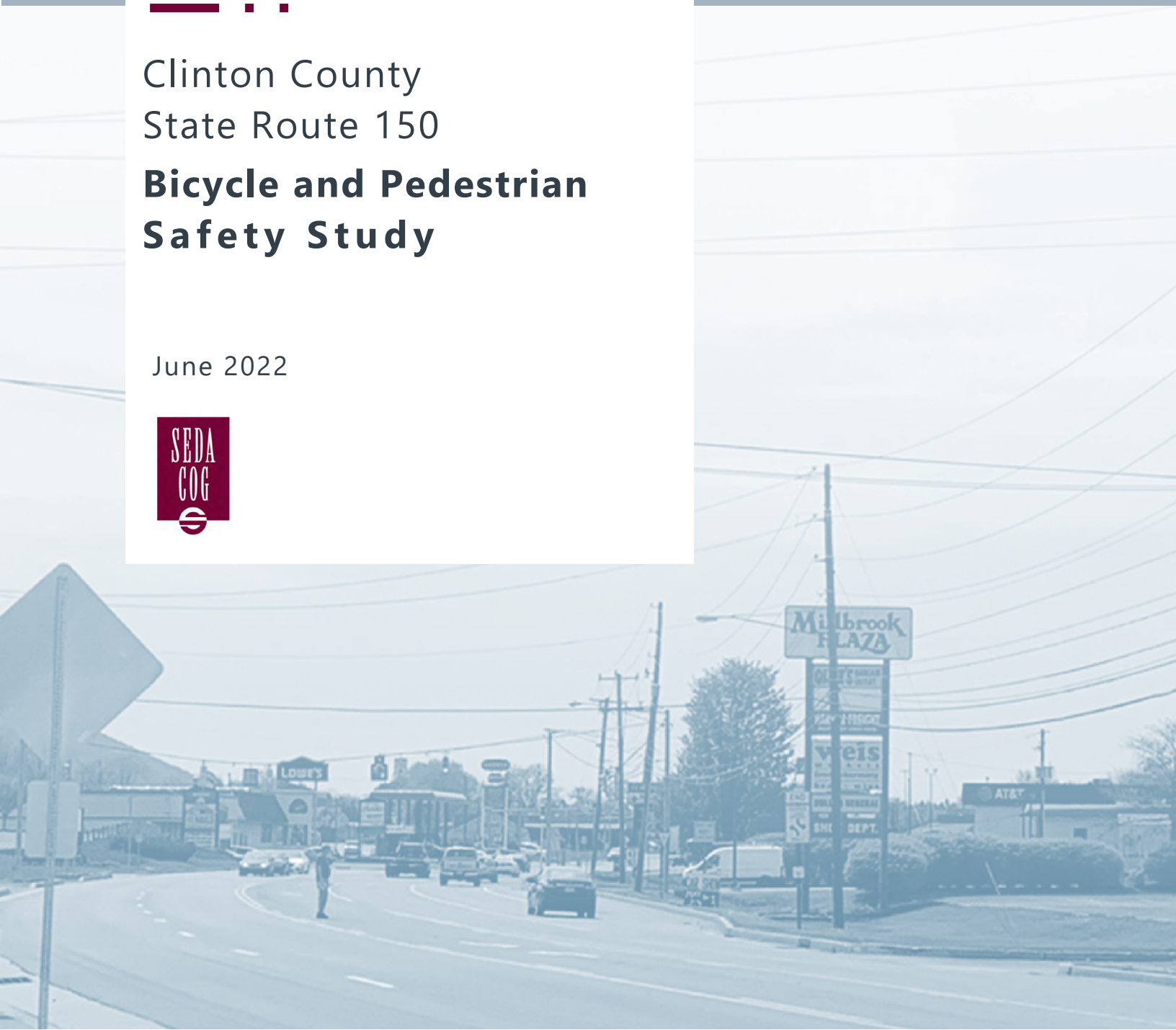
HOGAN BOULEVARD

Clinton County
State Route 150

Bicycle and Pedestrian Safety Study

June 2022

SEDA COG



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About SEDA-COG

SEDA-COG is a regional multi-county development agency, which, under the guidance of a public policy board, provides leadership, expertise and services to communities, businesses, institutions, and residents. SEDA-COG seeks to enhance growth opportunities in an environmentally sensitive manner while retaining the region's predominantly rural character. The organization is both a direct service provider and a link to other resources that can be applied to a wide range of community and economic needs. SEDA-COG is also an advocate for the interests of its communities at the state and federal levels.

The preparation of this report was funded by Clinton County and the Pennsylvania Department of Transportation. The contents do not necessarily reflect the official views or policies of the funding agency. This report does not constitute a standard, specification, or regulation.

Table of Contents

List of Figures

List of Tables

INTRODUCTION

1.1 Purpose

This **Vision Zero Safety Audit (Safety Study)** equips the SEDA-Council of Governments (SEDA-COG) Metropolitan Planning Organization (MPO) and local leaders with data, recommendations, and tools to inform safety and mobility improvements for people who walk, bike, and roll along State Route 150 Hogan Boulevard in Clinton County, Pennsylvania. The purpose of this safety study is to inventory the existing conditions to assess the safety and mobility gaps, towards identifying complete street interventions to inform future projects and enhance the corridor experience for all roadway users.

Critically, this segment of Hogan Boulevard reflects two distinct roles:

1. **A vital destination for Clinton County** with many major employers, essential commercial activity, schools, and access to intercity highways—residents refer to the corridor as the "*heart of the county*" and the "*the county's downtown*."
2. **A spine connecting local communities,** linking the Boroughs of Mill Hall and Flemington, Bald Eagle Township, and the City of Lock Haven. In particular, the corridor's current design stands out in contrast to the dense, walkable street grids of Mill Hall and Flemington/Lock Haven, directly adjacent to the corridor on the south and north, respectively.

SEDA-COG and Clinton County have selected this study area with recognition of these two roles, and to better meet the needs of the residents, employees, students, shoppers, and visitors that traverse the corridor each day. With an upcoming bridge reconstruction, this study equips Clinton County with information to address one of the pain points (a narrow bridge) and set the precedent for a **pedestrian-friendly and bikeable corridor.**

WHAT IS VISION ZERO?

Vision Zero is a safety initiative and strategy based on the idea that traffic deaths and crashes are ***preventable.*** Vision Zero plans aim to achieve a transportation system with **zero traffic deaths or serious injuries.**

Vision Zero Guiding Principles:

- **Listen to the community.** Ensure all roadway users, connections, and safety needs are prioritized.
- **Education** and **encouragement** are fundamental to Vision Zero!
- Use **data** to inform and advance safety efforts.

1.2 Study Area

Located in Central Pennsylvania, the SEDA-COG region (Figure 1), features 11 counties; eight counties are served by SEDA-COG as the official transportation planning body. These include the Counties of Clinton, Columbia, Juniata, Mifflin, Montour, Northumberland, Snyder, and Union. The study area is in Clinton County and involves a segment of roadway that touches three municipalities, namely Bald Eagle Township, Mill Hall Borough, and Flemington Borough.

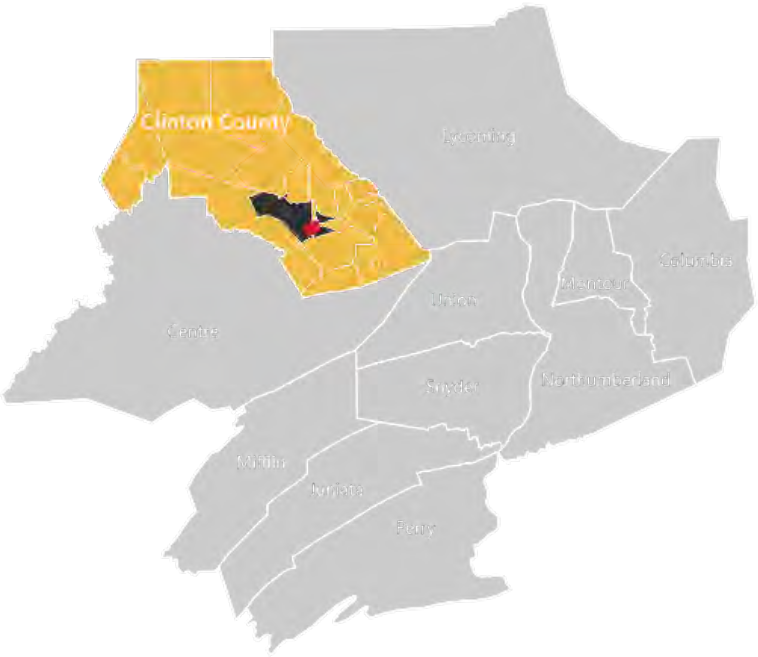


Figure 1 Regional Context

The study area is a **one-mile segment of Hogan Boulevard** (State Route 150) spanning between Pennsylvania Avenue in Mill Hall and Canal Street in Flemington, PA. This study area is shown in Figure 2.

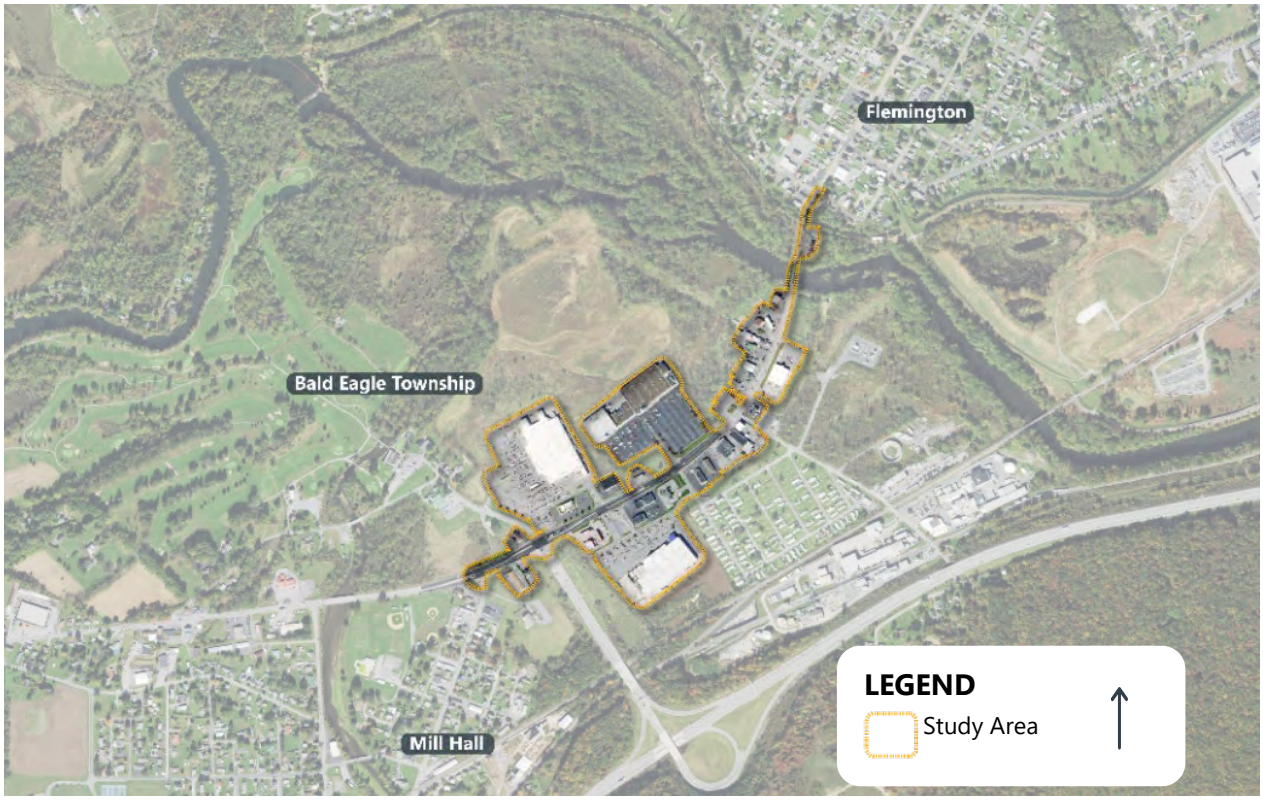


Figure 2 Study Area and Context

1.3 Relevant Plans and Programs

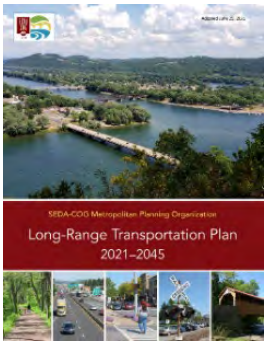
Interest in Vision Zero, multimodal plans and active transportation strategies (e.g., enhancing on-road and trail facilities to support walking, biking, and rolling) is gaining momentum in Clinton County, across the region, and statewide. The following summaries reflect a sampling of relevant transportation plans, studies, and programs that relate to the current safety audit.

Clinton County Multimodal Strategy (2021)

The *Multimodal Strategy* assesses the conditions that constrain walking, biking, and transit in Clinton County, and identifies priorities towards progressing multimodal accessibility. The Strategy outlines six goals summarized below.

