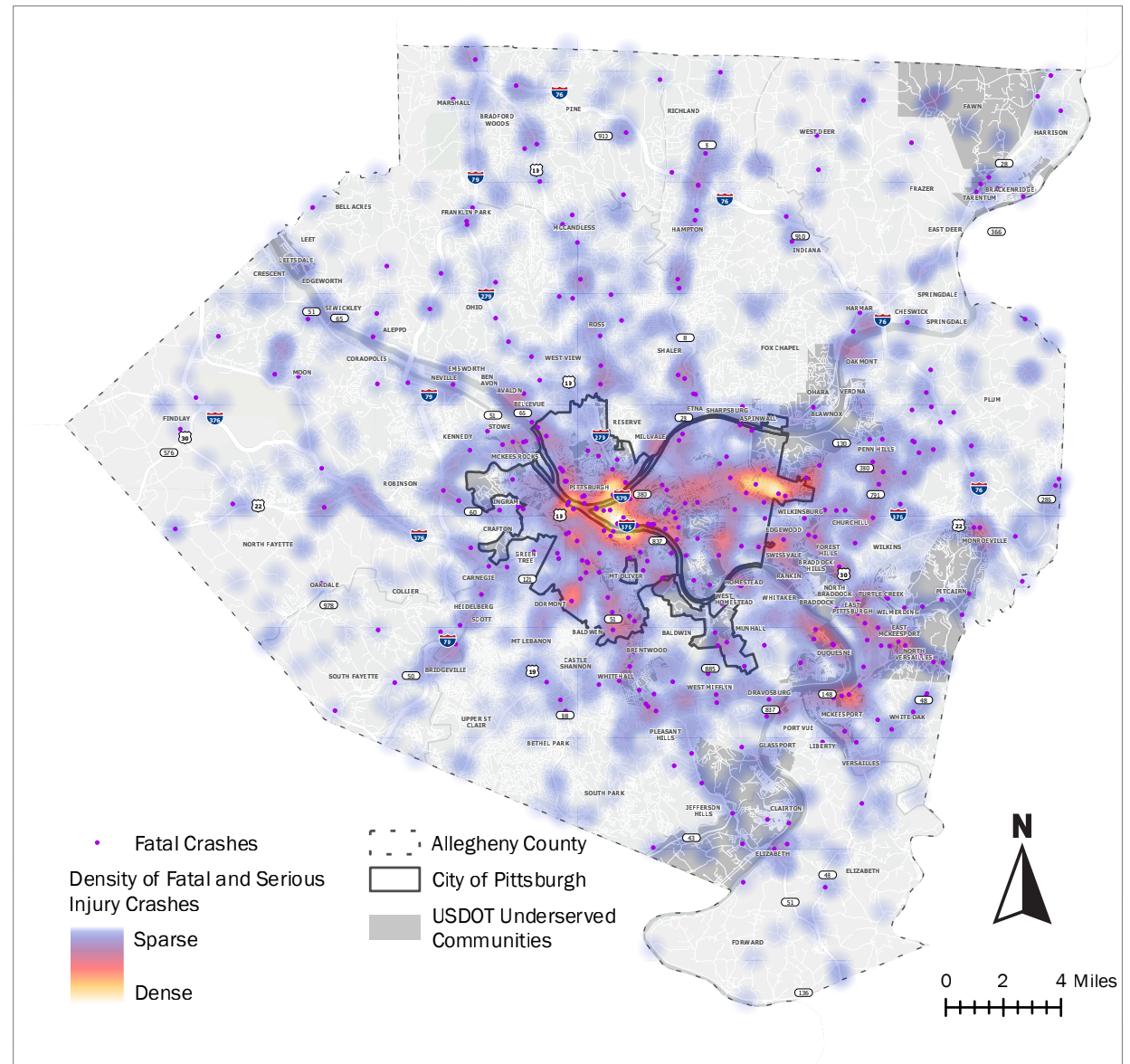
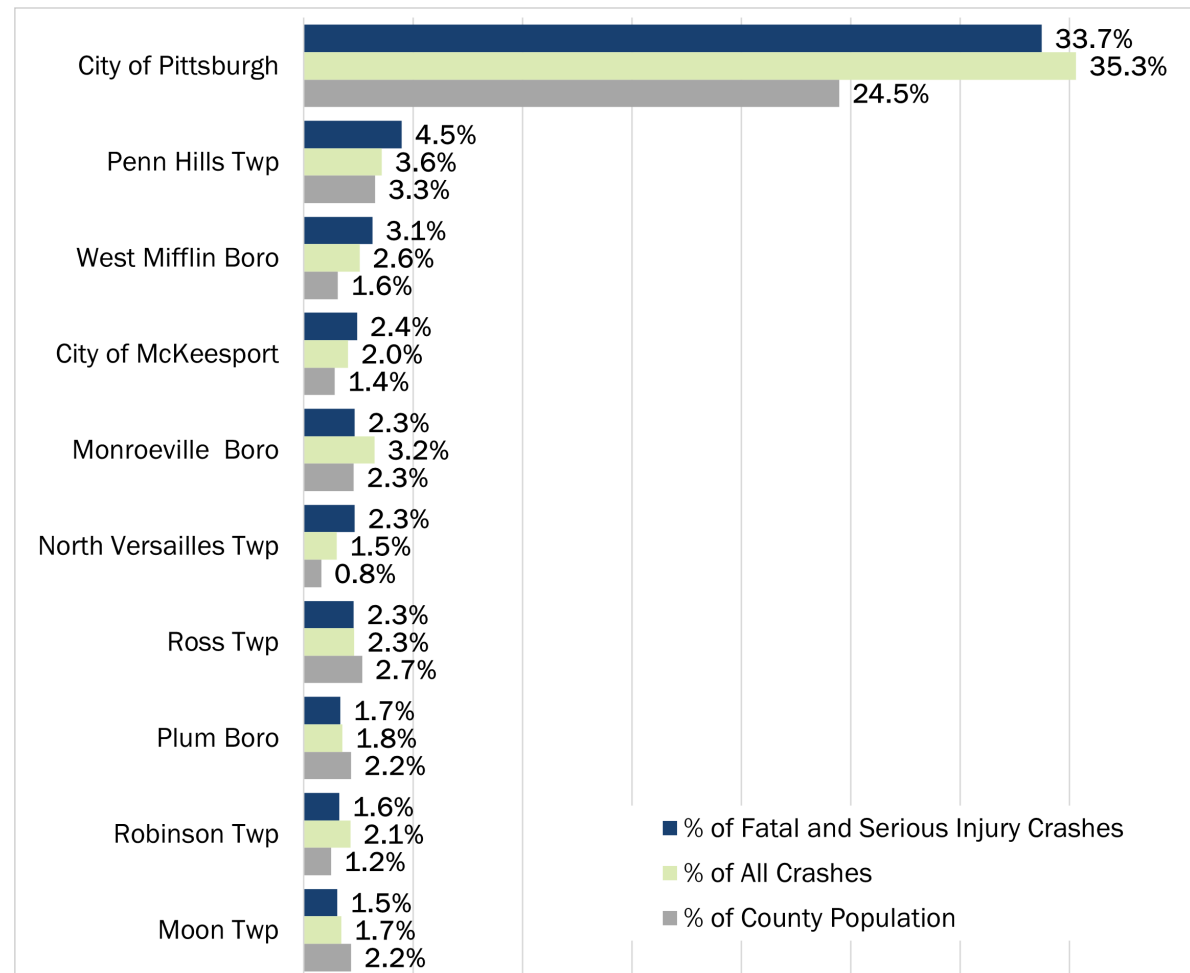


Exhibit 2-12 shows the municipalities that had the highest shares of fatal and serious injury crashes, alongside their share of all crashes and county population. The City of Pittsburgh accounted for the largest share of both total crashes and fatal and serious injury crashes. Outside the city, severe crashes were distributed across a range of municipalities, with some jurisdictions experiencing a higher share of severe crashes relative to their share of all crashes (Penn Hills, West Mifflin, City of McKeesport, North Versailles). The majority of these top ten municipalities also had a higher share of severe crashes relative to their share of county population.

Exhibit 2-12: Crash Distribution of Top Municipalities



Rail Analysis

Exhibit 2-14 shows the 15-year (2009-2023) trend of highway-rail crashes in Allegheny County based on data from the Federal Railroad Administration Office of Safety Analysis. From 2009 to 2017, highway-rail crashes increased, followed by a downward trend from 2020 to 2023. Seven crashes were fatal, and five of these involved a pedestrian.

Exhibit 2-15 shows the most common road user involved in highway-rail crashes was passenger vehicles.

It is important to note that this dataset focuses on crossing-related incidents and does not capture all train-pedestrian incidents occurring elsewhere along railroad rights-of-way, such as trespassing or incidents away from highway-rail crossings. These types of incidents have occurred in Allegheny County in recent years and represent an additional safety concern not fully reflected in the crossing-based data shown.

Exhibit 2-14: Highway-Rail Crashes in Allegheny County (2009-2023)

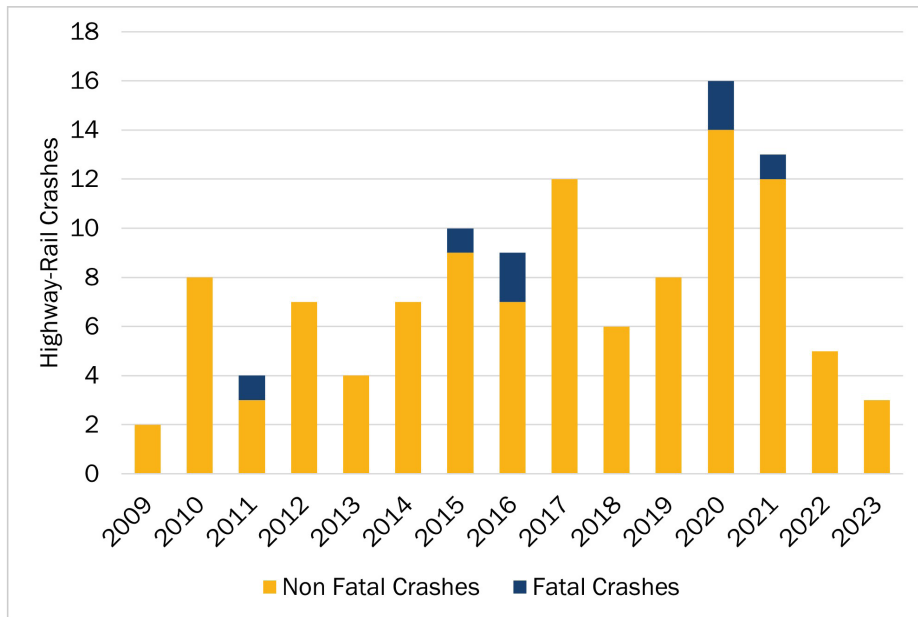


Exhibit 2-15: Users Involved in Highway-Rail Crossing Crashes (2009-2023)

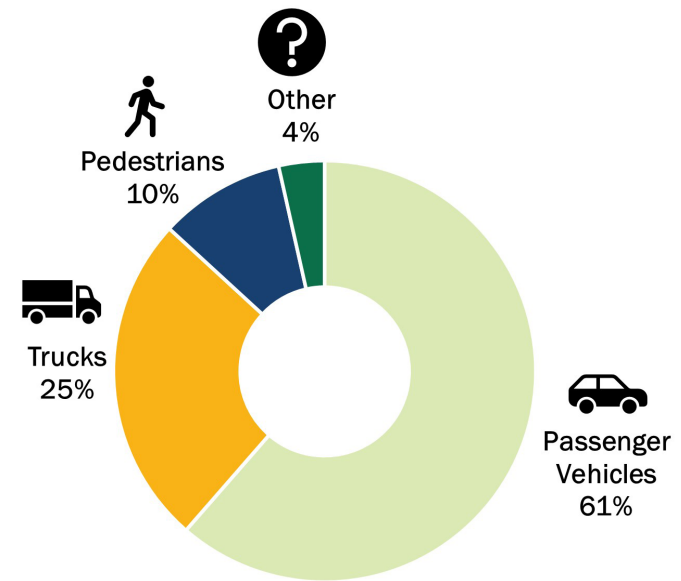
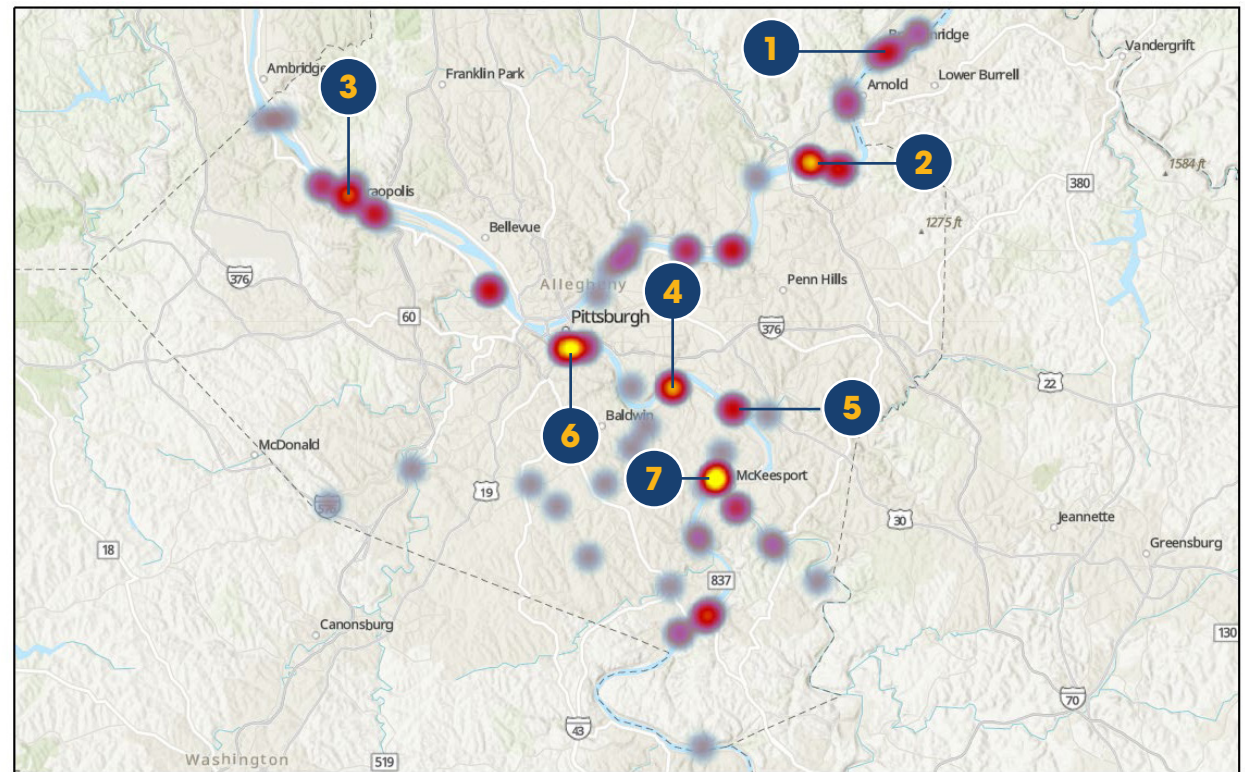


Exhibit 2-16 shows the location of highway-rail crashes that resulted in fatalities and injuries. The dataset does not distinguish between different severities of injuries. Specific locations included:

- 1 Cheswick, Tarentum, and Brackenridge area
- 2 The crossing of Penn Central Railroad at River Avenue in Aspinwall
- 3 Coraopolis
- 4 The crossings of Amity Street in Homestead
- 5 The crossing of the Pittsburgh and Lake Erie Railroad at 11th Street in Braddock
- 6 South Side near the Color Park and South Side Riverfront Park
- 7 The crossings of SR 837 and McClure St in Dravosburg

Exhibit 2-16: Locations of Highway-Rail Fatal and Injury Crashes

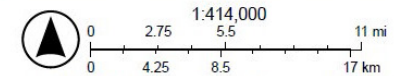


3/12/2025

Highway-Rail Crashes



World_Hillshade



Esri, NASA, NOAA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

Transit Analysis

National transportation safety data indicate that bus passengers experience a substantially lower risk of fatality per mile traveled than passenger vehicle occupants, with passenger vehicle death rates more than 60 times higher over the past decade¹. Despite this strong safety record, transit-related crashes remain an important consideration for Allegheny County, particularly given the county’s extensive public transit network and high levels of walking, biking, and transit activity.

Exhibit 2-17 shows the 15-year (2009-2023) trend in transit crashes (collisions involving a transit vehicle) obtained from the Federal Transit Administration National Transit Database (NTD). From 2015 onward, the number of collisions excluded those reported to the State Safety Oversight Agency (SSOA) which is responsible for overseeing rail fixed guideway public transportation systems that are not subject to oversight by the Federal Railroad Administration. The following more detailed charts only include data from 2014-2023 NTD Major Safety Events dataset.

Between 2009 and 2017, transit crashes experienced an upward trend. This was followed by a period of decline from 2017 to 2020 before rising again from 2020 to 2022. Data for 2023 indicates fewer crashes compared to 2022, suggesting a potential downward trend in transit crashes.

Between 2014 and 2023, there were 10 fatal transit crashes. Exhibit 2-18 shows the most common crash type that resulted in a fatality was a head-on collision with a bus. The data also shows that pedestrians were involved in 7% of all transit crashes between 2014 and 2023, while the most common crash type was a side impact (31%).

Exhibit 2-17: Transit Crashes in Allegheny County (2009-2023)

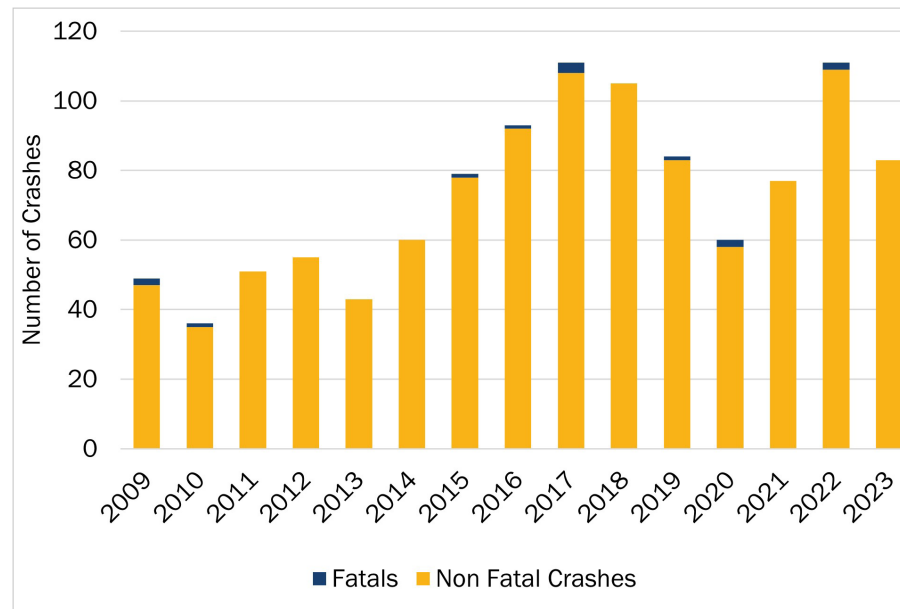
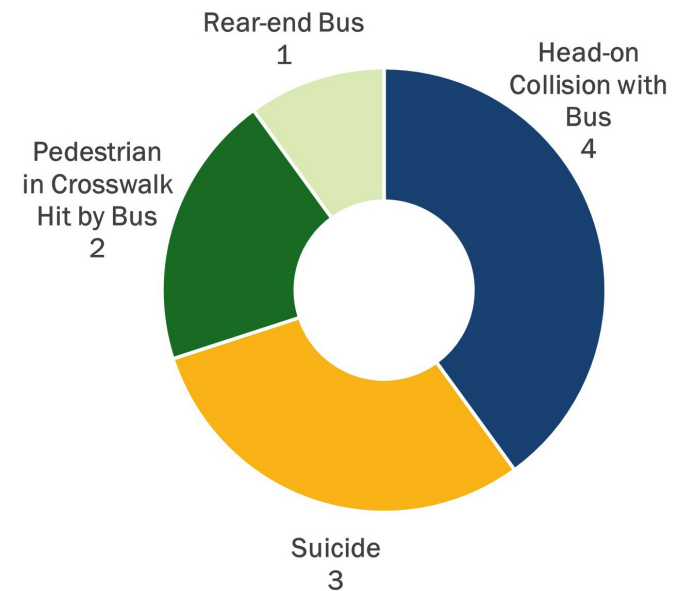


Exhibit 2-18: Fatal Transit Crashes (2014-2023)



1. <https://injuryfacts.nsc.org/home-and-community/safety-topics/deaths-by-transportation-mode/>

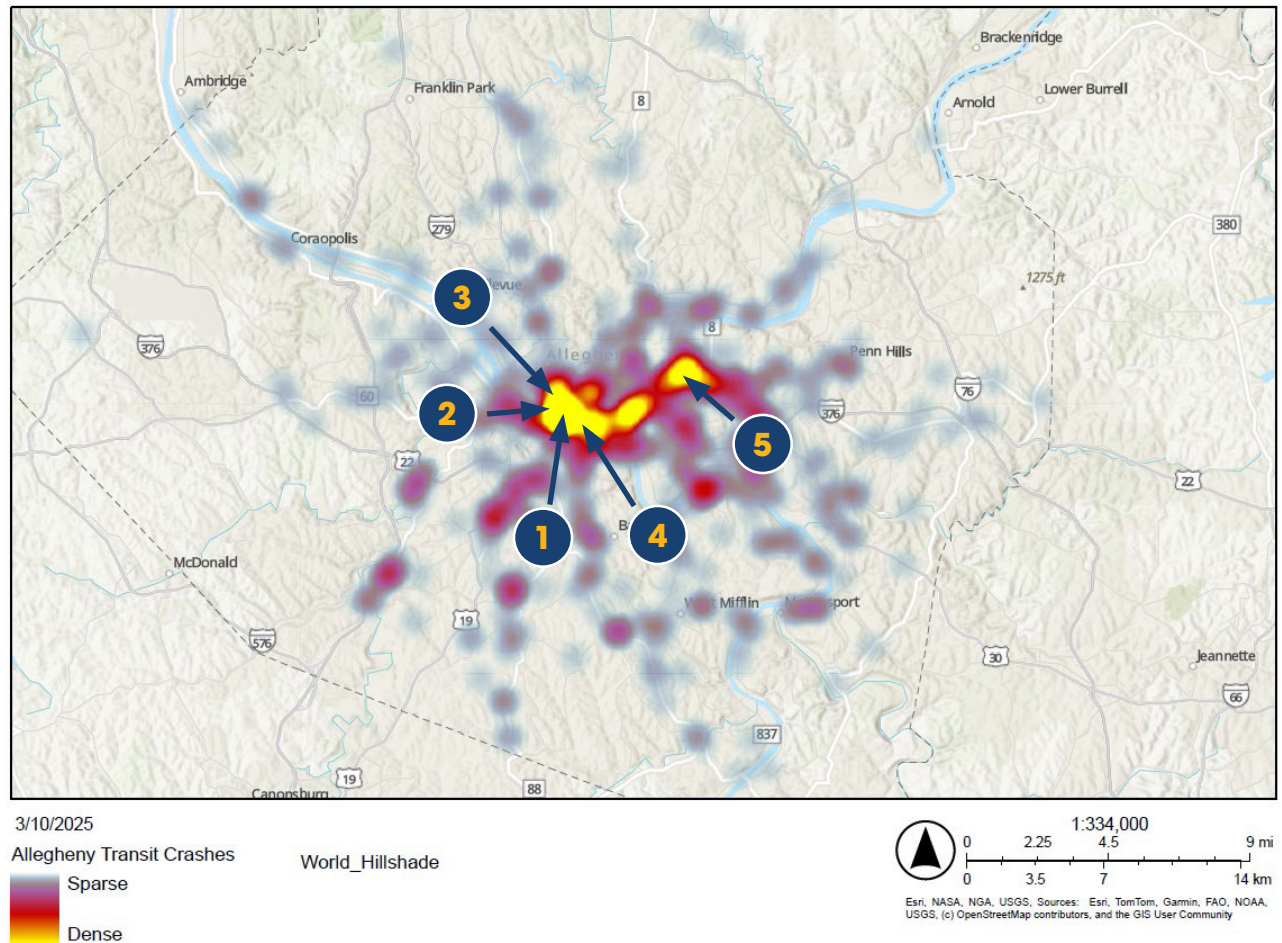
Exhibit 2-19 shows the locations of transit crashes. Transit-related crashes were most concentrated in downtown Pittsburgh, Oakland, and East Liberty, and along major transit corridors, reflecting areas of high transit activity and multimodal interaction. Specific intersections with the most transit crashes were:

- 1 6th Avenue and Centre Avenue in downtown Pittsburgh, **8 crashes**
- 2 Fort Duquesne Boulevard and 7th Street in downtown Pittsburgh, **6 crashes**
- 3 E General Robinson St and Sandusky Street in North Shore, **5 crashes**
- 4 5th Avenue and Moultrie Street in Uptown, **5 crashes**
- 5 S Negley Avenue and Centre Avenue in Shadyside/East Liberty/Friendship, **5 crashes**

Fatal incidents occurred at:

- Peebles Road and Parkway Road in McCandless Township
- McKnight Road and Arcadia Drive in McCandless Township
- McCoy Road and Neville Avenue in Kennedy Township
- Sixth Avenue and Ross Street in Pittsburgh
- Liberty Avenue and 7th Street in Pittsburgh
- Fifth Avenue and De Soto Street in Pittsburgh

Exhibit 2-19: Locations of Transit Crashes (2014-2023)



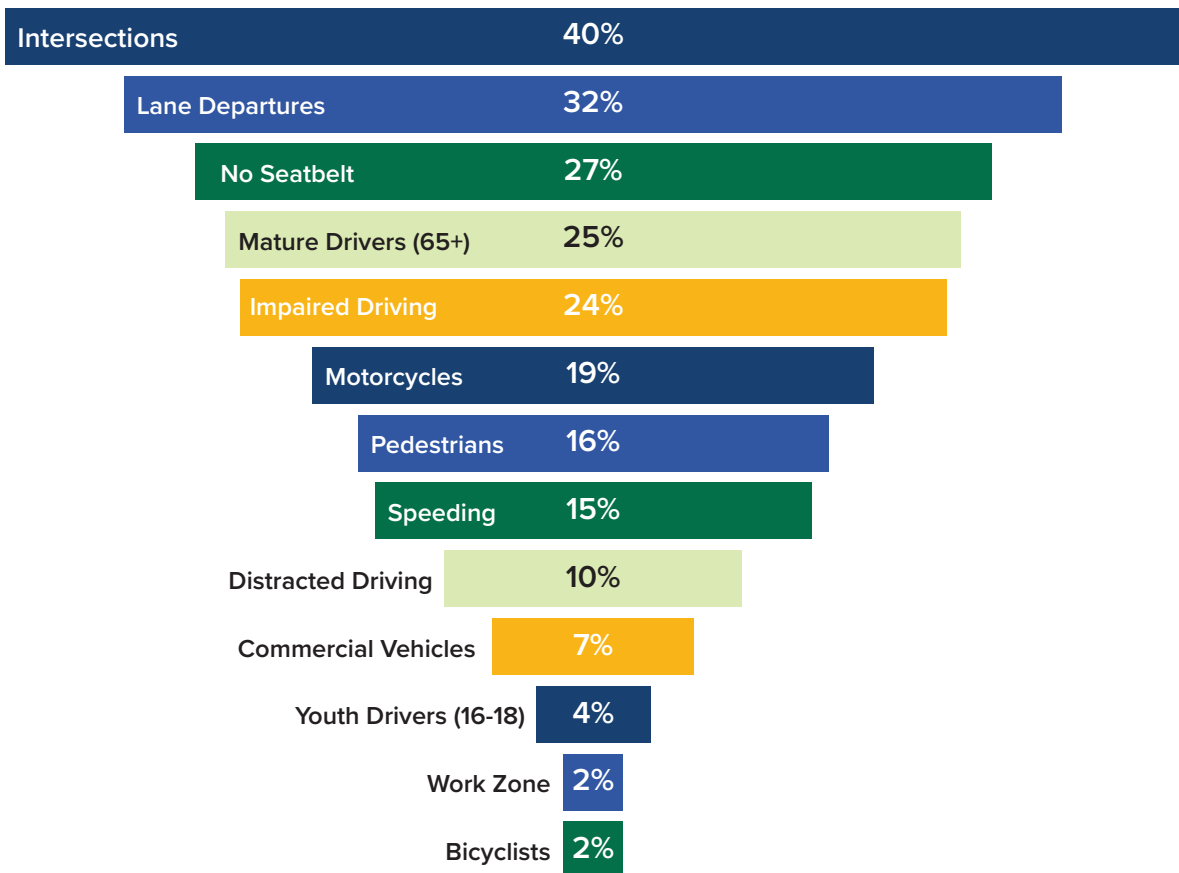
- Near Pittsburgh-McKeesport Boulevard and Braddock Avenue in East Pittsburgh
- Route 51 and Elliot Road in Jefferson Hills
- South Hills Village Station in Bethel Park
- South Hills Village Parking Garage in Bethel Park

Safety Emphasis Areas

A safety emphasis area is a prioritized focus within a safety plan that represents a crash type, behavior, and roadway user that is disproportionately associated with fatal and serious injury outcomes. Safety emphasis areas hold the greatest potential for reducing fatalities and serious injuries in transportation. Exhibit 2-20 shows safety emphasis areas for Allegheny County based on analysis of crash trends, roadway conditions, and behavioral risk factors.

Common emphasis areas include intersection safety, lane departures, impaired driving, speeding, and more. Addressing these areas allows transportation agencies to prioritize resources, implement evidence-based countermeasures, and align efforts with state and national safety plans such as the Strategic Highway Safety Plan.

Exhibit 2-20: Allegheny County Safety Emphasis Areas



Alignment with PennDOT's Strategic Highway Safety Plan



Pennsylvania
Department of Transportation

PennDOT's 2022 Strategic Highway Safety Plan (SHSP) identifies three statewide priority emphasis areas:

- Lane departures
- Impaired driving
- Pedestrian safety














Many of the additional safety focus areas included in the SHSP also align with the safety emphasis areas identified for Allegheny County, reinforcing consistency between state and county safety priorities.

Exhibit 2-21 compares the share of overall crashes to the share of fatal and serious injury crashes across the safety emphasis areas. Highlighted emphasis areas show where the share of fatal and serious injury crashes significantly exceeds their share of total crashes, indicating overrepresentation in severe crashes:

- Lane departures
- Seatbelt usage
- Impaired driving
- Motorcycles
- Pedestrians
- Speeding

All of these emphasis areas are addressed through the strategies and countermeasures presented throughout this plan. The following pages provided illustrative examples of two of the overrepresented emphasis areas, impaired driving and speeding, showing how behavior-based emphasis areas are examined using crash data, spatial patterns, and contextual information.

Exhibit 2-21: Safety Emphasis Areas Overrepresented in Fatal and Serious Injury Crashes.

Emphasis Area	% Overall Total Crashes	% Overall Fatal & Serious Injury Crashes
 Intersections	43%	40%
 Lane Departures	22%	32%
 Seatbelt Usage	10%	27%
 Mature Drivers (Age 65+)	24%	25%
 Impaired Driving	10%	24%
 Motorcycles	2%	19%
 Pedestrians	3%	16%
 Speeding	5%	15%
 Distracted Driving	14%	10%
 Commercial Vehicles	5%	7%
 Youth Drivers (Ages 16-18)	7%	4%
 Work Zone	<1%	2%
 Bicyclists	<1%	2%

SS4A Alignment and Application Readiness

This transportation safety analysis satisfies and strengthens the SS4A Action Plan requirements by documenting a rigorous, data-driven evaluation of fatal and serious injury crashes across Allegheny County. The use of five years of crash data, identification of safety emphasis areas, development of a countywide High-Injury Network and High-Risk Network, and focused analysis of vulnerable road users and underserved communities directly align with USDOT's Safe System Approach. Together, these elements establish a defensible baseline, clearly defined needs, and prioritized locations and strategies, positioning the Allegheny County Comprehensive Safety Action Plan to support competitive SS4A Implementation Grant applications and other federal safety funding opportunities.

Impaired Driving



Impaired driving is a factor in **24% of all serious and fatal injury crashes** in Allegheny County.



Over half of these fatal and serious injury crashes occur between **8:00 p.m. and 3:00 a.m.**, with the most occurring between 2:00 a.m. and 3:00 a.m.

The City of Pittsburgh had the most impaired crashes (2019-2023), with highest density along SR 28 near Millvale, E Carson Street (SR 837) through the South Side, and I-376 and I-279 near downtown.

Exhibit 2-22: Impaired Driving Crashes by Municipality (2019-2023)

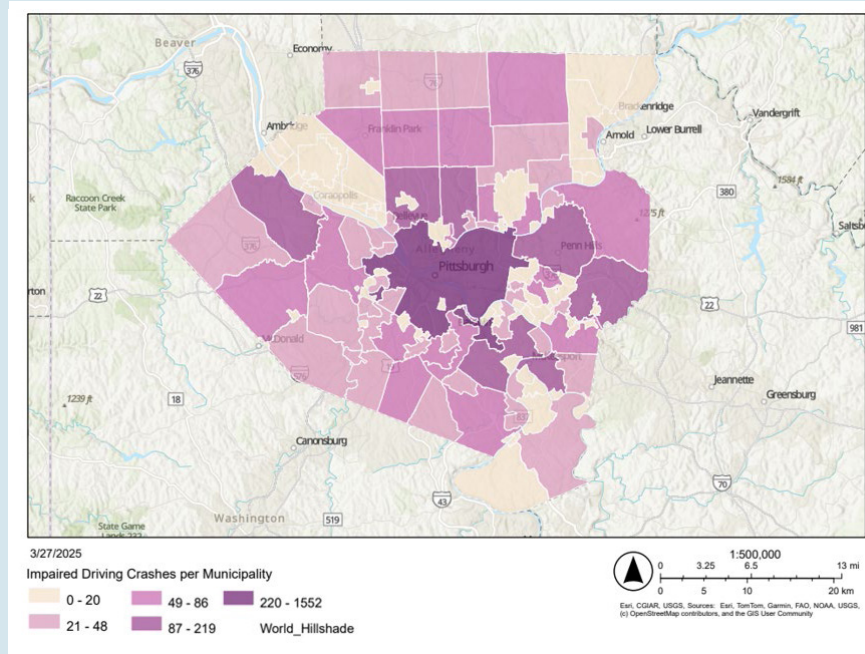
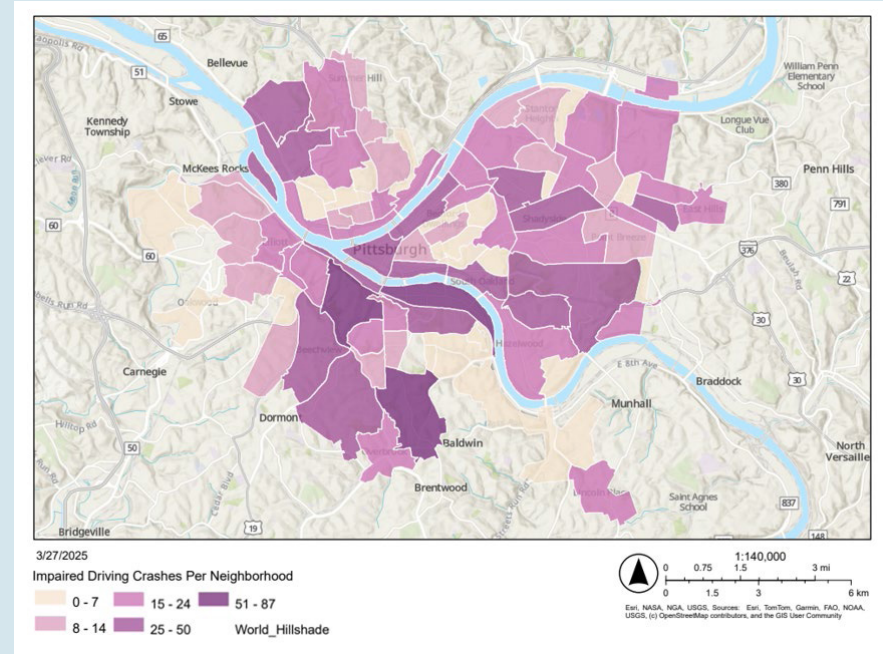


Exhibit 2-23: Impaired Driving Crashes in the City of Pittsburgh



Speed



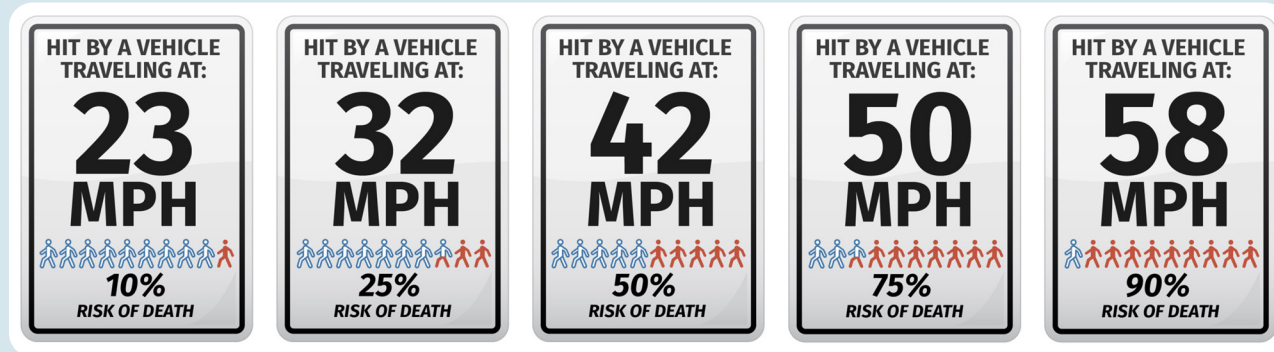
Speed is a factor in **15%** of fatal and serious injury crashes in Allegheny County.