1. *Bicycles, Pedestrians, and Trails.* Improving active transportation facilities available throughout the county, with an emphasis on improving connections throughout the network, including both trails and on-road facilities. Success is measured in increased activity or usage of the facilities; enacted policies and completed projects (with an emphasis on addressing network gaps); and ultimately a reduction in active transportation-related crashes that result in fatalities or serious injuries.
2. *Student and Young Adult Transportation.* Providing affordable and equitable mobility options for Clinton County's student-age population and young adults. This spans from initiatives to improve safer access for K-12 through college-aged students, to initiatives to promote active and public transportation to attract and retain young adult residents.
3. *Public Transportation*. Promoting transit with increased awareness and expanded service (e.g., types and number of programs and services available). Proposed initiatives focus on establishing partnerships and coordinating on education and outreach efforts, as well as evaluating opportunities to add new weekend service, intercity connections, and on-demand or micro-transit options.
4. *Countywide Accessibility*. Expanding multimodal options at a systems-level (e.g., continually improving and expanding available infrastructure, service, and other mobility amenities), with aim to reduce barriers to access. For example, first and last mile connections are referenced as a component that could significantly improve walking, biking, and riding transit if addressed.
5. *Economic Development and Tourism*. Leveraging the economic impact of multimodal service 1) connecting residents to jobs, 2) enhancing the area's nature (e.g., hiking, parks) tourism market, and 3) encouraging development on major corridors suited for mixed use activity. Initiatives include building partnerships to promote multimodal transport and identifying opportunities to support community development and tourism.
6. *Partnerships and Education*. Establishing new partnerships and strengthening current relationships to collaborate on marketing, funding, and implementing transportation services.

The current Safety Audit is a priority of the Multimodal Strategy | **Strategic Initiative A-2 *Implement the Hogan Boulevard study recommendations to accommodate biking and walking safely.***



***SEDA-COG Long-Range Transportation Plan* (2021)**

A Long-Range Transportation Plan (LRTP) is a mandated 20-year plan for the region's multimodal network. SEDA-COG's most recent LRTP emphasizes the need for a system that is 'conveniently multimodal and service-supported,"[1] and identifies the current study area as one of the proposed high-priority Discretionary Projects. The LRTP states that "***bicycle access is highly desired*** *[along the SR-150 study area] if we could make it safe… [and]* ***sidewalks are direly needed throughout this shopping area*** *and going into Flemington."*[2] Additional analysis of the corridor identifies the segment as a major employment center, a congested corridor with high traffic volume for vehicles and trucks, and a high crash segment, with 30 crashes in the 6-year period from 2013 to 2019. Each of these characteristics illuminates the need for a safer and more multimodal corridor, and shows how the current study reflects three of the LRTP goals:

- *Increase the safety of the transportation system for motorized and non-motorized users;*
- *Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns; and,*
- *Foster compatibility between land use and transportation facilities to yield orderly growth and development.*

***Middle Susquehanna Bicycle and Pedestrian Plan* (2019)**

The Middle Susquehanna Bicycle and Pedestrian Plan explores a regional network that specifically looks to connect communities to each other and to the Susquehanna River. The plan was prepared for the Middle Susquehanna Regional Bicycle and Pedestrian Advisory Committee, a regional group of advocates and professionals focused on improving the safety and accessibility of active transportation across the SEDA-COG area. Goals and strategies range from broad efforts to cultivate relationships among community leaders and practitioners, enable collaboration and information sharing of best practices, to helping to integrate biking and walking into design. As part of the Plan, a Bicycle Level of Stress (BLOS) analysis was conducted which identified the study corridor as BLOS 3: Moderately Stressful (e.g., stressful, and uncomfortable for most adults).

[1] SEDA-COG Long Range Transportation Plan Update, *Regional Trends and Findings* (Story map, available at: https://storymaps.arcgis.com/stories/407be6efc1824135b27b10d3a7657dd2)

[2] SEDA-COG Long Range Transportation Plan. *Table 50: Proposed High-Priority Discretionary Projects.* p. 241.

***Clinton County Greenways and Open Space Plan* (2010)**

The Bald Eagle and Spring Creek Canal Trail Feasibility Study is one component of the plan. The bridges on Hogan Boulevard are identified as potential access points for the Water Trail and Historic Canal alignments, providing connections between Lock Haven and Bellefonte (Centre County). Hogan Boulevard is part of the preliminary trail alignment alternative, and the corridor is noted as an asset due to its designation as PA Bicycle Route G.

***Coordinated Public Transit–Human Services Transportation Plan* (2019)**

This regional plan evaluates the existing transportation services, and the mobility needs for aging adults, individuals living with a disability, and low-income populations living in the SEDA-COG and Williamsport (WATS) MPO areas. The Plan highlights the need to improve awareness of transit operations (fixed and on-demand), to ensure travelers know of—and how to use—the available options. Specific mobility needs include expanded student transportation options and unmet need for enhanced services (additional routes and additional frequency) connecting rural areas to commercial areas and towns.

***PennDOT Active Transportation Plan* (2019)**

The Pennsylvania Active Transportation Plan (ATP) sets a statewide vision and priority, noting that "biking and walking are integral elements of Pennsylvania's transportation system that contribute to community health, economic mobility, and quality of life." The ATP establishes a framework for advancing biking and walking into planning, policy, and analysis, and PennDOT is working with communities across the state to complete on-road facilities through state and local projects. This framework and the guidance outlined in the ATP emphasizes consideration of all modes when engaging in any right-of-way redesign, as is the case in the current study corridor and upcoming bridge restoration.[3]

***PennDOT Strategic Highway Safety Plan* (2022)**

The SHSP outlines multimodal strategies to reduce severe crashes towards zero deaths (TZD, or Vision Zero). Specific goals relevant to the safety study include a dedicated focus on improving pedestrian safety and bicyclist safety. To achieve these goals, PennDOT's SHSP proposes adoption of a complete streets approach that considers all modes and integrates active transportation needs and safety into transportation network planning, design, operations, and maintenance.

[3] Bridge restoration is project number 110355 in Pennsylvania's Twelve-Year Program (TYP); Details available online at https://gis.penndot.gov/OneMap/projectDetailReport/reportData-1650237450300

1.4 Planning Process

OUTREACH AND ENGAGEMENT

The development of this plan was founded on engagement and guidance from a local Study Management Team, with members representing community partners and agencies such as SEDA-COG, Clinton County, and PennDOT District 2. The Study Management team met virtually, on a bi-monthly basis to enable direct agency coordination, review preliminary research, and gather input on local context and needs. In addition, the Study Management Team served as liaisons to other local stakeholders, amplifying outreach for public meetings.

Public Engagement Meetings

Two public meetings were conducted to provide the public an opportunity to learn about the study, provide input on their experiences, and comment on preliminary findings and proposed designs. The first public meeting was held in the Borough of Mill Hall at the Mill Hall Fire Hall (Figure 3) and focused on the purpose of the study and Vision Zero concepts. Input on attendees' experiences was gathered through discussions and captured on multiple display materials, including study area maps and a table grouping participants based on cycling level of comfort (Figure 3, bottom).

The second public meeting was designed as a 'pop-up public meeting' to provide a more engaging and flexible approach to engagement (Figure 4). In addition, by placing the 'pop-up' directly on the corridor or study area, the team managed to recruit pedestrian passersby and other travelers to stop by and explore the materials. The outreach tent was set up directly on Hogan Boulevard, in an active and highly visible parking lot (Walmart). Discussion and presented materials centered on the review of preliminary findings and details of the safety analysis.

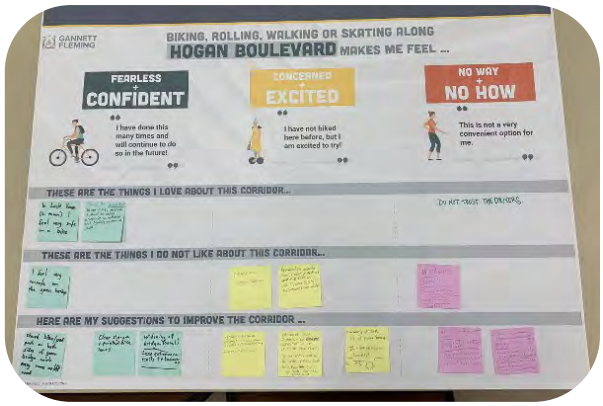


Figure 3 Initial Public Meeting

Figure 4 Public Meeting 2: Pop-up

Interviews

In addition to the public meetings, the project team conducted virtual interviews with key stakeholders and service providers. A list of local organizations engaged by the team is provided in Table 1.

Table 1 Stakeholder Interviews and Outreach

River Valley Transit*	Clinton County Economic Partnership*
STEP (the Community Action Agency) *	Keystone Central School District*
Local Municipalities	*Major Employers*
City of Lock Haven*	Croda/Avery Dennison (Community Advisory Council)
Bald Eagle Township*	Walmart*
Mill Hall Borough	Lowes
Flemington Borough	First Quality Tissue**
	Lock Haven University**

** Organizations with which the team successfully contacted and conducted virtual interviews*

*** Organizations with which SEDA-COG provided responses from previously conducted interviews.*

Field View

Three members of the project team, joined by two members of the Study Management Team, conducted a walking field view of the corridor following the initial public meeting. The field view observed the full corridor, from the intersection of Hogan Boulevard and Country Club Land to Pennsylvania Avenue before navigating to Canal Street (traveling along the south side of the corridor) and returning along the north side of the corridor. In addition, a member of the project team completed two cycling trips of the same route to understand the cyclist perspective and experience. A sample of photos is shown in Figure 5.

Figure 5 Corridor Field View

As part of the field view and observations, the team equipped a cyclist with eye-tracking glasses to capture a first-person, authentic biking experience of riding on the corridor. These glasses allowed the team to capture video from the cyclist's perspective as well as data noting how and when the cyclist was looking at infrastructure features and navigating roadway interactions. The images below reflect samples of the video documenting areas of interest (e.g., when and where the cyclist's gaze was fixated on a particular area).

From this feedback, the study team can glean a better understanding of cyclist level of stress by assessing how the roadway is used and experienced, and what locations emerge as hot spots or present safety issues.

SAFETY STUDY OVERVIEW

The Hogan Boulevard Bicycle and Pedestrian Safety Study provides a preliminary analysis of the corridor and introduces multimodal, cultural, and policy recommendations. The study is organized as follows:

- **Existing Conditions.** The first section explores the current functions of the corridor including its context within the local community. The existing conditions analysis explores the current transportation services, land uses, and other community/economic activity, as well as any proposed changes or emerging trends that will influence these conditions (e.g., introduction of new modes, travel pattern changes, or proposed developments).

- **Vision Zero Report.** Section II provides a bicycle and pedestrian safety needs assessment. This section outlines the safety issues to address to improve mobility for all users and eliminate traffic fatalities and major injuries. Findings reflect the 'E's of Transportation' that are widely employed in Vision Zero programs: *Engineering; Enforcement; Education; Engagement; Evaluation.*

- **Complete Street Plan**. The strategies of the Vision Zero Report are applied as a preliminary complete street plan for the Hogan Boulevard corridor including proposed infrastructure designs, operation and policy changes, and education and outreach approaches. This plan can be used to inform next-level engineering and environmental analysis to produce full transportation design concepts and municipal policy projects.

EXISTING CONDITIONS

2.1 Community Context

The development and commercial activity along Hogan Boulevard—specifically the corridor segment and surrounding area (e.g., development) that serves as the study area—is recognized as 'Clinton County's Downtown' and 'the heart of the county' due to the economic activity these developments generate. The corridor is the major retail hub and attracts regular visitors and shoppers from across Clinton County.

Along the corridor sits a collection of major economic drivers, shown in Figure 6, including big box stores (Walmart, Weis, Ollie's), home improvement stores (Lowe's, Tractor Supply, Harbor Freight), and other commercial services, restaurants, and convenience stores. In addition, the corridor touches residential neighborhoods (e.g., Camelot Estates), industrial uses (e.g., Croda and Avery Dennison facilities), and the scenic Bald Eagle Creek.

Figure 6 Community Context

The corridor is important not only as a destination, but also as a connector. Though approximately one mile in length, the study area sits mostly within Bald Eagle Township and, in the segment east of Bald Eagle Creek, the Borough of Flemington. The study area also directly interfaces with the Borough of Mill Hall, a primarily residential borough with an active recreation center and pool—with renovations on the horizon, these amenities are expected to become increasingly popular. Just east of Flemington is the City of Lock Haven, the most populous municipality in the County, the county seat, and a major economic and cultural center including a university. These neighboring municipalities (Mill Hall, Flemington, and Lock Haven) feature dense, walkable street networks that enable walking and biking as safe modes of access. However,

the corridor (study area) that separates these networks is highly contrasted with significant barriers to walking and biking: lacking facilities or amenities, and with auto-centric design, function, and culture.

In this context, the corridor stands out as an ***area that disproportionately impacts the safety and accessibility of the area*** due to the mismatch of the demand for alternative transportation options and the existing, car-dependent infrastructure. Addressing this segment with targeted improvements will unlock new potential for integrating movement of all modes safely and efficiently and support increased activity and placemaking along this important corridor and connector.