Over half of these crashes occur on roads with posted speed limit of **35 mph or greater**.

A pedestrian's risk of death increases dramatically with vehicle speed—from a 10% chance at 23 mph to a **50% chance at 42 mph** (see Exhibit 2-24 from the USDOT).

Exhibit 2-24: Pedestrian Risk of Death by Vehicle Speed



Sources: Fatality Analysis Reporting System; Early Estimates of Motor Vehicle Traffic Fatalities and Fatality Rate by Sub-Categories in 2020, DOT HS 813 118, June 2021; AAA Foundation for Traffic Safety, Impact Speed and a Pedestrian's Risk of Severe Injury or Death; National Traffic Speeds Survey III: 2015, DOT HS 812 485, March 2018.

Exhibit 2-25: Fatal and Serious Injury Crashes by Posted Speed Limit (2019-2023)

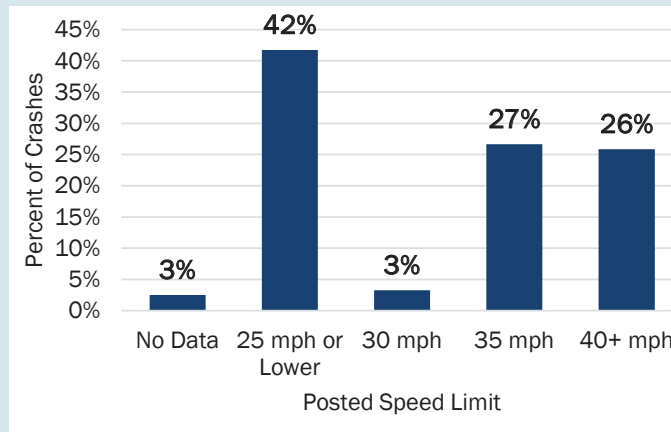
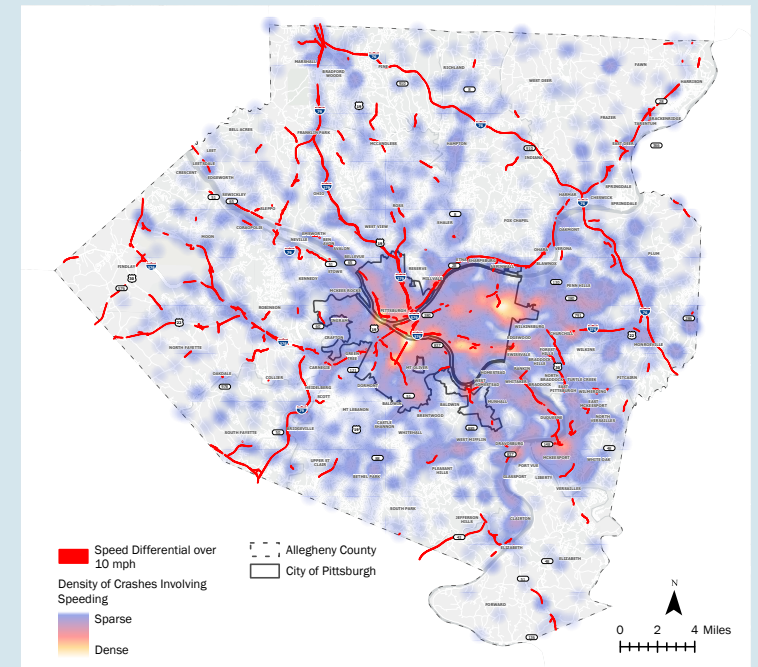


Exhibit 2-26 shows speeding-related crashes cluster in areas where drivers routinely travel **well above posted speeds**, particularly along major corridors and within the urban core.

Exhibit 2-26: Heat Map of Speeding-Related Crashes and the Difference Between Free-Flow Speed and Posted Speed Limits



Speed Data Source: Replica 2023 Annual Speed Data

High-Injury Network

A High-Injury Network (HIN) identifies locations with the highest concentrations of fatal and serious injury crashes. These locations account for a disproportionate share of severe crash outcomes on the roadway system and are prioritized for safety improvements and interventions. The resulting HIN highlights specific roadway segments and intersections where safety investments have the greatest potential to reduce fatalities and serious injuries. This network serves as a foundation for targeted improvements and strategic allocation of resources to improve roadway safety. Exhibit 2-28 compares each roadway owner's share of HIN road miles, severe crashes on the HIN, and overall roadway mileage across Allegheny County.

Methodology

The Allegheny County HIN was developed using a methodology established in coordination with the Steering Committee. A combined score was calculated for each roadway segment and intersection using the following three metrics:

- Equivalent Property Damage Only (EPDO) Crashes**
 EPDO applies severity-based weights to all crashes based on estimated crash costs, allowing both crash frequency and severity to be reflected in a single measure. EPDO values for roadway segments were normalized by length to allow comparison across locations.
- Fatal and Serious Injury Crash Rate**
 Normalizes fatal and serious injury crashes based on daily traffic volumes along roadway segments or entering intersections.
- Vulnerable Road User Crash Rate**
 Normalizes crashes involving pedestrians or bicyclists based on daily traffic volumes along roadway segments or entering intersections.

Exhibit 2-27: Crash Costs and Weights

Injury Severity	Crash Cost	EPDO Weight
Fatal Injury (K)	\$14,877,119	1,035
Suspected Serious Injury (A)	\$854,840	59
Suspected Minor Injury (B)	\$276,831	19
Possible Injury (C)	\$153,909	11
No Injury (O)	\$14,374	1

Exhibit 2-28: Breakdown of High-Injury Network by Road Owner

Road Owner	Share of HIN Road Miles	Share of HIN Fatal and Serious Injury Crashes	Share of Road Miles (Entire County)
PennDOT	54%	66%	19%
City of Pittsburgh	19%	18%	14%
Allegheny County	14%	8%	5%
Other Municipalities	13%	8%	61%
Pennsylvania Turnpike	-	-	1%



The High-Injury Network makes up only 9% of road miles in Allegheny County, but accounts for 79% of all fatal and serious injury crashes.



On these roads, fatal or serious injury crashes are 36 times more likely to occur.



39% of all fatal and serious injury crashes on the Allegheny County HIN are in the City of Pittsburgh.



54% of the HIN road miles are owned by PennDOT.

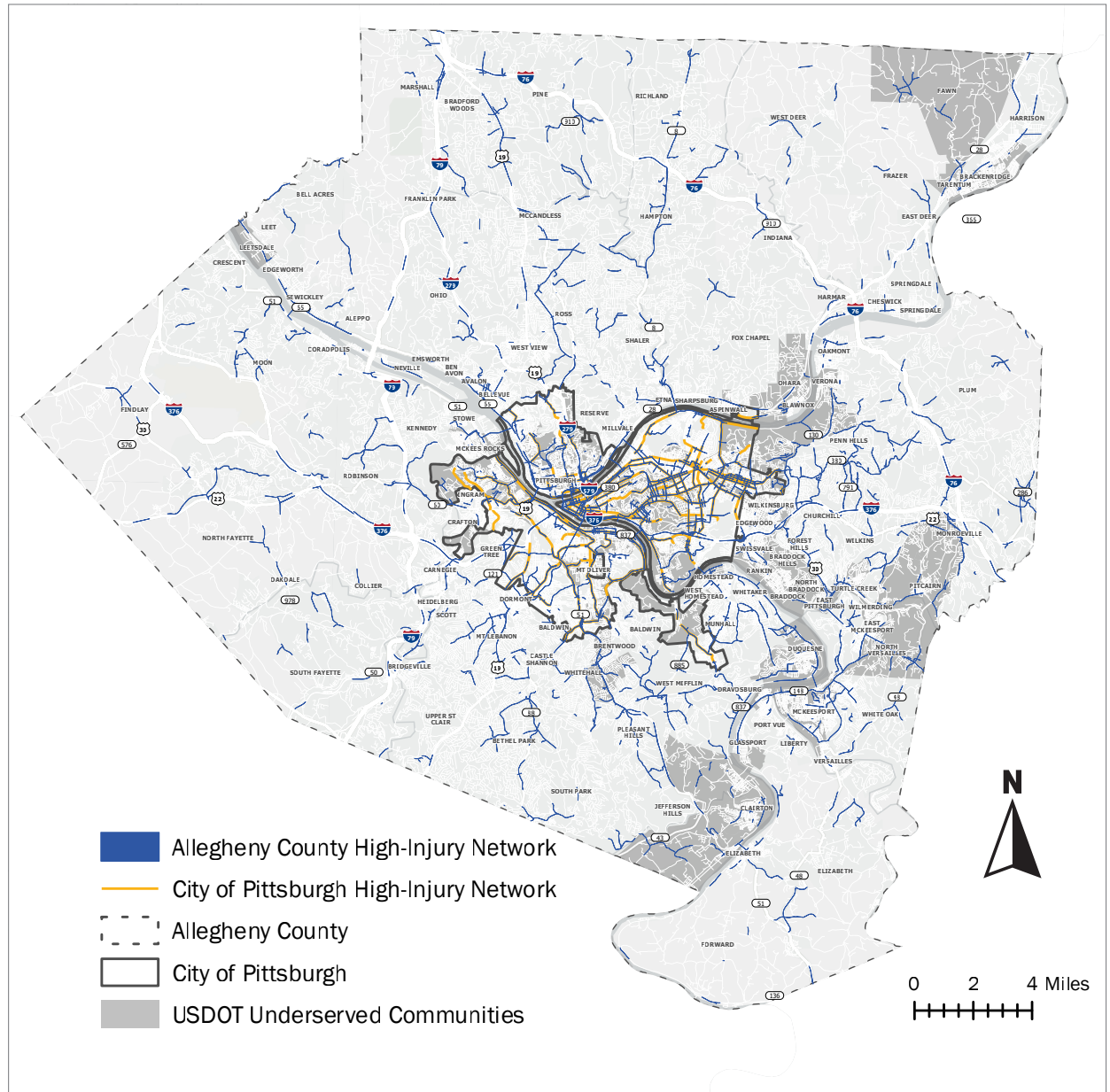
Each metric was converted to a score by percentile ranking all roadway segments and intersections relative to others countywide. The three percentile scores were then summed to produce a combined score. The greatest combined score is 3.0, indicating the highest priority intersection or segment. This approach ensures that both crash frequency and severity are reflected in the analysis, with additional emphasis placed on the most severe outcomes.

The Allegheny County HIN, shown in Exhibit 2-29, represents roadway segments in the top 10th percentile of the combined score, as well as segments that intersect with an intersection ranked in the top 10th percentile. The City of Pittsburgh also developed a high-injury network through its Vision Zero strategy, which is shown on the same map. Many roadway segments overlap between the City and County HIN's, reinforcing consistency across planning efforts.

View the High-Injury Network Web Map

<https://bit.ly/Hi-Network-Map>

Exhibit 2-29: Allegheny County High-Injury Network



High-Injury Intersections and Segments

This section highlights locations on the Allegheny County High-Injury Network with the highest combined scores. To reduce the influence of random or isolated crash occurrences, additional screening criteria were applied. Locations included in the following tables experienced at least ten total crashes and at least two fatal or serious injury (FSI) crashes during the five-year analysis period.

The tables present high-priority intersections and roadway segments by ownership to support implementation across multiple jurisdictions:

- Exhibit 2-30 shows the top 25 locations countywide
- Exhibit 2-31 shows the top 20 locations on PennDOT-owned roads
- Exhibit 2-32 shows the top 20 locations on Allegheny County-owned roads
- Exhibit 2-33 shows the top 20 locations on City of Pittsburgh-owned roads (not including state routes)

The tables also indicate whether each location is within an underserved community, defined in this plan using USDOT's Areas of Persistent Poverty designation.

These areas are Census tracts with a poverty rate of at least 20 percent based on the 2014–2018 American Community Survey 5-year estimates.



SS4A Alignment

The High-Injury Network directly supports the SS4A program by providing a data-driven foundation to identify and prioritize locations with the greatest risk of fatal and serious injury crashes. By focusing investments on these priority corridors and intersections, the HIN advances SS4A's core objectives of targeting severe crash outcomes, supporting systemic safety improvements, and guiding strategic use of federal, state, and local funding to achieve measurable safety results.

Exhibit 2-30: Countywide Top 25 HIN Locations

Type	Intersection Major Road or Segment	Intersection Minor Road or Segment Bounds	Road Ownership	Municipality	Underserved Communities	Total Crashes	FSI Crashes	VRU Crashes	Combined Score
Signalized Int.	Fifth Av	Morewood Av	City	Pittsburgh	Yes	43	3	10	2.952
Signalized Int.	Butler St (SR 2122)	Stanton Av	State	Pittsburgh	No	27	2	9	2.947
Signalized Int.	Frankstown Av	N Homewood Av	City	Pittsburgh	Yes	18	4	2	2.941
Signalized Int.	Forbes Av	S Dallas Av	City	Pittsburgh	No	34	2	5	2.934
Unsignalized Int.	Suismon St	Cedar Av	City	Pittsburgh	Yes	10	2	1	2.919
Unsignalized Int.	Frankstown Av	Sterrett St	City	Pittsburgh	Yes	41	2	1	2.913
Signalized Int.	East St	I-279 Ramps	State	Pittsburgh	Yes	31	2	1	2.910
Signalized Int.	Forward Av	Shady Av	City	Pittsburgh	No	15	2	3	2.910
Signalized Int.	Penn Av (SR 8)	Linden Av	State	Pittsburgh	Yes	26	2	4	2.904
Signalized Int.	Centre Av	Morewood Av	City	Pittsburgh	Yes	10	2	4	2.895
Segment	Verona Rd (SR 2058)	Mt Carmel Rd To Lincoln Rd	State	Penn Hills	Yes	20	2	2	2.895
Signalized Int.	Fifth Av (SR 8)	Frankstown Av	State	Pittsburgh	Yes	69	7	3	2.893
Signalized Int.	S Braddock Av	Church St	Local	Swissvale	Yes	10	2	7	2.891
Signalized Int.	Kennywood Bl (SR 837)	Glenn St	State	West Mifflin	No	44	5	2	2.889
Signalized Int.	Brownsville Rd	Becks Run Rd	City & County Int	Pittsburgh	Yes	15	2	3	2.888
Signalized Int.	Fifth Av	S Negley Av	City	Pittsburgh	Yes	62	3	3	2.886
Signalized Int.	Frankstown Rd (SR 380)	Robinson Bl (SR 2085)	State	Penn Hills	Yes	47	3	2	2.884
Signalized Int.	W Liberty Av (US 19)	Wenzell Av	State	Pittsburgh	No	31	5	2	2.883
Signalized Int.	Fifth Av	S Highland Av	City	Pittsburgh	Yes	20	2	3	2.882
Signalized Int.	Oakwood St	Bennett St (SR 380)	State	Pittsburgh	Yes	29	3	1	2.881
Signalized Int.	Frankstown Av	Lincoln Av	City	Pittsburgh	Yes	19	2	1	2.881
Signalized Int.	Ardmore Bl (US 30)	Avenue B	State	Forest Hills	No	20	2	1	2.876
Segment	E Carson St (SR 837)	S 7th St To S 17th St	State	Pittsburgh	Yes	22	3	6	2.866
Signalized Int.	Madison Av	E Ohio St (SR 4084)	State	Pittsburgh	Yes	38	2	3	2.863
Signalized Int.	Baum Bl (SR 380)	Liberty Av	State	Pittsburgh	Yes	21	2	4	2.860

Exhibit 2-31: Top 20 HIN Locations on State Routes

Type	Intersection Major Road or Segment	Intersection Minor Road or Segment Bounds	Municipality	Underserved Communities	Total Crashes	FSI Crashes	VRU Crashes	Combined Score
Signalized Int.	Butler St (SR 2122)	Stanton Av	Pittsburgh	No	27	2	9	2.947
Signalized Int.	East St	I-279 Ramps	Pittsburgh	Yes	31	2	1	2.910
Segment	Verona Rd (SR 2058)	Mt Carmel Rd To Lincoln Rd	Penn Hills	Yes	20	2	2	2.895
Signalized Int.	Penn Av (SR 8)	Linden Av	Pittsburgh	Yes	26	2	4	2.895
Signalized Int.	Fifth Av (SR 8)	Frankstown Av	Pittsburgh	Yes	69	7	3	2.893
Signalized Int.	Kennywood Bl (SR 837)	Glenn St	West Mifflin	No	44	5	2	2.889
Signalized Int.	Frankstown Rd (SR 380)	Robinson Bl (SR 2058)	Penn Hills	Yes	47	3	2	2.884
Signalized Int.	W Liberty Av (US 19)	Wenzell Av	Pittsburgh	No	31	5	2	2.883
Signalized Int.	Oakwood St	Bennett St (SR 380)	Pittsburgh	Yes	29	3	1	2.881
Signalized Int.	Ardmore Bl (US 30)	Avenue B	Forest Hills	No	20	2	1	2.876
Segment	E Carson St (SR 837)	S 7th St To S 17th St	Pittsburgh	Yes	22	3	6	2.866
Signalized Int.	Madison Av	E Ohio St (SR 4084)	Pittsburgh	Yes	38	2	3	2.863
Signalized Int.	Baum Bl (SR 380)	Liberty Av	Pittsburgh	Yes	21	2	4	2.860
Unsignalized Int.	Hulton Rd (SR 2082)	3rd St	Oakmont	No	40	3	4	2.856
Signalized Int.	Duquesne Bl (SR 837)	Hoffman Bl	West Mifflin	Yes	52	2	1	2.854
Signalized Int.	W Carson St (SR 51)	Corliss St	Pittsburgh	Yes	51	3	1	2.847
Signalized Int.	Fifth Av	Birmingham Brg (SR 2085)	Pittsburgh	Yes	20	3	1	2.847
Signalized Int.	Clairton Bl (SR 51)	Grace St	Baldwin	No	18	2	3	2.844
Signalized Int.	Penn Av (SR 8)	Dallas Av (SR 2108)	Pittsburgh	Yes	56	2	2	2.842
Segment	W Carson St (SR 837)	Fort Pitt Br To West End Br	Pittsburgh	No	27	2	1	2.841

Exhibit 2-32: Top 20 HIN Locations on County Roads

Type	Intersection Major Road or Segment	Intersection Minor Road or Segment Bounds	Municipality	Underserved Communities	Total Crashes	FSI Crashes	VRU Crashes	Combined Score
Signalized Int.	Brownsville Rd	Becks Run Rd*	Pittsburgh	Yes	15	2	3	2.888
Signalized Int.	2nd Av	Armstrong Tunnel*	Pittsburgh	Yes	24	2	1	2.844
Signalized Int.	Eden Park Bl*	O'Neil Bl*	McKeesport	Yes	28	2	1	2.836
Signalized Int.	Browns Hill Rd*	Imogene Rd	Pittsburgh	Yes	18	2	3	2.795
Signalized Int.	Washington Pk (SR 50)	Vanadium Rd*	Collier	No	27	2	1	2.779
Signalized Int.	Library Rd (SR 88)	Bethel Church Rd*	Bethel Park	No	12	2	1	2.766
Segment	Brandt School Rd*	Wexford Bayne Rd (SR 910) To Morrison Dr	Franklin Park	No	13	2	1	2.658
Segment	Greensprings Av*	Ravine St To Commonwealth Av (SR 2044)	West Mifflin	No	11	2	1	2.648
Signalized Int.	Island Av (SR 51)	McCoy Rd*	McKees Rocks	Yes	14	2	0	1.952
Signalized Int.	William Flinn Hwy (SR 8)	Duncan Av*	Hampton	No	16	3	0	1.946
Signalized Int.	Saltsburg Rd (SR 380)	Universal Rd*	Penn Hills	No	27	2	0	1.941
Unsignalized Int.	Universal Rd*	Collins Dr	Penn Hills	No	8	2	0	1.938
Segment	Greensburg Pk*	Hyer Av To Greensburg Av (US 30)	North Versailles	No	6	2	0	1.906
Segment	5th Av*	Greensburg Av (US 30) To Penn Av	East McKeesport	Yes	5	2	0	1.904
Segment	Unity Trestle Rd*	Leechburg Rd (SR 2086) To Saltsburg Rd (SR 380)	Plum	No	16	3	0	1.885
Signalized Int.	Babcock Bl*	Rochester Rd (SR 4011)	Ross	No	8	2	0	1.880
Segment	Homeville Rd*	Homestead Duquesne Rd* To Commonwealth Av (SR 2044)	West Mifflin	Yes	11	3	0	1.879
Segment	Brownsville Rd*	Baptist Rd (SR 3009) To Streets Run Rd (SR 2046)	Whitehall	Yes	25	3	0	1.869
Segment	Becks Run Rd*	Wagner St* To Bajo St	Pittsburgh	Yes	18	3	0	1.856
Segment	McKees Rock Rd*	Heckel Rd* To Lorish Rd*	Kennedy	No	23	5	0	1.840

*indicates Allegheny County-owned road

Exhibit 2-33: Top 20 HIN Locations on City of Pittsburgh Roads

Type	Intersection Major Road or Segment	Intersection Minor Road or Segment Bounds	Underserved Communities	Total Crashes	FSI Crashes	VRU Crashes	Combined Score	On City's HIN
Signalized Int.	Fifth Av	Morewood Av	Yes	43	3	10	2.952	Yes
Signalized Int.	Frankstown Av	N Homewood Av	Yes	18	4	2	2.941	Yes
Signalized Int.	Forbes Av	S Dallas Av	No	34	2	5	2.934	Yes
Unsignalized Int.	Suismon St	Cedar Av	Yes	10	2	1	2.919	No
Unsignalized Int.	Frankstown Av	Sterrett St	Yes	41	2	1	2.913	Yes
Signalized Int.	Forward Av	Shady Av	No	15	2	3	2.910	Yes
Signalized Int.	Centre Av	Morewood Av	Yes	10	2	3	2.895	Yes
Signalized Int.	Brownsville Rd	Becks Run Rd	Yes	15	2	4	2.888	Yes
Signalized Int.	Fifth Av	S Negley Av	Yes	62	3	3	2.886	Yes
Signalized Int.	Fifth Av	S Highland Av	Yes	20	2	2	2.882	Yes
Signalized Int.	Frankstown Av	Lincoln Av	Yes	19	2	3	2.881	Yes
Signalized Int.	Chestnut St	Progress St	Yes	10	2	1	2.845	Yes
Signalized Int.	Browns Hill Rd	Imogene Rd	Yes	18	2	3	2.795	Yes
Segment	Brownsville Rd	Quincy Av To W Agnew Av	Yes	21	2	3	2.706	Yes
Segment	Hamilton Av	East Liberty Bl To Oakwood St	Yes	17	3	1	2.672	Yes
Unsignalized Int.	Hamilton Av	Oakwood St	Yes	10	2	0	1.977	Yes
Signalized Int.	Liberty Av	16th St	Yes	36	3	0	1.971	Yes
Unsignalized Int.	Penn Av	27th St	Yes	13	2	0	1.958	Yes
Segment	Beaver Av	Island Av To Pennsylvania Ave	No	13	2	0	1.950	No
Signalized Int.	Wightman St	Hobart St	Yes	11	2	0	1.930	Yes

High-Injury Vulnerable Road User Locations

Exhibit 2-34 lists the top 25 vulnerable road user crash locations based on crash rate. The VRU ranking is a percentile ranking. To reduce the influence of random or isolated crash occurrences, additional screening criteria were applied. Locations included in the following table experienced at least five total crashes, at least two fatal or serious injury crashes, and at least two vulnerable road user crashes during the five-year analysis period.

Exhibit 2-34: Top 25 Vulnerable Road User Locations on the HIN

Type	Intersection Major Road or Segment	Intersection Minor Road or Segment Bounds	Ownership	Municipality	Underserved Communities	Total Crashes	FSI Crashes	VRU Crashes	VRU Ranking
Signalized Int.	Butler St (SR 2122)	Stanton Av	State	Pittsburgh	No	27	2	9	0.984
Signalized Int.	Fifth Av	Morewood Av	City	Pittsburgh	Yes	43	3	10	0.983
Signalized Int.	Forbes Av	S Dallas Av	City	Pittsburgh	No	34	2	5	0.980
Signalized Int.	Lincoln Av	S Starr Av (SR 4012)	State	Bellevue	No	8	2	5	0.980
Segment	Baum Bl (SR 380)	Woodworth St To Roup Av	State	Pittsburgh	Yes	12	2	4	0.976
Signalized Int.	S Braddock Av	Church St	Local	Swissvale	Yes	10	2	7	0.976
Signalized Int.	E Carson St (SR 837)	17th St	State	Pittsburgh	Yes	9	2	4	0.973
Segment	E Carson St (SR 837)	7th St To 17th St	State	Pittsburgh	Yes	22	3	6	0.971
Signalized Int.	Frankstown Av	N Homewood Av	City	Pittsburgh	Yes	18	4	2	0.971
Signalized Int.	Centre Av	Morewood Av	City	Pittsburgh	Yes	10	2	4	0.970
Signalized Int.	Forward Av	Shady Av	City	Pittsburgh	No	15	2	3	0.969
Segment	Verona Rd (SR 2058)	Mt Carmel Rd To Lincoln Rd	State	Penn Hills	Yes	20	2	2	0.969
Signalized Int.	Penn Av	S Highland Av	City	Pittsburgh	No	8	2	4	0.964
Segment	Rodi Rd (SR 791)	Morrow Dr To Jefferson Rd	State	Penn Hills	No	16	2	2	0.961
Segment	Brownsville Rd	Agnew Av To Quincy Av	City	Pittsburgh	Yes	21	2	3	0.961
Signalized Int.	Brownsville Rd	Becks Run Rd	City & County Int	Pittsburgh	Yes	15	2	3	0.952
Signalized Int.	Penn Av (SR 8)	Linden Av	State	Pittsburgh	Yes	26	2	4	0.951
Signalized Int.	E Carson St (SR 837)	12th St	State	Pittsburgh	Yes	8	2	2	0.950
Signalized Int.	Fifth Av	S Highland Av	City	Pittsburgh	Yes	20	2	3	0.949
Signalized Int.	Baum Bl (SR 380)	Liberty Av	State	Pittsburgh	Yes	21	2	4	0.948
Segment	Lincoln Hw (US 30)	3rd St To Broad St (SR 2031)	State	North Versailles	Yes	13	3	2	0.948
Signalized Int.	Fifth Av	S Negley Av	City	Pittsburgh	Yes	62	3	3	0.938
Signalized Int.	Madison Av	E Ohio St	State	Pittsburgh	Yes	38	2	3	0.937
Unsignalized Int.	Hulton Rd	3rd St	State	Oakmont	No	40	3	4	0.931
Signalized Int.	Frankstown Rd	Robinson Bl	State	Penn Hills	Yes	47	3	2	0.930

High-Risk Network

Exhibit 2-35: Allegheny County High-Risk Network

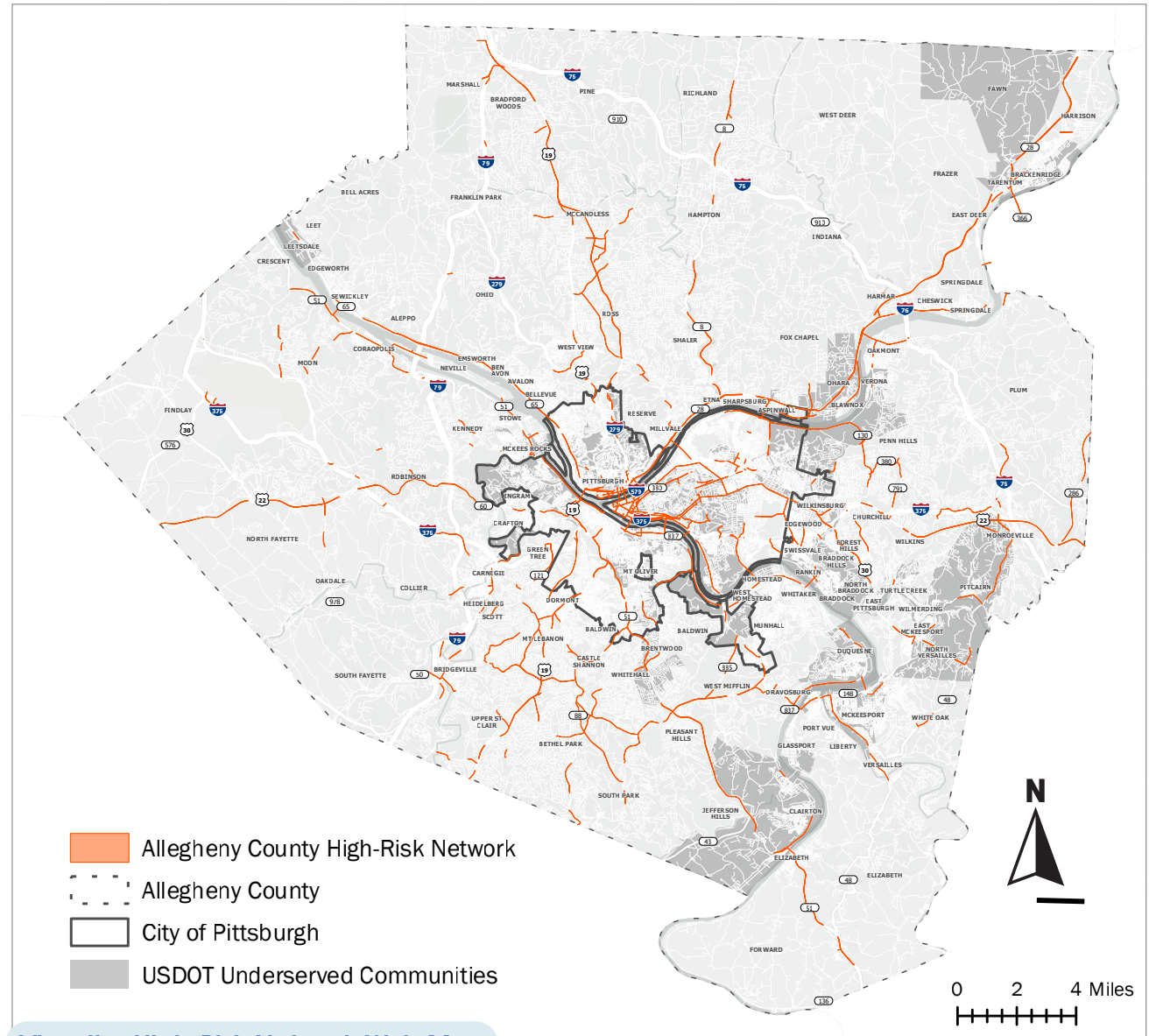
The High-Risk Network (HRN) identifies locations that are more at risk of severe crashes due to roadway attributes, such as traffic volumes, road geometry, location, and other factors, regardless of whether or not a crash has taken place at that location in the past.

This proactive approach identifies locations with inherent risk factors, even if they have experienced few or no severe crashes to date. Exhibit 2-36 shows the attributes considered in determining the HRN.

Exhibit 2-36: High-Risk Network Attributes

Intersection HRN Characteristics	Segment HRN Characteristics
<ul style="list-style-type: none"> Traffic Volume VRU Activity Transit Stops High-foot-traffic Zones (schools, grocery stores, parks, healthcare facilities, etc.) Rail Crossings Intersection Approach Legs Traffic Control 	<ul style="list-style-type: none"> Traffic Volume VRU Activity Transit Stops High-foot-traffic Zones (schools, grocery stores, parks, healthcare facilities, etc.) Functional Class Number of Through Lanes On-Street Parking

 The High-Risk Network makes up **9%** of road miles in Allegheny County, but accounts for over **19%** of all fatal and serious injury crashes.



[View the High-Risk Network Web Map](https://bit.ly/HI-Network-Map)
<https://bit.ly/HI-Network-Map>

Community Impact

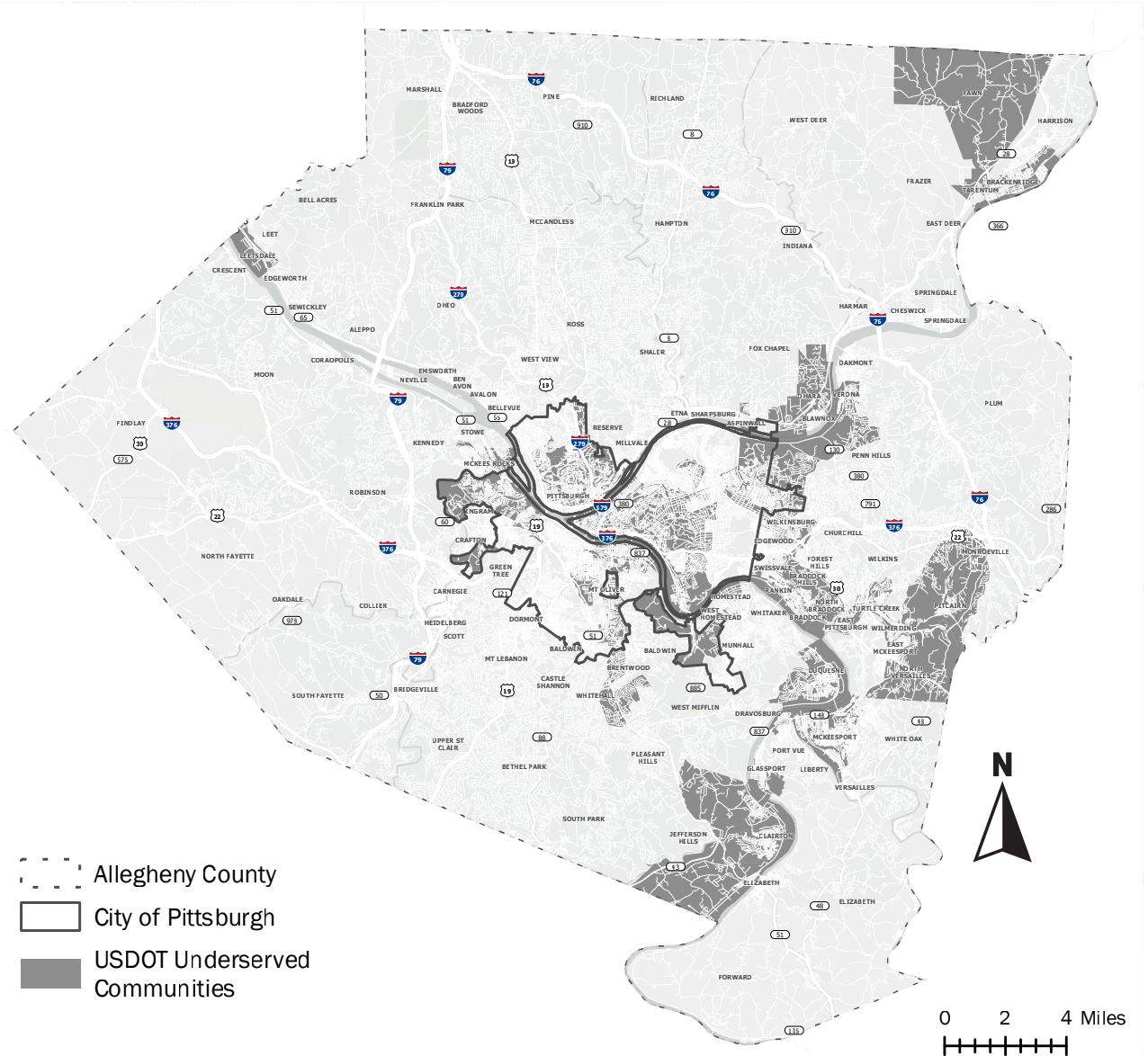
Transportation safety has a profound impact on communities, affecting not only individual well-being but also broader social and economic outcomes.

For the purposes of this plan, underserved communities are defined using USDOT's designation of Areas of Persistent Poverty, which are Census Tracts with a poverty rate of at least 20 percent based on the 2014–2018 American Community Survey 5-year estimates.

Communities facing persistent poverty often experience compounding challenges, including aging or inadequate transportation infrastructure, limited access to safe and reliable travel options, and fewer resources for safety education and enforcement. These conditions can increase exposure to traffic hazards and contribute to disparities in traffic safety outcomes.

Exhibit 2-37 shows the location of underserved communities in Allegheny County.

Exhibit 2-37: Underserved Communities



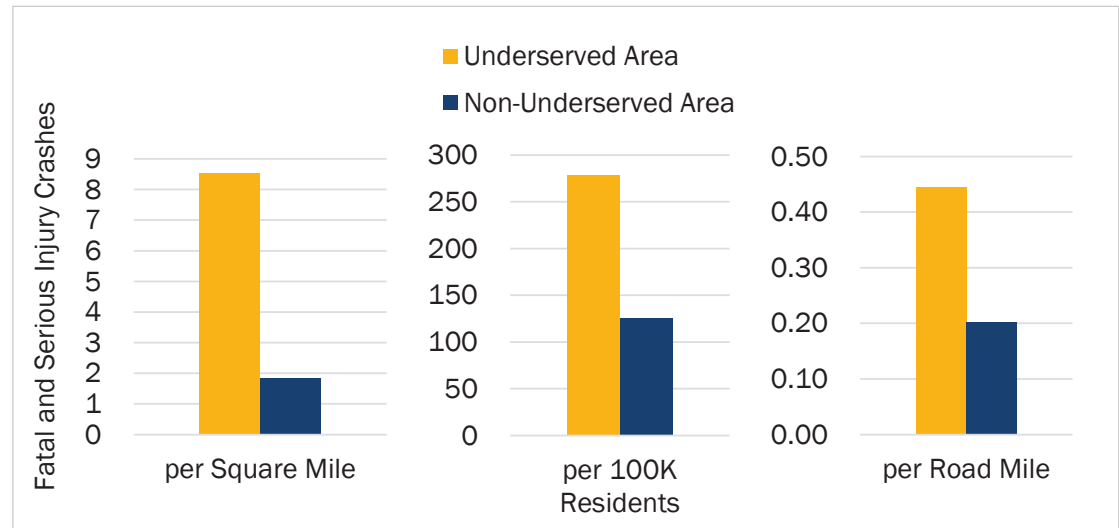
In Allegheny County, 123 of the 394 Census Tracts are designated as Areas of Persistent Poverty. Collectively, these tracts account for approximately 14% of the county’s land area, 26% of the population, and 26% of roadway mileage. Despite representing a smaller share of the county overall, these areas experience a disproportionately high share of severe crashes. Exhibit 2-38 shows that underserved areas account for 43% of fatal and serious injury crashes countywide.

Exhibit 2-39 further illustrates that underserved communities in Allegheny County bear a disproportionate burden of traffic-related fatalities and serious injuries, underscoring the importance of prioritizing safety investments and strategies that address the needs of communities with the greatest risk.

Exhibit 2-38: Comparison of Underserved and Non-Underserved Areas (2019-2023)

	Underserved Area	Non-Underserved Area	County Total
Area (sq. mi.)	105 (14%)	640 (86%)	745
Population	320,450 (26%)	930,120 (74%)	1,250,580
Total Road Miles	2,011 (26%)	5,802 (74%)	7,813
Fatal and Serious Injury Crashes	894 (43%)	1,168 (57%)	2,096
per square mile	8.53	1.82	2.81
per 100,000 residents	279	126	168
per road mile	0.44	0.20	0.27
Vulnerable Road User Crashes	1,066 (56%)	825 (44%)	1,891
per square mile	10.2	1.3	2.5
per 100,000 residents	333	87	151
per road mile	0.53	0.14	0.24
Share of High-Injury Network	43%	57%	

Exhibit 2-39: Fatal and Serious Injury Crashes Normalized by Land Area, Population, and Road Miles (2019-2023)



Related Safety Plans and Initiatives

Transportation safety planning in Allegheny County builds on a strong foundation of statewide, regional, county, and municipal initiatives aimed at reducing traffic fatalities and serious injuries. These ongoing efforts provide important context for the Comprehensive Safety Action Plan and help align priorities across agencies.



Pennsylvania
Department of Transportation

PennDOT

- **Strategic Highway Safety Plan (2022)**
The SHSP is a data-driven, multi-agency blueprint aimed at reducing traffic fatalities and serious injuries across all public roads in Pennsylvania. It identifies priority emphasis areas (lane departures, impaired driving, pedestrian safety) plus 15 additional focus areas each with targeted strategies and measurable performance goals aligned with federal safety metrics.
- **Highway Safety Improvement Program (HSIP)**
The federal HSIP provides funding for safety projects with a purpose of achieving a significant reduction in traffic fatalities and serious injuries. Pennsylvania receives over \$100 million in HSIP funding per year. This funding is distributed to planning regions for infrastructure-related safety improvements. Project selection is based on a Highway Safety Manual network screening or systematically as proven low-cost countermeasures.
- **Vulnerable Road User Safety Assessment Report (2023)**
This statewide analysis identifies transportation safety challenges for vulnerable road users. It reviews current safety performance for pedestrians and cyclists and outlines strategies to enhance safety at key locations and across the broader transportation network.
- **Active Transportation Plan (2019)**
This plan outlines a vision and framework for improving conditions for walking and bicycling across Pennsylvania communities. PennDOT is coordinating with planning regions and stakeholders across the Commonwealth to implement the plan.



Southwestern Pennsylvania Commission

- **Regional Safety Action Plan (2025)**
SPC updated its Regional Safety Action Plan for the 10-county region in Southwestern Pennsylvania. It incorporates crash data, community feedback, and local expertise to identify high-risk locations and prioritize interventions like infrastructure upgrades, policy initiatives, and education campaigns.
- **Traffic Incident Management (TIM)**
This program promotes awareness and information sharing among the region's emergency responders involved in TIM. It involves several initiatives including TIM Teams, outreach, training opportunities, detour planning, and the quick clearance program.
- **Transportation Operations and Safety Forum**
SPC regularly brings together traffic engineers, safety professionals, and transportation planners from around the region to collaborate and share information on projects that work toward improved efficiency and safe operation of the transportation system.

Allegheny County

- **Road Safety Audits**
SPC conducts road safety audits (RSAs) and corridor-specific studies to identify safety issues and recommend countermeasures on existing and planned roadways. Requests for a RSA may be submitted by local municipalities, counties, and PennDOT Districts. The audits use an independent, multidisciplinary team to identify potential road safety issues and opportunities for proactive safety improvements.
- **Regional Roundabout Screening Study (2022)**
This study identifies high potential roundabout candidate intersections which will advance SPC's Long-Range Transportation (LRTP), including fourteen candidate intersections in Allegheny County.
- **Complete Streets Policy**
SPC adopted a Complete Streets Policy for Southwestern Pennsylvania as a commitment to creating a transportation network that serves the diverse needs of the region, promotes safety and accessibility for all users, and contributes to the health, prosperity, and quality of life of residents. The policy applies to projects seeking funding through SPC-administered programs and emphasizes safety, comfort, and connectivity for all users, including VRUs and underserved communities. It encourages interagency coordination, context-sensitive design, and implementation of multimodal infrastructure.
- **Traffic Safety Education Project**
The Allegheny County Health Department provides information and education on traffic safety, funded through a PennDOT grant. It offers a wide range of free traffic safety services and education resources including driver education presentations, pedestrian safety information, and aggressive, distracted, and impaired driving prevention.
- **Active Transportation Plan (2010)**
Allegheny County's Active Transportation Plan, known as Active Allegheny, established the County's vision to integrate nonvehicular modes of transportation into the transportation network with the objective of encouraging and accommodating walking and biking as safe, everyday modes of commuting to destinations, thus increasing access and mobility. The plan includes a variety of resources for planning and designing bicycle and pedestrian improvements and a model complete streets policy.
- **Allegheny County Road Bicycle and Pedestrian Assessment (2019)**
This study was a comprehensive assessment of the County-owned roadway system to identify potential active transportation improvements that could be made within existing rights-of-way. A priority list of corridors was developed based on potential access to transit, parks, trails, businesses, and community venues.
- **Active Allegheny Grant Program**
The Active Allegheny Grant program provides funding support to municipalities for the planning and design of active transportation improvements. The program, in its 12th year, funds active transportation plans, safety action plans, development of walking and biking routes, creation of wayfinding systems, and engineering of multimodal improvements among others.



City of Pittsburgh

■ Vision Zero

The City of Pittsburgh officially adopted Vision Zero in 2024 and furthered its commitment to reduce traffic fatalities and serious injuries for all who use city streets to zero through a resolution passed by City Council. Recent Vision Zero efforts include establishing an interdepartmental working group, forming a fatal crash response group, and establishing the City's High-Injury Network to guide and prioritize future work. The City, in partnership with BikePGH, also hosted its first Vision Zero Summit in October 2025.

■ Complete Streets Policy

The City adopted its Complete Streets Policy in 2016 to develop a safe and accessible multimodal transportation system that will promote enhanced mobility for all users regardless of mode of travel.

■ Complete Streets Advisory Group

The Complete Streets Advisory Group provides feedback and guidance on implementing the City's Complete Streets Policy and advancing multimodal safety and accessibility goals. Serving as an advisory body to the Department of Mobility and Infrastructure (DOMI), the group reviews policies, plans, and major projects to ensure streets are designed and operated to safely accommodate all users.

■ Pedestrian Safety Action Plan (2020)

The plan identifies critical pedestrian safety issues, locations with a higher risk for pedestrian crashes, and specific actions the DOMI will undertake, and metrics for monitoring performance.

■ Bike(+) Plan (2020)

The plan establishes a vision to continue building a safe, comfortable, and convenient bike network for all types of riders and all types of trips. It identifies a proposed bike network for new or improved bike facilities and policies and strategies for achieving Pittsburgh's mobility goals.

■ Neighborhood Traffic Calming Program

This program aims to increase the safety and comfort of people traveling by all modes through a neighborhood by reducing excessive motorist speeds on residential neighborhood streets. DOMI screens all requests and evaluates and prioritizes eligible requests using engineering and safety criteria.

■ Safe Routes to School

This program supports safe, accessible walking and biking for students through education, engagement activities, and infrastructure improvements.

■ Automated Red Light Enforcement

The City is implementing Automated Red Light Enforcement (ARLE) systems to advance its Vision Zero goals and increase safety at key intersections by deterring drivers from running red lights. Locations will be selected by the City and approved by PennDOT.

■ Critical Sidewalk Gaps Program

This program identifies and constructs missing sidewalk segments to create safe, accessible pedestrian connections to key destinations such as schools, transit stops, business districts, and parks. Managed by DOMI, the program prioritizes locations based on need, safety, and access to essential services.

■ Stationary Automated Curb Enforcement Program

This program uses pole-mounted license-plate-reader technology to enforce parking restrictions in bike lanes and no-parking zones that block visibility at intersections and crosswalks. Implemented by DOMI and the Pittsburgh Parking Authority as part of the City's Vision Zero efforts, the program improves compliance and safety where traditional enforcement is difficult due to short-duration violations.

Other Municipalities

▪ **Complete Streets Policies:** In addition to the Complete Streets Policies of the City of Pittsburgh and SPC, several other municipalities have adopted policies:

- Sharpsburg (2017)
- Millvale (2018)
- Etna (2018)
- Wilkins (2019)
- Forest Hills (2022)
- Mt. Lebanon (2022)
- Dormont (2023)
- Churchill (2024)



MT. LEBANON
PENNSYLVANIA



“

Vision Zero
prioritizes safety in
communities most
impacted by crashes.

3

Community Engagement and Collaboration

OVERVIEW

A key element of the Allegheny County CSAP is meaningful public and stakeholder engagement, guided by a Public Involvement Plan (PIP) that establishes inclusive outreach to ensure the plan represents the community's needs with transportation safety. This section highlights comprehensive engagement activities—from Steering Committee meetings and stakeholder interviews to online tools, public meetings, and promotional efforts—that helped shape the plan and foster community-driven, informed decision-making.

Community engagement played a central role in shaping the CSAP. From the beginning, the project team focused on creating meaningful opportunities for residents, stakeholders, businesses, and community organizations to share their experiences and priorities for safer streets.

Because Allegheny County includes diverse communities with varying needs, the PIP guided outreach strategies, priority audiences, and key messages. Through virtual and in-person meetings, pop-ups, workshops, surveys, and targeted stakeholder discussions, the team gathered insights that added critical context to the technical analysis.

This inclusive, transparent process strengthened the plan's recommendations and built consensus around its direction. All feedback and engagement summaries are documented in the Appendix.



Public Involvement Plan

The Public Involvement Plan guided outreach for the CSAP by defining how the project team informed, consulted, involved, and collaborated with the public throughout the planning process. It established engagement goals, priority audiences, key messages, outreach tools, and a coordinated timeline to support consistent, inclusive, and countywide communication.

Public Engagement Goals and Objectives

- + Increase Public Awareness**
Share Vision Zero goals and emphasize shared responsibility for road safety.
- + Engage with the Community**
Use meetings, surveys, and tools to collect feedback and shape solutions.
- + Build Local Partnerships**
Work with schools, businesses, agencies, and advocates to support efforts.
- + Establish Equity and Inclusion**
Make outreach accessible to underserved and vulnerable groups.
- + Use Local Insight for Improvements**
Apply community knowledge to identify risks and design solutions.

Engagement Timeline

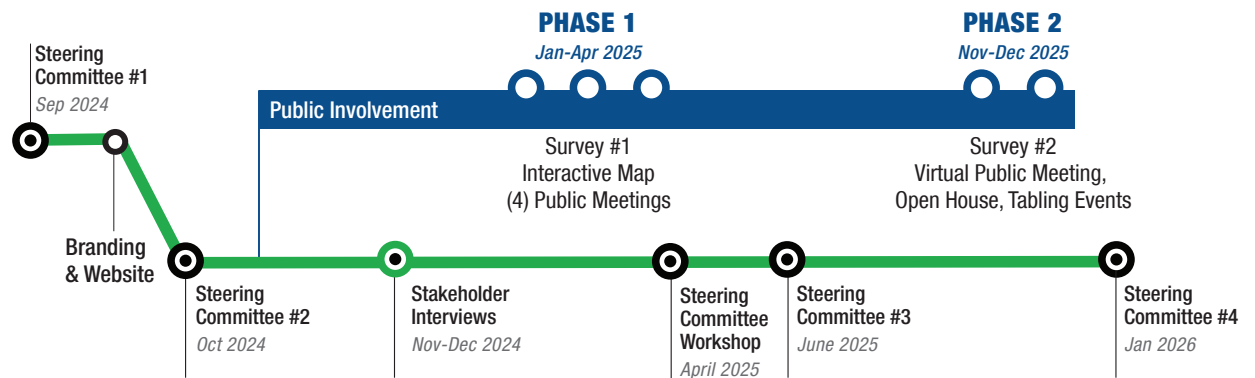
Public outreach was integrated into the overall project timeline and implemented through coordinated communication, meetings, and engagement activities. Outreach elements included a Public Involvement Plan, Steering Committee meetings, in-person and virtual open-house meetings, a project website, surveys, interactive tools, communications materials, and outreach summary reports, all designed to inform the community and support the project team's safety analysis and decision-making.

Outreach consisted of two primary phases. Phase 1 built awareness of the plan and Vision Zero goals, educated the community about the planning process, and gathered input on countywide roadway safety concerns, priorities, and high-risk locations. Phase 2 shared project updates and gathered feedback on proposed safety strategies and corridor improvements.

Engagement Activities

- Steering Committee meetings
- Stakeholder interviews
- Open house meetings
- Virtual public meeting
- Digital and paper surveys
- Interactive mapping tool
- Digital communications toolkit
- Social media outreach

Exhibit 3-1: Engagement Timeline



Digital Engagement Tools

Community engagement combined in-person and online outreach methods to maximize public participation. Although face-to-face events facilitated meaningful interactions with community members, digital engagement tools yielded higher levels of participation and a broader reach.

Website

Online engagement began with the launch of a dedicated project website that served as the primary hub for public information and participation. The website provided clear, accessible information about the plan's purpose, goals, schedule, and progress, as well as multiple opportunities for public input, including an interactive mapping tool, comment form, and two online surveys. Content was designed to be user-friendly and accessible across devices, with plain-language explanations and clear navigation to support broad community participation, including individuals with disabilities.

The website remained active and regularly updated throughout the engagement period to share project updates, promote engagement opportunities, and maintain public awareness. Website analytics were used to track visitor activity, engagement duration, and traffic sources, allowing the project team to evaluate outreach effectiveness and adjust promotional efforts to improve reach and participation across Allegheny County.

Digital Toolkit

A digital communications toolkit supported promotion and public education for the plan. The toolkit provided ready-to-use materials—such as fact sheets, social media content, graphics, and newsletter copy—to help partners and community organizations share consistent information about the plan, engagement opportunities, and key milestones. The project team updated and redistributed the toolkit for both phases of engagement to ensure messaging remained current, accurate, and aligned with each phase of the planning process.

Exhibit 3-2: Engagement Tools



The Digital Toolkit included a variety of promotional materials like fact sheets, web banners, social media content, newsletter content, talking points, and educational facts about Vision Zero.

Steering Committee

A cornerstone of the planning process and structure was the Steering Committee to guide plan development and support implementation following adoption. The committee included representatives from all CSAP partner agencies—SPC, PennDOT, Allegheny County, the City of Pittsburgh, and Pittsburgh Regional Transit—bringing diverse perspectives that strengthened the plan’s analysis and recommendations.

Over four milestone meetings, the Steering Committee reviewed project progress, discussed key findings, and helped shape the direction of the plan. The committee provided input on draft materials, advised on priority strategies, and ensured that the plan reflected both data-driven analysis and community feedback.

- **Meeting 1:** Kick-Off and Goal Setting
- **Meeting 2:** Safety Analysis and High-Injury Network
- **Meeting 3:** Corridor and Project Prioritization
- **Meeting 4:** Draft Plan

The project team held supplemental meetings with the Steering Committee to coordinate outreach plans and review proposed projects and recommendations.

Through future implementation, the Steering Committee will continue in an advisory role to monitor progress, support accountability, and champion transportation safety initiatives across Allegheny County.

Leadership Commitment and Goal Setting

To support Allegheny County Vision Zero, the project team conducted leadership commitment and goal-setting meetings with representatives from jurisdictions and partner agencies. These discussions helped define the plan’s safety goal and target date for achieving zero roadway fatalities and serious injuries. This collaboration also helped develop community-specific safety actions and prepare the plan for adoption.



SS4A Compliance Checklist

STEERING COMMITTEE

- ✓ Provided multi-jurisdictional leadership and oversight
- ✓ Guided application of the Safe System approach
- ✓ Identified priority corridors and emphasis areas
- ✓ Supported regional coordination and performance alignment

STAKEHOLDER ENGAGEMENT

- ✓ Engaged agencies, organizations, and community groups
- ✓ Gathered local knowledge through targeted outreach
- ✓ Identified safety concerns and community priorities
- ✓ Elevated underserved communities and vulnerable road users

Stakeholder Engagement

In addition to the Steering Committee, the project team conducted targeted stakeholder engagement to inform development of the CSAP accordance with SS4A program objectives. During Phase 1, ten stakeholder interview sessions were held with representatives from transportation agencies, local governments, emergency services, advocacy organizations, educational institutions, and community groups. This engagement supplemented crash data analysis by providing practitioner and community perspectives on safety challenges, policy constraints, and investment priorities.

Stakeholders reviewed preliminary safety trends and identified key needs related to vulnerable road user safety, connectivity gaps, outdated roadway designs, limited enforcement authority, and maintenance challenges. Participants highlighted the need for coordinated funding, technical support, and policy alignment to better serve communities that have historically faced greater safety risks.

Overall, stakeholder input supported a comprehensive, Safe System-based approach that integrates infrastructure improvements, policy updates, education, and enforcement. Participants emphasized the importance of consistent design standards, improved signal timing and lighting, curb and parking management, strengthened enforcement tools, and measurable performance outcomes aligned with municipal and regional transportation and land use plans.

Key Themes from Stakeholder Interviews

- + **Speed management and enforcement need modernization.** Stakeholders cited limited local authority, outdated speed-setting practices, and the need for expanded enforcement tools to improve safety.
- + **Pedestrian and bicycle safety require more consistent design and signals.** Participants emphasized better signal timing, accessible crossings, protected bike facilities, and safer treatment of complex intersections and corridors.
- + **Gaps in connectivity create safety risks.** Missing or incomplete links between sidewalks, trails, transit, and bike networks—often constrained by right-of-way or terrain—were a recurring concern.
- + **Maintenance and operations affect day-to-day safety.** Poor lighting, pavement conditions, vegetation, and inconsistent markings were identified as barriers to safe travel for all users.
- + **Curbside management and parking enforcement are ongoing challenges.** Illegal parking, blocked bike lanes, and limited loading space negatively affect safety, transit access, and accessibility.
- + **Local capacity and funding vary widely across municipalities.** Smaller or under-resourced communities face challenges advancing safety projects without technical assistance, coordination, and flexible funding.
- + **Education and outreach are critical to changing behavior.** Stakeholders supported early education, driver awareness of new street designs, and partnerships with schools, institutions, and community organizations.
- + **Clear measures of success are essential.** Reducing fatalities and serious injuries, closing network gaps, improving pedestrian experience, and aligning with existing plans were seen as key indicators of progress.

Stakeholder Interviews

- PennDOT District 11
- City of Pittsburgh
- Pittsburgh Regional Transit
- Local Governments
- Community Leaders
- First Responders
- Universities and Higher Education
- Non-Profits
- Transportation Management Associations (TMAs)

Community Engagement: Phase 1

Focus: Introduce Vision Zero and the planning process, and collect initial community input.

Between January 8 and April 15, 2025, the project team conducted Phase 1 public and stakeholder engagement to support development of the Allegheny County CSAP. This phase focused on building awareness of the plan and Vision Zero goals, educating the community about the planning process, and gathering input on countywide roadway safety concerns, priorities, and high-risk locations.

Overall, feedback reflected strong public support for the Comprehensive Safety Action Plan and the commitment to improving roadway safety and reducing serious injuries and fatalities. Participants expressed a shared interest in safer, more accessible streets and enthusiasm for continued involvement. Input from Phase 1 informed decisions, priority locations, and concept development as the planning effort advanced.

Safety Survey

The safety survey was available on the project website and at in-person engagement events to collect data on demographics, travel habits, and road safety concerns. It consisted of 22 questions and received 349 responses. Most households reported commute times of either 0-20 minutes or 20-30 minutes. The most common age group was 25-44 years old, and most respondents had lived in Allegheny County for more than 5 years. Significant safety issues identified included ignoring traffic laws, poorly maintained roads, and distracted driving.

Exhibit 3-3: Top Safety Concerns of Survey Respondents



Top Safety Concerns

- Dangerous intersections and poor signal timing
- Speeding, aggressive driving, and failure to yield
- Lack of pedestrian and cyclist protections
- Distracted driving and limited enforcement
- Inadequate sidewalks, bike lanes, and lighting



Most Requested Improvement

- Better pavement conditions and signage
- Lower speed limits and narrower lanes
- More traffic calming (e.g., speed bumps, curb bump-outs)
- Safer crosswalks, protected bike lanes, and sidewalks
- Improved intersection design: medians, turn lanes, roundabouts
- Stronger law enforcement and public education campaigns



Hotspot Locations

- West End Bridge and Route 65 off-ramp
- Forbes Avenue & McKee Place in Oakland
- Oakland, Squirrel Hill, East Liberty, and Mount Lebanon identified as areas with high concern

Interactive Survey Map

Residents and stakeholders shared their insights on roadway safety via an interactive map (Exhibit 3-4), where they could pinpoint locations and issues like speeding, visibility problems, and intersection safety. They also added detailed comments, concerns, and suggestions. This input, along with feedback from surveys, public meetings, and stakeholder discussions, captured real-world experiences across Allegheny County. It underscored a clear community desire for safer streets, better infrastructure, and increased enforcement, especially to safeguard pedestrians, cyclists, and other vulnerable road users. The Appendix contains additional details.

Exhibit 3-4: Interactive Map

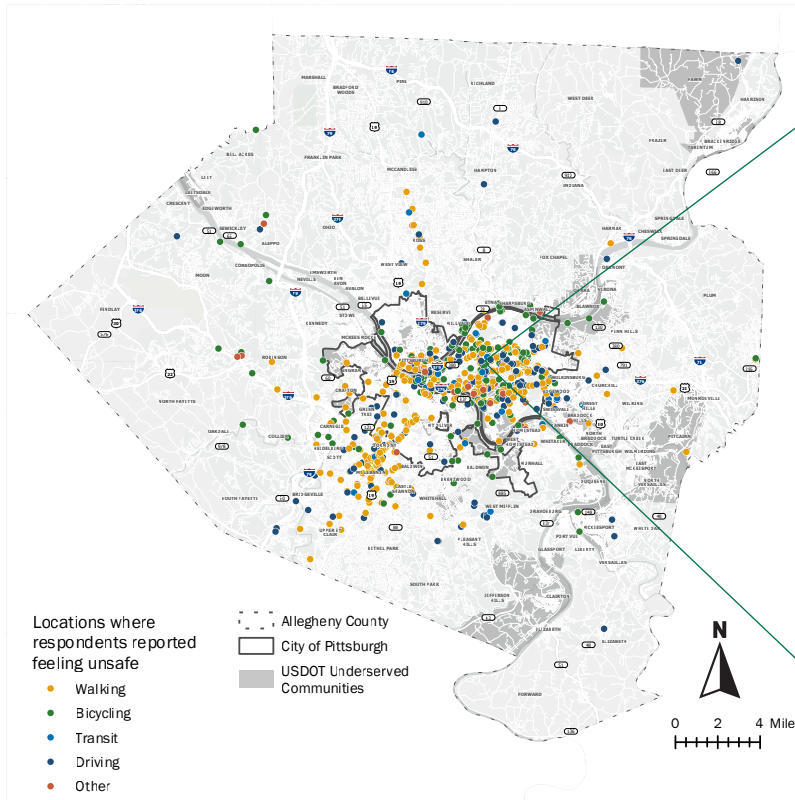
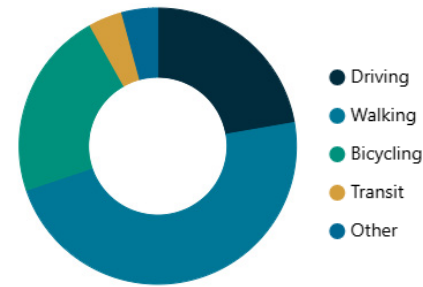
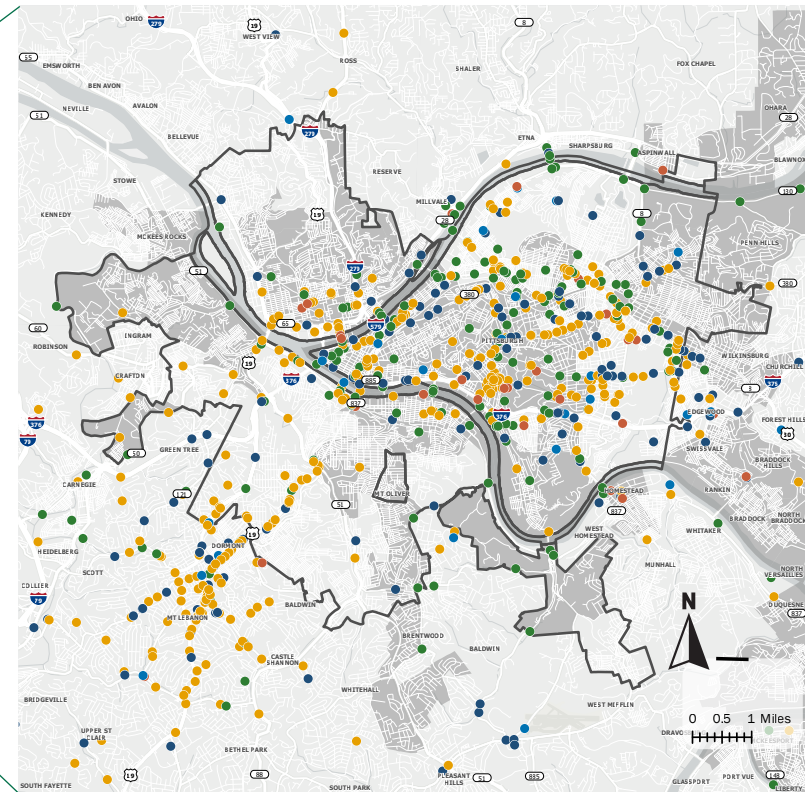


Exhibit 3-5: Posts by Category



Category	Contributions	Percent
Walking	410	47%
Driving	192	22%
Bicycling	190	22%
Transit	34	4%
Other	36	4%



Engagement Events


The project team held a series of public meetings during Phase 1 to connect with more community members through education and engagement efforts. The meeting locations were strategically placed in four areas of Allegheny County. The meetings functioned as open-house events.

Attendees offered thoughtful contributions and constructive suggestions that greatly enhanced the project team’s understanding of community safety needs. The quality of input received underscores the potential for meaningful dialogue and collaboration and the importance of ongoing engagement with community members on safety initiatives.


Public input consistently highlighted concerns related to speeding, unsafe intersections, pedestrian and bicyclist safety, and driver behavior such as distracted or aggressive driving. Intersections and corridors with poor visibility, inadequate signal timing, and high vehicle speeds were frequently identified as priority areas for improvement. Respondents also emphasized the need for safer walking and biking infrastructure, including protected bike lanes, improved sidewalks, better lighting, and traffic calming measures. These themes were reinforced across all feedback tools, indicating strong alignment between community priorities and documented safety challenges.





Round 1 Participation

 Online Safety Survey
349 responses

 Interactive Map
862 location-based comments

 General Comments
57 submissions

 Public Meetings
4 open houses

 Stakeholder Input
10+ interviews
with agencies, nonprofits, first responders, and community leaders

 Social Media Reach
Over 3,700 impressions
across four platforms

 Website Visitors
2,400+

Community Engagement: Phase 2

Focus: Share project updates and gather feedback on proposed safety strategies and corridor-level improvements.

From November 24 to December 21, 2025, the project team carried out the second round of public and stakeholder engagement, continuing to promote Vision Zero and share project updates. Using data from the safety analysis and Phase 1 public feedback, the team identified ten priority corridors in Allegheny County that could benefit from safety improvements. The public reviewed and provided feedback on proposed safety measures that could be implemented along these corridors or more broadly across the county.

Survey

A survey was conducted to collect public input on the ten priority corridors identified for safety improvements. Participants reviewed maps, descriptions, and proposed safety measures specific to each corridor, then indicated their support levels and shared open-ended comments. The survey was accessible both online and in print, with QR codes at meetings and events to maximize participation. Demographic questions were optional, aimed at understanding survey reach while preserving anonymity. The feedback gathered validated corridor priorities, highlighted local safety concerns, and helped refine the recommended strategies and projects in the plan.



Engagement Events

Virtual Public Meeting

On December 2, 2025, SPC held a virtual public meeting, available both live and as a recording. The project team uploaded the meeting recording, presentation materials, and a Q&A summary to the project website for continuous access and transparency. The session outlined the CSAP's objectives, key corridors, and recommended safety countermeasures, and offered participants the chance to ask questions and give feedback.

During the Q&A, questions focused on speed management and enforcement on high-injury corridors, coordination with PennDOT, PRT, regional partners, and how municipalities can promote Vision Zero locally. The project team highlighted a Safe System approach, integrating roadway design, education, and enforcement, and assured the plan will be a tool for continued prioritization of safety projects in underserved communities. Participants also emphasized the importance of agency collaboration and future funding, including SS4A grants, to support safety improvements throughout Allegheny County.

Key Takeaways from Virtual Meeting Q&A

The discussion highlighted the need for a coordinated, countywide approach to roadway safety—one that balances design, enforcement, and education, strengthens collaboration with transportation partners, and prioritizes equity and funding to advance implementation of Vision Zero strategies across Allegheny County.

Tabling Events

Since six of the top priority corridors identified for safety improvements were located within the City of Pittsburgh, the project team conducted targeted tabling events at the University of Pittsburgh and Carnegie Mellon University to connect directly with students, faculty, and staff. These events provided opportunities to raise awareness of the CSAP, share information about the planning process and Vision Zero goals, and allow participants to view and provide feedback on the priority corridors identified within the City.



Open House

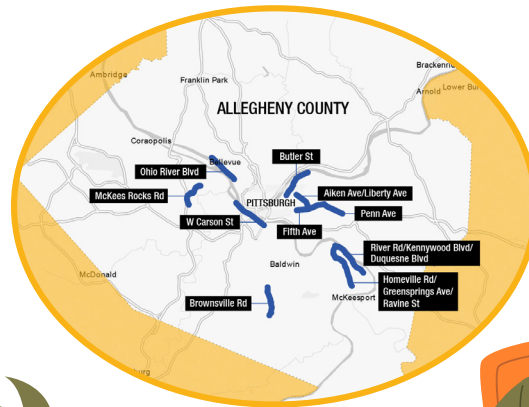
The City of Pittsburgh hosted an open house for the CSAP on Thursday, December 4, 2025, for the community to explore the ten priority corridors, meet the project team, and pose questions. Each corridor had its own station, displaying proposed recommendations. The quality of feedback highlighted the potential for valuable dialogue and teamwork as safety initiatives are advanced following the plan.



What We Heard: Corridor Feedback

Overall, participants expressed support for prioritizing safety investments along the ten priority corridors—particularly within the City of Pittsburgh—and generally viewed the proposed safety concepts favorably or neutrally. Feedback reinforced key issues such as intersection safety, access management, and connectivity between destinations, with an emphasis on improving conditions for people walking, biking, and using transit.

Community members shared location-specific observations and lived experiences, offering practical insight into how existing conditions affect daily travel and identifying opportunities for proactive, context-sensitive safety improvements. While the number of responses was limited, the feedback validated the data-driven corridor prioritization and provided qualitative context to inform decision-making. Consistent with SS4A requirements, this input was used alongside broader engagement, safety analysis, and technical evaluation to refine corridor-level strategies and develop the CSAP.



How Community Engagement Meets SS4A Requirements

-  **Inclusive Public Engagement**
Multiple engagement methods—including surveys, interactive mapping, tabling events, and meetings—were used to reach residents, stakeholders, and underrepresented users.
-  **Data-Informed Planning**
Community feedback was collected alongside crash data, safety analysis, and technical screening to identify and confirm priority safety needs.
-  **Community-Identified Priorities**
Input reflected lived experiences and highlighted concerns related to intersections, speeding, multimodal access, and connectivity.
-  **Plan Integration**
Public feedback directly informed corridor prioritization, strategy development, and recommended actions in the Safety Action Plan, consistent with SS4A planning requirements.

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Policy and process changes strengthen how transportation agencies and partners systematically prioritize safety.

4

Policy and Process Change

Overview

Policy and process changes strengthen how transportation agencies and partners systematically prioritize safety through the policies, standards, and decision-making practices that shape projects long before construction begins.

Section 2: Transportation Safety in Allegheny County summarizes many of the existing plans, policies, or initiatives relevant to this CSAP. Exhibit 4-1 contains a summary list.