For the purposes of the existing conditions analysis and to explore the broader community context, the Study Management Team defined the area as the municipalities along the corridor, as shown in Figure 7. For the following data, existing demographic conditions for the study area are shown in comparison to the entirety of Clinton County.

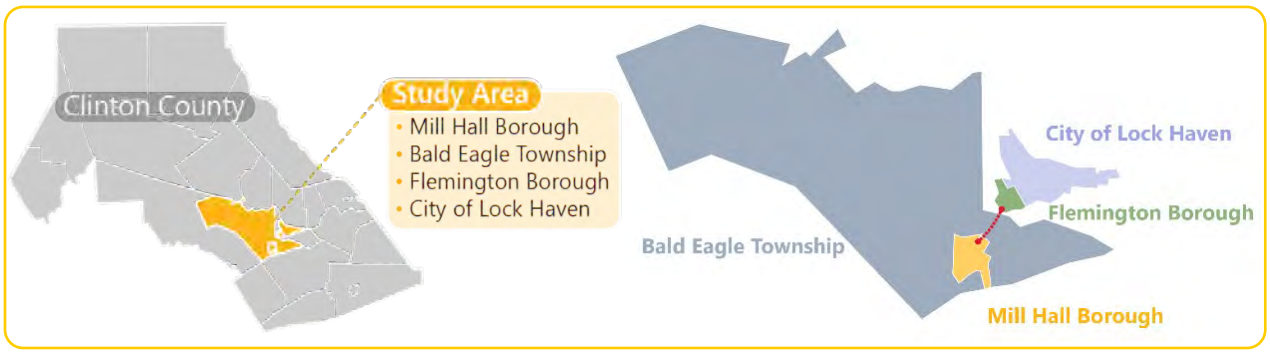


Figure 7 Study Area: Municipalities

POPULATION

The study area is home to more than 14,000 residents, representing about 36 percent of Clinton County's total population (38,915).[4] The median age varies by municipality, with most falling close to the county's median age of 38.6 years old—Mill Hall meeting the county exactly at 38.6 while Bald Eagle Township and Flemington Borough are slightly older, with median ages of 44.3 and 41.8, respectively. The City of Lock Haven has a comparatively younger population (median age 25.2) due to the University student population.

Approximately 10 percent of the study area population is under age 10; Countywide, approximately **1 in 5 residents are school-aged** (i.e., younger than age 18). School-aged children are of particular interest and concern for this study, as students regularly travel on the corridor to access the retail destinations, the Mill Hall Park and Pool and the schools on or near Hogan Boulevard. The local school district, Keystone Central School District, is headquartered along the corridor and features two education buildings close to (though outside of) the study area. KCSD serves the entirety of Clinton County plus portions of two adjacent counties (Centre and Potter) to rank as the largest geographic district in the state. KCSD notes that transport options are not state-mandated (or funded) for students living within 1.5 miles of a school, such as those close to

[4] U.S. Census Bureau, 2020.

the study area, regardless of the lack of safe options or facilities available.[5] In addition to school-aged children, the study area also features Lock Haven University, home to nearly 2,500 undergraduate students. Transportation for these students, from kindergarten to college, and for their families is a common mobility concern noted in several plans and programs.

Aging adults are a growing segment of the population, with most municipalities (all but the City of Lock Haven) reporting 1 in 5 residents are age 65 or older. In the study area, **15 percent of the population is above age 65** (compared to 18 percent in Clinton County). About 8 percent of individuals identify as living with disabilities that impact their mobility (i.e., mobility difficulties) at both the study and county level. This includes individuals reporting an ambulatory disability that may require use of a scooter, motorized chair or wheelchair, or another assistive device. It is worth noting that while aging adults may not report or identify as having mobility differences, they may also experience similar physical, visual, or other sensory limitations that constrain their ability to move freely and safely on the corridor.

While the study area reflects a very auto-centric community and driving is the predominant form of commuting, ***15 percent of households do not have access to a personal vehicle.***

ECONOMY

The study area is a notable job center for the county, with 1,300 people employed at businesses within the study corridor. See Figure 8 for a review of High Employment Areas as noted in the SEDA-COG LRTP[6]. Businesses along the corridor with more than 100 employees include (in order of size): Walmart, Croda, Avery Dennison, Lowes, and Weis.

The vitality of the corridor centers on economic activity generated by low-density, auto-centric shopping plazas like Millbrook Plaza. Figure 9 images reflect the form of the shopping district.

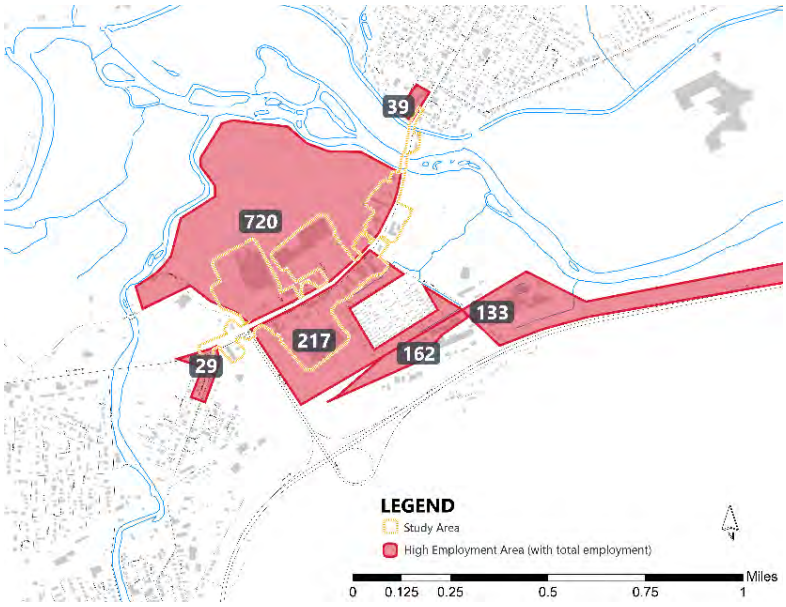


Figure 8 High Employment Areas

[5] PA Department of Education; KCSD PCOM 2022
[6] SEDA-COG LRTP – High Employment Areas

Looking West at 150 Hogan Boulevard

Looking towards Millbrook Plaza

Figure 9 Roadway Cross-sections

LAND USE

The study area is comprised of primarily commercial land uses, sitting largely within one of Bald Eagle Township's designated commercial districts, and connecting to a commercial corridor in Flemington Borough. Figure 10 depicts the land use or zoning ordinances that touch the study area: Bald Eagle and Castanea[7] Townships, and Flemington and Mill Hall Boroughs.

Commercial

The commercial district is composed primarily of retail businesses, including big box grocery stores such as Walmart and Weis, home improvement stores including Lowe's and Tractor Supply, and other restaurants, service providers, and convenience stores. The design of these retail options is often setback designed with expansive parking lots, or several storefronts on a strip mall, with front parking areas. Figure 11 depicts some of the retail options and how they interface with the Boulevard. Most businesses close around or before 9:00PM, with the exceptions of: Lowes and Puff Discount Cigarettes (10:00PM), Walmart (11:00PM), and Sheetz (open 24/7).

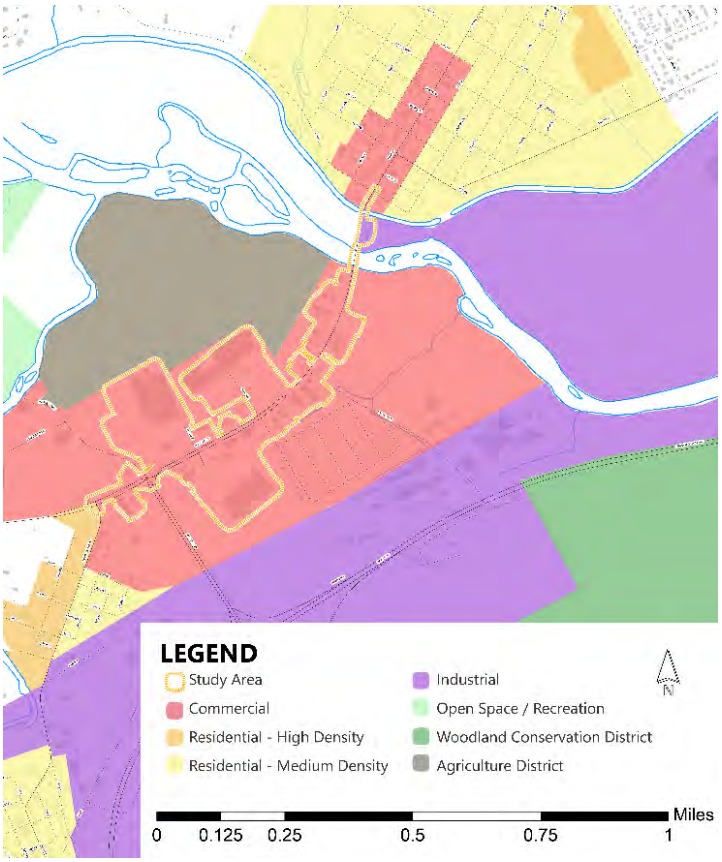


Figure 10 Land Use Map

[7] Included briefly at right, reflecting industrial uses by the First Quality Tissue site.

Residential

Medium- and high-density residential areas connect at each end of the study area, including Mill Hall and the Clinton County Public Housing Authority (shown as Flemington's high-density area). There is also a residential neighborhood, Camelot Estates (Figure 12), within the commercial district located between Hogan Boulevard and the industrial area to the South. A second high-density residential option is in development, as the Lock Haven Motel on Hogan Boulevard (between Pennsylvania Avenue and Mill Hall Road) is being renovated to serve as a transitional lodging facility.

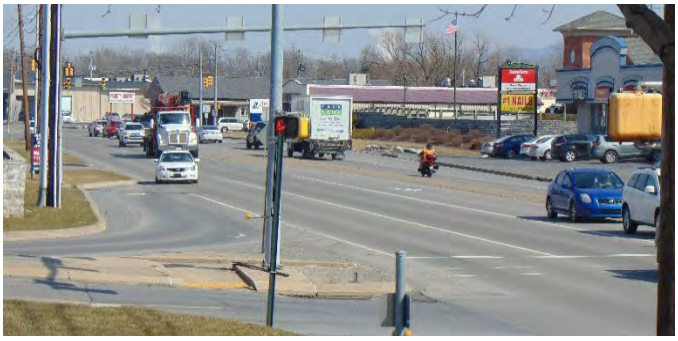


Figure 11 Retail Corridor Typologies

Figure 12 Residential Areas (Camelot Estates)

Undeveloped Land

There are several other active land uses in the areas surrounding the study segment. North of the study area is the Clinton Country Club, falling in the area zoned for recreation/open space.

The area South of the study area, bisected by U.S. Route 220, is designated a woodland conservation district. There are other areas throughout the corridor that are currently undeveloped, including the marsh areas that border the commercial corridor and the Bald Eagle Creek, and the areas adjacent to U.S. Route 220. While this suggests there may be capacity for additional growth in the area, it is a function of environmental suitability.

ENVIRONMENT: FLOODING

The study area is partially surrounded by waterways, shown in Figure 13, that connect to the Susquehanna River. Bald Eagle Creek runs largely perpendicular to Hogan Boulevard, serving as the boundary between Bald Eagle Township and Flemington Borough. The Fishing Creek runs through Mill Hall Borough, west of the study area. Together, these areas are part of the larger Fishing Creek/Cedar Run watershed.

Figure 13 Environment Context: Water features

With these nearby water features and the topography of the area, flooding is identified as a key environmental issue and concern, as the corridor sits on an existing flood plain. As shown in Figure 14,[8] adapted from SEDA-COG's illustration of FEMA flood hazard areas, the area is vulnerable to, and regularly experiences, substantial flooding events and stormwater issues.

Figure 14 FEMA Flood Hazard Areas and Elevations

In addition, the study area is bounded by two levees—the Fishing Creek Levee in Mill Hall and the Lock Haven Levee system in Lock Haven—which can pose additional vulnerability in the event of failure. The County's Hazard Mitigation Plan (2018)[9] assesses the risk of these conditions and considers mitigation strategies to reduce risk and vulnerabilities. These include regulating development to prevent increases in runoff, developing or revising the zoning ordinance to include known hazard areas, and including assessment of hazard vulnerability in comprehensive planning efforts.[10]The study area and broader Hogan Boulevard corridor was a feature in the County's Fishing Creek/Cedar Run Stormwater Management Plan (2006)[11] which reviews the flood protection project for the commercial district within the study area. The Hogan Boulevard flood protection project was the only project proposed for the watershed, and involved constructing expanded levees and walls, and elevating or replacing bridges, and possibly protecting or removing buildings as needed to make the proposed structural improvements. With these complexities and with a price tag of $20M, this project was not recommended.