This section outlines key policy findings and opportunities to create and promote safer roads in Allegheny County. Policy barriers and opportunities were identified through discussions and interviews with stakeholders through the CSAP planning process.

SS4A Alignment: Policy and Process Change

Policy and process changes advance the SS4A program by embedding safety into Allegheny County’s planning, design, and decision-making processes and by addressing systemic barriers to consistent, multimodal safety implementation across jurisdictions.

Exhibit 4-1: Relevant Plans, Policies, or Initiatives

Name	Organization
Strategic Highway Safety Plan (2022)	PennDOT
Highway Safety Improvement Program	PennDOT
Highway Safety Program Guide (Pub. 638)	PennDOT
Vulnerable Road User Safety Assessment Report (2023)	PennDOT
Active Transportation Plan (2019)	PennDOT
PennDOT Connects	PennDOT
Regional Safety Action Plan (2025)	SPC
SmartMoves: Long Range Transportation Plan (2019, 2023)	SPC
Transportation Improvement Program (2025-2028)	SPC
Traffic Incident Management Program	SPC
Transportation Operations and Safety Forum	SPC
Road Safety Audits	SPC
Regional Roundabout Screening Study (2022)	SPC
Complete Streets Policies	SPC, City of Pittsburgh, Sharpsburg, Millvale, Etna, Wilkins, Forest Hills, Mt. Lebanon, Dormont, Churchill
Traffic Safety Education Project	Allegheny County
Active Transportation Plan (2010)	Allegheny County
Allegheny County Road Bicycle and Pedestrian Assessment (2019)	Allegheny County
Active Allegheny Grant Program	Allegheny County
Vision Zero	City of Pittsburgh
Complete Streets Advisory Group	City of Pittsburgh
Pedestrian Safety Action Plan (2020)	City of Pittsburgh
Bike(+) Plan (2020)	City of Pittsburgh
Neighborhood Traffic Calming Program	City of Pittsburgh
Safe Routes to School	City of Pittsburgh
Automated Red Light Enforcement	City of Pittsburgh
Critical Sidewalk Gaps Program	City of Pittsburgh
Stationary Automated Curb Enforcement Program	City of Pittsburgh
Bus Stop and Street Design Guidelines	Pittsburgh Regional Transit

Observations and Opportunities

Regional and local complete streets policies are expanding, but implementation is uneven.

A Complete Streets policy is a commitment to plan, design, operate, and maintain roadways so they are safe and accessible for all users regardless of age, ability, and mode of travel. Complete Streets inherently support Vision Zero by accommodating different users and making crashes less likely and less severe.

The City of Pittsburgh (2016) and SPC (2024) have adopted Complete Streets policies. Multiple municipalities (Sharpsburg, Millvale, Etna, Wilkins, Forest Hills, Mt. Lebanon, Dormont, Churchill) have similar policies in place. Collectively, these policies signal strong momentum toward multimodal safety, but differences in capacity, design standards, and project development practices can limit consistent application across jurisdictional boundaries.



Opportunity

Strengthen alignment among county, municipal, and regional Complete Streets policies and provide implementation guidance and technical assistance to ensure consistent application across jurisdictions, including those that do not yet have policies.

PennDOT standards strongly influence outcomes on major corridors and at intersections.

Many high-risk corridors and intersections are state-owned, and PennDOT design manuals, traffic control guidance, and signal policies play a central role in what is feasible and how quickly safety treatments can be deployed. While PennDOT guidance and standards increasingly recognize multimodal safety and context-sensitive design, implementation can be constrained by project scope, funding, and the timing of resurfacing and capital investment cycles. This can make it difficult to deliver quick-build or systemic safety upgrades outside of programmed projects.

Stakeholders also noted that coordination between projects on state roads and transit infrastructure is inconsistent. Transit safety needs such as bus stop access, pedestrian crossings near stops, and curbside operations are not always fully integrated into roadway projects. This can result in missed opportunities to address safety risks for transit users.

In addition, stakeholders identified limitations in the flexibility of state design standards and approval processes, particularly in urban and suburban contexts where lower speeds, pedestrian crossings, and innovative treatments are desired. Certain treatments commonly used in other states, such as pedestrian hybrid beacons (HAWK signals) for mid-block crossings and parking-protected bike lanes, are currently prohibited in Pennsylvania, restricting the toolbox available to address documented safety risks.



Opportunity

Support context-sensitive application of PennDOT standards and strengthen coordination among PennDOT, municipalities, and transit agencies. Leverage the PennDOT Connects process to integrate safety, multimodal needs, and community context early in project development. Advocate for expanded approval of proven safety countermeasures and integrate safety improvements into resurfacing and maintenance.

The City of Pittsburgh has advanced safety-focused policies that are not readily implementable countywide.

The City of Pittsburgh has adopted several safety-focused policies and initiatives, including a Complete Streets Policy, Vision Zero commitment, traffic calming programs, Safe Routes to School initiatives, and advanced traffic signal modernization efforts. These policies have enabled the City to pursue innovative approaches to speed management, pedestrian safety, and multimodal design.

While these initiatives demonstrate effective practices, their application is largely limited to City-owned roadways. The City of Pittsburgh accounts for 39% of fatal and serious injury crashes on HIN and 31% of HIN roadway miles, underscoring the City's critical role in advancing Vision Zero. At the same time, a substantial share of severe crashes occurs outside the City, where many municipalities face comparable safety challenges but often lack the authority, resources, or policy frameworks needed to implement similar approaches.



Opportunity

Use City of Pittsburgh practices as models and develop county-supported frameworks to help other municipalities adapt and implement similar safety approaches. Share results from after-action evaluations and lessons learned across municipalities. In parallel, monitor and exchange best practices with peer communities across Pennsylvania to bring proven approaches and innovations into the region.

State policy and legislative constraints limit speed management and enforcement.

Stakeholder interviews consistently identified Pennsylvania state law as a barrier to effective speed management and enforcement. Current statutes require complex studies and approvals to reduce posted speed limits and restrict local police from using radar for speed enforcement. Automated enforcement tools, such as speed cameras and expanded automated red light enforcement, face legal and political limitations.

These constraints reduce local agencies' ability to address speeding, one of the most overrepresented factors in fatal and serious injury crashes, and weaken the effectiveness of engineering, enforcement, and education efforts.



Opportunity

Advocate for legislative reforms that expand local authority to enforce traffic laws using proven, safety-focused tools. Advocate for speed limit reform that better supports context-based speed management while maintaining sound engineering practice. In parallel, advance speed management through self-regulating road design. As statewide guidance and policies continue to evolve, establish mechanisms to support consistent regional and local application.

Jurisdictional fragmentation complicates implementation and maintenance.

Allegheny County's 130 municipalities, combined with state, county, and city roadway ownership, create significant coordination challenges. Stakeholders noted that fragmented responsibilities hinder consistent implementation, slow project delivery, and complicate safety improvements, particularly on corridors that cross multiple jurisdictions.

These challenges are particularly evident at signalized intersections and pedestrian crossings (two safety emphasis areas), both at intersections and mid-block locations. With traffic signals and crossings owned and operated by different entities, often within short distances of one another, design treatments, signal timing, accessibility features, and pedestrian crossing enhancements can vary widely. This can lead to inconsistent road user expectations and safety outcomes.

Municipal capacity disparities further exacerbate these issues. Smaller municipalities often lack the staff, funding, and technical expertise to plan, implement, and maintain safety improvements, even where crash patterns and user needs are similar to those in larger jurisdictions.



Opportunity

Strengthen county-level coordination, shared services, and multi-municipality partnerships to support consistent safety implementation. This includes leveraging existing resources, such as PennDOT standards and guidance, municipal practices, and regional expertise, to develop more consistent guidance for pedestrian crossings and signalized intersections that can be applied across roadway owners and municipal boundaries.

In addition, variations in local land use planning, zoning, and development review practices across municipalities can lead to inconsistent roadway design, access, and pedestrian environments, reinforcing the need to better align transportation safety and land use decisions across jurisdictions.

Recent collaborative efforts, such as the Route 65 Corridor Study and resulting multi-municipal design guide, demonstrate how coordinated planning and shared standards can help advance more consistent safety improvements across jurisdictional boundaries.



Opportunity

Incorporate Vision Zero principles into comprehensive plans, zoning, and development review processes so that future land use and transportation decisions contribute to safer roadway environments across the county.

Enforcement and education efforts are active but fragmented.

Across Allegheny County, many agencies and organizations recognize the importance of enforcement and education in improving traffic safety and changing behavior. Existing plans and programs emphasize safety campaigns, high-visibility enforcement, and public education as essential tools for addressing high-risk behaviors.

Within the context of this CSAP, enforcement and education efforts are most effective when focused on behaviors that are strongly associated with fatal and serious injury crashes. For Allegheny County, these include speeding, seat belt use, impaired driving, and distracted driving, in addition to broadening road user understanding of new or unfamiliar safety measures.

Enforcement and education activities are often conducted independently by different jurisdictions or agencies. While these efforts are valuable, their reach is limited when they are not coordinated across the county. Because road users routinely travel across municipal boundaries, inconsistent messaging and enforcement can reduce overall effectiveness.



Opportunity

Coordinate high-visibility enforcement and education initiatives at a countywide or regional scale to reinforce consistent safety messages, focus resources on high-risk behaviors, and amplify impact through collective action. Shared campaigns, aligned messaging, and coordinated enforcement periods can extend the reach of individual efforts and support safer behavior across all jurisdictions.

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Infrastructure-based strategies combine proven countermeasures, proactive systemic improvements, and focused investments on high-risk corridors.

5

Safety Strategies and Actions

Overview

This section outlines a comprehensive set of safety strategies and actions designed to reduce fatal and serious injury crashes across Allegheny County. Building on the safety analysis, High-Injury Network, and identified safety emphasis areas, the strategies are organized into three complementary components.

Countermeasure Toolbox

Provide a menu of proven, low-cost to moderate-cost safety treatments that can be applied broadly across the roadway network



Systemic Safety Solutions

Focus on addressing the most common and severe crash types through proactive, systemwide improvements that reduce risk before crashes occur



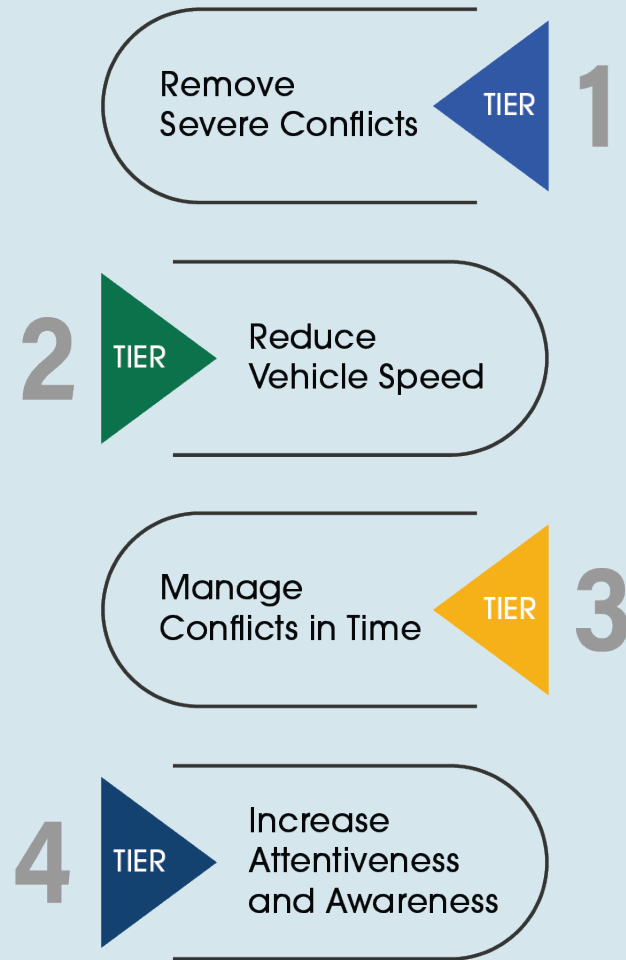
Targeted Safety Projects

Identify ten priority corridors on the High-Injury Network where focused, location-specific projects have the greatest potential to reduce fatalities and serious injuries



These infrastructure-based strategies are intended to be implemented in coordination with the policy, process, and programmatic actions described in the previous section. Lasting safety improvements require alignment between physical roadway changes, supportive policies, enforcement, education, and ongoing coordination among agencies and partners.

Applying the Safe System Roadway Design Hierarchy



The Safe System Roadway Design Hierarchy is a tool for prioritizing safety countermeasures and strategies when developing transportation projects. It prioritizes safety strategies that prevent fatal and serious injuries by design, rather than relying solely on user behavior.

Under this hierarchy, strategies that eliminate or reduce exposure to severe crashes, such as separating users, managing speeds, and designing forgiving roadways, are prioritized over strategies that depend solely on education or enforcement. While education, enforcement, and emergency response remain important, they are most effective when paired with roadway designs and policies that make safe behavior the default.

Allegheny County's safety strategies are informed by this hierarchy and encourage road owners and partners to prioritize system-level, infrastructure-based solutions first, supported by complementary policy, programmatic, and operational actions described elsewhere in this plan.

Countermeasure Toolbox

This section provides a summary of proven safety countermeasures that are effective at addressing key traffic safety issues identified in the CSAP. They are intended to guide road owners and stakeholders toward the goal of reducing fatal and serious injury crashes and improving road safety for all users. The countermeasures were selected because of their applicability throughout Allegheny County and their efficacy in supporting Vision Zero. Many of the countermeasures apply to a range of contexts and road types. More information can be found in resources such as:

Federal Highway Administration (FHWA) proven safety countermeasures

National Highway Traffic Safety Administration (NHTSA) Countermeasures that Work

Exhibit 5-1 presents a toolbox of safety countermeasures and their applicability by area type and the CSAP's safety emphasis areas. For ease of use, the countermeasures are organized and ordered in the following categories:



Pedestrian- and bicyclist-oriented countermeasures



Speed-focused countermeasures



Intersection-focused countermeasures



Roadway departure countermeasures



Other cross-cutting countermeasures

Note, seatbelt usage and impaired driving are behavioral emphasis areas that generally rely on non-infrastructure strategies, including enforcement, education, and policy interventions, and therefore are not directly reflected in the infrastructure countermeasure toolbox table.

Exhibit 5-1: Countermeasure Toolbox

Name	Description	Area Type	Intersections	Lane Departures	Mature Drivers	Motorcycles	Pedestrians	Speeding	Distracted Driving	Commercial Veh.	Youth Drivers	Work Zone	Bicyclists
Pedestrian- and bicyclist-oriented countermeasures													
Crosswalk	Install a high-visibility pedestrian crosswalk.	Both	●		●		●	●	●	●	●	●	●
Curb-Bulbouts	Extend curb at crosswalk of intersection to shorten pedestrian walking distance and improve visibility for approaching drivers. This can be achieved with flex posts, painted markings, or concrete extensions.	Urban	●		●		●	●					●
Leading Pedestrian Interval	Give pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication.	Urban	●		●		●						
Medians and Pedestrian Refuge Islands	Install a median with a refuge area for pedestrians crossing multi-lane roads.	Both	●		●		●	●		●			●
Mid-block Crossing	Install high-visibility pedestrian crossings paired with other enhancements such as curb bulbouts, pedestrian refuge islands, RRFBs, and/or road configuration.	Urban			●		●	●			●		●
New Sidewalk	Install new sidewalks where sidewalks are missing, or damaged.	Both					●						●
Pedestrian Signals	Install accessible pedestrian signals and pedestrian countdown timers to the existing traffic signal for designated crossing times.	Both	●		●		●						
Raised Crosswalk	Install a raised crosswalk as a traffic calming and pedestrian safety measure.	Urban	●		●		●	●					●
Rapid Flashing Beacons	Install rectangular rapid flashing beacons (RRFBs) with pedestrian warning signage at crosswalk.	Both			●		●	●	●				
Transit Shelters	Install transit shelters which can include seating, garbage cans, lighting, etc.	Both	●				●						●
Widen Sidewalk	Install wider sidewalks to meet accessibility standards and provide additional buffer.	Both					●						●
Bike Box	Install designated areas at signalized intersection for bicyclists to wait ahead of vehicles.	Urban	●										●
Protected Bike Lane	Install bike lane with physical barriers to separate bicyclists from the motorized vehicle lane. The physical barrier could be planters, parked cars, or flex post delineators.	Urban						●					●

Exhibit 5-1: Countermeasure Toolbox (continued)

Name	Description	Area Type	Intersections	Lane Departures	Mature Drivers	Motorcycles	Pedestrians	Speeding	Distracted Driving	Commercial Veh.	Youth Drivers	Work Zone	Bicyclists
Speed-focused countermeasures													
Lane Narrowing	Reduce the width of travel lanes using striping, curb extensions, or other design elements to lower vehicle speeds.	Urban					●	●		●	●		●
Paint Parking Lane Line	Install pavement markings for the parking lane.	Urban		●				●		●			
School Zone Signage	Install school zone signage to provide warning of an area that requires slower speeds and more cautious driving.	Both	●				●	●	●		●		●
Speed Feedback Signs	Install dynamic speed display/feedback signs in targeted areas.	Both					●	●		●	●	●	
Traffic Calming Measures	Add speed tables, humps, or cushions to slow vehicle speeds.	Urban			●		●	●	●		●		●
Intersection-focused countermeasures													
Access Management	Install pavement markings, or curbing, to reduce conflict areas and manage access points to commercial driveways.	Both	●		●	●				●			
Advance Warning Signage	Install advance warning signage to notify road users in advance of intersections, curves, pedestrian crossings, and more (can be LED-enhanced).	Both	●	●	●	●	●	●	●	●	●	●	●
Clearance Interval Times	Check that the yellow, all-red, and pedestrian times are adequate.	Both	●		●		●			●			
Dedicated Turn Lane	Install dedicated turn lanes for left- or right-turns.	Both	●		●	●				●	●		●
Flashing Yellow Arrow	Change left-turn traffic signal from permissive to a flashing yellow arrow to indicate when left turns are allowed but not protected.	Both	●		●	●	●			●	●		●
Intersection Alignment	Adjust geometry at intersections to create better visibility for users.	Both	●		●	●	●			●	●		●
Intersection Daylighting	Restrict parking and remove other visual obstructions near intersections to improve sight lines between drivers, pedestrians, and bicyclists.	Urban	●		●	●	●		●	●	●		●
Left-Turn Protective Phasing	Conduct a study to determine if left-turns should be protected only.	Both	●		●	●	●			●	●		
No Turn on Red	Conduct a study to determine if right turns on red should be restricted.	Urban	●		●		●						●
Parking Restriction Signage	Install parking signage to designate where vehicles can be parked.	Urban	●				●			●		●	●

Exhibit 5-1: Countermeasure Toolbox (continued)

Name	Description	Area Type	Intersections	Lane Departures	Mature Drivers	Motorcycles	Pedestrians	Speeding	Distracted Driving	Commercial Veh.	Youth Drivers	Work Zone	Bicyclists
Remove Slip Access	Compacts intersections for right-turning vehicles to reduce pedestrian exposure by eliminating slip lanes.	Urban	●			●	●	●					●
Roundabout	Convert a traditional intersection to a roundabouts to reduce conflict points and minimize crash severity.	Both	●			●	●	●		●			
Sight Lines	Conduct a study to determine if sight lines are adequate and remove obstructions.	Both	●	●	●	●	●	●	●	●	●	●	●
Signal Backplates	Add reflective backplates to signal heads at intersection to improve visibility of signal for approaching drivers.	Both	●		●		●		●	●	●		
Supplemental Signal Head	Add additional signal head on approach to a traffic signal to aid visibility where sight distance is limited.	Both	●		●		●		●	●			
Roadway departure countermeasures													
Curve Warning Signs	Install curve warning signs and chevrons if warranted by study.	Both		●	●	●		●	●	●	●		
Delineation	Add devices and markers on, and adjacent to, roadways to enhance visibility.	Both		●	●	●			●	●	●	●	
High-Friction Surface Treatment	Install high-friction surface treatment, an applied pavement treatment to increase friction of the roadway.	Both	●	●	●	●		●		●		●	
Improve Superelevation	Determine if the slope of the roadway is adequate on curves and make necessary improvements.	Rural		●	●	●		●		●			
Install Intersection Warning Sign	Install or replace Intersection Warning Signs with nameplates.	Both	●		●	●		●	●	●	●	●	
Pavement Markings	Painted lines and markers on the road's surface to guide traffic (can be enhanced with high-reflectivity and/or wide edgelines).	Both	●	●	●	●	●	●	●	●	●	●	●
Rumble Strips	Install centerline or edgeline rumble strips.	Rural		●	●			●	●	●	●		
Slow Pavement Markings	Install "SLOW" pavement markings or speed reduction markings prior to curve.	Both		●	●	●		●	●	●	●		
Other cross-cutting countermeasures													
Lighting Improvements	Install or replace roadway and/or pedestrian-level lighting to improve nighttime visibility.	Both	●	●	●	●	●	●	●	●	●	●	●
Road Reconfiguration	Physically alter a roadway's layout such as changing the number, width, or function of travel lanes to better align with context, manage speeds, and improve safety.	Both	●	●	●	●	●	●	●	●	●		●

Systemic Safety Solutions

Systemic safety solutions focus on reducing fatal and serious injury crashes by addressing common risk factors across the roadway network, rather than reacting only to individual high-crash locations. This approach recognizes that severe crashes often share similar characteristics, such as roadway design, speed, or user behavior, that can be mitigated through broadly applied, low-cost countermeasures. By identifying patterns in the most severe crashes across Allegheny County, systemic strategies can be implemented proactively and consistently to improve safety outcomes at many locations at once.

To support this approach, countywide crash data were analyzed with an emphasis on fatal and serious injury crashes occurring at roadway segments and intersections. Crashes were evaluated across multiple contextual factors, including area type (urban/rural), speed limit, and intersection control type, to identify the most prevalent severe crash types throughout the county. The results of this analysis inform a toolbox of proven, scalable countermeasures that can be applied across municipalities and roadway owners to address the most common contributors to severe crashes and maximize the impact of available safety funding.

Systemic safety improvements are most effective when they directly address the crash types that contribute most to fatal and serious injuries. Based on the countywide analysis of severe crashes, Exhibit 5-2 summarizes common systemic countermeasures associated with the most prevalent fatal and serious injury crash types in Allegheny County. These strategies are intended to be applied broadly and repeatedly, rather than on a location-by-location basis, to reduce crash severity across the roadway network.

SS4A Alignment and Implementation Readiness

This section meets SS4A requirements by translating Allegheny County's safety analysis into prioritized actions that reduce fatal and serious injuries, combining systemic strategies, evidence-based countermeasures, and targeted High-Injury Network projects to support implementation and SS4A grant readiness.

SS4A REQUIREMENTS CHECKLIST

Builds directly on a data-driven safety analysis and High-Injury Network

- ✓ Data-driven, based on High-Injury Network analysis
- ✓ Focused on fatal and serious injury reduction
- ✓ Implements Safe System, systemic, and proactive strategies
- ✓ Uses evidence-based FHWA/NHTSA countermeasures
- ✓ Addresses vulnerable road users and high-risk behaviors
- ✓ Prioritizes location-specific projects with documented need
- ✓ Demonstrates implementation readiness and benefit–cost justification
- ✓ Supports multi-jurisdictional coordination and SS4A funding eligibility analysis
- ✓ Supports multi-jurisdictional coordination and eligibility for SS4A Implementation funding

Exhibit 5-2: Systemic Safety Improvements by Crash Type

Crash Type	Systemic Safety Solutions	Key Safety Benefit
Angle (Side-Impact)	<ul style="list-style-type: none"> ▪ Install advance intersection warning signs (e.g., “cross traffic does not stop”) ▪ Increase sight distance via vegetation and geometric improvements ▪ Add protected left-turn signal phases and optimize signal timing ▪ Enhance intersection lighting ▪ Access management (close/consolidate driveways, add medians) ▪ Offset or realign skewed intersection approaches ▪ Convert intersections to roundabouts or all-way stop control 	Reduces conflicting movements, clarifies right-of-way, and slows speeds to survivable levels
Hit Fixed Object	<ul style="list-style-type: none"> ▪ Install curve delineation (chevrons, object markers, advisory speeds) ▪ Install breakaway sign and light supports ▪ Install edgeline and shoulder rumble strips ▪ Enhance night visibility and lighting ▪ Install guiderail with compliant end sections ▪ Improve clear zone (remove, relocate, or shield hazards) 	Makes the roadside more forgiving, prevents roadway departures, and reduces impact severity
Rear-End	<ul style="list-style-type: none"> ▪ Optimize signal timing on coordinated corridors ▪ Install retroreflective backplates and larger signal heads or additional signal faces ▪ Install advance warning flashing beacons for upcoming signals ▪ Improve sight distance to signals and queue areas ▪ Install high-friction surface treatments 	Reduces sudden braking and congestion-related crashes by improving flow, visibility, and stopping distance
Head-On and Sideswipe	<ul style="list-style-type: none"> ▪ Install centerline rumble strips ▪ Install shoulder rumble strips ▪ Install widened centerlines (painted buffers) ▪ Install speed feedback signs ▪ Install cable or median barriers on divided roads 	Prevents lane departures into opposing traffic, manages risky passing, and provides recovery opportunities
Hit Pedestrian	<ul style="list-style-type: none"> ▪ Install high-visibility crosswalks and advance stop/yield markings ▪ Add Leading Pedestrian Intervals (LPIs) at traffic signals ▪ Install pedestrian countdown timers and accessible pedestrian signals ▪ Speed management through traffic calming (signage, feedback, minor treatments) ▪ Reduce crossing distances (curb extensions, bulbouts) ▪ Install pedestrian refuge islands ▪ Improved street lighting at crossings ▪ Lane narrowing and road reconfiguration (right-sizing) ▪ Install separated or buffered sidewalks and shared-use paths 	Increases pedestrian visibility, provides safe crossing opportunities, and lowers vehicle impact speeds

Targeted Safety Projects

In addition to the countywide countermeasure toolbox and systemic safety solutions, this Comprehensive Safety Action Plan identifies ten priority corridors with targeted, location-specific recommendations. These corridors were selected through a data-driven prioritization process based on the Allegheny County High-Injury Network and represent locations with a high concentration of fatal and serious injury crashes. The recommended projects reflect opportunities where focused investments and coordinated action by roadway owners can achieve meaningful safety improvements during the implementation phase of the CSAP. These recommendations are conceptual and are not currently programmed or funded projects but are intended to guide future planning, funding pursuits, and implementation efforts by partner agencies.

Exhibit 5-3: Corridor Selection Process

Corridor Prioritization

Exhibit 5-3 summarizes the corridor selection and prioritization process that used the Allegheny County HIN and priority intersection and segment locations. Adjacent intersections and segments that scored highly in the HIN were grouped into logical corridors. This resulted in 84 candidates for screening and scoring.

Corridors that already have safety projects planned, underway, or recently constructed were removed from consideration. SPC's Transportation Improvement Program (TIP), PennDOT's 12-Year Program (TYP), and project lists from the City of Pittsburgh and Allegheny County were referenced.

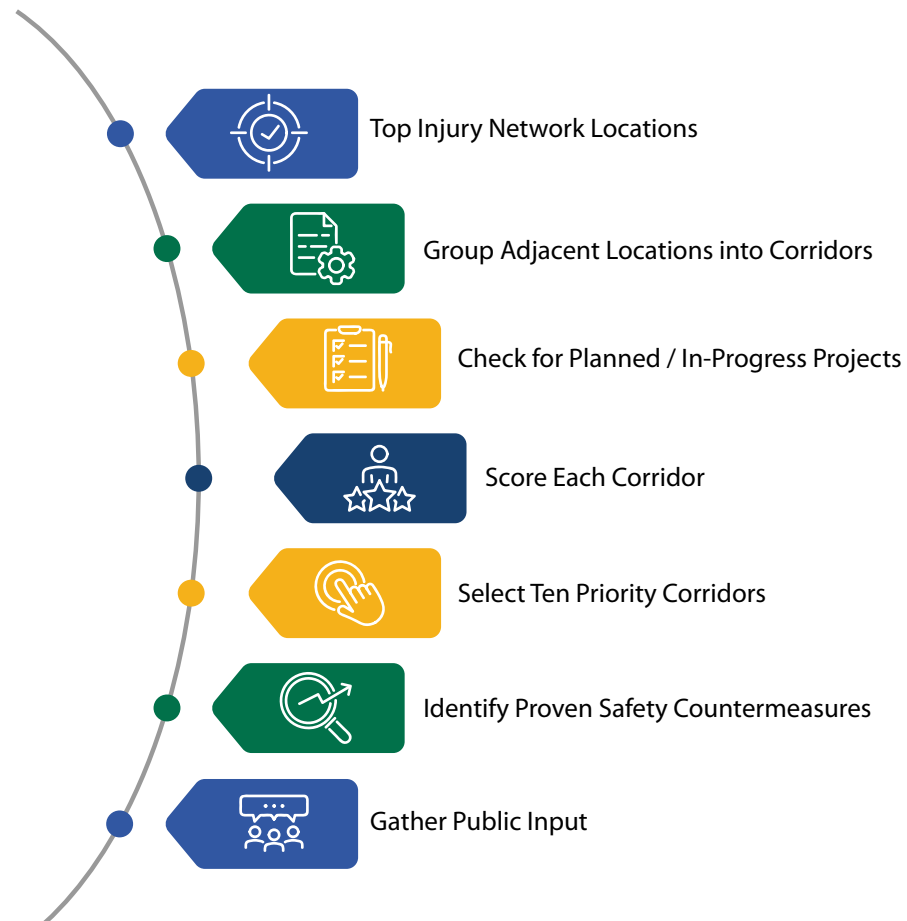


Exhibit 5-4 shows the range of safety and community-focused scoring metrics that were used and the associated weights. Each metric was converted to a score by percentile ranking all corridors, then summing and weighting, to produce a weighted corridor score between 0 and 1.

The Steering Committee reviewed the results of the scoring to select the ten priority corridors for inclusion in the CSAP, which consist of a mix of road ownership (City, County, State). This collaborative approach ensured that corridor prioritization reflects objective safety metrics and focuses on corridors that do not already have substantial planned safety improvements. The Appendix contains a full list of candidate corridors that were evaluated.

Selected Corridors

Exhibit 5-5 shows the location of the ten priority corridors in Allegheny County. This section introduces each corridor and provides other considerations, then presents a project sheet for each corridor.

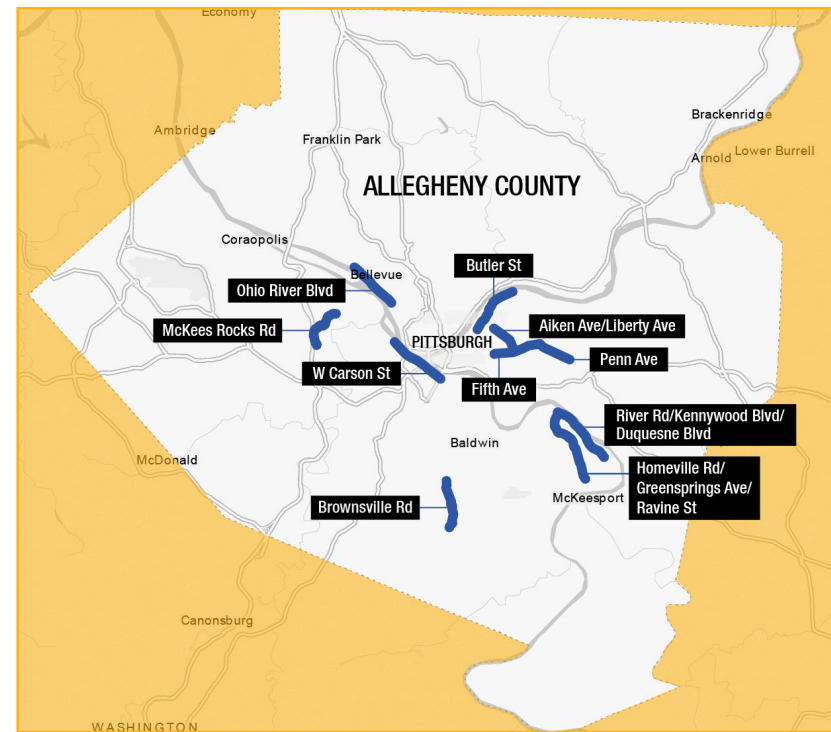
The project sheets contain:

- Corridor characteristics
- Crash and severity data (2019-2023)
- A map indicating the locations of proposed safety countermeasures
- A planning-level estimate of project costs
- Benefit-cost analysis
- Supporting graphics of key intersections or locations

Exhibit 5-4: Corridor Scoring Metrics

Metric	Description	Weight
EPDO Crash Rate	The average Equivalent Property Damage Only crash rate per million entering vehicles across all intersections and segments within the corridor	25%
Fatal and Serious Injury Crash Rate	The average rate of fatal and serious injury crashes per million entering vehicles for all intersections and segments along the corridor	25%
Vulnerable Road User Crash Rate	The average crash rate involving vulnerable road users per million entering vehicles for the entire corridor	25%
Underserved Communities	The relative length of the corridor that either borders or lies within the USDOT's designation of Areas of Persistent Poverty	15%
Community Input	The number of community-identified safety concerns that are located along the corridor, as recorded through the Phase 1 interactive map survey	10%

Exhibit 5-5: Priority Corridors





Fifth Avenue

Bellefield Avenue to Penn Avenue (SR 0008)

This potential project would enhance the safety of pedestrians, bicyclists, transit users, and drivers by improving pedestrian space and intersection design. This includes making pedestrian crossings along the corridor safer with curb bulbouts, crosswalks, wider sidewalks, bus shelters, and traffic signal backplates. Alternatives include widening sidewalks and reducing sidewalk obstacles, road reconfiguration, or a Complete Street alternative with a dedicated bus lane and a protected two-way cycle track. All Fifth Avenue alternatives are conceptual and would require further feasibility study and design.

Pittsburgh Regional Transit is constructing the University Line Bus Rapid Transit (BRT) Project in downtown Pittsburgh, Uptown, and Oakland. As part of the PRT project, dedicated bus-only lanes will be added on Forbes Avenue and Fifth Avenue in Oakland, as well as a two-way cycle track along Fifth Avenue. The dedicated bus lane and cycle track on Fifth Avenue extend to Bellefield Avenue, the western terminus of the CSAP project corridor.

Through refinement and discussion with the Steering Committee, the ultimate Fifth Avenue corridor concept is envisioned as a hybrid of multiple alternatives.

The City's preferences emphasize solutions that fit within the existing right-of-way while transitioning from the western BRT typical section to a reconfigured Fifth Avenue with wider sidewalks extending east to Penn Avenue. The Fifth Avenue corridor could comprise three distinct typical sections from west to east. The first approximately 0.25-mile segment, from Bellefield Avenue to Neville Street, could continue the dedicated inbound BRT lane and a two-way cycle track alongside three travel lanes. The second approximately 0.25-mile segment, from Neville Street to Morewood Avenue, could retain three travel lanes and the two-way cycle track, where the cycle facility would provide connections to existing or planned bicycle facilities on cross streets. The third and longest segment, approximately 1.7 miles from Morewood Avenue to Penn Avenue, could continue with three travel lanes, with the center lane operating either as a continuous two-way left-turn lane or as dedicated left-turn lanes at key intersections (pending further analysis). In this eastern segment, sidewalks would be widened by shifting curb lines inward toward the roadway to better accommodate high pedestrian volumes and to support enhanced transit stops and shelters along the corridor.

The actual layout of a roadway configuration should be examined with multimodal traffic analysis, community input, and assessment of right-of-way, constructability, and environmental constraints. Design would occur on a block-by-block basis to reduce conflicts between vulnerable road users and passenger vehicles and buses.

The Wilkins Avenue intersection is a priority for reconfiguration due to the skewed geometry and pedestrian and vehicular safety concerns. A conceptual intersection option shows how the intersection could function with an alignment adjustment.

Countermeasures near Mellon Park consider the 2022 Mellon Park Action Plan to unify the park across Fifth Avenue and promote speed control along the corridor and at the Beechwood Boulevard intersection.

Reconfiguration of the Fifth Avenue at Penn Avenue intersection would improve sight distance for drivers and pedestrians by removing the channelized eastbound right turn, resulting in better pedestrian visibility, slower vehicle speeds, and shorter crossing distances.



Aiken Avenue and Liberty Avenue


Fifth Avenue to Bloomfield Bridge

This potential project will enhance the safety of pedestrians, bicyclists, transit users, and drivers by improving pedestrian space and intersections. This includes making pedestrian crossings and bicycling along the corridor safer with a more continuous protected bike lane, bike boxes, curb bulbouts, crosswalks, rapid flashing beacons, and traffic signal backplates.

The Bloomfield Bridge intersection is at the western limit of the corridor. There is ongoing intersection design work by the City of Pittsburgh at this location for the traffic signal, improved pedestrian crossings, and tightening up the intersection so turning vehicles move more safely. Bus stop consolidation should be considered during detailed design to provide shelters in coordination with the Bloomfield Bridge intersection redesign.

The City completed the bike lanes on Aiken Avenue from Ellsworth Avenue to Baum Boulevard/Liberty Avenue in 2022. If the Road Reconfiguration or Complete Street alternatives of the Fifth Avenue corridor are advanced, connecting the existing bike facilities on Aiken Avenue to Fifth Avenue would be beneficial to creating a more complete bike network. However, there would be impacts to on-street parking through that section of Shadyside.

It is recommended during detailed design that the proposed curb bump outs and boardings at bus stop locations along Liberty Avenue be compared on a block-by-block basis to consolidate bus riders to the safest locations to provide shelters and reduce conflicts between traffic, pedestrians, cyclists, and buses.



Penn Avenue (SR 0008) Fifth Avenue to Hay Street

This potential project would enhance the safety of pedestrians, transit users, and drivers by improving the pedestrian space and intersection design. This includes making pedestrian crossings on side streets safer with curb bulbouts and crosswalks, and improving travel along the corridor through clear pavement markings, parking restriction signage, and traffic signal backplates. Alternatives investigated include widening sidewalks and reducing sidewalk obstacles, or a road reconfiguration.

A road reconfiguration alternative was investigated but was considered less feasible than other countermeasures under consideration. This concept would reduce through travel lanes to one lane in each direction, with dedicated left-turn lanes, in order to reallocate roadway space for other modes such as widened sidewalks and potential bicycle infrastructure. However, Penn Avenue carries approximately 20,000 to 30,000 vehicles per day (depending on the segment) and serves as a designated detour route for the Parkway (I-376). Given these traffic volumes and its regional function, a lane reduction raised operational concerns and is not consistent with FHWA guidance for corridors with higher volumes. In addition, reducing through capacity could encourage diversion of traffic to parallel neighborhood streets, with potential safety and congestion impacts.

However, safety improvements can be made systematically to better organize pedestrian and driver expectations. Bus stops, shelters, and crosswalk locations should be assessed based on pedestrian and driver behavior and roadway geometry, consolidated to the safest locations with adequate sight distance, and marked with high-visibility crosswalks and lighting. Speed control countermeasures, including automated speed enforcement and design features creating lower through speeds should be considered while balancing impacts on through traffic and freight.



Butler Street 34th Street to 62nd Street Bridge (SR 0008)

This potential project will enhance the safety of pedestrians, bicyclists, transit users, and drivers by improving pedestrian space and intersections. This includes making crossings at intersections safer with curb bulbouts, crosswalks, traffic signal backplates, and access management.

Due to Butler Street's constrained right-of-way, proposed countermeasures include curb bulbouts that expand the public realm while also slowing vehicle speeds, increasing pedestrian visibility, and reducing crossing time exposure. Bulbouts can provide additional benefits with opportunities for stormwater management and vegetation along the corridor.

The proposed countermeasures for this corridor have a particular focus on intersections with lower pedestrian visibility and areas with bus stops. The curb bulbouts will reduce crossing distances and help to slow traffic.

The countermeasures also capture the intent of the 2019 Butler Streetscape Design Guidelines. The community-led guidelines provide block-by-block recommendations from Doughboy Square to 57th Street.

 **W Carson Street
(SR 0051/SR 0837) and
Arlington Avenue**
P.J. McArdle Roadway to Corliss Street

This potential project will enhance the safety of pedestrians, bicyclists, transit users, and drivers by improving the pedestrian space and intersections. This includes making pedestrian crossings along the corridor safer with crosswalks, widening of sidewalks, mid-block crossings (further study required), rapid flashing beacons, and traffic signal backplates.

There has been a longstanding interest in creating a safe neighborhood connection from the West End and Manchester neighborhoods to other parts of the City of Pittsburgh. Local Pittsburgh nonprofit Riverlife is leading the West End Bridge

Connectors Project, which proposes two tie-ins to the Three Rivers Heritage Trail across the river. A trailhead will be added to Riverside Street that will run parallel to West Carson Street and connect at the West End Bridge Intersection.

Moving north, there is a secondary tie-in underneath the West End Bridge that extends through an existing railroad tunnel that connects to Steuben Street. These tie-ins will help complete the bike network.

The City of Pittsburgh and BikePGH identify this portion of West Carson Street as a cautionary bike route and the implementation of protected bike lane infrastructure can further enhance this corridor. This would require road reconfiguration and will require further study.

The area has a tourist draw, with sporting events at the Highmark Stadium, Station Square, and the Gateway Clipper, and the Duquesne Incline, a historic funicular that is used by residents and tourists alike. The current state of the transportation facilities surrounding the incline is non-ADA compliant, with the piers of the overhead pedestrian bridge impeding the clear zone of the sidewalk on the northern edge. The corridor project includes potential options for increasing the sidewalk clear width to improve accessibility.

The West Carson Street corridor is bookended to the east and west by two of the most complex intersections in the region. On the

western limit, West Carson Street meets the West End Bridge which intersects Steuben Street, South Main Street, and Saw Mill Run Boulevard. There are many structures related to this intersection, along with steep topography and active rail lines.

Similarly, to the east, the corridor terminates under the Liberty Bridge in the vicinity of PRT's tracks for the T line, P.J. McArdle Roadway, and the Liberty Tunnel. There is steep topography present in this area along with active rail lines, structures, and tight horizontal and vertical geometry that complicate traffic operations. These two complex intersections are recommended for further in-depth study to analyze ways to simplify traffic operations and improve safety, while examining the structures and their associated maintenance within existing topographical and environmental constraints.



Ohio River Boulevard (SR 0065)

McKees Rocks Bridge (SR 3104) to Laurel Avenue

This potential project will promote safety by installing sidewalk extensions and widening, as well as improving sidewalks. The following intersections have additional enhancements:

- **McKees Rocks Bridge** – add high-friction surface treatment, delineation, and improved wayfinding.
- **Grant Avenue** – install one-way signage and pavement markings on Grant Avenue, and intersection warning signage/markings.
- **Riverview Avenue** – install tracer lines for Ohio River Boulevard left turns, improved pavement markings, median barrier delineation, and “Do Not Enter”, “Wrong Way”, “Enter Here” signage.
- **Driveways near Red White and Blue Thrift Store** – install raised median island or flex posts, and signage to restrict left turns.

BikePGH identifies the McKees Rocks Bridge as having a bikeable sidewalk and Brighton Heights Boulevard as a cautionary bike route connecting to existing on-street bike routes. Bicycle guide signs are proposed to route bicyclists from the McKees Rocks Bridge sidewalks to Brighton Heights Boulevard.

Additional driveways near the Red White and Blue Thrift Store could also be considered for raised median islands or flex posts, and/or signage to restrict left-turns. The crash history shows the highest density near the thrift store; however, there were also crashes near the other driveways.

As improvements advance, the multi-municipal Route 65 Corridor Study and Strategic Design Guide can also serve as a reference, demonstrating the value of coordinated planning and consistent design approaches along this corridor that function as both regional highway and local main street.



McKees Rocks Road and Lorish Road

Steubenville Pike (SR 0060) to Heckel Road

This potential project will enhance roadway safety by installing curve warning improvements, adding high-friction surface treatment, improving sight distance on curves, and installing centerline and edgeline rumble strips. Sidewalk extensions are proposed in two locations on the corridor.

The following intersections have additional enhancements:

- **Clever Road** – assign the lanes on Langer Way to left and through-right to match Clever Road.
- **Beecham Drive** – convert to all-way stop-controlled intersection (further traffic study needed).
- **Steubenville Pike** – add protected only left-turn phasing (a flashing yellow arrow was recently installed, and its effects should be evaluated before making this change).



Homeville Road, Greensprings Avenue, and Ravine Street

Homestead Duquesne Rd to 8th Avenue (SR 0837)

This potential project will enhance roadway safety by installing parking lane lines, speed tables, sharrows, and parking guidance on Ravine Street. Key recommendations include curve warnings and sidewalk extensions along the corridor. The following intersections have additional enhancements:

- **Duquesne Avenue** – realignment of northern slip lane, crosswalks, and sign revisions. Two conceptual intersection options show how the intersection could function with a reconfiguration.
- **Commonwealth Avenue** – remove islands and improve pedestrian accommodations, including crosswalks and curb ramps.

Greensprings Avenue and Ravine Street are designated as an existing on-street bike route from Donna Avenue to 8th Avenue. With the implementation of the proposed traffic calming strategies, sharrows could also be installed to highlight the presence of bicycles.



Brownsville Road **Broughton Road (SR 2040) to** **Baptist Road (SR 3009)**

This potential project will enhance roadway safety by improving curve warning, signing, and high-friction surface treatment for major intersections such as Baptist Road, Streets Run Road, and Curry Hollow Road. The following intersections also have enhancements:

- **Baptist Road** – add crosswalks, study the restriction of right turns on red.
- **Streets Run Road** – realignment of skewed intersection.
- **Curry Hollow Road** – add supplemental signal head, lighting, and protected left-turns.



River Road / Kennywood **Boulevard / Duquesne** **Boulevard (SR 0837)**

Ravine Street to Overland Avenue

This potential project will enhance roadway safety by installing sidewalk extensions and improving maintenance of sidewalks throughout the corridor.

The following intersections have additional enhancements:

- **Commonwealth Avenue** – add protected left-turn phasing with lane utilization signage.
- **Hoffman Boulevard** – extend sidewalk, install new bus shelters, add Kennywood gateway signing, add protected left-turn phasing with lane utilization signage, add right-turn lane on Hoffman Boulevard, and install lighting.
- **Glenn Street** – add protected left-turn phasing with lane utilization signage and install sidewalk and curb ramps on the southwest corner.
- **Rankin Bridge** – install raised median islands, adequate delineation, and high-visibility pavement markings.

The proposed intersection improvements to provide dedicated northbound left-turn lanes at Commonwealth Avenue, Hoffman Boulevard, and Glenn Street require further study of traffic volumes and potential roadway reconfiguration, including conversion of one existing northbound through lane to turn-lane use.

BikePGH identifies this corridor as a cautionary bike route from Ravine Street to Commonwealth Avenue. Protected bicycle lanes should be considered for this stretch of corridor if vehicular lanes are reconfigured to encourage reduced speed.

PRT plans to implement transit access improvements along the Homestead-McKeesport corridor. These improvements should be coordinated and incorporated into this CSAP corridor project to the extent possible.

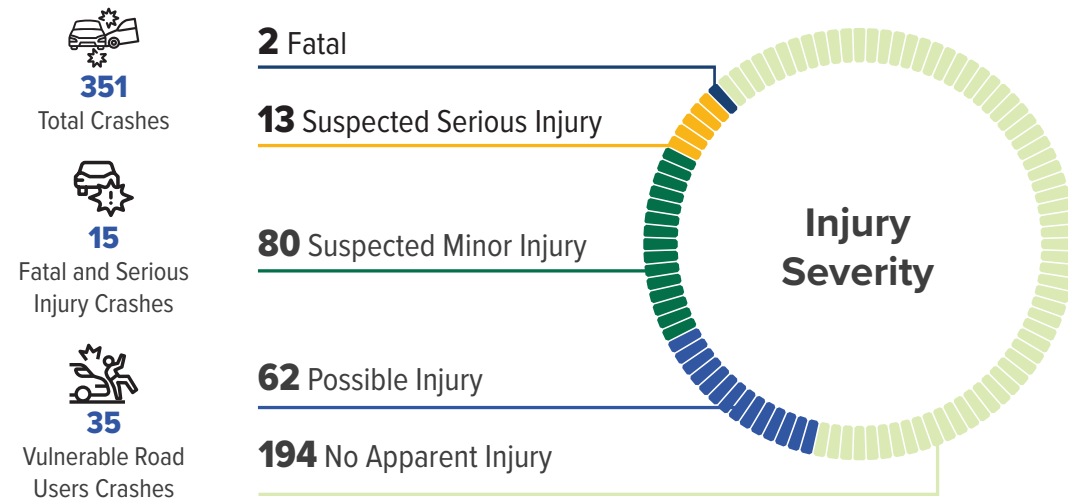
The following pages present project sheets that summarize corridor characteristics, recent crash and severity data (2019–2023), mapped locations of proposed safety countermeasures, planning-level cost estimates, benefit–cost analyses, and supporting graphics highlighting key intersections and locations. Additional details on costs and benefits can be found in the Appendix.

Fifth Avenue

CORRIDOR CHARACTERISTICS

- + Location: Bellefield Avenue to Penn Avenue
- + Length: 2.2 miles
- + Municipality: Pittsburgh
- + Road Owner: City of Pittsburgh
- + Number of Intersections: 26
- + Functional Classification: Other Principal Arterial
- + Posted Speed Limit: 25 mph / 35 mph
- + Context: Urban
- + Underserved Community: Yes - Partially
- + AADT (2024): 18,800 - 22,000
- + Truck % (2024): 4%

CRASH AND SEVERITY DATA (2019-2023)



CRASH CHARACTERISTICS

Collision Type	52% Angle	13% Head-On/Sideswipe	15% Rear-End	10% Pedestrian Struck
Road Condition	78% Dry	3% Wintry	18% Wet	
Illumination	63% Daylight	34% Dark	3% Dawn or Dusk	
Driver Actions	70% Aggressive	9% Distracted	9% Ran Red Light	9% Proceed w/o Clearance

COST AND BENEFITS

Planning & Engineering	Right-of-Way	Construction / Implementation	Present Value of Total Costs	Present Value of Total Benefits	Benefit / Cost Ratio
\$2,237,000	\$0	\$18,645,000	\$22,228,000	\$63,386,000	2.9

Note: Present value of total costs may include future maintenance, operations, or rehabilitation costs in addition to total initial costs.



PROPOSED SAFETY IMPROVEMENTS

- Access Management
- Advance Warning Signage
- Crosswalk Installation
- Curb-Bulbouts Installation
- Intersection 3-Way Crosswalk
- Intersection 4-Way Crosswalk
- Intersection Alignment
- Lighting Improvements
- Mid-block Crossing (further study)
- Pedestrian Refuge
- Pedestrian Signals
- Protected Bike Lane (further study)
- Rapid Flashing Beacons (RRFB)
- Remove Slip Access
- Signal Backplates
- Targeted Enforcement Sign
- Transit Shelters
- Wayfinding
- Widen Sidewalk

Fifth Avenue

EXISTING CONDITIONS:

Fifth Avenue is a City-owned east-west corridor that handles multimodal traffic, including transit, vehicular traffic, walking, and cycling. The surrounding land use includes medium-density apartment complexes, single family residential, and parks, and the corridor serves many residents, college students, and commuters. This corridor provides a direct cross connection through 3 major neighborhoods in the city. Due to the current 4-lane roadway configuration, vehicular speeding is a recurring problem and a high rate of crashes has been noted due to many conflicts with left-turning traffic, buses, and high pedestrian activity. Three corridor typical sections are presented as alternatives to the current configuration.

SIDEWALK EXPANSION:

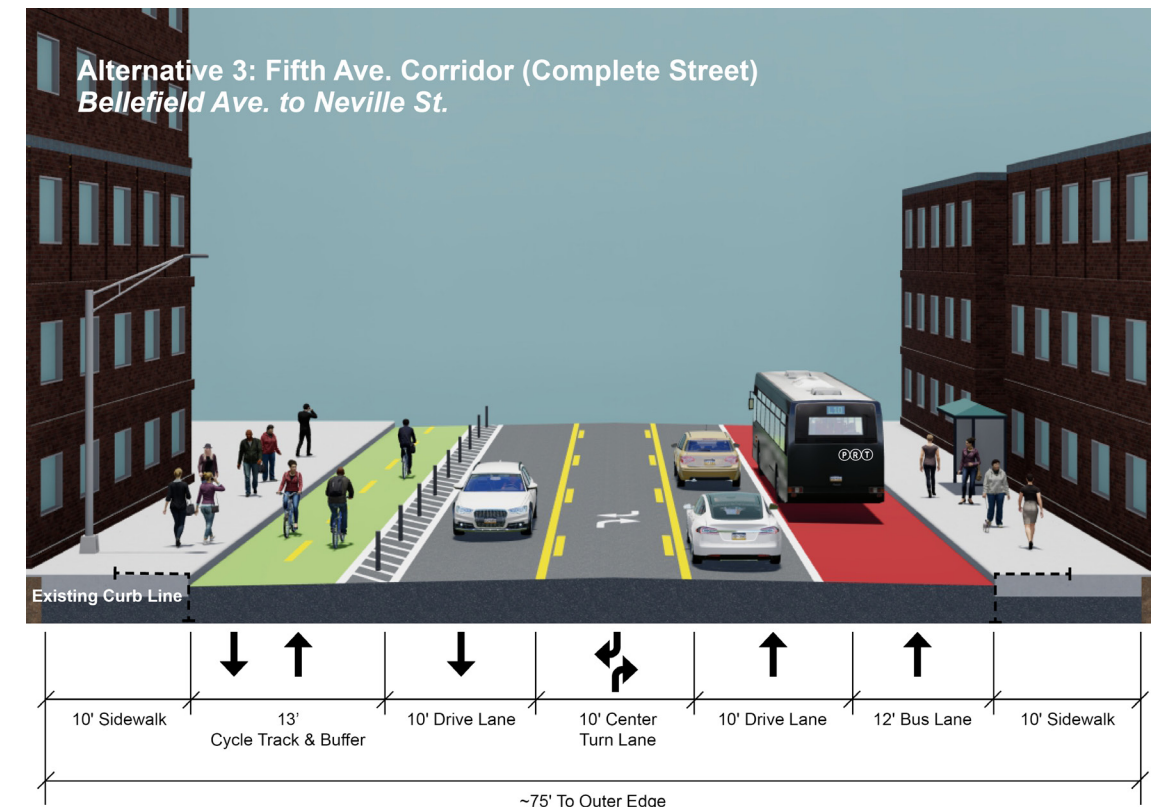
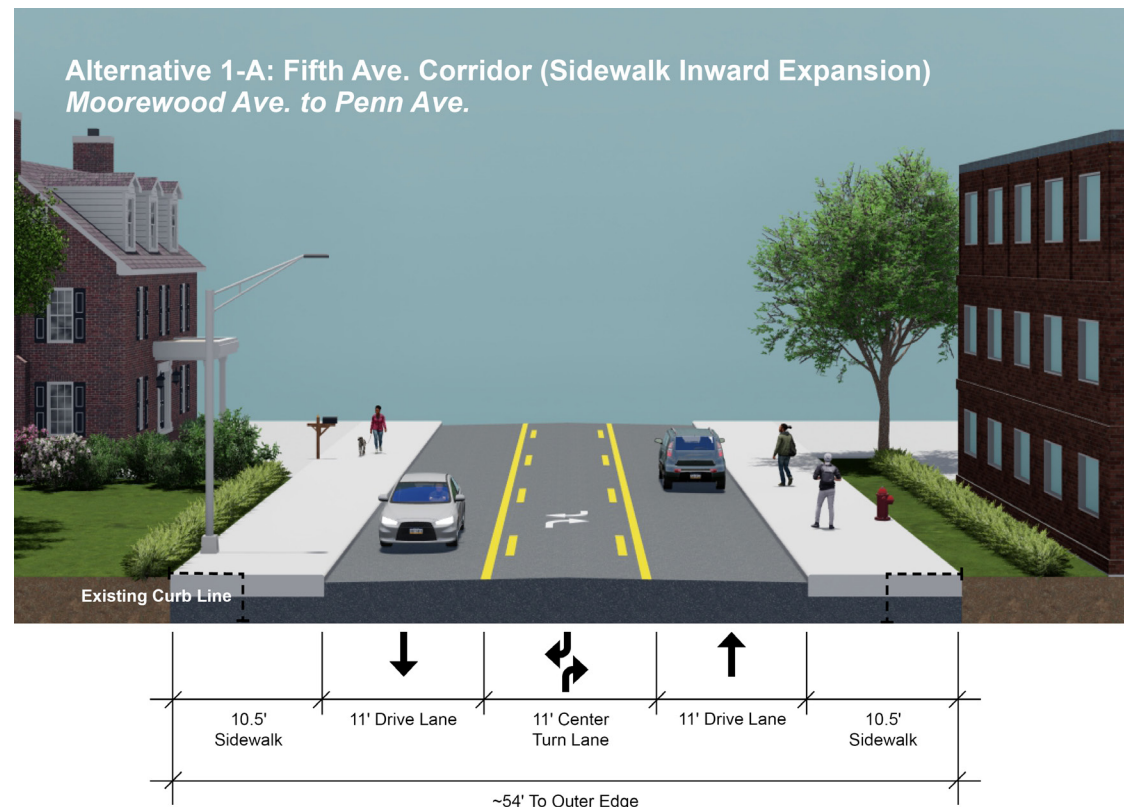
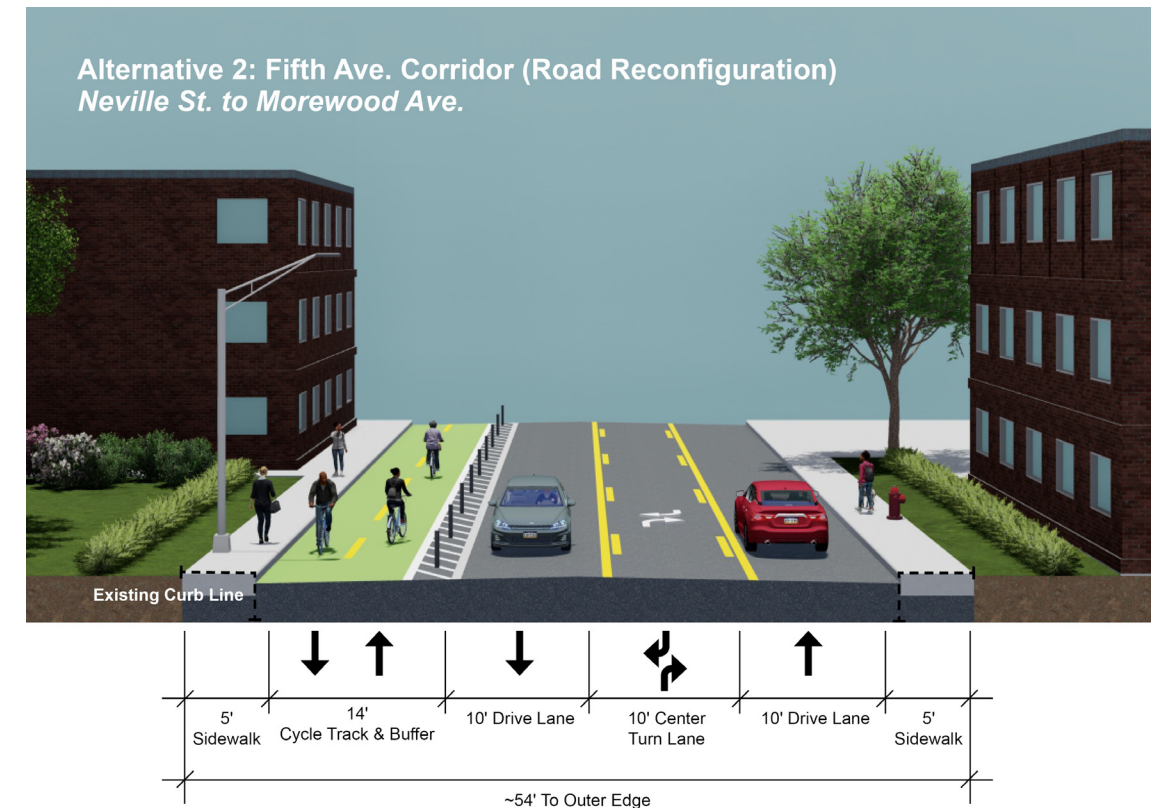
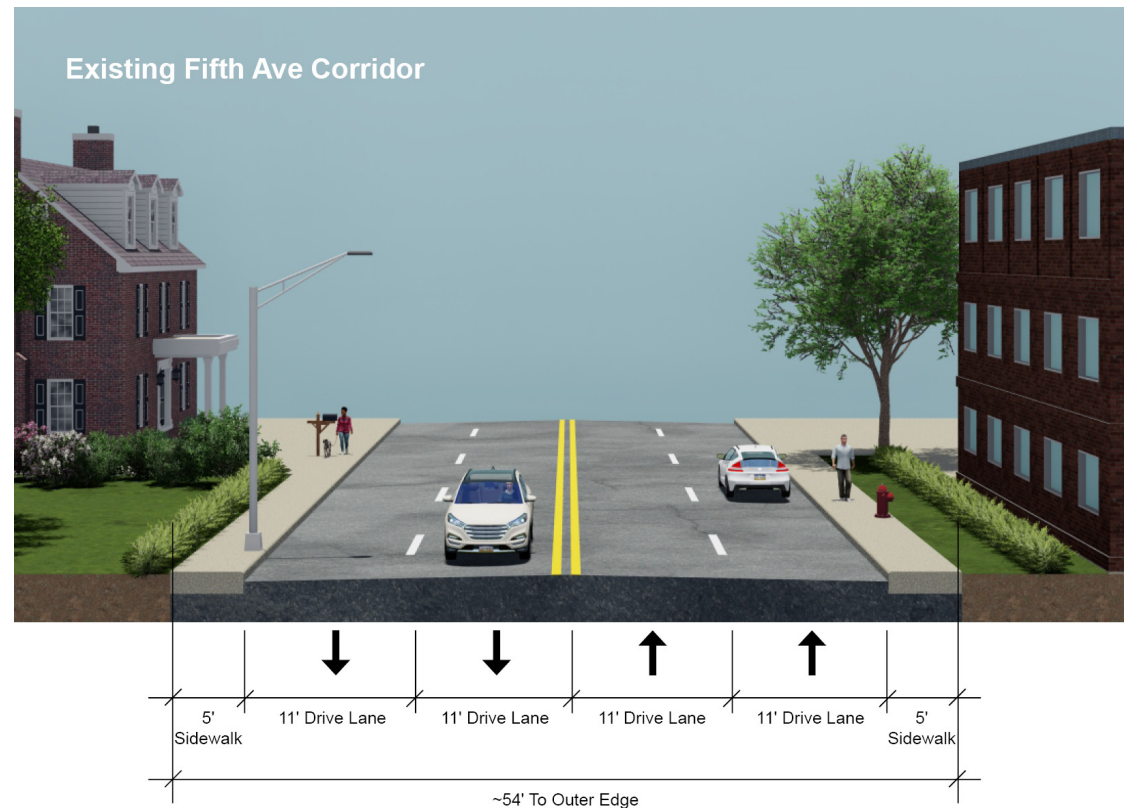
Sidewalks along Fifth Avenue east of Neville Street are generally narrow and present challenges for wheelchair users and people with strollers. To improve accessibility and pedestrian comfort, the alternative considers both physical sidewalk widening and improvements to the pedestrian clear path. While outward sidewalk expansion was evaluated, it is less feasible due to right-of-way limitations. Instead, sidewalks would be widened where possible by shifting curb lines inward toward the roadway, consistent with the proposed three-lane configuration. This approach creates opportunities for improved and expanded transit stops. In addition, numerous sidewalk obstructions such as sign posts, signal and light poles, fire hydrants, and mailboxes currently reduce the effective clear width; these elements would be relocated outside the pedestrian path to provide adequate clear width for pedestrians, wheelchair users, and people with strollers.

ROAD RECONFIGURATION:

As part of the need to improve safety, convenience, and quality of life for all road users, the low-cost safety countermeasure "Road Reconfiguration" alternative can be accomplished through pavement markings and improved signage. This reconfiguration option converts the 4-lane configuration into a 3-lane configuration with a center left-turn lane and dedicated space for a cycle-track or bike lanes, which also help to buffer the sidewalk. The 3-lane reconfiguration helps to promote safety, reduce vehicle speeds, and reduce conflict points on the roadway. A detailed traffic and safety study would be required to provide block-by-block guidance to the design.

COMPLETE STREET:

To continue the Bus Rapid Transit (BRT) extension through Fifth Avenue, an alternative to reconfigure Fifth Avenue as a transit corridor was visualized. The concept repurposes two vehicular lanes to create a 10' protected two-way cycle track and a dedicated 12' bus-only lane for more efficient transit service. These concepts would foster lower speeds in the corridor, creating an environment that is more comfortable and safe to walk, bike, use transit, and commute. A detailed traffic and safety study would be required to provide block-by-block guidance to the design.



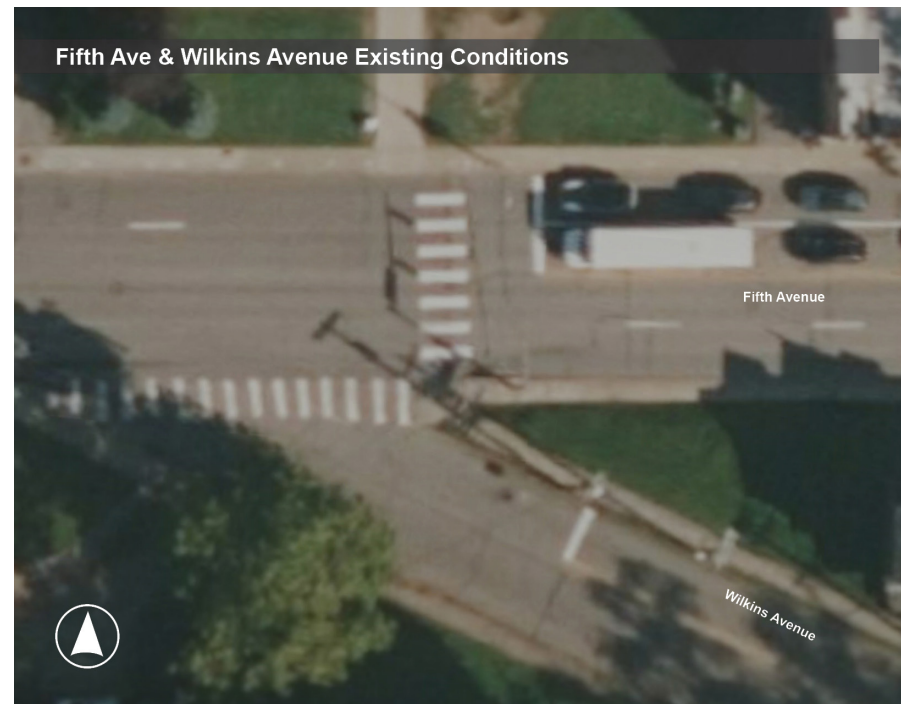
Fifth Avenue

The Fifth Avenue at Wilkins Avenue intersection is a priority for reconfiguration. Intersection realignment is proposed due to the skewed geometry and concerns of pedestrians and drivers. A realigned intersection would straighten and reduce the pedestrian crossing distance, and improve sight lines.

Reconfiguration of the Fifth Avenue at Penn Avenue intersection would also improve sight distance for drivers and pedestrians by removing the channelized eastbound right turn, resulting in better pedestrian visibility, slower vehicle speeds, and shorter crossing distances.

All Fifth Avenue alternatives are conceptual in nature and would need to be further explored through a detailed feasibility study and design.

FIFTH AVENUE AT WILKINS AVENUE: EXISTING



FIFTH AVENUE AT PENN AVENUE: EXISTING



FIFTH AVENUE AT WILKINS AVENUE: REALIGNMENT



FIFTH AVENUE AT PENN AVENUE: REALIGNMENT

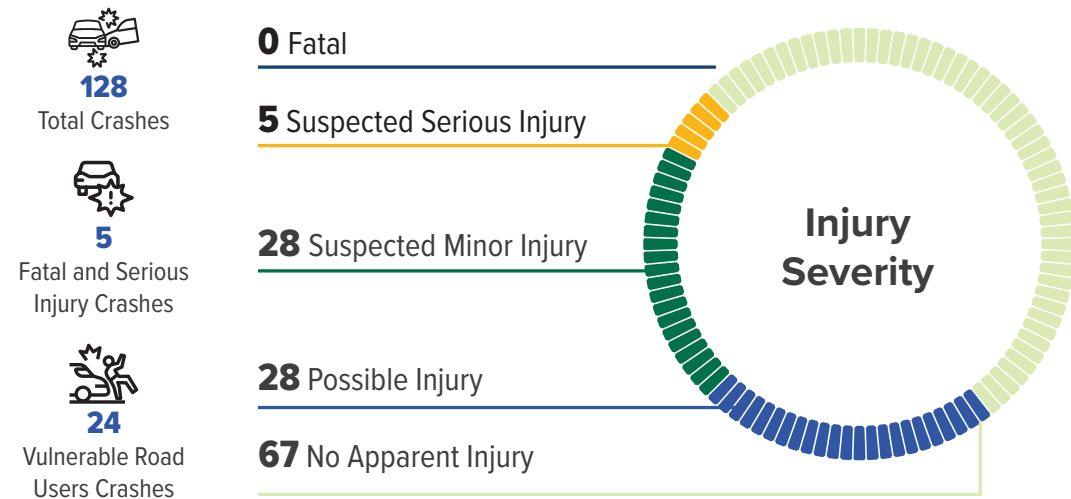


Aiken Avenue and Liberty Avenue

CORRIDOR CHARACTERISTICS

- Location: Fifth Avenue to Bloomfield Bridge
- Length: 1.5 miles
- Municipality: Pittsburgh
- Road Owner: City of Pittsburgh
- Number of Intersections: 25
- Functional Classification: Minor Arterial
- Posted Speed Limit: 25 mph
- Context: Urban
- Underserved Community: Yes - Partially
- AADT (2024): 10,200
- Truck % (2024): 3%

CRASH AND SEVERITY DATA (2019-2023)



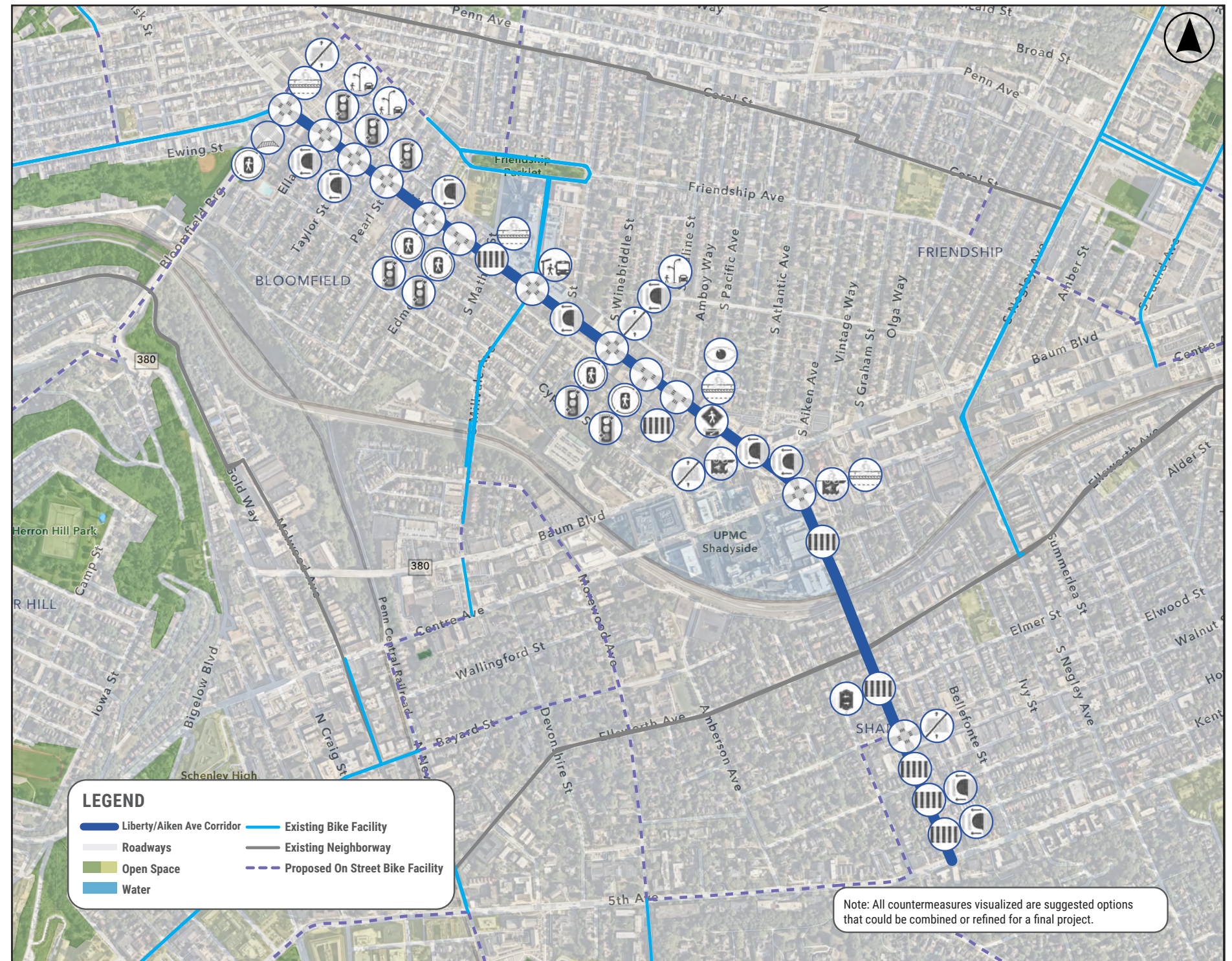
CRASH CHARACTERISTICS

Collision Type	38% Angle	14% Head-On/Sideswipe	20% Rear-End	17% Pedestrian Struck
Road Condition	75% Dry	6% Wintry	19% Wet	
Illumination	67% Daylight	32% Dark	1% Dawn or Dusk	
Driver Actions	54% Aggressive	13% Distracted	7% Speeding	9% Proceed w/o Clearance

COST AND BENEFITS

Planning & Engineering	Right-of-Way	Construction / Implementation	Present Value of Total Costs	Present Value of Total Benefits	Benefit / Cost Ratio
\$463,000	\$0	\$3,858,000	\$4,600,000	\$6,824,000	1.5

Note: Present value of total costs may include future maintenance, operations, or rehabilitation costs in addition to total initial costs. Does not include improvements to the Bloomfield Bridge intersection, which is an active City of Pittsburgh project.