[8] SEDA-COG interactive flood mapping tool: https://ccmm.maps.arcgis.com/apps/webappviewer/index.html?id=6ae21ab9a651432c96f4bc7613980fad
[9] Clinton County Hazard Mitigation Plan: www.clintoncountypa.gov/home/showpublisheddocument/286
[10] Sampled action items include Goal 3, Action 1.3.3, and Action 1.4.2.
[11] Available at: https://www.clintoncountypa.gov/home/showdocument?id=1562

2.2 Transportation Network

The study area's transportation network is complex, with a broad spectrum of transportation users of all sizes—from young adults on bicycles and scooters traveling to school, to semi-trucks carrying freight to the big box stores. While the corridor is designed for a car-based lifestyle and travel patterns, residents and meeting attendees report increasing numbers of walkers, cyclists, and electric mobility options (e-bikes, scooters), despite the lack of accommodation.

To understand the distinct roles and conditions of the modes operating within this transportation ecosystem, each component or mode is introduced and reviewed. The modes discussed include (1) Vehicle (car) travel and the auto-centric designs that support it; (2) Public transit (fixed and on-demand operations, both current and proposed services); and (3) Active transportation (bicyclists, pedestrians, and other emerging modes).

Figure 15 Corridor Images

2.3 Cars: Auto-centric Designs and Traffic

Hogan Boulevard (SR 150) is a major corridor and state route that accesses and serves a broad range of roadway types and functions. The corridor itself is categorized as a suburban corridor, but transitions to both rural and urban connectors at either end of the study area. Figure 16 depicts the roadway network, noting where the highways and local roads interact with Hogan Boulevard, and the varying conditions of each (e.g., posted speed as a key variable). Select images illustrating the conditions are shown for context.

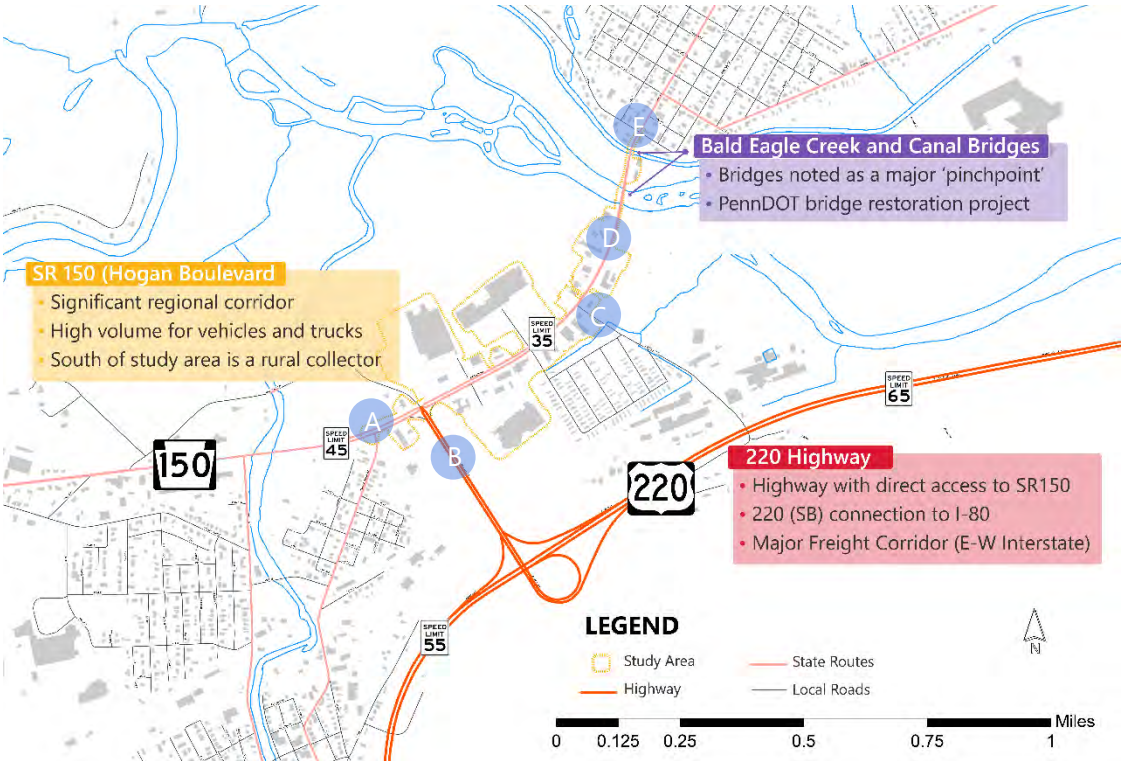
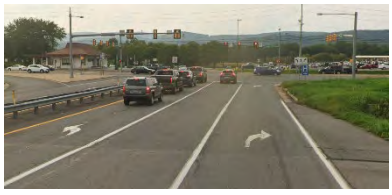


Figure 16 Roadway Design and Functions on Hogan Boulevard

A. SR150 at Pennsylvania Avenue

B. Approaching SR150 from 220



C. Draketown Road @ SR150

D. SR150 approaching bridge

E. SR150 @ Canal Street

VEHICLE FUNCTIONS

Classified as a suburban corridor, Hogan Boulevard carries a high volume of vehicle throughput, reflected in its high average annual daily traffic (AADT or ADT). PennDOT data reports this corridor's AADT to reach approximately 16,000 vehicles.[12] Of note, the route is also a major corridor for truck traffic, with an estimated five percent of vehicle volume categorized as heavy trucks—large tractor trailers, box trucks, or other heavy-duty vehicles that carry large amounts of cargo across the network.[13] A traffic impact assessment (TIA) was conducted in 2021 in advance of a redevelopment project for the Advance Auto Parts Store, adjacent to Draketown Road. This assessment reported the AM Peak (7:00-9:00 AM) throughput as 1663 vehicles and PM Peak (4:00-6:00PM) throughput as 2942 vehicles. (Note, (1) the data may not capture throughput that enters/exits before Draketown Road, and (2) data collected were cross-checked with the reported pre-pandemic data available in PennDOT's Traffic Information Repository, or TIRe, System.)

While the corridor carries notable throughput, its volumes do not necessarily merit additional traffic interventions or signal adjustments. The segment evaluated by the TIA, SR 150 at Draketown Road (Image C in the above figure) is a frequent citation in public meetings and input, with many residents and stakeholders calling for a traffic signal at the intersection. However, based on the TIA the conditions of the area (volume, capacity, turning movements, etc.) do not warrant a signal. Of note, the corridor has many turning movements throughout the corridor that are also unsignalized, including more than 18 driveways (ingress/egress access points) to commercial properties. If additional growth were expected for the corridor, realignment of these driveways with new access management strategies may be warranted to optimize turning movements and reduce negotiation and exposure to pass-through vehicles (e.g., conflict).

The study area has a posted speed limit of 35 miles per hour (MPH). Hogan Boulevard (SR150) South of the study area has a posted speed of 45MPH, requiring drivers to reduce speed by as they enter the study area (e.g., at the intersection with Pennsylvania Avenue). In addition, the corridor links directly to US 220 (which in turn, connects to Interstate 80) which are high-volume, high-speed highways that provide regional throughput and interstate connections – the shift from highway driving to a 35MPH local suburban corridor requires a significant shift in driver behavior and attention. The recent TIA found that four out of every five vehicles did not obey the posted speed, with the 85th percentile speed averaging 42mph. This finding is particularly safety-critical, as increases in speed directly impact driver line of sight and ability to react to other roadway users (see Figure 17).

Figure 17 Illustrating the Cone of Vision as Traveling Speed Increases above 35MPH

[12] PennDOT Traffic Volume Map for Clinton County, available at https://gis.penndot.gov/BPR_PDF_FILES/MAPS/Traffic/Traffic_Volume/County_Maps/Clinton_tv.pdf

[13] Data reflected in Traffic Study (2021) prepared for AutoZone development.

CRASH ANALYSIS

Crash data for all reported incidents in the study area between 2016 and 2020 was collected from PennDOT. A summary of total crashes along the corridor by year is provided in Table 2. Crashes and crash severity have increased. Notably, minor injury crashes have increased five-fold over this five-year period. During this timeframe, there was one reported crash with a pedestrian involved; this occurred when a pedestrian was struck while crossing Hogan Boulevard in 2018. A map of these crashes locations is depicted in Figure 18.

Outside of the five-year crash analysis of Hogan Boulevard, there was a pedestrian struck and killed near Draketown Road in 2011, two pedestrians struck and injured by the bridge—one crash in 2006 and one crash in 2015, and a pedestrian hit in the Walmart parking lot in 2019. While there were no reported bicycle crashes in the 2016-2020 timeframe, a cyclist was struck by a driver while approaching the bridge in 2010, and public meeting attendees shared reports of a cyclist fatality where a child was struck and killed several years ago. More recent bicycle and pedestrian crashes were reported during public meetings and engagement, including a fatal crash involving a motorized bike in 2021 and pedestrian crash that occurred in May 2022, during the preparation of this report. Local EMS personnel and County EMS staff provided details and feedback on the crashes occurring on the corridor, and where notable safety issues persist. These 'hot spots' are featured in the Vision Zero analysis of the corridor.

Table 2 Five-year Crash Data Summary for Study Area (with 100 ft. buffer)

Year	Total Crashes	Serious Injury Crash *(Persons injured)*	Minor Injury Crash *(Persons injured)*	Pedestrian Crashes
2016	10	0	2 *(3)*	0
2017	18	1 *(1)*	3 *(4)*	0
2018	12	0	4 *(6)*	1
2019	11	0	9 *(11)*	0
2020	14	1 *(1)*	10 *(13)*	0
Total	**65**	**2**	***28 (37)***	**1**

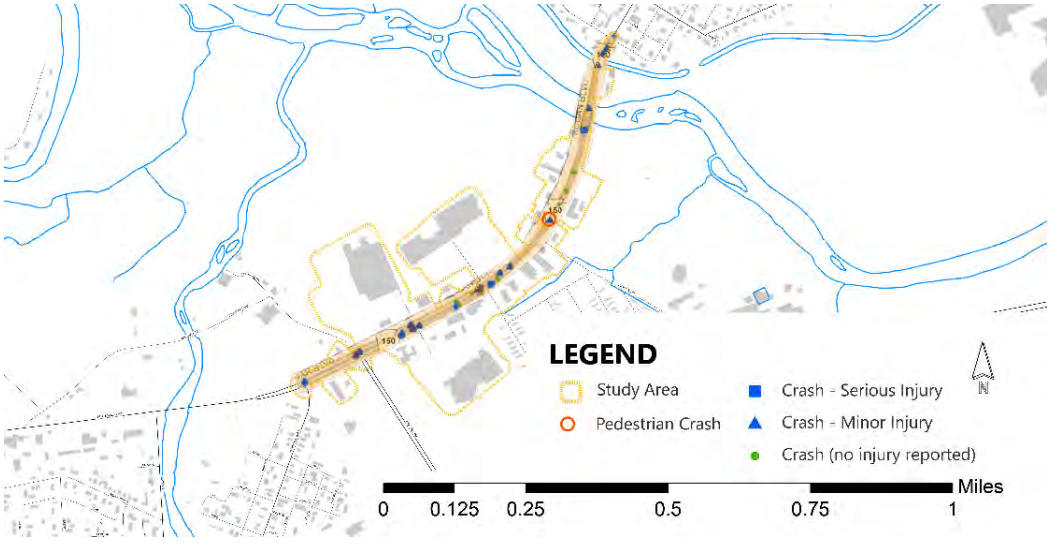


Figure 18 Five-year Crash History Map

Safety Data and Near-misses

It is important to recognize the limitations of relying on crash data as a safety metric, as crash data fails to capture the 'near miss' events or conflicts that are highly unsafe but do not necessarily result in a crash. Participants of the Hogan Boulevard Safety Study Public Meetings, including individuals affiliated with local EMS, referred to these near miss events frequently. These participants mentioned that they referred to these specific segments of the study area as "**hold your breath spots,"** referring to the stressful experience navigating these moments.

This is illustrated by an incident on Hogan Boulevard (SR 150 or High Street) in Flemington, in which a man using a mobility chair to travel along the roadway encountered the "hold your breath spot" where the roadway is constricted by the canal bridge, including a one-sided sidewalk that is less than 3 feet in width. **This sidewalk was too narrow to accommodate the individual's mobility chair and as a result,** he and his chair tipped over into oncoming traffic.

2.4 Public Transit Service

RIVER VALLEY TRANSIT

The local transit service provider is River Valley Transit, based in Williamsport, PA. River Valley Transit (RVT) operates bus service throughout the Williamsport area, with connections to nearby communities—including existing service to the study area (Figure 19), and proposed expansions of this service in discussion.

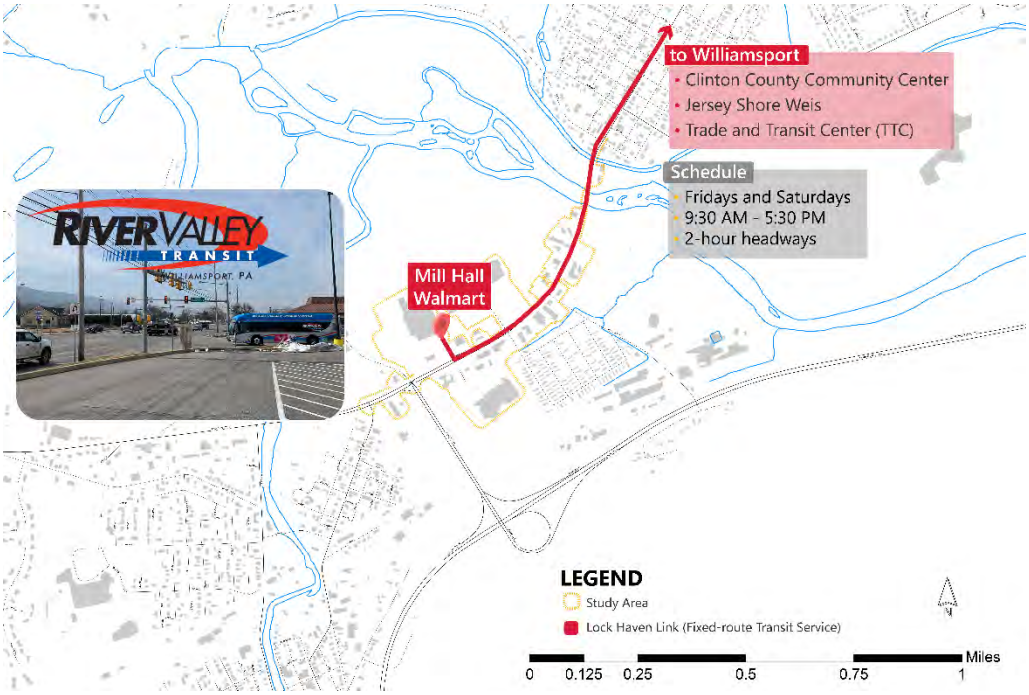


Figure 19 RVT Lock Haven Link Route

There have been consistent interest, conversations, and efforts to increase public transport options to the study area. A three-year pilot program to expand RVT's service area to Clinton County began in 2018, including service to and within Lock Haven five days per week. This pilot program was funded through PennDOT Technical Assistance funding with additional local support (15 percent of program costs) derived from the expansion community stakeholders (e.g., both public and private partners including municipalities, the local Housing Authority, and institutions such as Lock Haven University).

The pilot program did not meet its performance metrics and ridership expectations and was thus concluded at the end of 2020. Unfortunately, and unquestionably, the effects of the pandemic, stay at home orders, and unprecedented changes in travel patterns would have impacted ridership in the final months of the pilot (i.e., March to December 2020). Recognizing these constraints, there remains interest in revisiting a similar pilot in the future, with expanded efforts to publicize and educate communities about the service.[14]

Lock Haven Link

In 2021, after the conclusion of the pilot program, RVT began operating a route (Figure 18) that services the study area. This bus, the Lock Haven Link, circulates between the Trade and Transit Centre in Williamsport, Walmart in Mill Hall, the Clinton County Community Center, a Weis, and stops upon request.

However, ***service operations are limited:*** the route only operates on Fridays and Saturdays, 9:30AM to 5:30PM. Within this timeframe, the bus runs with two-hour headways. This frequency (both per week and throughout the days it runs) restricts the route's ability to serve as a lifestyle service (e.g., a competitive option for travelers who may opt to shift to transit over other modes) rather than lifeline service (e.g., less competitive service; riders often have few other transport options).

Of note, RVT provides fare-free transit to college students from Lock Haven University (LHU) and universities outside the study area (Penn State Pennsylvania College of Technology and Lycoming College) and participates in the PennDOT Free Transit program for aging adults aged 65 or above. These programs can make transit a more accessible and attractive option. Lock Haven University (LHU) and RVT stakeholders agree that the stores along the corridor are a popular destination for these communities, particularly for students (e.g., to purchase groceries, eat, maintain off-campus employment, etc.).

LHU TRANSIT SERVICE

In addition to the university's agreement with RVT to offer free transit to students, LHU operates its transit circulator services. The Campus Trolley circulates throughout the Main and East Campus daily, from 7:00AM to 5:00PM.[15] The Trolley offers one-day weekly service from campus to the Mill Hall Walmart, from 12:00 to 3:00PM on Saturdays.[16]

[14] Community responses on the pilot program reported in *Local officials react to loss of bus service* (2020). https://www.lockhaven.com/news/local-news/2020/12/local-officials-react-to-loss-of-bus-service/

[15] During the COVID-19 pandemic, the LHU Campus Trolley operated with reduced capacity and operated exclusively for students with a documented disability.

[16] Details about trolley service at: www.lockhaven.edu/documents/Fall_2021_Trolley_Schedule.pdf

STEP PARATRANSIT SERVICE

STEP, Inc. is a nonprofit Community Action Agency serving the Lycoming and Clinton Counties with a diverse portfolio of community and economic development services and support. Part of STEP's work includes providing paratransit, on-demand service throughout the area. STEP Paratransit Services operate daily, from 6:00AM to 6:00PM, with on-demand connections that can be planned and booked in advance. The service is free for adults aged 65 and above and riders living with a disability; however, the public can schedule these services by paying full fare based on a mileage/zone-based structure.

Clinton County Designated Stop Program

STEP is involved in a PennDOT study to evaluate a potential designated stop program, including service along the study area. The purpose of this study is to explore how designated routes and stops to key community destinations could serve as regular pick-up/drop-off points to enhance the existing shared-ride and paratransit service, with a proposed pilot deployment of candidate routes. A series of proposed routes were evaluated and vetted by community stakeholders to advance as candidates, with STEP ultimately selecting three routes to serve as pilots for the designated stop program: Routes A, B, and C.

Route A connects Lock Haven to Jersey Shore and Williamsport, with service Monday through Thursday, and Route C connects from Lock Haven to the Renovo with service every other weekday. ***Route B extends from Mill Hall to Lock Haven, running directly through and along the Hogan Boulevard commercial corridor.*** This route was selected for its value in connecting essential destinations (schools, community and senior centers, shopping, and major employers) and emphasizes student mobility with a schedule designed to accommodate afterschool transport. The full route (Figure 20), provides daily service between Central Mountain High School and LHU, with stops at (study area in bold):

1. Central Mountain High School (school year only)
2. Mill Hall Senior Center
3. **Mill Hall Community Pool (summer only)**
4. **Mill Hall Walmart**
5. High Street and Allison Street
6. UPMC Lock Haven
7. Bellefont Avenue and Commerce Street
8. Clinton County Community Center (CCCC)
9. Church and Vesper Streets
10. LHU East Campus
11. LHU Main Campus

The pilots are scheduled to begin in October 2022 with staggered start dates (e.g., route-by-route deployment). Deployment will be supplemented with stakeholder outreach to build awareness and support for the designated stop program and routes.

Figure 20 Clinton County Designated Stop Program, Route B

2.5 Bicycle and Pedestrian Amenities

This section outlines the existing conditions of bicycle and pedestrian amenities along the study corridor. A more detailed and thorough review of these amenities, their current and potential use, and safety analyses is outlined in the *Vision Zero Report* that follows this review.

PEDESTRIAN AMENITIES AND EXISTING CONDITIONS

The corridor lacks adequate accessible pedestrian infrastructure; notably, a lack of sidewalks. Demand for walkable options is seen throughout the corridor on *desire paths*: visible walking paths created by the regular throughput of pedestrians, as shown in Figure 21.

Figure 21 Pedestrian Desire Paths

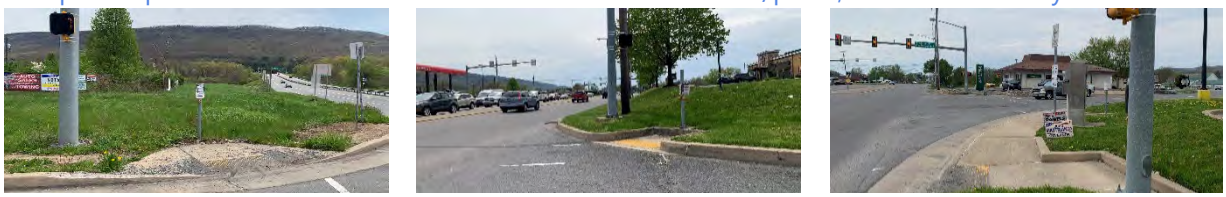
Anecdotally, public meeting participants noted that pedestrians have been seen using the raised median as a pedestrian refuge isle and de-facto sidewalk. Several attendees at the first public meeting reported seeing pedestrians walk daily along the corridor within the median or turn-lane since it is perceived to be safer than along the side of the road or in parking lots. These reports including the anecdote of an adult walking with a stroller and small child on the median, presumably due to the difficulty attempting to push the stroller on the areas illustrated in the images above.

WHAT WE HEARD: The public and study management team meetings noted that ***many pedestrians (and cyclists) are reliant on parking lots*** to provide a continuous, solid surface through the corridor. There were discussions if this was preferable to the roadway — e.g., while lots have less exposure to high-speed movement, they may be less safe than towpaths or road due to regular vehicle interaction and drivers less likely to expect them.

Though the corridor lacks sidewalks, pedestrians walking along the corridor encounter ADA-compliant ramps at each signalized intersection and pedestrian buttons. However, these ramps rarely connect to other pedestrian infrastructure (see images in Figure 22 below). Pedestrians looking to cross Hogan Boulevard or walk along (e.g., crossing intersections and driveways) are often presented with a pedestrian button to trigger the signal—also shown in Figure 22. When pressed and active, the crossing signal timing ranges from 18 to 25 seconds along the corridor. Possible adjustments to signal timing were a focus of concern among public meeting attendees, as participants noted that additional signal cycles for extended walk time would exacerbate queuing and reduce level of service (LOS).

The timing for the cross-corridor movement was less of an issue to attendees than the visibility of pedestrians. Crosswalks are often two lines and current condition (e.g., wear) of the striping hinders visibility. Many crosswalks, as shown below, were heavily worn and hard to see, presenting issues for pedestrians who are uncertain if or where they can cross, and to drivers who may not expect or see a pedestrian. This visibility is further limited through lighting issues (e.g., only high, cobra head lights).

Ramps and pedestrian buttons do not connect to other sidewalk/paths; crosswalk visibility is low.



Crosswalks: Examples of striping visibility

Figure 22 Pedestrian Infrastructure

As noted, there are many access driveways throughout the corridor serving commercial properties. These present conflict points where pedestrians may interact with vehicles—especially as pedestrians are using parking lots as a form of pedestrian walkway. The frequency of curb cuts can pose accessibility issues to individuals traveling with mobility assistive devices such as motorized scooters.

A key pedestrian safety concern for the area is the number and frequency of travelers using motorized wheelchairs, scooters, or other assistive devices to travel along the corridor. Stakeholders reported that an increasing number of travelers are connecting from Flemington to the stores along Hogan Boulevard, using parking lots or sometimes the available shoulder. Beyond the lack of amenities for this travel, there are significant concerns about visibility as these devices are not as visible or within driver line-of-sight. In addition, the shoulder and parking lots often have surfaces that can be hazardous due to pavement quality issues, surface inclines/unevenness, or fixed objects in the way of movement.

BICYCLE AMENITIES AND EXISTING CONDITIONS

The full extent of the study area serves as a PennDOT-designated segment of the State Bicycle Route G. Route G, shown on Figure 23, runs the full length of the state from the Maryland border to the New York Border. This route is shown in the context of the study area in Figure 25 (following page). While a designation may be in name only, it is important as it directs cyclists specifically to traverse this complicated and unsafe corridor. It should be noted that importance of this designation is also with awareness that this route, even as unattractive as it may be for cyclists, is selected because it the only viable option to make a key connection—the same reason residents are traversing the corridor every day.

Figure 23 PA State Bike Routes Map

Throughout meetings, attendees noted that ***"bicycle access is highly desired if we could make it safe."*** This is reflected by the travelers already using the corridor for biking and rolling, and those that report traveling on other routes to make the same connection.

Figure 24 Cyclists riding along Hogan Boulevard using the median (left) and the travel lane (right).

The images in Figure 24 demonstrate how cyclists are currently using the corridor, and to illustrate the scale differences of bicycle movement and the surrounding vehicle movement. On the left, cyclists are using the median to travel from the Walmart parking lot to Pennsylvania Avenue; on the right, a cyclist is traveling through an intersection while vehicles around them merge into the turning lane to access a shopping plaza. A takeaway in comparing these images is that, in the absence of dedicated or clearly preferred routes, cyclists will choose the route that aligns with their individual level of comfort; these individual decisions make it harder for drivers to know when and where to expect cyclists in the right-of-way.

The dashed line on Figure 25 reflects community input on preferred cycling routes to traverse the corridor. To avoid interacting with Hogan Boulevard in this area, cyclists are opting to take indirect paths (for about .5 mile) that pass-through parking lots and smaller residential roads before rejoining SR 150. This route has been proposed by Clinton County Planning, as part of the Middle Susquehanna Plan, to provide an alternative route to/for Bicycle Route G.