PROPOSED SAFETY IMPROVEMENTS

- Access Management
- Bike Box
- Crosswalk Installation
- Curb-Bulbouts Installation
- Intersection 3-Way Crosswalk
- Intersection 4-Way Crosswalk
- Lighting Improvements
- Pedestrian Signals
- Protected Bike Lane
- Rapid Flashing Beacons (RRFB)
- Remove Slip Access
- Sight Lines
- Signal Backplates
- Transit Shelters
- Wayfinding

Note: All countermeasures visualized are suggested options that could be combined or refined for a final project.

Aiken Avenue and Liberty Avenue

LIBERTY AVENUE AT TAYLOR STREET: EXISTING



LIBERTY AVENUE AT TAYLOR STREET: RECONFIGURATION



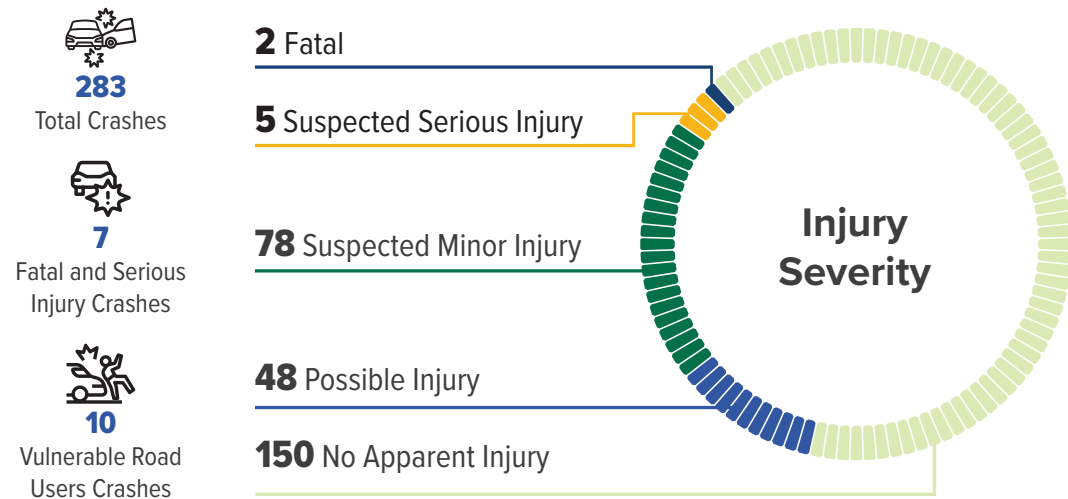
Concept for illustration purposes. Future Complete Street design treatments to Liberty Avenue could include consolidation of transit stops to key locations which would include transit islands, which would need further study and design prior to implementation.

Penn Avenue (SR 0008)

CORRIDOR CHARACTERISTICS

- Location: Fifth Avenue to Hay Street
- Length: 1.6 miles
- Municipality: Pittsburgh, Wilkinsburg
- Road Owner: PennDOT
- Number of Intersections: 17
- Functional Classification: Other Principal Arterial
- Posted Speed Limit: 35 mph
- Context: Urban
- Underserved Community: Yes - Partially
- AADT (2024): 31,000
- Truck % (2024): 4.5%

CRASH AND SEVERITY DATA (2019-2023)



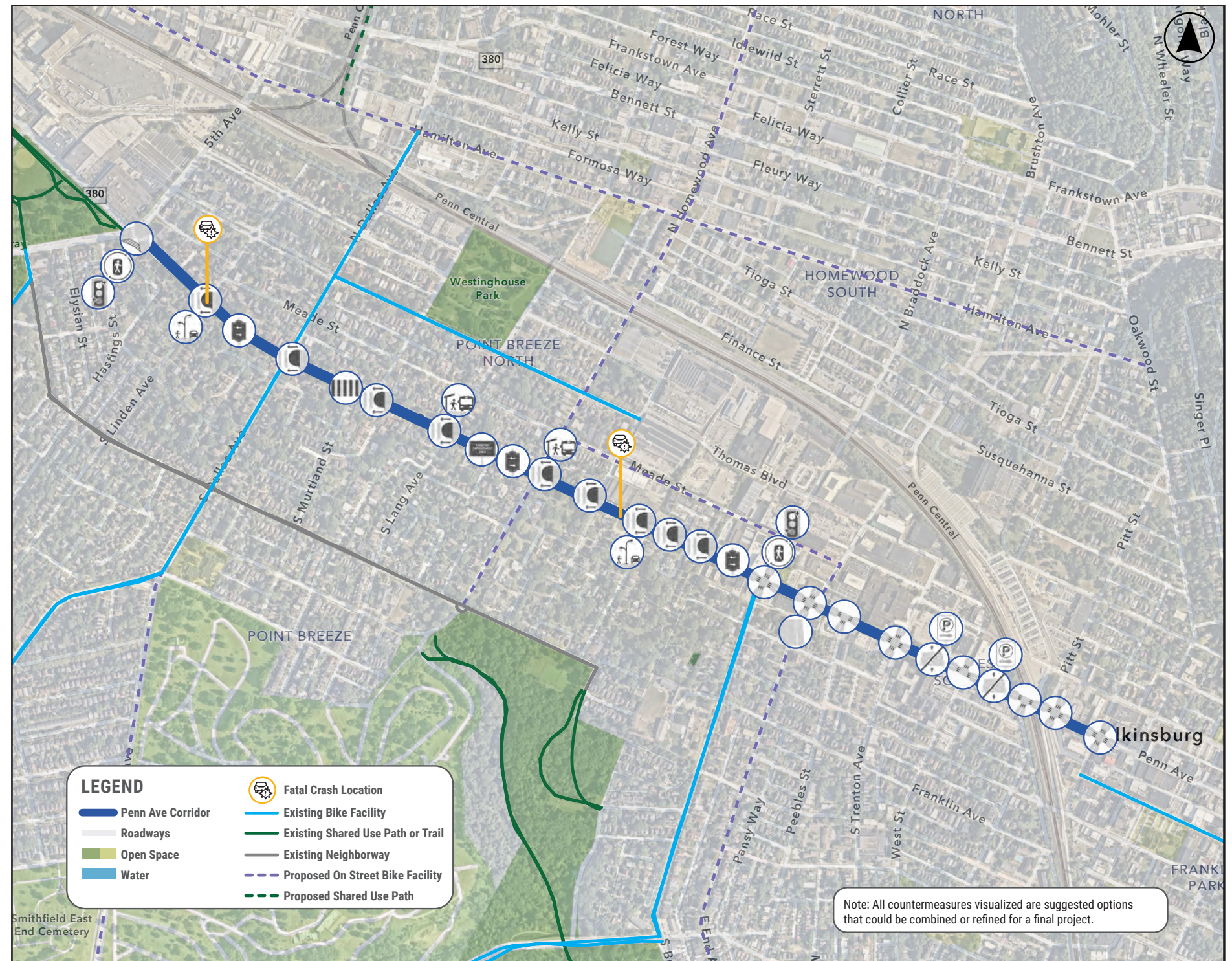
CRASH CHARACTERISTICS

Collision Type	52% Angle	13% Head-On/Sideswipe	18% Rear-End	6% Hit Fixed Object
Road Condition	83% Dry	1% Wintry	16% Wet	
Illumination	65% Daylight	29% Dark	5% Dawn or Dusk	
Driver Actions	76% Aggressive	7% Distracted	10% Speeding	9% Ran Red Light

COST AND BENEFITS

Planning & Engineering	Right-of-Way	Construction / Implementation	Present Value of Total Costs	Present Value of Total Benefits	Benefit / Cost Ratio
\$406,000	\$0	\$3,380,000	\$4,031,000	\$19,130,000	4.7

Note: Present value of total costs may include future maintenance, operations, or rehabilitation costs in addition to total initial costs. Does not include acquisition of right-of-way for sidewalk widening; only includes spot improvements.



PROPOSED SAFETY IMPROVEMENTS

- Access Management
- Crosswalk Installation
- Curb-Bulbouts Installation (Side Streets)
- Intersection 3-Way Crosswalk
- Intersection 4-Way Crosswalk
- Lighting Improvements
- Parking Restriction Signage
- Pavement Markings
- Pedestrian Signals
- Signal Backplates
- Targeted Enforcement Sign
- Transit Shelters
- Wayfinding

Note: All countermeasures visualized are suggested options that could be combined or refined for a final project.

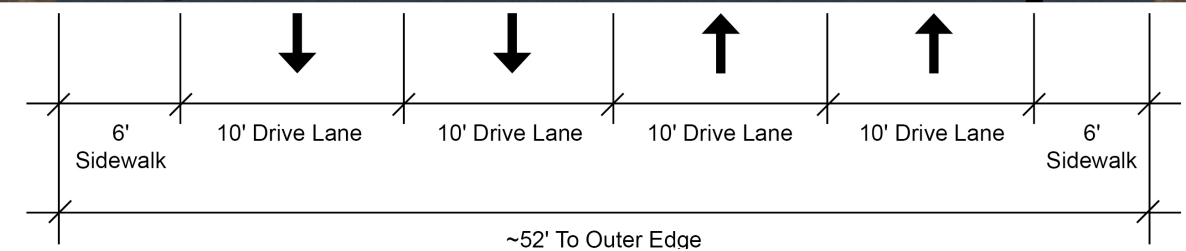
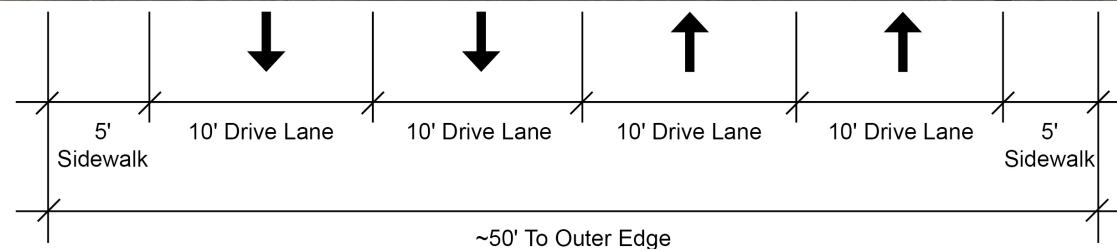
Penn Avenue (SR 0008)

EXISTING CONDITIONS:

Penn Avenue is a State-owned, generally east-west corridor (Route 8) that handles multimodal traffic, including transit, vehicular traffic, and walking. This corridor is an entrance to the City from Wilkinsburg and runs parallel to the Martin Luther King Jr. East Busway. The surrounding land use includes apartment buildings, single family residential, and commercial uses. Due to the current 4-lane roadway configuration, vehicular speeding is a recurring problem. A high rate of crashes has been noted due to conflict points with driveways, turning traffic, buses, and high pedestrian activity.

SIDEWALK REDD UP:

Sidewalks along Penn Avenue east of Fifth Ave tend to feel narrow and are challenging for wheelchair users or people with strollers to navigate. To increase accessibility along the corridor, there is a need to “Redd Up” the clear path through the sidewalk. Noted through Google Streetview, there are numerous obstructions in the path of pedestrians, including sign posts, signal and light poles, fire hydrants, and mailboxes, which restrict the sidewalk below the recommended clear width. As part of the “Redd Up” alternative, obstacles would be programmatically relocated out of the sidewalk path to provide adequate sidewalk clear width for pedestrians, wheelchair users, and people with strollers.

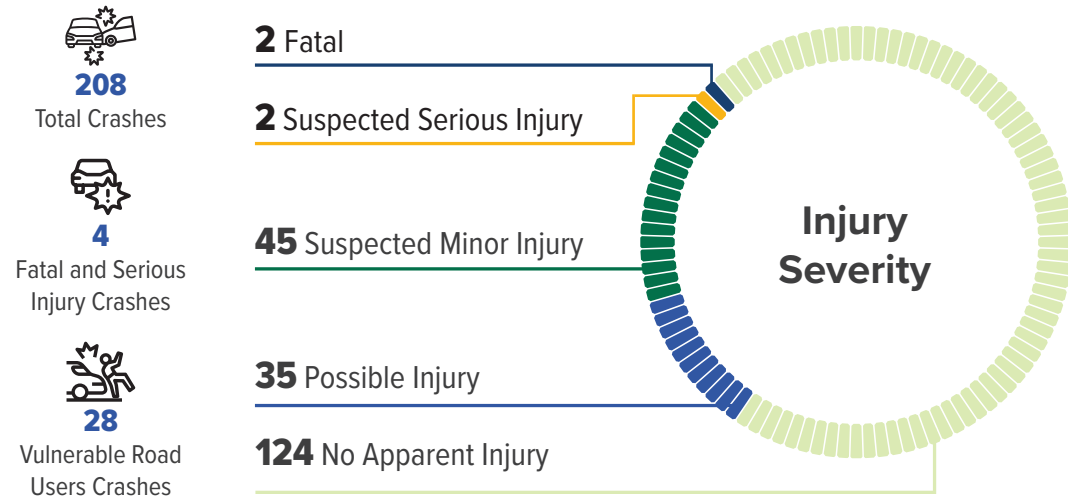


Butler Street (SR 2122)

CORRIDOR CHARACTERISTICS

- + Location: 34th Street to 62nd Street Bridge (SR 0008)
- + Length: 2.5 miles
- + Municipality: Pittsburgh
- + Road Owner: PennDOT
- + Number of Intersections: 33
- + Functional Classification: Other Principal Arterial
- + Posted Speed Limit: 25 mph / 35 mph
- + Context: Urban
- + Underserved Community: Yes - Partially
- + AADT (2024): 8,800
- + Truck % (2024): 7%

CRASH AND SEVERITY DATA (2019-2023)



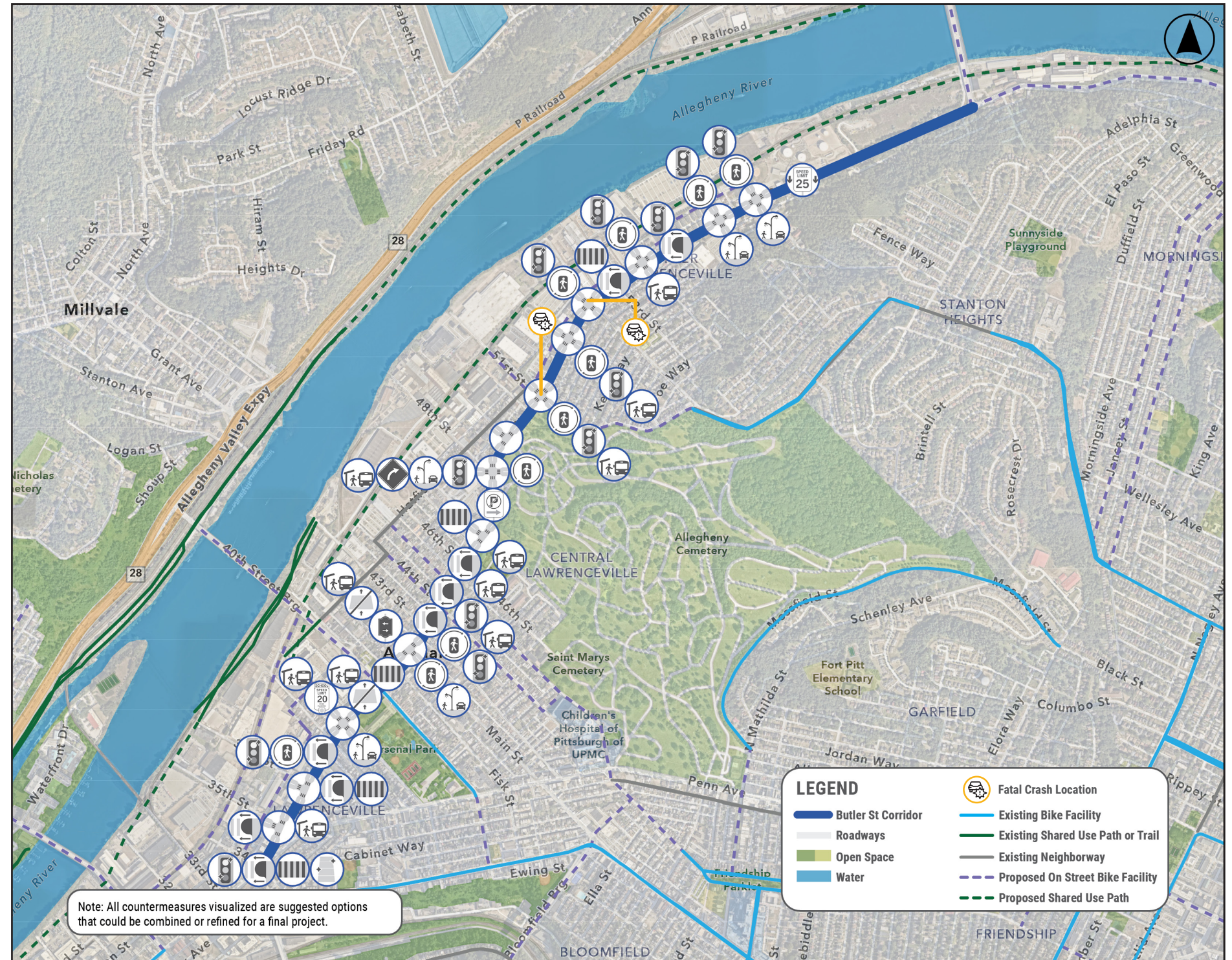
CRASH CHARACTERISTICS

Collision Type	29% Angle	13% Head-On/Sideswipe	19% Rear-End	13% Hit Fixed Object	12% Pedestrian Struck
Road Condition	77% Dry	5% Wintry	17% Wet		
Illumination	54% Daylight	42% Dark	3% Dawn or Dusk		
Driver Actions	43% Aggressive	14% Distracted	10% Speeding	10% Alcohol/Drug	

COST AND BENEFITS

Planning & Engineering	Right-of-Way	Construction / Implementation	Present Value of Total Costs	Present Value of Total Benefits	Benefit / Cost Ratio
\$904,000	\$0	\$7,536,000	\$8,985,000	\$20,105,000	2.2

Note: Present value of total costs may include future maintenance, operations, or rehabilitation costs in addition to total initial costs.



PROPOSED SAFETY IMPROVEMENTS

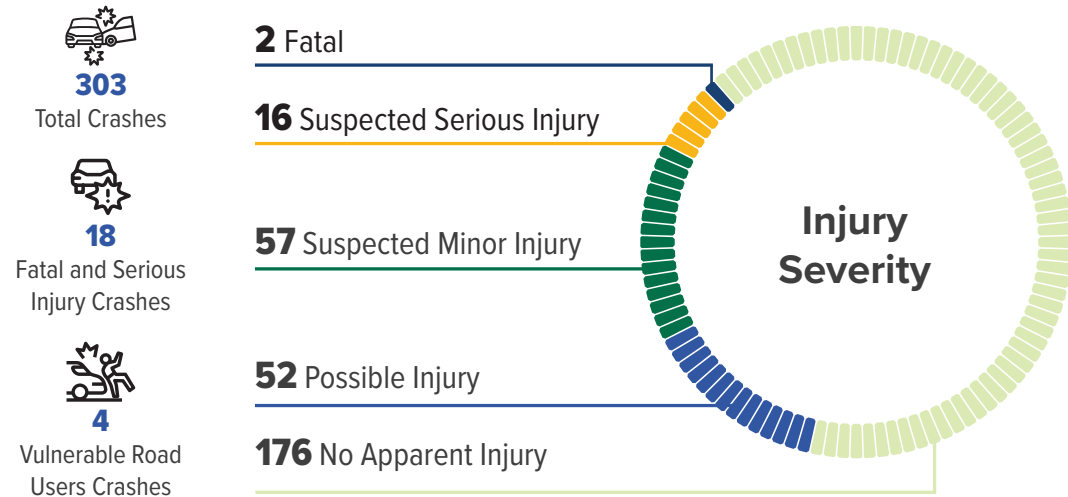
- Access Management
- Crosswalk Installation
- Curb-Bulbouts Installation
- Curve Warning Signs
- Intersection 3-Way Crosswalk
- Intersection 4-Way Crosswalk
- Lighting Improvements
- New Sidewalk
- Parking Restriction Signage
- Pedestrian Signals
- School Zone Signage
- Signal Backplates
- Speed Limit Evaluation
- Transit Shelters
- Wayfinding

W Carson Street (SR 0051 /SR 0837) and Arlington Avenue

CORRIDOR CHARACTERISTICS

- + Location: P.J. McArdle Roadway to Corliss Street
- + Length: 2.8 miles
- + Municipality: Pittsburgh
- + Road Owner: PennDOT
- + Number of Intersections: 24
- + Functional Classification: Other Principal Arterial
- + Posted Speed Limit: 35 mph
- + Context: Urban
- + Underserved Community: Yes - Partially
- + AADT (2024): 12,000 - 23,000
- + Truck % (2024): 7%

CRASH AND SEVERITY DATA (2019-2023)



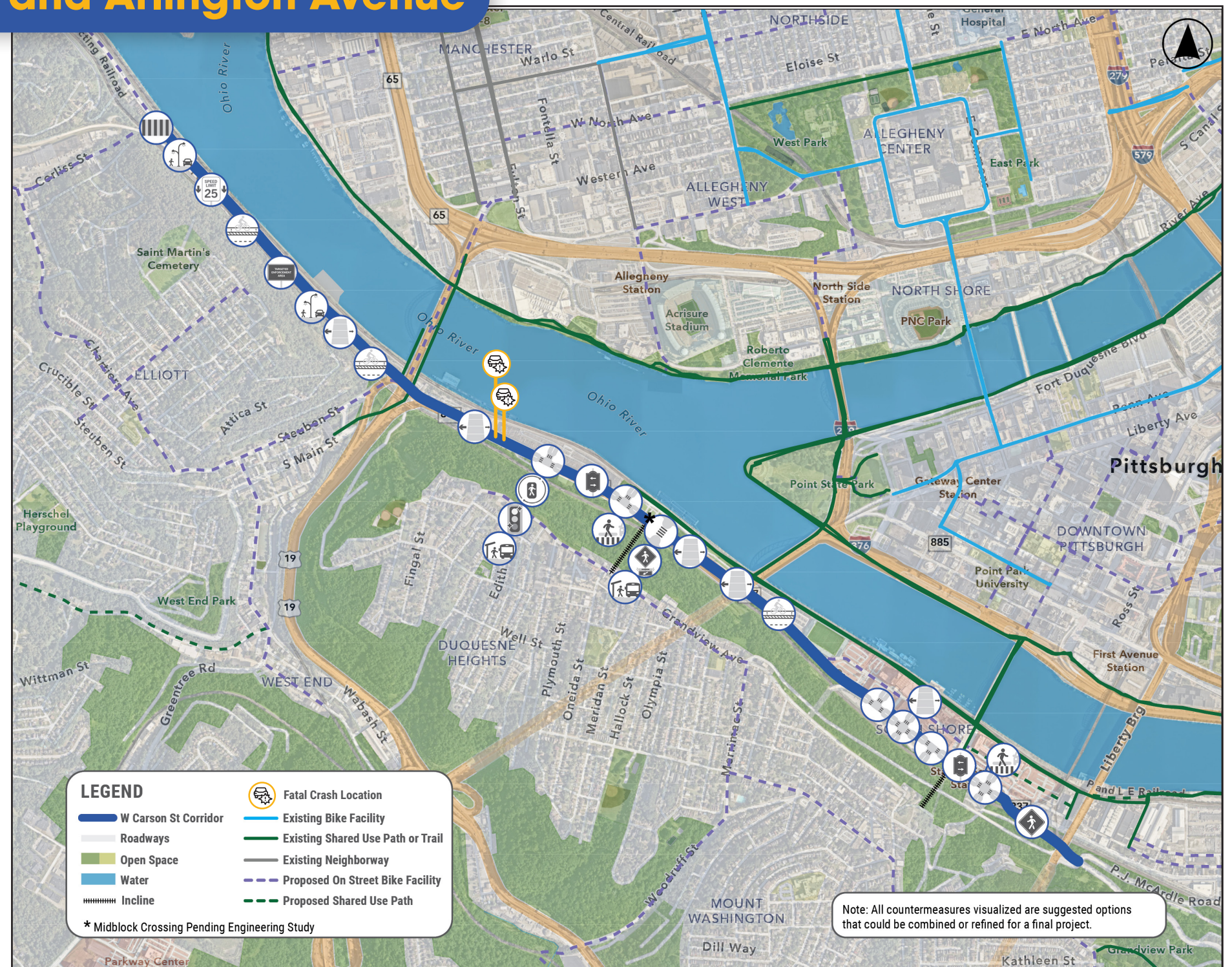
CRASH CHARACTERISTICS

Collision Type	27% Angle	10% Head-On/Sideswipe	34% Rear-End	18% Hit Fixed Object
Road Condition	79% Dry	5% Wintry	16% Wet	
Illumination	51% Daylight	46% Dark	2% Dawn or Dusk	
Driver Actions	56% Aggressive	15% Distracted	11% Speeding	8% Tailgating

COST AND BENEFITS

Planning & Engineering	Right-of-Way	Construction / Implementation	Present Value of Total Costs	Present Value of Total Benefits	Benefit / Cost Ratio
\$1,285,000	\$0	\$10,710,000	\$12,769,000	\$20,590,000	1.6

Note: Present value of total costs may include future maintenance, operations, or rehabilitation costs in addition to total initial costs.



Note: All countermeasures visualized are suggested options that could be combined or refined for a final project.

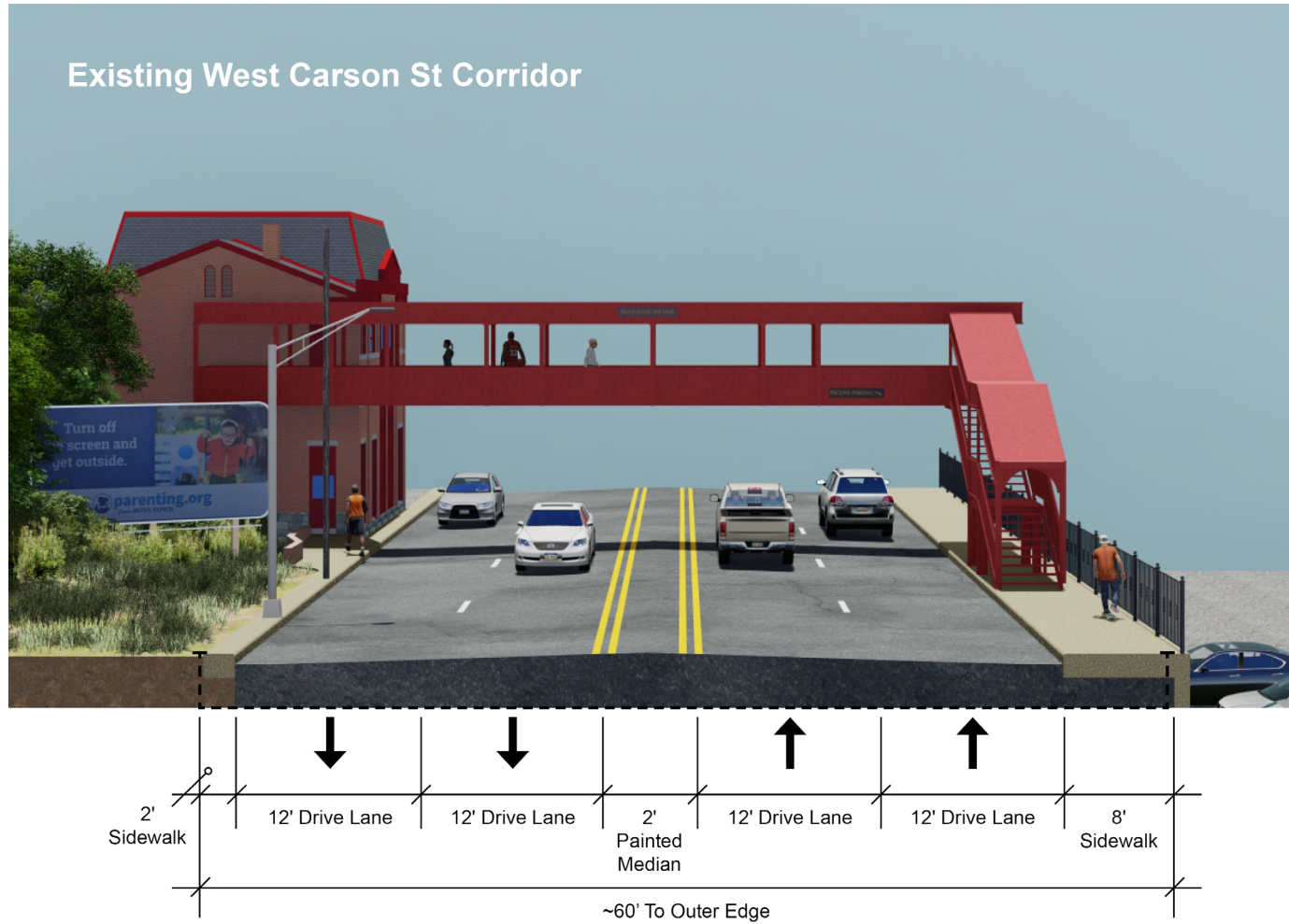
PROPOSED SAFETY IMPROVEMENTS

- Advance Warning Signage
- Crosswalk Installation
- Intersection 3-Way Crosswalk
- Intersection 4-Way Crosswalk
- Lighting Improvements
- Mid-block Crossing (further study)
- New Sidewalk
- Pedestrian Refuge
- Pedestrian Signals
- Protected Bike Lane (further study)
- Rapid Flashing Beacons (RRFB)
- Signal Backplates
- Speed Limit Evaluation
- Targeted Enforcement Sign
- Transit Shelters
- Wayfinding
- Widen Sidewalk

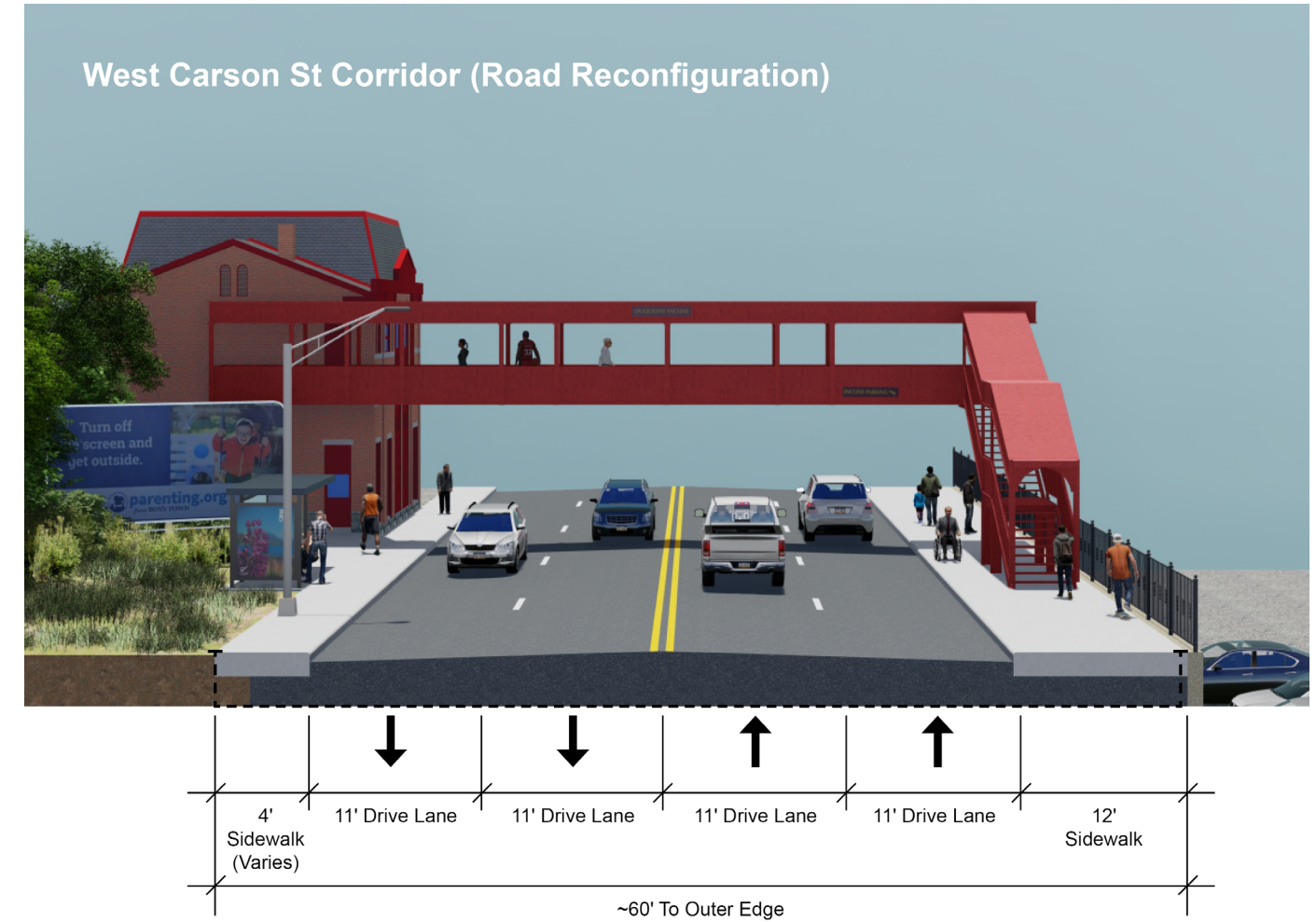
W Carson Street (SR 0051 /SR 0837) and Arlington Avenue

W CARSON STREET NEAR DUQUESNE INCLINE

Existing



Reconfiguration



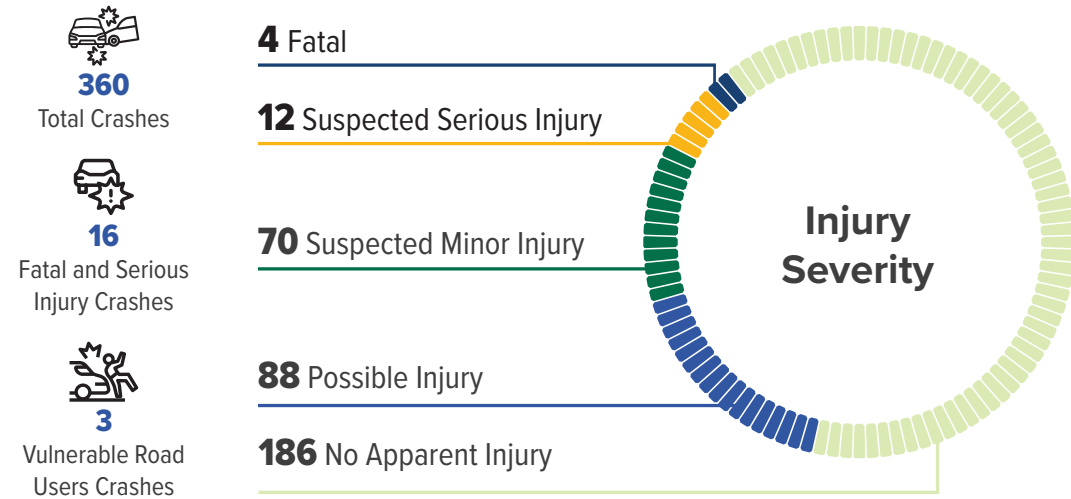
Note: Conceptual layout shown. Final sidewalk widening limits and lane configurations may vary and could be adjusted, narrowed, widened, or shifted between sides of the street during design based on site conditions.