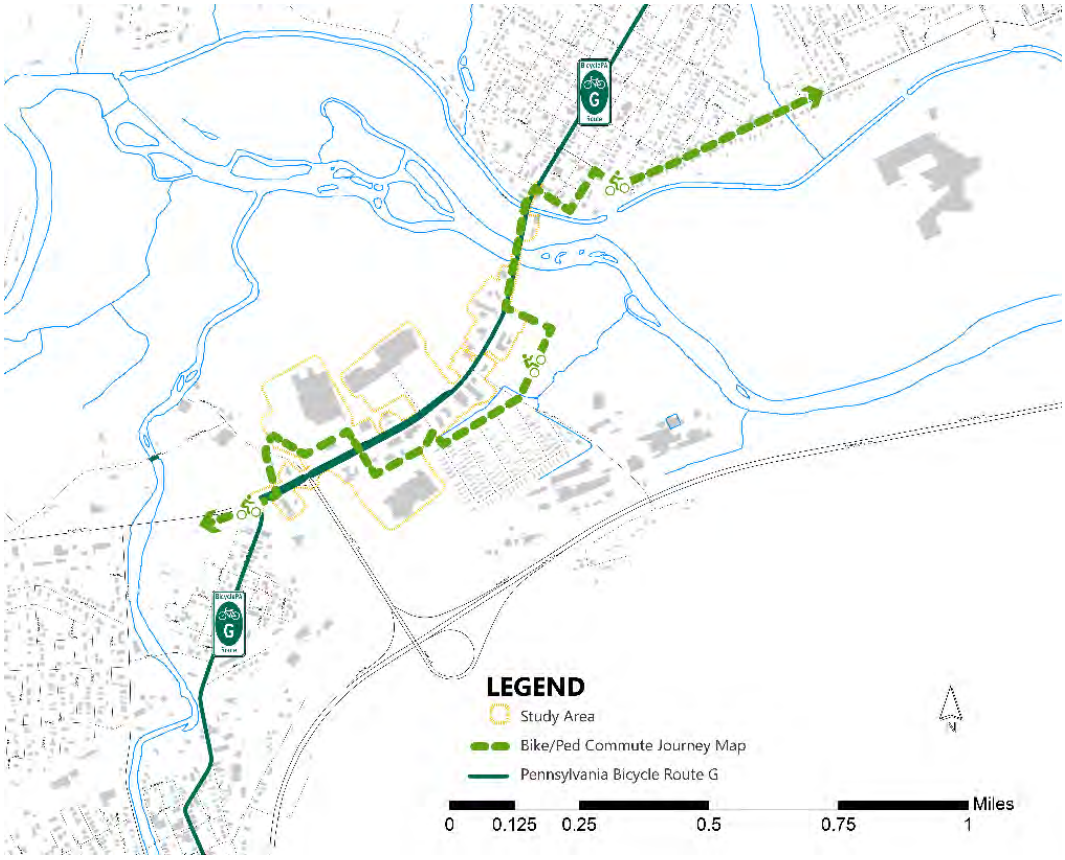


Figure 25 Bicycle Conditions

WHAT WE HEARD: "Improving access for bicycles is more than just improving it along Hogan Boulevard itself, it is about ***enabling safe travel to and from Hogan Boulevard businesses and between businesses [on the corridor].***"

New Modes

In addition to planning for bicycles, mobility scooters, and other forms of individual travel, the area has experienced an uptick in new modes of travel, particularly electric-assist modes such as e-scooters and e-bikes. While these devices can travel at speeds above a typical cyclist, they are not necessarily able to maintain the 35-mph typical corridor speed, and like their active counterparts (e.g., traditional pedal cycle) are similarly vulnerable and exposed to conflicts with vehicles. Planning for the safety of all users includes integrating accessible routes or paths for e-mobility devices.

Figure 26 E-scooters on Hogan Boulevard

Figure 26 shows one such device in transport, as captured during the Study Management Team's field view. (Note in the photo, there is also a pedestrian approaching the corridor from the bridge and crossing mid-block—likely a result of the only path across the bridge being on the right side of the street, and the preferable infrastructure for walking is on the other side, yet the next available crosswalk is .4 miles away. A major component of Vision Zero planning is understanding the reason behind safety decisions and travel behavior, like this example.

VISION ZERO REPORT

EVEN ONE LIFE LOST IS ONE TOO MANY, AND PENNSYLVANIA IS COMMITTED TO MOVING **TOWARDS ZERO DEATHS**.

PennDOT Secretary Yassmin Gramian

Vision Zero, also referred to as "Towards Zero," is a safety initiative based on the idea that traffic deaths and crashes are preventable. Vision Zero plans aim to achieve a transportation system with zero traffic deaths or serious injuries. Steps to achieve this vision focus on a myriad of measures, with a focus on low-cost strategies. These include **policy changes** such as adopting **design standards** that consider all modes and prioritize vulnerable road users, and **community-focused education and engagement** strategies to help all modes better understand how to share the road safely.

Key Considerations for Vision Zero

- **Listen to the community.** Make sure all roadway users' facilities, connections, and safety needs are integrated and prioritized.
- **Education** and **encouragement** are fundamental to Vision Zero!
- Use **data** to inform and advance safety efforts.

The study area is noted as a prime candidate for Vision Zero strategies, unfortunately because it has emerged at the County-level as a hotspot for crashes. This includes, tragically, multiple crashes that involved pedestrians and cyclists, with several life-changing serious injury and fatal crashes over the past decade. Due to the context of the corridor and its role as a major regional destination and connector, initiatives, and interventions to support Vision Zero will be able to leverage significant safety benefits reaching beyond the corridor itself.

[17] Photographs sourced from SEDA-COG Middle Susquehanna Bicycle and Pedestrian Plan. Photographers: Samantha Pearson and Michelle Brummer

GUIDING PRINCIPLES

Vision Zero aims to unlock safety through comprehensive and community-oriented strategies. These are often categorized through the "*E's of Transportation*": Engineering, Education, Enforcement, Engagement, and Evaluation.

- **Engineering** Physical improvements to the roadway, such as new or enhanced facilities for walking and biking, roadway striping improvements, or signal timing updates.
- **Education** Efforts to ensure all roadway users know how to use or travel safely, with a focus on safe interaction with more vulnerable modes like cyclists and pedestrians
- **Enforcement** Policy or legal strategies to enforce safe travel behavior (e.g., partnering with law enforcement agencies to publicize or enforce bike and pedestrian related traffic laws)
- **Engagement** Events and outreach to engage communities in Vision Zero strategies and plans. This falls under a secondary "e" of *encouragement*: make sure all travelers feel included and supported by the safety approach and encouraging individuals to consider walking and biking.
- **Evaluation** Make sure efforts are working! Ongoing evaluation and assessment ensure strategies are effective and meeting the needs of the community.

These E's demonstrate the importance and high impact of low-cost interventions, especially interventions that target awareness and education. The E's inform the following needs assessment of safety gaps and opportunities and are reflected throughout the strategies recommended. All recommendations for the corridor are included in the Complete Street Plan.

Safe for All Users

A priority of Vision Zero is infrastructure that is safe for all users and abilities (e.g., from first-time bikers and children, to seasoned cyclists). To better understand the feedback captured, public meeting attendees were asked to pair their feedback with the group that best aligns with their active transportation comfort. This framework is built upon Level of Traffic Stress (LTS) analyses—as included in SEDA-COG's Middle Susquehanna Bicycle and Pedestrian plan—which assign an LTS score for each segment of a roadway based on safety (or stress) related attributes such as speed, volume, available facilities, lighting, etc. Figure 27 illustrates how these typologies were presented with the prompt: "*Biking, Rolling, Walking or Skating along Hogan Boulevard Makes Me Feel...*" Gathering this information ensures designs are serving a spectrum of use cases, rather than only those who are comfortable using the roadway today.

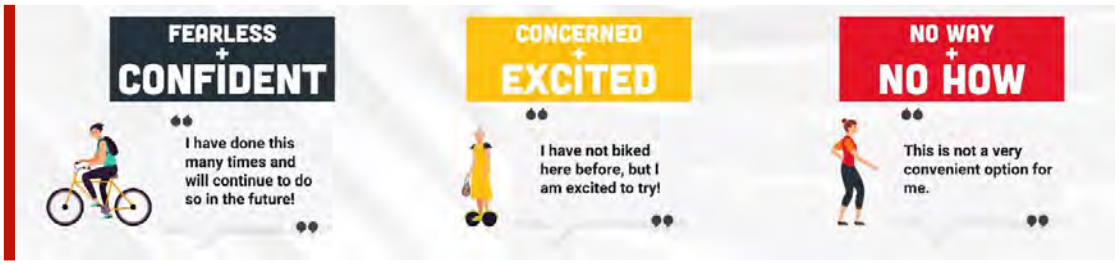


Figure 27 Typologies: "Biking, Rolling, Walking or Skating along Hogan Boulevard Makes Me Feel..."

3.1 Bicycle and Pedestrian Needs Assessment

To understand the corridor needs and conditions the team established three roadway typologies. These three typologies, shown in Figure 28, reflect segments of the study area that share elements and/or experience (e.g., segments that share function or design elements, or segments that 'feel' similar/different to cyclists and pedestrians as they navigate the corridor).

Commercial Corridor The arterial, high volume and relatively congested part of the corridor. This is the stretch of the roadway that accesses the retail and big box stores like Walmart.

Collector The collector segment is less developed, featuring comparatively smaller commercial developments (e.g., individual buildings rather than plazas). The roadway in this segment is reduced to one lane each direction and a center turn lane.

Hot Spots Targeted pain points or "hold your breath" spots, based on crash data, community reported near-miss events and shared experiences, and walk audit perceptions. Many hot spots are in areas where roadway users must interact or negotiate movement (e.g., intersections, pinch point, areas of low visibility.

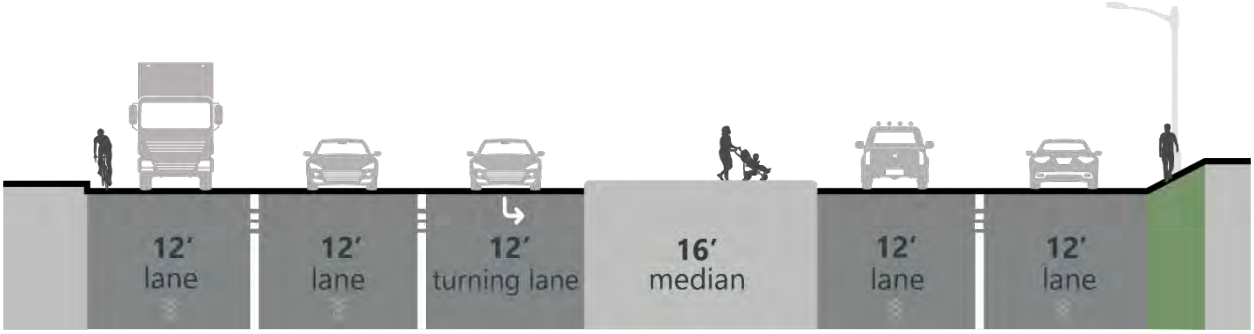
Figure 28 Roadway Typologies

3.2 Arterial / Commercial Corridor

The *Commercial Corridor* refers to the segment of Hogan Boulevard between Pennsylvania Avenue and the entrance of Millbrook Plaza. This is the busiest or most complex segment of the study area corridor, with frequent signalized intersections, driveways (curb cuts or ingress/egress) for businesses, access to/from U.S. 220—bringing traffic and larger freight vehicles, and the widest part of the roadway, often five lanes in total. The typical cross-section is shown below and in the images of Figure 29.

Figure 29 Arterial/Commercial Corridor Examples

Typical Cross Section



The typical cross section features two lanes in each direction and approximately 30′ of right-of-way that serves as dedicated turn lanes or medians (raised or striped) at various locations.

SAFETY NEEDS AND CONSTRAINTS

Primary safety issues are summarized below:

- **Lack of facilities** for walking, biking, or rolling. Travelers rely on towpaths, parking lots, or shoulders/medians with high exposure to traffic.
- There is no notable **wayfinding** to direct non-vehicle travelers to the safest route—even if it requires using the towpaths or other informal infrastructure.

- Throughout the corridor **ramps lack connecting infrastructure**. The bright, visible ramps suggest walking is viable, however, walkers get stranded without connections (see photo at right, where the ramp after the intersection has no connecting sidewalk and travelers must choose to climb a steep slope to the parking lot or walk alongside the road).

- Walkers face numerous **tripping hazards**—uneven paths, signposts on the ground, vegetation, and debris. Cyclists and other wheeled travelers (e.g., scooters and motorized mobility device) encounter many drainage grates in the shoulder that can push them into the travel lanes to avoid.

- **Lighting conditions and overall visibility in this area is poor**. There is no human scale lighting on the corridor and, especially at dusk and night, bright signage at heights of 30' or more can attract drivers' attention from the roadway level (and pedestrians/cyclists).

Other Community Notes

A key component of Vision Zero is to capture and integrate the safety experiences and concerns of the community, to inform context-specific strategies and community-driven designs and initiatives. Specific feedback related to the Commercial Corridor segment of the study area included the following.