Ohio River Boulevard (SR 0065)

CORRIDOR CHARACTERISTICS

- + Location: McKees Rocks Bridge (SR 3104) to Laurel Avenue
- + Length: 2.4 miles
- + Municipality: Avalon, Bellevue, Ben Avon, Pittsburgh
- + Road Owner: PennDOT
- + Number of Intersections: 16
- + Functional Classification: Other Principal Arterial
- + Posted Speed Limit: 40 mph / 55 mph
- + Context: Urban
- + Underserved Community: No
- + AADT (2024): 26,000
- + Truck % (2024): 4%

CRASH AND SEVERITY DATA (2019-2023)



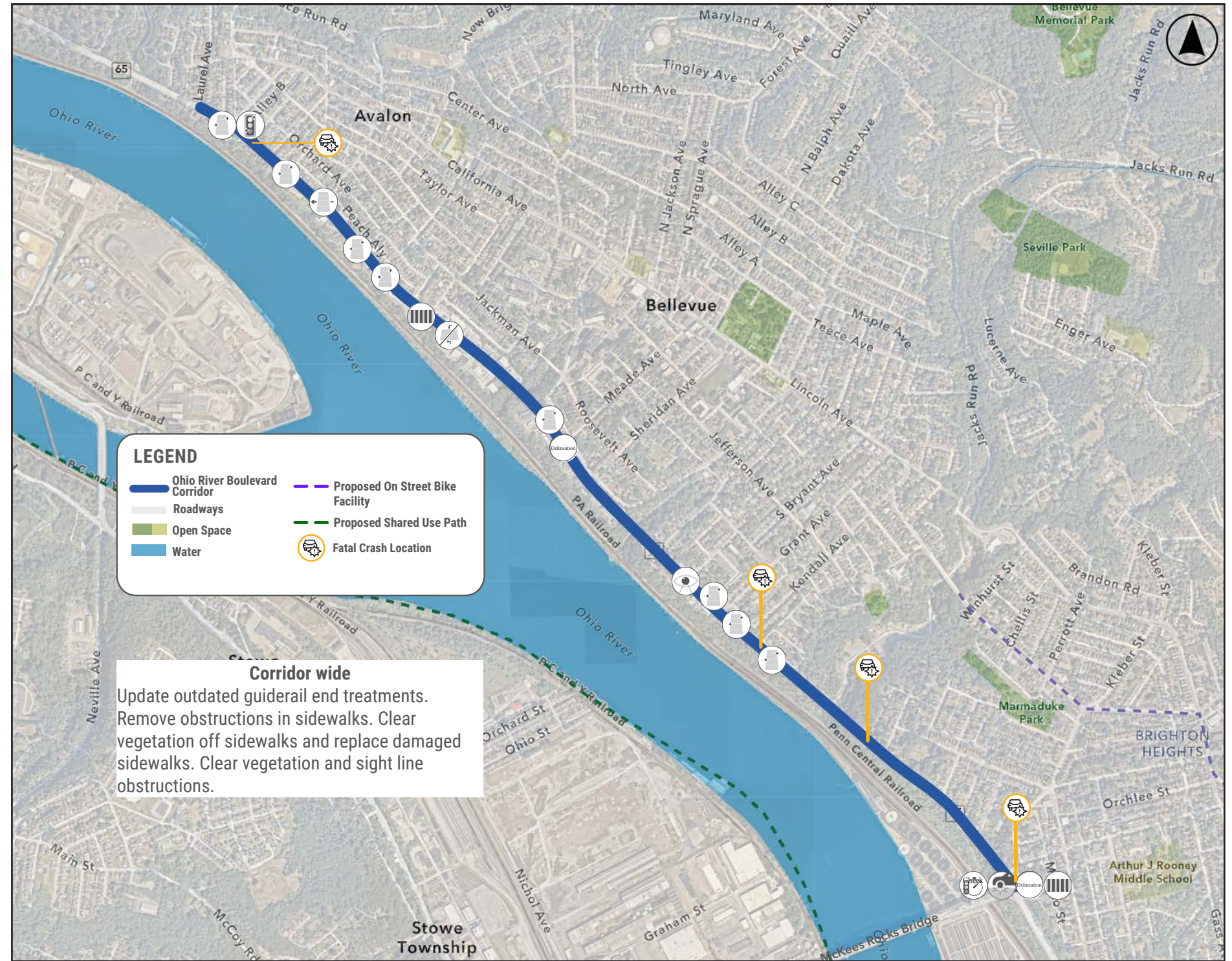
CRASH CHARACTERISTICS

Collision Type	31% Angle	7% Head-On/Sideswipe	34% Rear-End	16% Hit Fixed Object
Road Condition	81% Dry	3% Wintry	16% Wet	
Illumination	66% Daylight	31% Dark	3% Dawn/Dusk	
Driver Actions	64% Aggressive	14% Distracted	13% Speeding	12% Tailgating

COST AND BENEFITS

Planning & Engineering	Right-of-Way	Construction / Implementation	Present Value of Total Costs	Present Value of Total Benefits	Benefit / Cost Ratio
\$141,000	\$100,000	\$1,178,000	\$1,480,000	\$11,115,000	7.5

Note: Present value of total costs may include future maintenance, operations, or rehabilitation costs in addition to total initial costs.



PROPOSED SAFETY IMPROVEMENTS

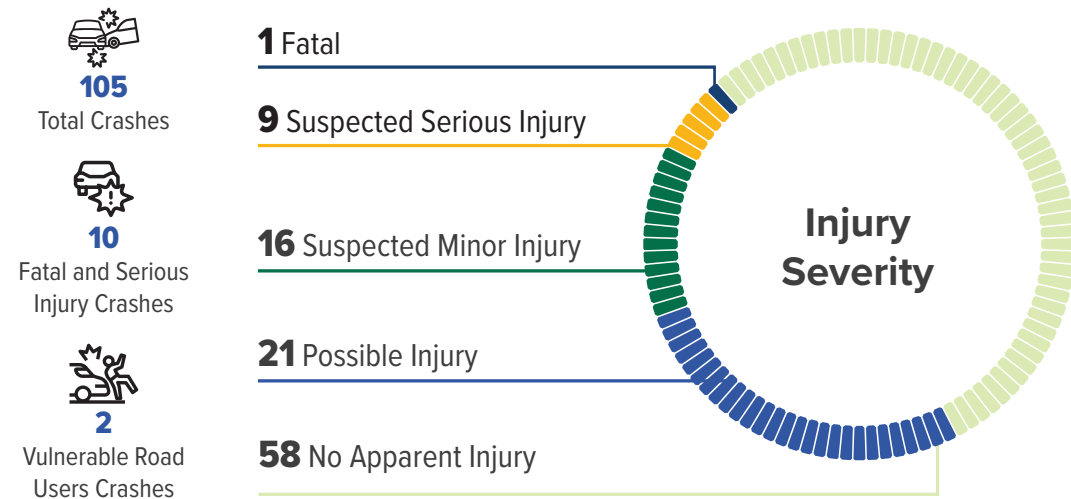
- Access Management
- Advance Warning Signage
- Clearance Interval Times
- Crosswalk Installation
- Delineation
- High Friction Surface Treatment
- New Sidewalk
- Pavement Markings
- Sight Lines
- Signal Backplates
- Wayfinding
- Widen Sidewalk

McKees Rocks Road and Lorish Road

CORRIDOR CHARACTERISTICS

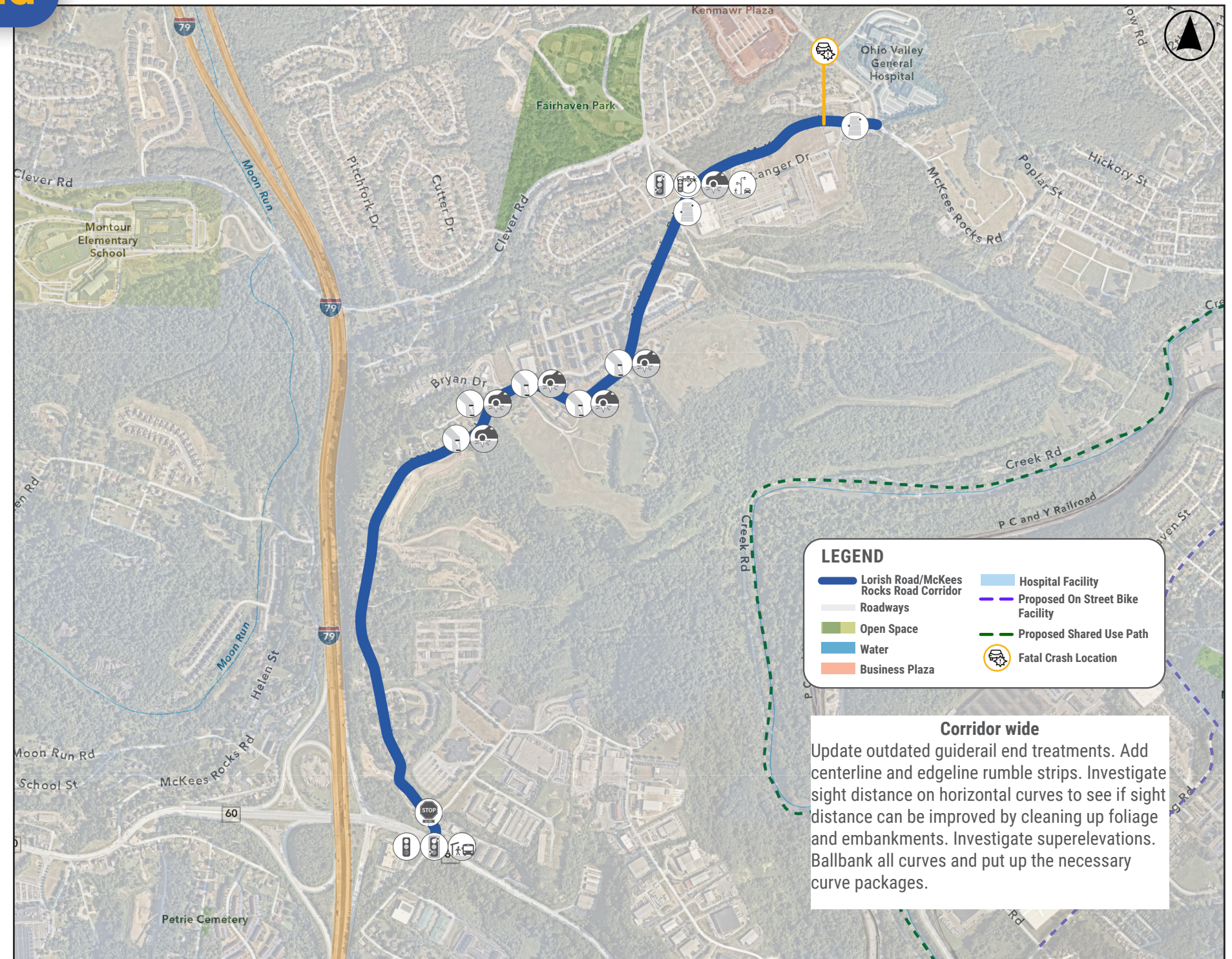
- + Location: Steubenville Pike (SR 0060) to Heckel Road
- + Length: 2.1 miles
- + Municipality: Kennedy, McKees Rocks, Robinson
- + Road Owner: Allegheny County
- + Number of Intersections: 15
- + Functional Classification: Minor Arterial
- + Posted Speed Limit: 35 mph
- + Context: Suburban
- + Underserved Community: No
- + AADT (2024): 9,500
- + Truck % (2024): 6.6%

CRASH AND SEVERITY DATA (2019-2023)



CRASH CHARACTERISTICS

Collision Type	39% Angle	19% Head-On/Sideswipe	13% Rear-End	25% Hit Fixed Object
Road Condition	80% Dry	4% Wintry	16% Wet	
Illumination	67% Daylight	29% Dark	5% Dawn or Dusk	
Driver Actions	56% Aggressive	15% Distracted	13% Speeding	15% Alcohol/Drug



PROPOSED SAFETY IMPROVEMENTS

- All-Way Stop Control
- Clearance Interval Times
- Curve Warning Signs
- Delineation
- High Friction Surface Treatment
- Left-Turn Protective Phasing
- Lighting Improvements
- New Sidewalk
- Pavement Markings
- Sight Lines
- Signal Backplates
- Slow Pavement Markings
- Transit Shelters

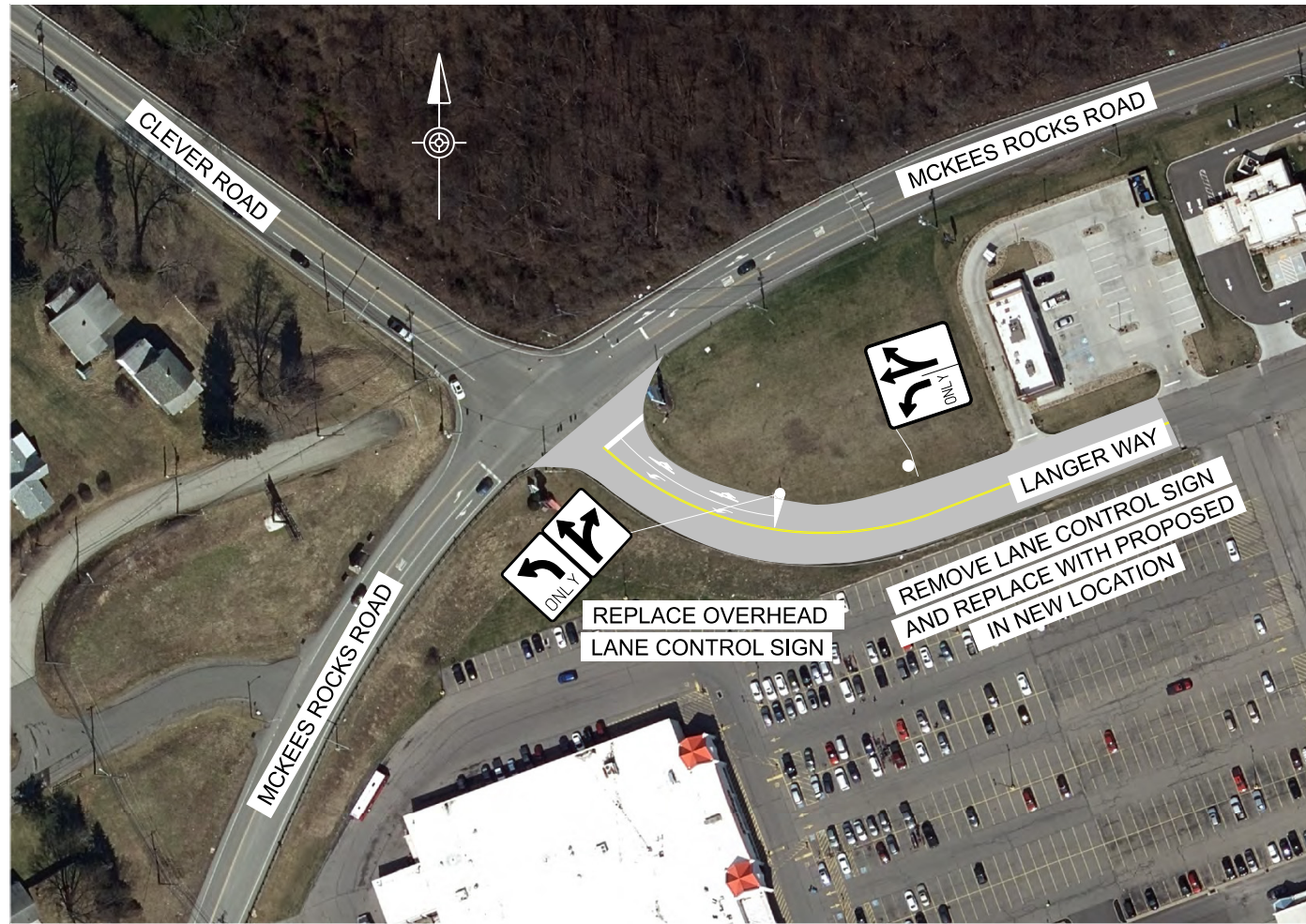
COST AND BENEFITS

Planning & Engineering	Right-of-Way	Construction / Implementation	Present Value of Total Costs	Present Value of Total Benefits	Benefit / Cost Ratio
\$82,000	\$0	\$686,000	\$831,000	\$17,566,000	21.1

Note: Present value of total costs may include future maintenance, operations, or rehabilitation costs in addition to total initial costs.

McKees Rocks Road and Lorish Road

CLEVER ROAD



SR 60 AT LORISH RD

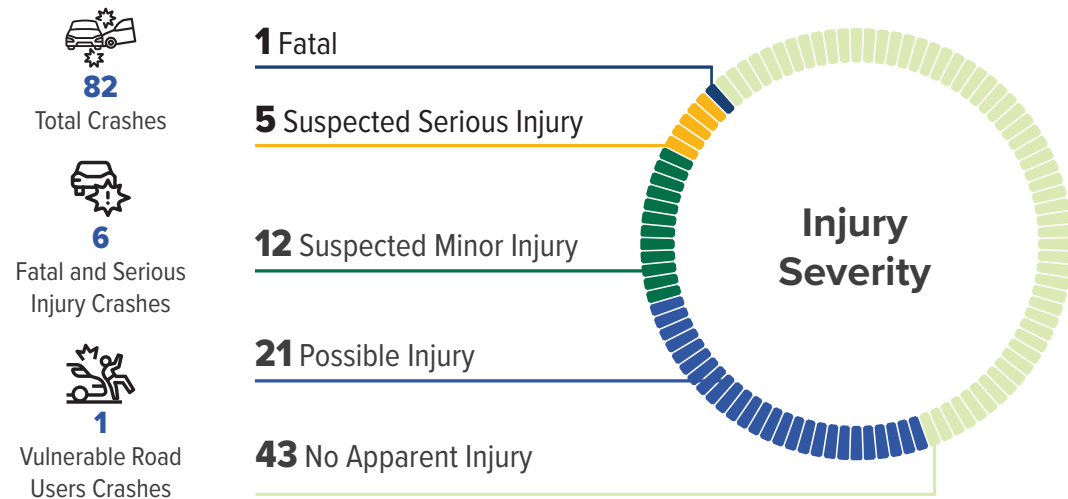


Homeville Road, Greensprings Avenue, and Ravine Street

CORRIDOR CHARACTERISTICS

- Location:** Homestead Duquesne Road to 8th Avenue
- Length:** 3.7 miles
- Municipality:** Munhall, West Mifflin
- Road Owner:** Allegheny County, Munhall Borough
- Number of Intersections:** 25
- Functional Classification:** Minor Arterial
- Posted Speed Limit:** 25 mph / 35 mph
- Context:** Suburban
- Underserved Community:** Yes - Partially
- AADT (2024):** 2,000 - 7,000
- Truck % (2024):** 5.7% / 2.7%

CRASH AND SEVERITY DATA (2019-2023)



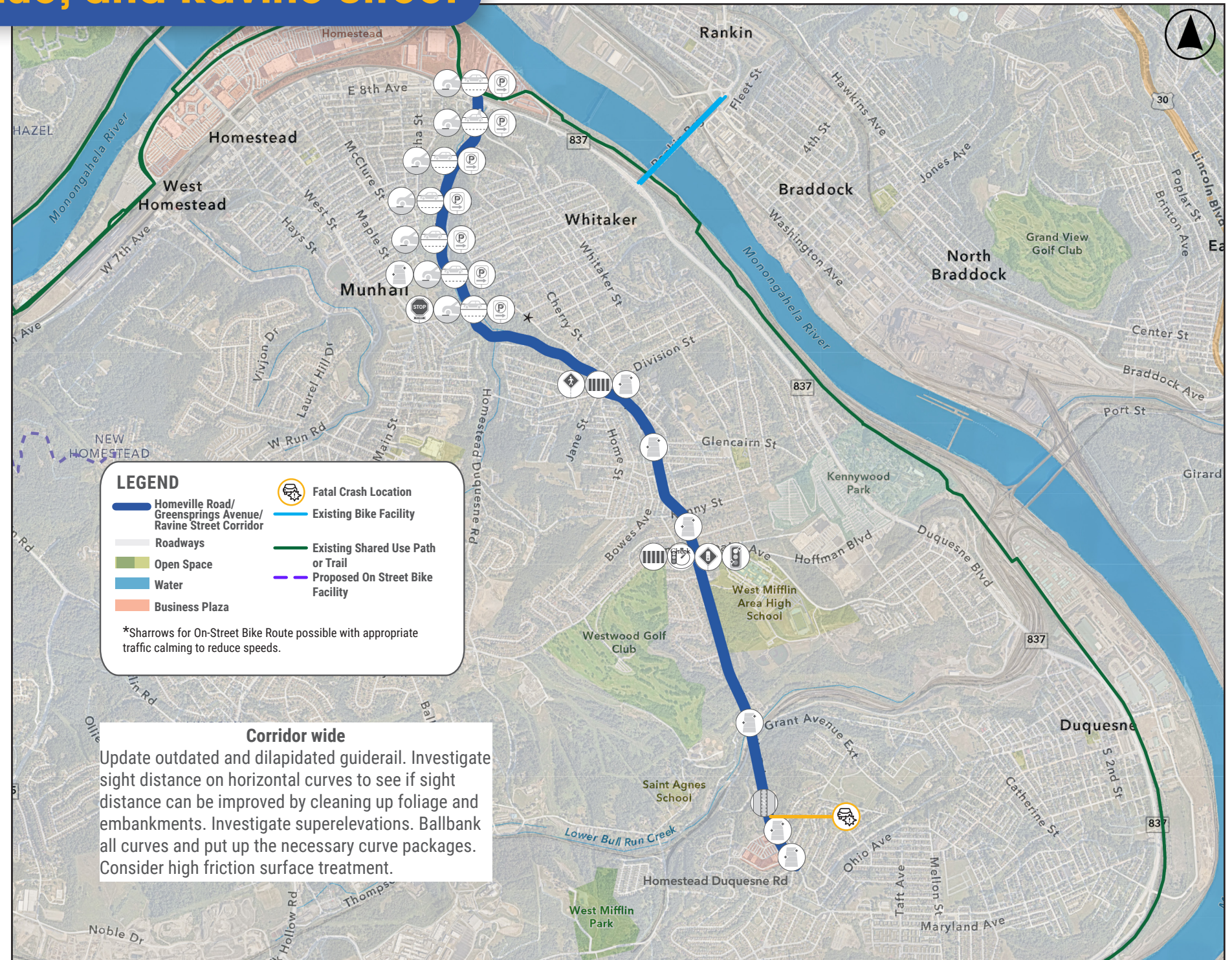
CRASH CHARACTERISTICS

Collision Type	39% Angle	10% Head-On/Sideswipe	10% Rear-End	35% Hit Fixed Object
Road Condition	84% Dry	4% Wintry	12% Wet	
Illumination	50% Daylight	46% Dark	4% Dawn or Dusk	
Driver Actions	50% Aggressive	15% Distracted	16% Speeding	20% Alcohol/Drug

COST AND BENEFITS

Planning & Engineering	Right-of-Way	Construction / Implementation	Present Value of Total Costs	Present Value of Total Benefits	Benefit / Cost Ratio
\$516,000	\$0	\$4,296,000	\$4,905,000	\$5,813,000	1.2

Note: Present value of total costs may include future maintenance, operations, or rehabilitation costs in addition to total initial costs. Does not include improvements to the intersection of Homeville Road and Commonwealth Avenue because this was assumed to be included in the Mon-Fayette Expressway project.

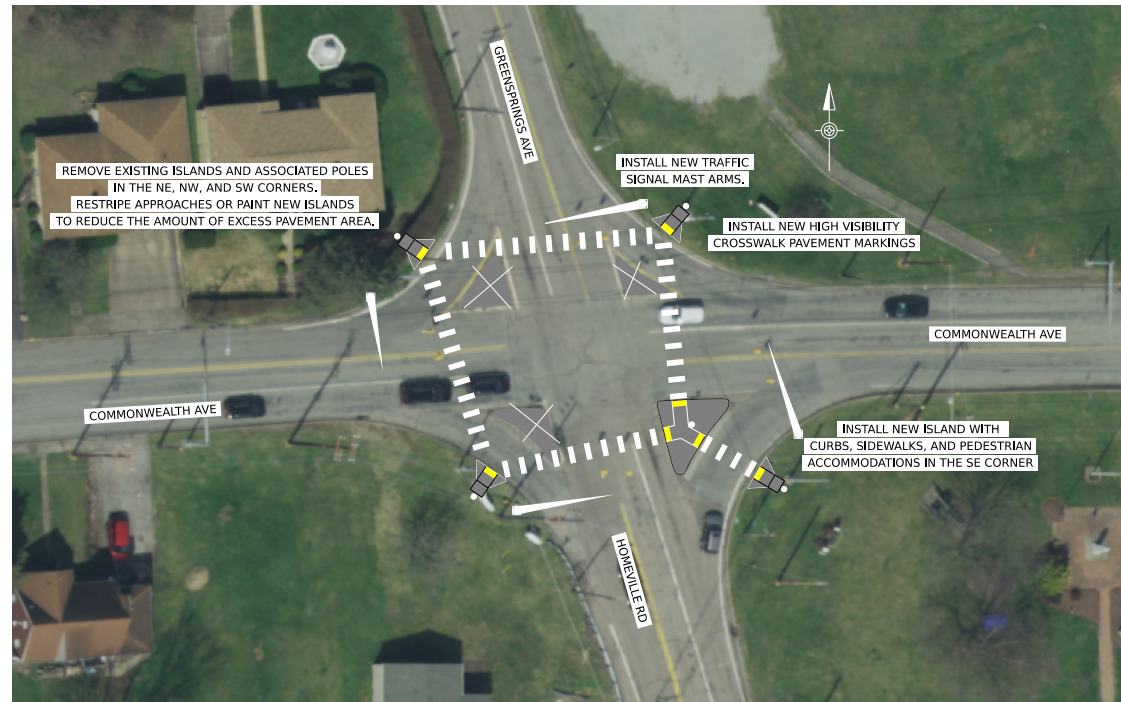


PROPOSED SAFETY IMPROVEMENTS

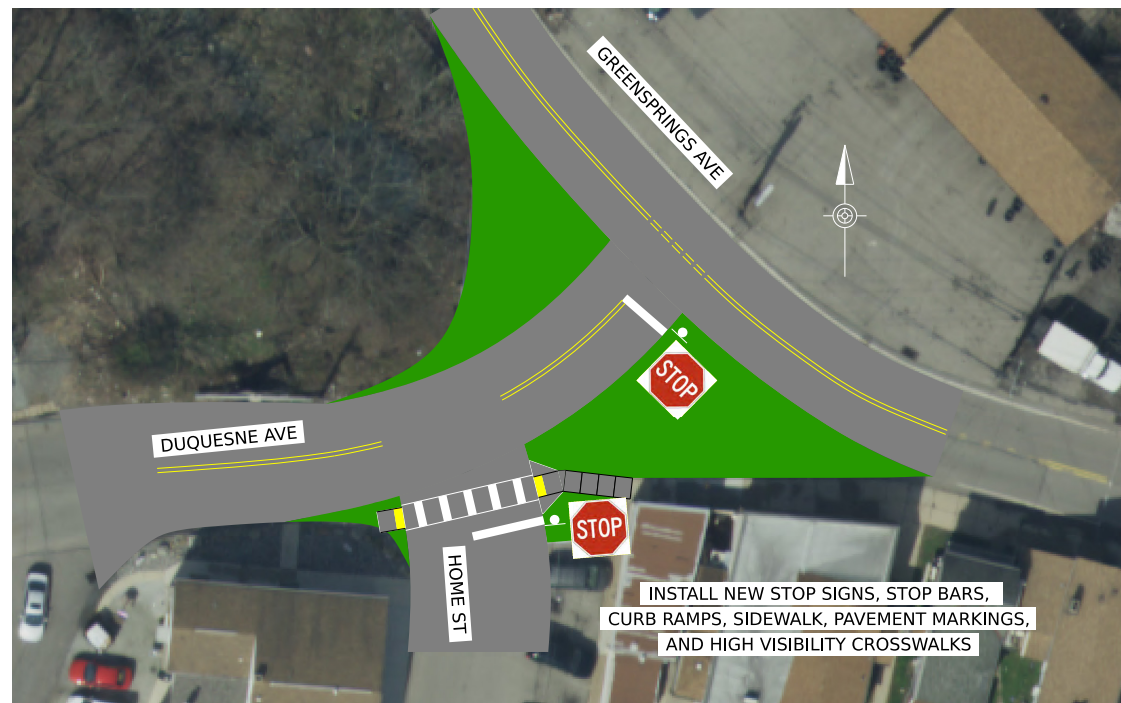
- Advance Warning Signage
- All-Way Stop Control
- Clearance Interval Times
- Crosswalk Installation
- Curve Warning Signs
- Delineation
- High Friction Surface Treatment
- Install Signal Ahead Warning Sign
- New Sidewalk
- Paint Parking Lane Line
- Parking Restriction Signage
- Sight Lines
- Signal Backplates
- Speed Table
- Two-Way Center Left-Turn Lane (limited locations)

Homeville Road, Greensprings Avenue, and Ravine Street

HOMEVILLE ROAD AT COMMONWEALTH AVENUE



GREENSPRINGS AVENUE AT DUQUESNE AVENUE REALIGNMENT: ALTERNATIVE 1



+ Some sign revisions shown in Alternative 2 may be applied to Alternative 1

GREENSPRINGS AVENUE AT DUQUESNE AVENUE SIGN REVISIONS: ALTERNATIVE 2

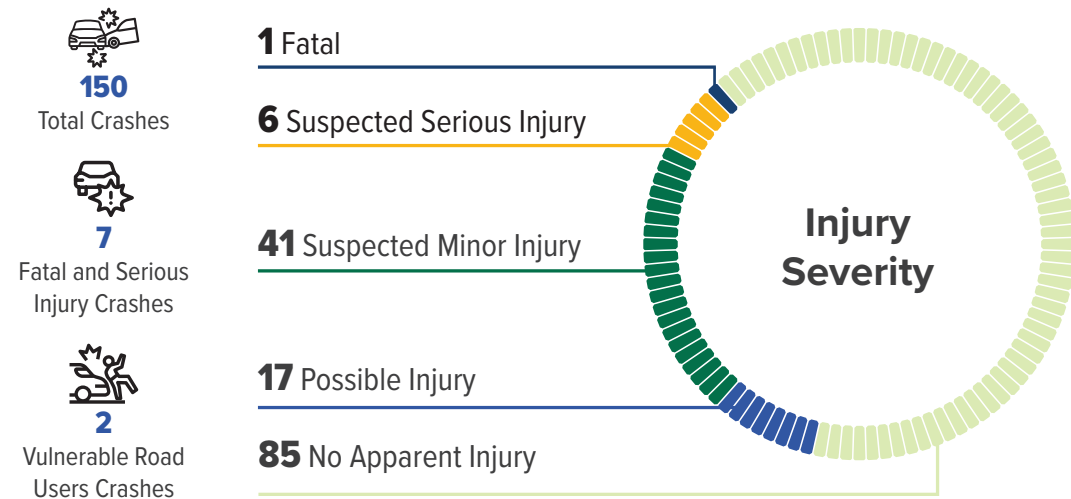


Brownsville Road

CORRIDOR CHARACTERISTICS

- + Location: Broughton Road to Baptist Road
- + Length: 2.3 miles
- + Municipality: Baldwin, South Park, Whitehall
- + Road Owner: Allegheny County
- + Number of Intersections: 23
- + Functional Classification: Minor Arterial/ Other Principal Arterial
- + Posted Speed Limit: 35 mph
- + Context: Suburban
- + Underserved Community: Yes - Partially
- + AADT (2024): 11,500/28,000
- + Truck % (2024): 5%/ 3%

CRASH AND SEVERITY DATA (2019-2023)



CRASH CHARACTERISTICS

Collision Type	38% Angle	9% Head-On/Sideswipe	31% Rear-End	15% Hit Fixed Object
Road Condition	82% Dry	3% Wintry	15% Wet	
Illumination	63% Daylight	34% Dark	3% Dawn or Dusk	
Driver Actions	48% Aggressive	23% Distracted	7% Speeding	12% Alcohol/Drug

COST AND BENEFITS

Planning & Engineering	Right-of-Way	Construction / Implementation	Present Value of Total Costs	Present Value of Total Benefits	Benefit / Cost Ratio
\$459,000	\$100,000	\$3,821,000	\$4,451,000	\$19,346,000	4.3

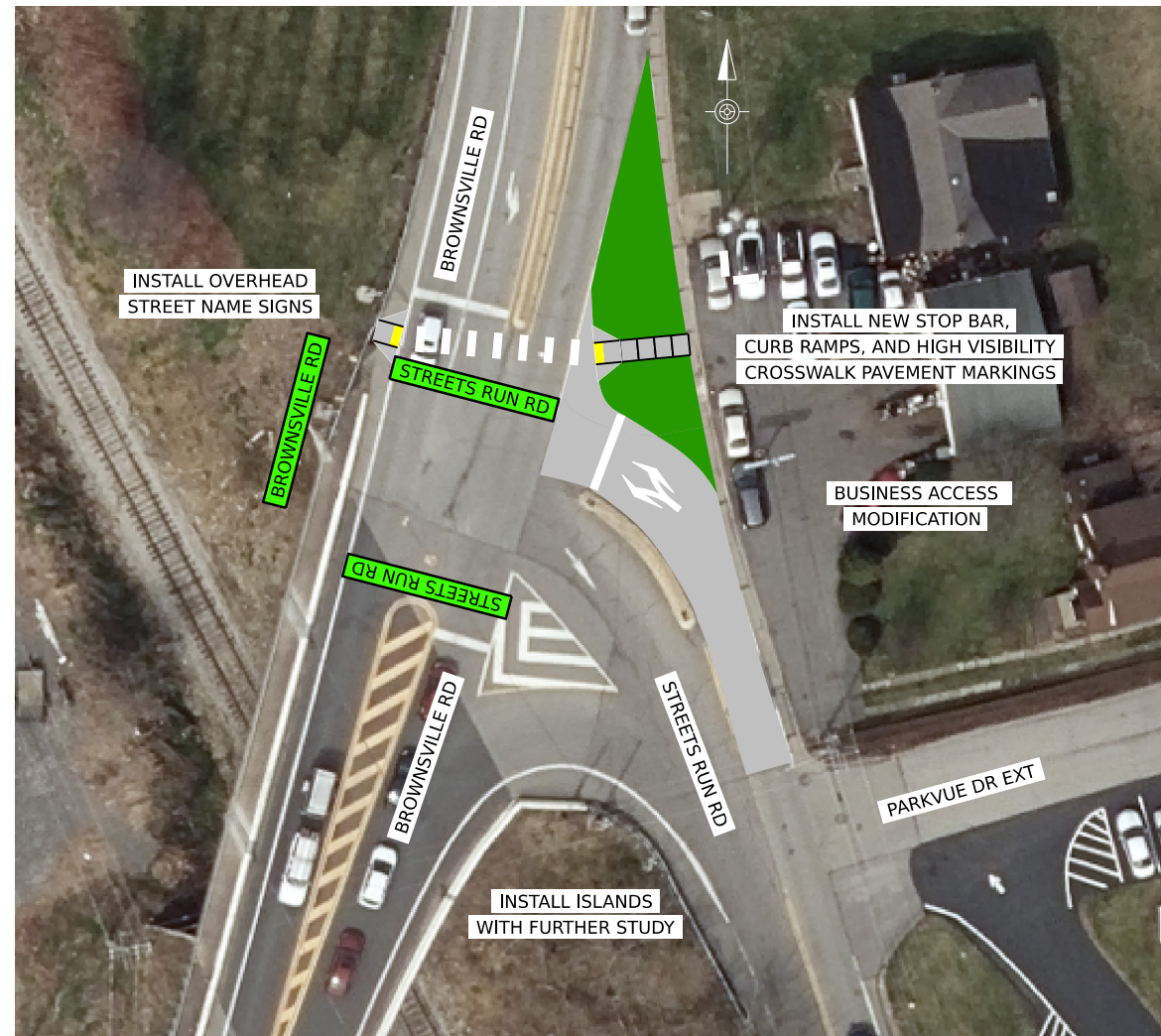
Note: Present value of total costs may include future maintenance, operations, or rehabilitation costs in addition to total initial costs.