- **Cross-parcel travel is difficult**, such as moving along the north side of the road from Weis to Walmart. Currently, shoppers or other travelers attempting to make these connections by foot either navigate across complicated, sometimes wetland areas, or make outsized detours to the roadway and back into the next parking lot. Developing a travel path that would facilitate this movement was of high interest.

- Cross-corridor travel (e.g., crossing from Sheetz to Walmart) feels unsafe, especially when **negotiating movement with turning vehicles** and completing long crossing distances in the time permitted.

- With the upcoming **Mill Hall Borough Pool renovation**, residents expect more children and young adults on bicycles to want to be able to connect to the pool from Mill Hall, Flemington, and nearby neighborhoods like the Camelot Estates. Access to the pool from nearby schools is also a noted concern, with many high school students maintaining part time jobs at the facility, or attending after school activities there (e.g., the adjacent recreation area serves as a baseball field for the school).

- The commercial properties along the corridor generate significant **freight activity** which impacts the perception of safety. The scale of tractors can feel overwhelming to vulnerable roadway users like cyclists and pedestrians that are more exposed to traffic. Vehicle drivers feel a sense of protection from their car, and tractors make it difficult for them to see people on foot or on wheels behind them. Likewise, cyclists or pedestrians moving past these large trucks may not see other vehicles approaching from other lanes or driveways.

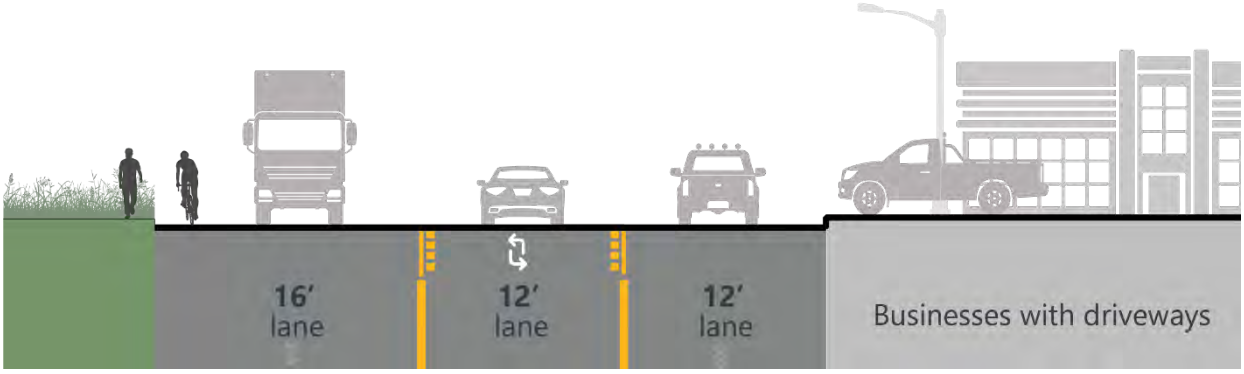
- There is concern that signal improvements to the area could have counterproductive impacts on **traffic flow**, as the study area is the most congested and complicated segment of the corridor. Signal timing changes were flagged for possible queuing impacts.

3.3 Collector Road

The *Collector Road* segment of Hogan Boulevard refers to the comparatively narrower segment with one lane in each direction and a bidirectional turn lane (in some sections), as shown in Figure 30 and below. This area is less developed, with much of the segment adjacent to undeveloped marsh land on the Northbound side of the road. Along this segment of the corridor are individual, standalone businesses.

Figure 30 Collector Road Examples

Typical Cross Section



The characteristics of this roadway hinge on the number of businesses along this corridor and the individual driveways and parking lots that serve each business. This results in frequent curb cuts (e.g., driveways), and frequent use of the turning lane. A major consideration is the reduction in width as the roadway narrows from the Commercial Corridor design (with at least two lanes in each direction).

SAFETY NEEDS AND CONSTRAINTS

- **Frequent curb cuts and accesses** (e.g., driveways) are a notable constraint on the safety of those walking/biking/rolling due to the exposure to vehicles turning in and out of businesses, and the tripping hazards (e.g., uneven surfaces for each driveway and each parking lot's boundary, often curbs). For example, during the field tour, the team counted more than 33 curb cuts along the corridor. Pending buy-in from local business owners, there may be potential for reducing entrances/exits to different parcels or sharing parking lots for adjoining properties.
- **Draketown Road** is a major pain point, especially during shift changes (e.g., at Avery Dennison and Croda) when vehicles are attempting to merge on and off Hogan Boulevard. The intersection of is further complicated by the narrowing of the roadway to two lanes, exacerbating queuing issues.

- The **segments before and after the bridge are a pinch point**: cyclists and pedestrians (including those in mobility assistance devices or wheelchairs) have access to limited width infrastructure on only one side of the street. This requires users to cross in areas without markings (e.g., mid-block crossings) and to use facilities not suitable to their needs (note the anecdote of a motorized scooter tipping over into traffic due to the limited bridge sidewalk.) If vulnerable roadway users opt to stay within the lane to traverse the bridge and continue on Hogan Boulevard, they must merge with traffic in areas with **low lighting and limited sight distances** (e.g., inability to see around the curves at the boundary of Flemington Borough, in advance of Canal Street).

Other Community Notes

Specific feedback related to the Collector segment of the study area included the following.

- **Mid-block crossings** are a major concern and frequent occurrence in this segment of the roadway, where safety is further degraded by low lighting and other visual obstructions (trees, signage, buildings, etc.).
- This area is particularly susceptible to **flooding issues**; use of the towpath can be complicated by flood/marsh-like conditions.
- Major interest in **installing a traffic signal at Draketown Road**. While this recommendation counters the study performed on the need for such traffic control devices, the frequency of this community recommendation merits inclusion in the analysis.

3.4 Watch Out: Hot Spots

Along the corridor are several notable pain points, or "hot spots" where travelers encounter conditions that are or feel less safe to navigate. Selected hot spots reflect community input, walk audit experience, and crash history (e.g., hot spots based on Five-Year PennDOT Crash Data and input from local emergency services personnel).

Because these conditions are defined and unique (e.g., outliers to the rest of the typical corridor segments), they are considered as separate areas of interest. The identified hot spots, as shown in Figure 31, focus on bridges and intersections.

Figure 31 Identified Hot Spots or "Hold Your Breath" Locations

3.5 Bridges

The two bridges that cross Bald Eagle Creek and link Bald Eagle Township to Flemington Borough pose safety-critical issues for cyclists, pedestrians, and other roadway travelers. Figure 32 shows the cross section (facing Flemington) of these bridges with pedestrian infrastructure labeled and highlighted. Additional images of these bridge-related hotspots are shown below.

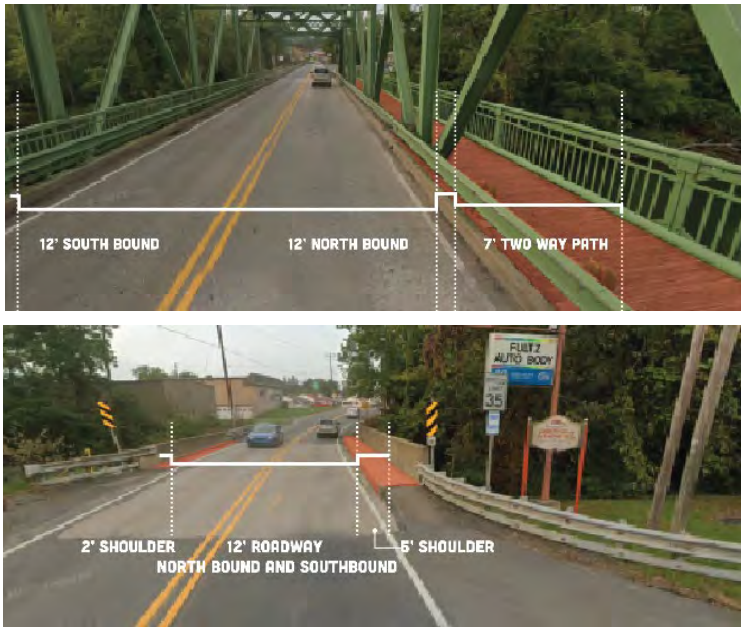


Figure 32 Cross-Sections of the Bridges in the study area

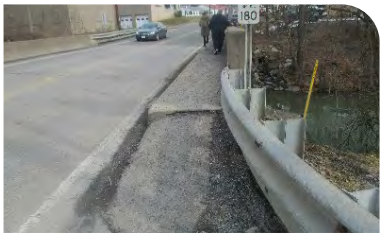
SAFETY NEEDS AND CONSTRAINTS

- The bridges present physical pinch points for all users, i.e., with the loss of bikeable/ walkable/ roll-able shoulders.
- The bridge's side path (e.g., wooden path) is only on **one side of the bridge**, requiring travelers to know this in advance and plan accordingly or to cross mid-block to access the path.
- **Narrow widths** may not accommodate vulnerable roadway users (e.g., cyclists or those using mobility devices), which may result in use of the travel lane(s) to connect from Flemington Borough to the commercial corridor of Hogan Boulevard. Likewise, travelers that do not attempt mid-block crossings to access designated paths may also rely on the travel lanes to make their connection.
- **Physical constraints exacerbated by limited sightlines** e.g., the curve of the road shown in the images below.

Approaching bridge – side path

Side path user perspective

Second bridge (narrow sidewalk)



Other Community Notes

- Improving the **safety of the bridges was noted as a high priority project** for improving the safety of the corridor. This included emphasis on widening the sidewalk/raised segment, and making the bridge side path (e.g., Figure 30, bottom image) a smooth surface to ride/walk or roll upon.
- The bridges were noted as a **bottleneck** and deterrent from using the corridor—if cyclists/walkers cannot access the boulevard or are discouraged by the lack of amenities, it becomes a barrier, and there is less chance they will try accessing the boulevard with any alternative transport options.

3.6 Intersections

At intersections, such as shown in Figure 33, all roadway users must negotiate movement and interactions with each other, e.g., turning or crossing. Intersections also pose the most potential conflict, as users are departing from their lanes and making decisions based on formal cues (e.g., signage) or informal cues like eye contact or hand signals.

Figure 33 Example Intersection - Hot Spot

SAFETY NEEDS AND CONSTRAINTS

- Intersections lack infrastructure for walking, biking, or rolling. While there are ramps, there are **no sidewalks connecting to/from these ramps**.
- Crosswalk striping is **hard to see** or otherwise worn down heavily.
- Crossing movements are **circuitous and complex**, both cross-parcel and across the boulevard. The image at right reflects the crossing pattern required to walk or ride towards Flemington Borough.

3.7 Safety Context: Culture

An overarching safety concern is the dominant car culture. Driving is the most popular and used form of transport in the study area. This can be abrasive at moments, as perceived during multiple shouts at the walking tour members or individual team members walking the corridor. The dominant car culture is reflected in the following safety needs.

Community Notes

- With the strong vehicle culture and dependence on driving, **cars are not 'living alongside' cyclists and pedestrians**.
- Riding or walking feels less safe due to the **large size of the passing vehicles**—noting the popularity of large and lifted pick-up trucks, large SUVs, and the regularity of freight trucks as examples.
- Drivers **do not often expect** to encounter or see cyclists along their route (e.g., on Hogan Boulevard), and may not know how to interact safely and appropriately.
- **Misunderstanding about the laws** and requirements when interacting with other roadway users (e.g., passing distances or sharing the lane).