PROPOSED SAFETY IMPROVEMENTS

- Access Management
- Clearance Interval Times
- Crosswalk Installation
- Curve Warning Signs
- Delineation
- High Friction Surface Treatment
- Improve Superelevation
- Install Signal Ahead Warning Sign
- Left-Turn Protective Phasing
- Lighting Improvements
- New Sidewalk
- No Turn on Red
- Signal Backplates
- Slow Pavement Markings
- Supplemental Signal Head
- Two-Way Center Left-Turn Lane (limited locations)
- Wayfinding

BROWNSVILLE RD AT STREETS RUN REALIGNMENT



BROWNSVILLE ROAD TRAIN OVERPASS SIGNAGE

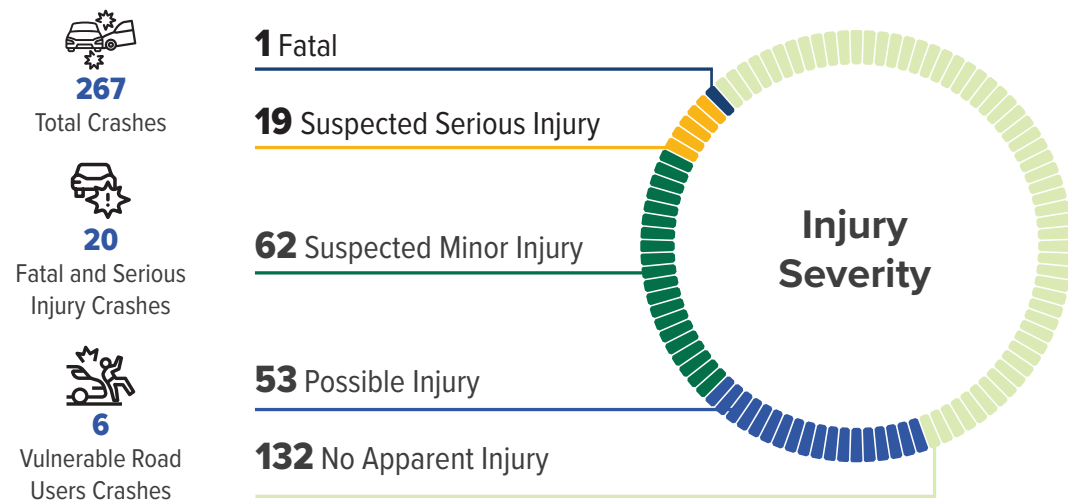


River Road / Kennywood Boulevard / Duquesne Boulevard (SR 0837)

CORRIDOR CHARACTERISTICS

- + Location: Ravine Street to Overland Avenue
- + Length: 3.1 miles
- + Municipality: Munhall, Whitaker, Duquesne, West Mifflin
- + Road Owner: PennDOT
- + Number of Intersections: 23
- + Functional Classification: Other Principal Arterial
- + Posted Speed Limit: 35 mph
- + Context: Urban
- + Underserved Community: Yes - Partially
- + AADT (2024): 22,000
- + Truck % (2024): 6%

CRASH AND SEVERITY DATA (2019-2023)



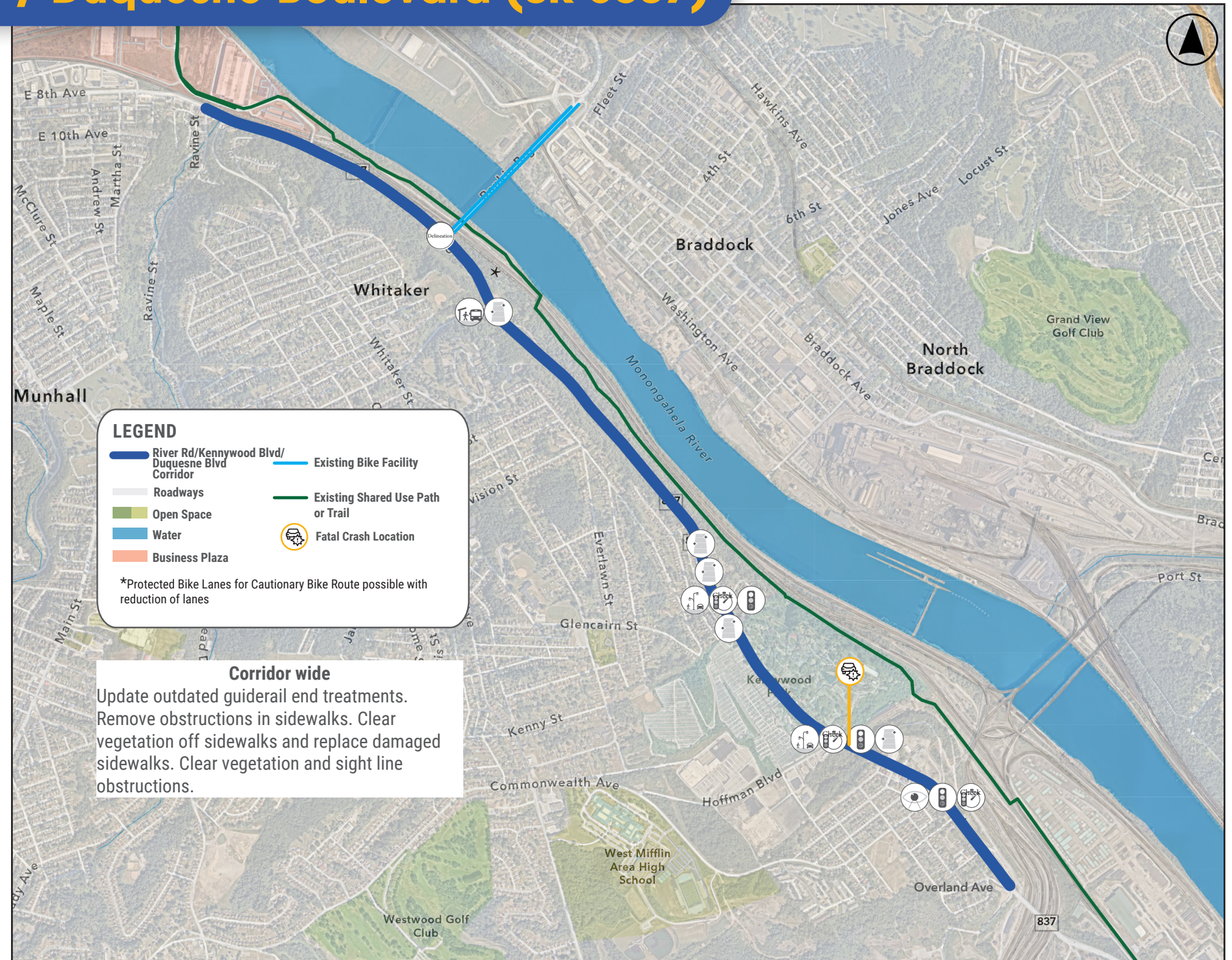
CRASH CHARACTERISTICS

Collision Type	31% Angle	11% Head-On/Sideswipe	26% Rear-End	22% Hit Fixed Object
Road Condition	82% Dry	3% Wintry	14% Wet	
Illumination	56% Daylight	41% Dark	3% Dawn or Dusk	
Driver Actions	59% Aggressive	21% Distracted	19% Speeding	12% Alcohol/Drug

COST AND BENEFITS

Planning & Engineering	Right-of-Way	Construction / Implementation	Present Value of Total Costs	Present Value of Total Benefits	Benefit / Cost Ratio
\$236,000	\$300,000	\$1,964,000	\$2,542,000	\$14,715,000	5.8

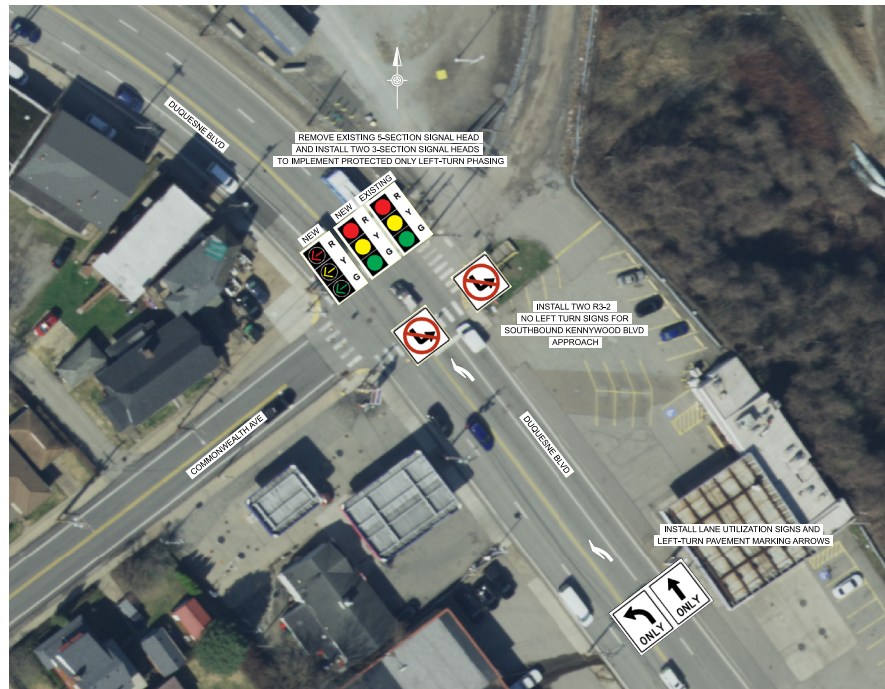
Note: Present value of total costs may include future maintenance, operations, or rehabilitation costs in addition to total initial costs.



PROPOSED SAFETY IMPROVEMENTS

- Clearance Interval Times
- Delineation
- Left-Turn Protective Phasing
- Lighting Improvements
- New Sidewalk
- Pavement Markings
- Sight Lines
- Transit Shelters

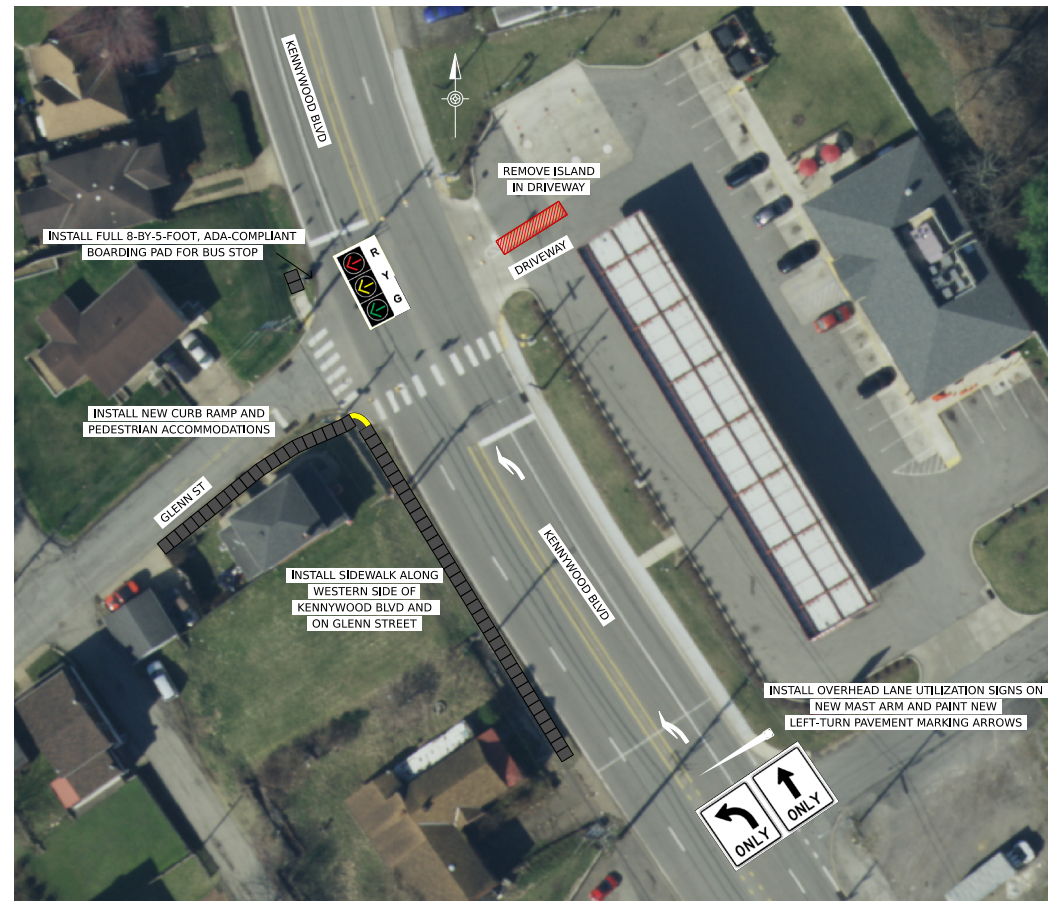
DUQUESNE BOULEVARD AT COMMONWEALTH AVENUE



RANKIN BRIDGE DESTINATION SIGNS

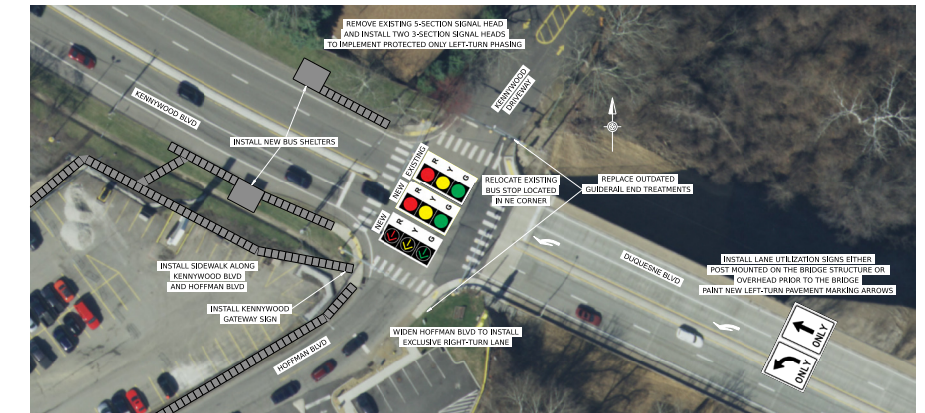


KENNYWOOD BOULEVARD AT GLENN STREET



The proposed intersection improvements to provide dedicated northbound left-turn lanes at Commonwealth Avenue, Hoffman Boulevard, and Glenn Street require further study of traffic volumes and potential roadway reconfiguration, including conversion of one existing northbound through lane to turn-lane use.

KENNYWOOD BOULEVARD AT HOFFMAN BOULEVARD



RANKIN BRIDGE INTERSECTION



“

Achieving Vision Zero requires a coordinated, multifaceted approach to eliminate traffic fatalities and serious injuries.

6

Implementation

Overview

Achieving Vision Zero requires a coordinated, multifaceted approach to eliminate traffic fatalities and serious injuries. This section outlines recommended actions and potential funding approaches to advance safety improvements across Allegheny County. Progress toward Vision Zero will depend on sustained collaboration among roadway owners, municipalities, regional partners, and community stakeholders, supported by policy and process changes, proven safety strategies, and targeted investments.

Action Plan

The actions outlined in Exhibit 6-1 are intended to be implemented collaboratively across jurisdictions and roadway owners, with flexibility to scale based on capacity while maintaining consistency with the Safe System Approach and countywide safety priorities. The recommended actions are informed by data analysis, national best practices, stakeholder interviews, community engagement, and input from the Steering Committee.

Each action is assigned an anticipated timeline and potential partners. Timelines are defined as short-term (0-1 years), mid-term (2-4 years), long-term (5+ years), or ongoing. Implementation may vary based on funding availability.

Implementation Alignment with SS4A

This Implementation section meets SS4A requirements by providing a structured, multi-jurisdictional framework to advance Vision Zero in Allegheny County. It translates the CSAP's data-driven strategies into actionable, grant-ready steps, integrating infrastructure, enforcement, education, policy, and funding initiatives to reduce fatalities and serious injuries across all roadway users. The approach emphasizes coordination among municipalities, agencies, and community partners, ensuring readiness for SS4A Implementation Grants.

- ✔ Provides actionable, timeline-based steps for Safe Roads, Speeds, Vehicles, Road Users, and Post-Crash Care
- ✔ Integrates systemic and targeted safety improvements on the High-Injury Network
- ✔ Supports multi-jurisdictional coordination and stakeholder engagement
- ✔ Prepares grant-ready projects and identifies funding opportunities, including SS4A



A. SAFE ROAD USERS

Action	Description	Timeline	Partners
A.1 Implement high-visibility safety enforcement and education campaigns	Coordinate targeted enforcement focused on speeding, unbelted occupants, impaired driving, and distracted driving at high-risk locations, paired with public education.	Short-term / Ongoing	Law Enforcement, Municipalities, PennDOT, Allegheny County, SPC, Community Organization, Public Health
A.2 Expand road user education on new infrastructure	Develop consistent messaging and outreach on safety countermeasures that may be unfamiliar to users.	Short-term / Ongoing	Municipalities, Allegheny County, PRT, SPC, Schools, Advocacy Partners
A.3 Engage underrepresented communities in safety outreach	Use trusted partners and accessible formats to reach communities with higher barriers to participation.	Ongoing	Allegheny County, Municipalities, PennDOT, PRT, SPC, Schools, Community Organizations
A.4 Maintain safe pedestrian and bicycle access during work zones	Establish and apply guidance to ensure pedestrian, bicycle, and ADA-compliant routes are maintained during construction and maintenance projects through temporary accessible routes, safe crossings, clear wayfinding, and coordinated responsibilities among road owners and contractors.	Short-term / Ongoing	Municipalities, Allegheny County, PennDOT, PRT, Contractors
A.5 Expand and coordinate Safe Routes to School planning and implementation	Support municipalities and school districts in developing and implementing Safe Routes to School initiatives by providing countywide coordination, technical assistance, and prioritization of safety improvements near schools.	Mid-term	Schools, Municipalities, Allegheny County, PennDOT, SPC, Law Enforcement, Community Organizations
A.6 Implement targeted impaired driving prevention strategies using proven countermeasures	Coordinate with municipalities, law enforcement, courts, and public health partners to support data-driven impaired driving prevention strategies, including high-visibility enforcement, public education, and regionally coordinated initiatives focused on high-risk locations and times of day. Support complementary efforts that strengthen adjudication, prevention, and safe travel alternatives.	Short-term / Ongoing	Law Enforcement, Municipalities, PennDOT, Allegheny County, SPC, Community Organization, Courts, Public Health, Community Organizations



B. SAFE VEHICLES

Action	Description	Timeline	Partners
B.1 Support state and federal vehicle safety legislation	Support state and federal legislation regarding vehicle safety, including potential new and emerging technologies that protect drivers, pedestrians, and bicyclists.	Ongoing	Allegheny County, Municipalities, PennDOT, SPC, Advocacy Partners
B.2 Improve safety of public and municipal fleets	Encourage adoption of vehicle safety technologies (cameras, ADAS, speed governors, visibility enhancements, side guards) in municipal and transit fleets, paired with consistent preventative maintenance. Evaluate opportunities to right-size fleet vehicles to better match operational needs while improving visibility and reducing risk for vulnerable road users. Provide defensive driving trainings for employees.	Mid-term	Municipalities, Allegheny County, PRT, PennDOT

C. SAFE SPEEDS



Action	Description	Timeline	Partners
C.1 Advance speed management through self-regulating road design	Prioritize traffic calming and context-appropriate design on the HIN and in resurfacing and maintenance projects where speed limit changes are constrained by state law.	Short- to Mid-term	Municipalities, PennDOT, Allegheny County
C.2 Expand automated and targeted enforcement	Advocate for expanded use of automated speed enforcement and red-light enforcement where legally permitted.	Mid-term / Ongoing	Municipalities, Allegheny County, PennDOT, SPC, Advocacy Partners
C.3 Advocate for speed limit reform	Support State legislative changes to modernize speed-setting practices beyond reliance on the 85th-percentile speed.	Ongoing	Municipalities, Allegheny County, SPC, Advocacy Partners



D. SAFE ROADS

Action	Description	Timeline	Partners
D.1 Develop grant-ready safety projects	Develop a bench of grant-ready safety projects for funding via state and federal grant funding sources, leveraging the priority corridor concepts in the CSAP.	Short-term	Allegheny County, Municipalities, PRT, SPC
D.2 Apply for USDOT SS4A Implementation Grants	Advance countywide and corridor-based projects identified in the CSAP.	Short-term	Allegheny County, Municipalities, PRT, SPC
D.3 Apply systemic safety solutions on the HIN	Implement packages of low-cost countermeasures across HIN segments and intersections.	Short- to Mid-term	Municipalities, PennDOT, Allegheny County
D.4 Integrate safety into resurfacing and maintenance	Require safety countermeasures to be evaluated and incorporated during repaving and betterment projects on HIN roadways.	Ongoing	PennDOT, Municipalities, Allegheny County
D.5 Utilize PennDOT Connects	Use the PennDOT Connects process to integrate safety, multimodal needs, and community context early in project development on state routes. Also, leverage it for municipal training and capacity building.	Ongoing	PennDOT, Municipalities, PRT, SPC
D.6 Expand Road Safety Audits	Continue and expand RSAs using the HIN to prioritize locations; encourage use of SPC and independent RSA programs.	Ongoing	SPC, Municipalities, Allegheny County, PRT, PennDOT
D.7 Provide Vision Zero technical assistance to municipalities	Support smaller municipalities with planning, grant writing, and implementation through shared services and regional coordination.	Ongoing	SPC, PennDOT, Allegheny County
D.8 Conduct after-action evaluations	Require post-implementation reviews of safety projects and share lessons learned across jurisdictions.	Ongoing	Municipalities, Allegheny County, PRT, PennDOT, SPC
D.9 Advocate for safety-enabling legislation and policy	Work with advocacy partners to advance legislative or policy changes enabling use of proven safety tools that are currently prohibited or limited by Pennsylvania law or policy (expanded local authority to use radar for speed enforcement, broader use of automated speed enforcement, pedestrian hybrid beacons, parking-protected bike lanes, etc.)	Ongoing	Municipalities, Allegheny County, SPC, Advocacy Partners
D.10 Improve pedestrian crossing consistency	Develop and promote countywide guidance for intersection and midblock pedestrian crossings (e.g., markings, refuge islands, lighting, signal timing), aligned with PennDOT and City of Pittsburgh standards. Align roadway projects with transit stop accessibility.	Mid-term	Allegheny County, PennDOT, Municipalities, SPC, PRT



D. SAFE ROADS CONTINUED

Action	Description	Timeline	Partners
D.11 Support Complete Streets adoption	Encourage municipalities without Complete Streets policies to adopt them, supported by templates and technical assistance.	Short- to Mid-term	Allegheny County, SPC, Municipalities, PRT
D.12 Address sidewalk and connectivity gaps	Implement a phased approach to close sidewalk gaps by prioritizing lower-cost interim improvements, coordinating with adjacent property owners and utilities, and allowing context-sensitive design flexibility where right-of-way, ownership, or funding constraints exist.	Mid- to Long-Term	Municipalities, Allegheny County, PennDOT, PRT
D.13 Tie safety to land use and zoning	Provide county-supported programs to help municipalities update zoning and development standards to improve safety and connectivity. Support walkable, bike-friendly, and transit-supportive development patterns that contribute to safer multimodal access.	Long-term	Allegheny County, Municipalities



E. POST-CRASH CARE

Action	Description	Timeline	Partners
E.1 Integrate public health and emergency response input early	Establish processes for public health and emergency response partners to inform road project design early, not late in development.	Short-term	Allegheny County, Municipalities, PennDOT, Public Health, Law Enforcement
E.2 Expand fatal crash review practices	Build on the City of Pittsburgh’s Vision Zero Fatal Crash Response Team by establishing a countywide fatal crash review framework that can be applied across municipalities and roadway owners. The framework should provide standardized procedures, tiered levels of review, and multidisciplinary coordination to identify infrastructure, operational, and policy changes following fatal crashes.	Short-term	SPC, Allegheny County, PennDOT, Municipalities, Public Health, Law Enforcement
E.3 Coordinate emergency vehicle preemption (EVP) planning and deployment	Establish a process to identify corridors and intersections where emergency vehicle preemption can most improve response times and patient outcomes. This includes coordinating among traffic signal owners, emergency responders, and public health partners to assess existing EVP coverage, prioritize gaps, and support phased implementation.	Mid-term	SPC, Allegheny County, PRT, Public Health
E.4. Expand Vision Zero training for Public Safety Enforcement Officers and Crossing Guards	Provide Vision Zero–focused training for Public Safety Enforcement Officers and crossing guards to strengthen understanding of high-risk behaviors and locations. Use crash and safety data to coordinate targeted deployment and high-visibility enforcement at priority locations, corridors, and times of day.	Short-term / Ongoing	Municipalities, Allegheny County, Law Enforcement, Schools, PennDOT, PRT, SPC, Community Organizations

Funding

Securing funding for the strategies and projects outlined in this Comprehensive Safety Action Plan will be essential for project implementation and advancing roadway safety across Allegheny County.

Currently, the only dedicated funding stream for safety improvements is the Highway Safety Improvement Program (HSIP). The SPC region is eligible via its regional line item to receive approximately \$13 million per year in HSIP funds; however, not all safety projects meet the state criteria for HSIP funding. Only projects that demonstrate a significant quantifiable benefit via the State's safety evaluation criteria are approved to receive the funding. Furthermore, the need for safety improvements far outweighs the amount of dedicated HSIP funding available. Therefore, this plan serves as a strategic resource, guiding the integration of safety improvements with other infrastructure and development projects.

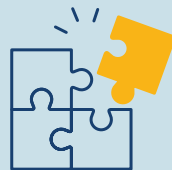
When roadway and bridge maintenance or upgrades are scheduled, or there are proposed real estate development projects that require improvements to the surrounding transportation network, roadway owners, those responsible for operating and maintaining traffic control devices and dedicated bicycle and pedestrian facilities are encouraged to consult this plan to identify opportunities for partnerships to address overlapping community safety goals and priorities.

The PennDOT Connects process allows municipalities and stakeholders to engage with PennDOT before projects begin the development process to communicate local priorities and needs and to build partnerships in order to implement those priorities along with the PennDOT project. All municipalities are encouraged to attend PennDOT Connects Municipal Outreach Sessions when they are held in your community. These sessions are also a valuable resource for municipal collaboration and to learn about available planning assistance and resources.

The SPC regularly monitors and aligns priority projects with available federal discretionary grant opportunities and communicates opportunities to infrastructure owners to accelerate implementation. SPC will continue to act as a resource to counties and municipalities in providing data, technical expertise, and letters of support to discretionary grant applications.

Potential funding sources include, but are not limited to, the options listed in Exhibit 6-2. Additional details on the funding sources can be found in the Appendix. Federal, state, and local funding and programs, as well as support from the development community, should be leveraged as appropriate. Some sources may not focus exclusively on transportation, yet offer support for projects that promote broader community and economic development. By utilizing a creative and flexible approach to funding, Allegheny County and its 130 municipal partners can maximize opportunities to enhance roadway safety and community well-being.

Funding and Partnerships



While HSIP is the only dedicated safety formula funding source, this plan serves as a strategic tool to integrate safety improvements into roadway, bridge, and development projects. Through early coordination via PennDOT Connects and support from SPC in pursuing discretionary grants, municipalities can leverage multiple funding sources to advance shared safety priorities.

Exhibit 6-2: Potential Funding Sources

Program	Description
Federal Transportation Funding Programs	
Local/State Competitive Programs	
Highway Safety Improvement Program (HSIP)	Provides funds to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads. HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.
Transportation Alternatives (TA Set-Aside)	Provides funds that encompasses a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity.
Congestion Mitigation and Air Quality (CMAQ)	Provides funds for transportation projects and programs that will contribute to attainment or maintenance of the national ambient air quality standards for ozone, carbon monoxide, and particulate matter.
Carbon Reduction Program (CRP)	Provides funds for projects designed to reduce transportation emissions, defined as carbon dioxide (CO ₂) emissions from on-road highway sources.
Smart Transportation Through Livable Communities (STLC)	Provides funds to plan and implement strategies consistent with the policies of the region's adopted Long-Range Transportation and Development Plan (Smart Moves for a Changing Region) as well as local and county comprehensive plans. Projects link transportation investments and land use planning to decision-making, creating transportation facilities that are safe, sustainable, responsive to the needs of all users, and support community planning goals. The program is designed to provide multimodal connections and community livability enhancements beyond traditional asset management-focused projects.
National Discretionary	
Safe Streets and Roads for All (SS4A)	Provides financial support for planning, infrastructure, behavioral, and operational initiatives to prevent death and serious injury on roads and streets involving all roadway users, including pedestrians, bicyclists, public transportation users and operators, personal conveyance, micromobility users, motorists, and commercial vehicle operators.
Better Utilizing Investments to Leverage Development (BUILD)	Provides funding for capital investments in surface transportation that will have a significant local or regional impact. The eligibility requirements of BUILD allow project sponsors to pursue multimodal and multi-jurisdictional projects that are more difficult to fund through other grant programs.
Active Transportation Infrastructure Investment Program (ATIIP)	Provide safe and connected active transportation facilities in active transportation networks or active transportation spines. ATIIP projects help improve the safety, efficiency, and reliability of active transportation networks and communities; improve connectivity between active transportation modes and public transportation; enhance the resiliency of on- and off-road active transportation infrastructure; help protect the environment; and improve quality of life in disadvantaged communities through the delivery of connected active transportation networks and expanded mobility opportunities.
Strengthening Mobility and Revolutionizing Transportation (SMART)	Provides funding to eligible public-sector agencies to conduct demonstration projects focused on advanced smart community technologies and systems in order to improve transportation efficiency and safety, among the other USDOT Innovation Principles.
Advanced Transportation Technologies and Innovative Mobility Deployment (ATTIMD)	Provides funding to deploy, install, and operate advanced transportation technologies to improve safety, mobility, efficiency, system performance, intermodal connectivity, and infrastructure return on investment.

Program	Description
State Transportation Funding Programs	
State Competitive Programs	
DCED Multimodal Transportation Fund (MTF)	Provides grants to encourage economic development and ensure that a safe and reliable system of transportation is available to Pennsylvania residents.
DCED Local Share Account (LSA) – Statewide	Provides for the distribution of gaming revenues through the Commonwealth Financing Authority (CFA) to support projects in the public interest within the Commonwealth of Pennsylvania.
PennDOT Automated Red Light Enforcement Program (ARLE)	Provides opportunities to improve safety and reduce congestion. ARLE intends to reduce violations and crashes, provide additional safety benefits to highway users, and improve pedestrian safety.
Green Light-Go	Grant program to improve the efficiency and operation of existing traffic signals located in the Commonwealth of Pennsylvania.
PennDOT Multimodal Transportation Fund	Provides grants to ensure that a safe and reliable system of transportation is available to the residents of this Commonwealth.
PennDOT Pennsylvania Infrastructure Bank (PIB)	A PennDOT program that provides low-interest loans to accelerate priority transportation projects.
Greenways, Trails and Recreation Program	Funding for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects. Projects can involve development, rehabilitation and improvements to public parks, recreation areas, greenways, and trails, as well as river conservation.

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Progress will be tracked, reported, and used to refine strategies over time.

7 Progress Monitoring and Evaluation

Overview

Ongoing monitoring and evaluation are essential to ensuring that the Comprehensive Safety Action Plan leads to meaningful and sustained reductions in traffic fatalities and serious injuries. This section outlines how progress will be tracked, reported, and used to refine strategies over time.

Performance Measures

Progress will be monitored using a combination of outcome-based, system-based, and implementation-focused performance measures. Key measures include the following for all public roads in Allegheny County:

Safety Outcomes

- Number and rate of fatal crashes
- Number and rate of serious injury crashes
- Number of fatal and serious injury crashes involving vulnerable road users
- Number of fatal and serious injury crashes on the HIN
- Share of fatal and serious injury crashes occurring on the HIN

System and Network Measures

- Number of safety projects implemented on the HIN
- Number of municipalities adopting Vision Zero, Complete Streets, or safety-supportive policies

SS4A Alignment: Progress Monitoring and Evaluation

This section ensures that Allegheny County's Comprehensive Safety Action Plan is actively tracked, evaluated, and refined to achieve measurable reductions in fatalities and serious injuries. By using outcome-based, system-based, and implementation-focused performance measures, the plan ties investments and actions to results, supporting data-driven decision-making, continuous improvement, and transparency. Regular reporting, including annual Vision Zero Progress Reports, facilitates accountability, informs policy and project updates, and strengthens the County's readiness for SS4A Implementation Grants.

- ✔ Tracks fatal and serious injury crashes, including vulnerable road users and High-Injury Network locations
- ✔ Monitors implementation of safety projects and adoption of supportive policies
- ✔ Uses data and qualitative inputs to refine strategies and prioritize future investments
- ✔ Provides regular, transparent reporting to stakeholders and the public

Data Sources and Management

Crash data from PennDOT's PCIT system will remain the primary source for tracking safety outcomes. Recognizing existing data lag, Allegheny County and its partners should continue to explore interim indicators, supplemental data sources, and qualitative inputs such as fatal crash reviews and Road Safety Audit findings to inform near-term decision-making. Partnerships with public health agencies and trauma care providers should also be explored to support appropriate sharing of injury and trauma data, helping to improve understanding of crash severity trends and outcomes.

Data will be reviewed periodically to:



Reporting and Transparency

Progress toward CSAP goals will be summarized on a regular basis and shared with partner agencies, stakeholders, and the public. The CSAP Steering Committee, organized through SPC, should produce an annual Allegheny County Vision Zero Progress Report to evaluate progress on the overall safety target and performance measures. The report should highlight recent successes, best practices, and lessons learned that can be shared across municipalities and road owners.

The CSAP is intended to be a living document. Results from monitoring activities, including after-action evaluations, fatal crash reviews, and stakeholder feedback, should be used to refine strategies, update priorities, and adjust implementation approaches over time. This continuous improvement process ensures that the plan remains responsive to changing conditions, emerging best practices, and lessons learned from implementation. Safety Action Plans are typically comprehensively updated within five years to incorporate new data, reassess priorities, and reflect progress made toward implementation.

Through regular monitoring, evaluation, and coordination, Allegheny County and its partners will track progress toward Vision Zero and ensure that safety investments are data-driven, effective, and aligned with the goal of eliminating traffic fatalities and serious injuries.

A CALL TO ACTION:

Zero Compromises on Safety for All.

SAFETY IS A SHARED RESPONSIBILITY, meaning it requires a collective effort from everyone. Whether you live, work, or visit Allegheny County, everyone has a role in the safety of our roads.



What Can You Do as an Allegheny County Road User?

- + **Slow down!** Pay attention and drive at safe speeds.
- + **Stay alert!** Avoid distractions. Be mindful of cyclists and pedestrians, particularly seniors, young children and persons with disabilities
- + **Share the road!** Cyclists and pedestrians use the streets along with scooters and e-bikes.
- + **Remember the rules!** Drive, walk, bike, and ride safely and responsibly.
- + **Spread the word!** Tell your community about Vision Zero and what they can do to help make their neighborhoods and streets safer.



8

Appendix





ALLEGHENY COUNTY
Comprehensive
Safety Action Plan