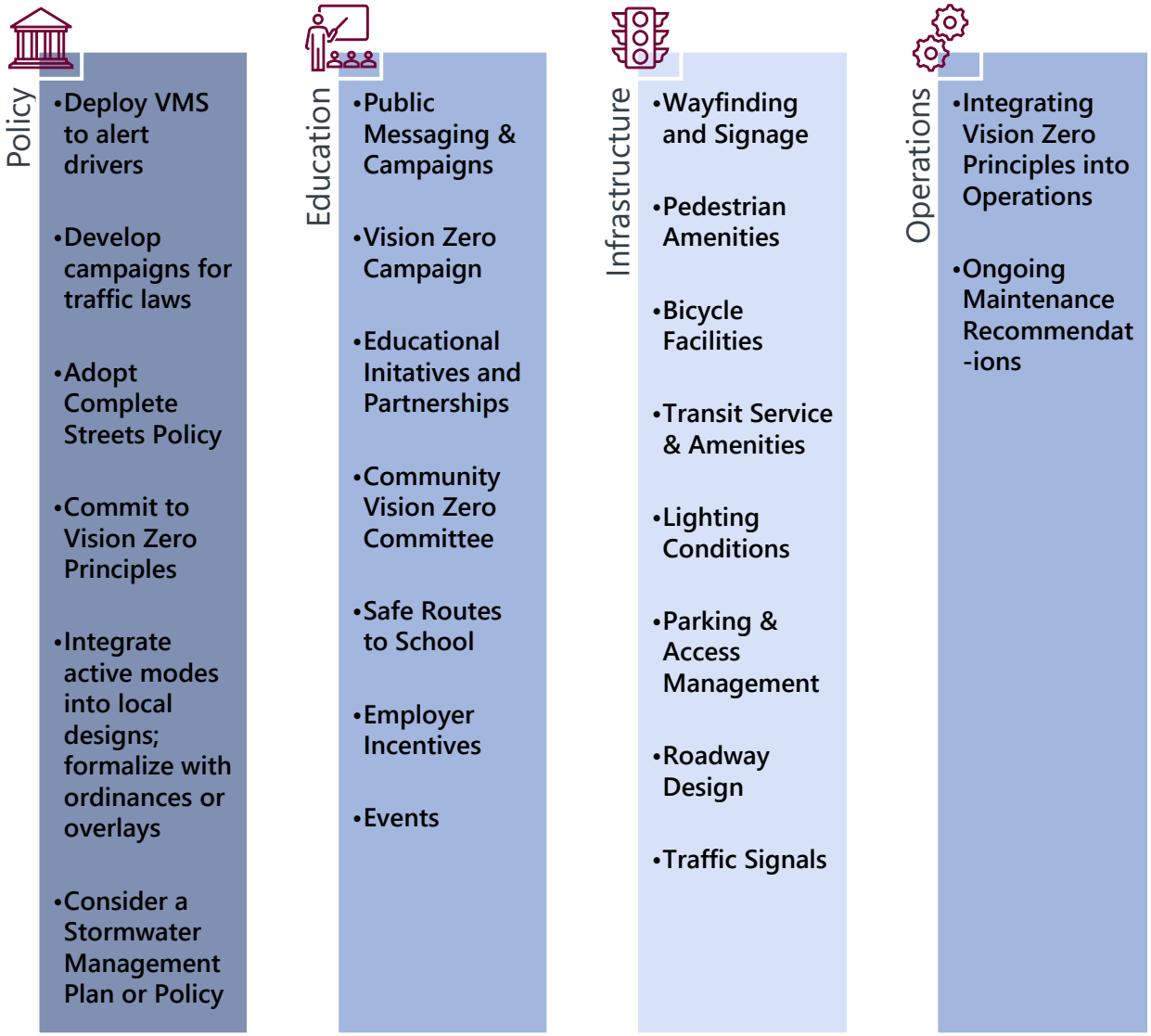
3.8 Vision Zero Guidance

The following refer to guides, manuals, and other resources used to complete the Vision Zero Report and inform the Complete Streets Plan.

Title	Author
Small Town and Rural Multimodal Networks	USDOT Federal Highway Administration (FHWA)
Guidebook for Developing Pedestrian and Bicycle Performance Measures	FHWA
Transportation Safety Planning and the Zero Deaths Vision: A Guide for Metropolitan Planning Organizations and Local Communities	FHWA
Pedestrian And Bicyclist Road Safety Audit (RSA) Guide	FHWA
Speed Management ePrimer for Rural Transition Zones and Town Centers (web)	FHWA
Urban Bikeway Design Guide	National Association of City Transportation Officials (NACTO)
Transportation Health Impact Assessment Toolkit (web)	Centers for Disease Control (CDC)
Guide for the Development of Bicycle Facilities	American Association of State Highway and Transportation Officials (AASHTO)
Institute for Transportation Engineers (ITE) Complete Street Guidance (web)	Institute of Transportation Engineers (ITE)
National Center for Safe Routes to School (web)	Safe Routes to School

COMPLETE STREETS PLAN

The **Complete Streets Plan** outlines recommendations based on the safety issues identified in the Existing Conditions Analysis and Vision Zero Report. The preliminary recommendations consider operation and policy changes, education and outreach approaches, and infrastructure designs to improve safety. This plan serves as a guiding document to inform next-level engineering and environmental analysis to produce full transportation design concepts and municipal policy projects.



4.1 Policy

State/Traffic Laws

Fundamental to the safe interaction of all modes is a shared understanding and following of traffic laws. The PA Motor Vehicle Code defines the laws to which roadway users—including drivers, cyclists, pedestrians, and more—must adhere. In many cases, bicyclists are beholden to the same rules as motorized users such as traffic signal or intersection movements, right-of-way, and use of the lane.

In Pennsylvania, drivers are required to provide a four-foot clearance when passing travelers on bicycles (see Figure 34).[18] Ensuring drivers are aware of and adhere to this law ensures safer interactions on the road. Other safety-critical laws or safe practices could be part of an enforcement strategy, such as efforts to reduce distracted driving or walking.

Figure 34 PennDOT Safety Campaign

Opportunities

One awareness strategy is to temporarily display variable message signs in advance of the corridor, as drivers are entering the area from more rural, auto-centric contexts (e.g., approaching Hogan Boulevard from U.S. Route 220 or Eagle Valley Road, west of the study area). For example, a PennDOT VMS could be displayed in advance of peak bicycle season and when schools reopen (e.g., April and August). These messages could relate to any relevant traffic safety information or law, such as the required safe passing distance or "share the road."

Local Policy

An effective step in improving safety is to develop or adapt local policies to encourage active modes of transportation (walking, biking, rolling) in ordinances or land development guidance. An immediate action is to distribute the Safety Study to the designers associated with current and future developments on the corridor, and require that its concerns (e.g., safety, visibility, lighting) be reflected in the development design. Towards advancing and formalizing local safety policy, a first step is to identify local leaders who will champion the concepts; these champions can range anywhere from residents to business representatives, to elected officials or public staff. Establishing a group of champions or interested advocates to engage in regular check-ins on policy or activities can help bring new skills and support to the effort.

Opportunities

Policies to consider for Hogan Boulevard—i.e., by the municipalities that comprise or touch the study area corridor—include (1) Complete Streets Policy; (2) Vision Zero Principles or Commitments; (3) Zoning District Overlay; and 4) Stormwater Management Plan or Policy.

[18] A 2019 SEDA COG Bicycle Safety Study found that enforcement of the 4-foot bicycle passing law is uneven across the SEDA-COG counties with more consistent enforcement in areas with a local police presence as compared to the municipalities that rely on state police.

Table 3 Local Policy Recommendations

Policy	Overview	Resources/Notes
Complete Streets Policy	Adopting a complete streets policy formalizes an agency or community's commitment to planning transportation infrastructure for all users and modes, including biking, walking, rolling, transit, and goods movement.	Complete Streets Policies can be adopted at any level, from municipal to national, and can range from simple documents outlining a commitment to consider all modes, to checklists of requirements, to design plans.[19]
Safety Study	Provide Safety Study to development designers and require that the concerns noted are reflected in design.	Current development designers and developers pursuing future sites are aware of, and plan based on, the study.
Vision Zero Principles/ Commitment	Adopting a Vision Zero Policy or committing to the core Vision Zero principles—crashes are preventable, and no traffic death is acceptable—and associated Vision Zero principles (e.g., community-driven planning).	Communities can and are encouraged to work towards integrating Vision Zero concepts, such as language changes (e.g., using "crash" rather than "accident"), without formally adopting a policy.
Zoning Overlay	Zoning overlays refer to specific requirements or guidance for identified areas. For example, transit overlays may allow different uses or forms due to proximity to train or bus service. In this area, a zoning overlay would expand the zoning ordinance to include active transportation considerations or amenities (e.g., requiring integrated access management to reduce conflicts with sidewalk users). This could include signage requirements for businesses.	Regulating safety considerations for traffic and transportation is highly dependent on the surrounding land uses and form. Making Hogan Boulevard a safer, more walkable corridor will require some re-thinking of how development is prioritized, and the concessions developers or property owners must include to benefit the corridor. A sample of this concept in practice may be referred to as a "walkable" or "walkshed" overlay.
Stormwater Management Plan/Policy	Flooding is a key concern of the area, and the community can integrate stormwater solutions that also benefit safety improvements. This may include reducing impermeable surfaces, adding capture islands in parking lots, or rain gardens that provide a buffer from vehicle traffic.	A stormwater plan or policy could pilot specific interventions to reduce runoff and improve drainage along the corridor. The City of Lock Haven is working on a stormwater management pilot project and is open to sharing lessons learned with any study area efforts.

[19] Visit Smart Growth America's National Complete Street Coalition to learn more and review examples of policies from across the country. https://smartgrowthamerica.org/what-are-complete-streets/

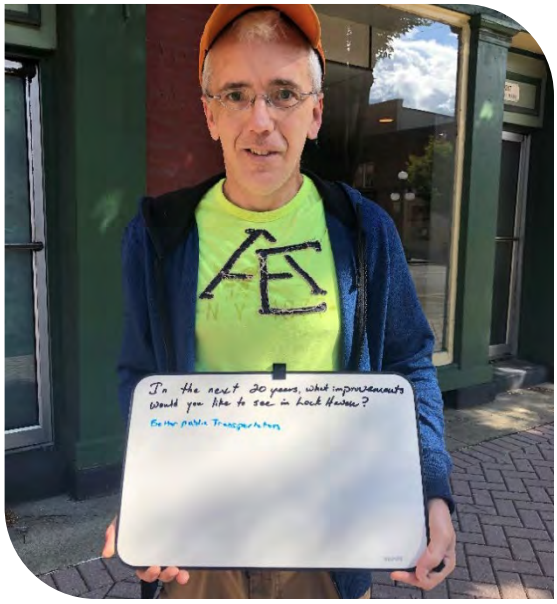
4.2 Education

Education is an invaluable tool for improving the safety of Hogan Boulevard. With strategic outreach, educational events and campaigns, the County and its partners can help teach drivers, cyclists, pedestrians, and all users critical safety information like roadway laws, behavior-related safety issues and how to mitigate their risk, and important considerations when interacting with other modes. Education-related recommendations are organized into three categories: public messaging and campaigns for broad outreach and engagement; educational initiatives and partnerships; and activities and events to engage and encourage new cyclists and pedestrians (e.g., "willing but concerned" travelers) to build their skills in active transportation.

PUBLIC MESSAGING AND CAMPAIGNS

Vision Zero Campaign

Consider a targeted Vision Zero campaign to amplify and spread awareness of Vision Zero principles. This includes consistent messaging across municipalities on the principles of Vision Zero, such as targeting zero deaths, using "crash" instead of "accident" in conversation, and holding that no traffic death is acceptable, and crashes are preventable. The following could be part of Vision Zero outreach efforts:



- Demonstrate **why traffic safety is important to the community.** Engage residents, workers, and visitors to share why they bike/walk/roll on Hogan Boulevard, or why the corridor is important to them. For example, the person in the image at right identified "better public transportation" as their desired improvement for Lock Haven in the next 20 years.

- Similarly, residents, store owners and employees, and other visitors can **pledge their commitment to the principles of Vision Zero** and their promise to be safe on Hogan Boulevard. The image at right is from a Vision Zero campaign in Bellevue, WA, where residents took photos with their pledge.[20]

[20] Source: Bellevue WA Vision Zero Plan, 2020, page 30. Available at: bellevuewa.gov/sites/default/files/media/pdf_document/2021/vision-zero-strategic-plan-120120.pdf

- Alerting drivers and other roadway users to current **traffic safety laws and behaviors**, such as "Share the Road," and alerting travelers to watch for pedestrians. Real-time information such as speed radar and enforcement, and pedestrian warning signals can be integrated into this outreach. These messages can be shared to the general public as print documents, videos, as content on social media, on radio or in press, or available on agencies' websites.

- Developing materials for cyclists in particular, that **review safe cycling behavior** and elements (e.g., signals, passing; and knowing when you are visible to motorists' line of sight). These instructive messaging materials can be provided live or online as web-based modules/webinars.

- Sharing **information about transit service options** to encourage ridership. Messaging serves to build awareness across the community about options such as the Lock Haven Link and STEP transit programs.

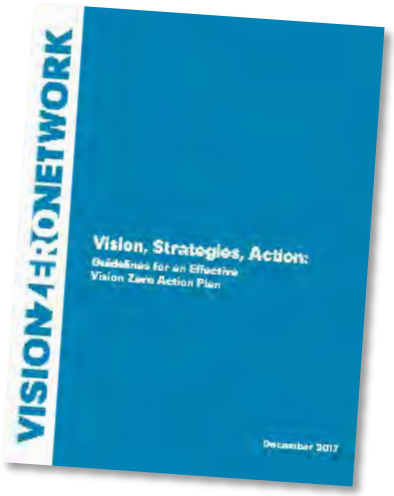
- **Publicizing walkable options** for the corridor through public materials and through improved wayfinding systems that ensure travelers are aware of safer options as they are implemented, and provide reassurance (e.g., that this is a suitable path) to travelers as they walk along the corridor.

EDUCATIONAL INITIATIVES AND PARTNERSHIPS

Community Vision Zero Committee

- Identify safety champions to **establish a Community Vision Zero committee**. This could be at a county, municipality, or corridor level (e.g., the Hogan Boulevard Safety Committee). The committee should reflect a blend of local stakeholders, business owners, residents who use transit/active modes, and other partner agencies involved in similar activities (e.g., trail-related advocacy groups like the Friends of Bald Eagle Valley Trail). The report cover, shown at right, provides a step-by-step guide for launching a Vision Zero action plan.

  The committee should meet regularly to advance the initiatives and campaigns of Vision Zero, coordinate events and outreach, spread awareness of traffic safety needs and look for opportunities to support Vision Zero activities (e.g., funding opportunities, partnerships, or potential events).



Vision Zero Network Guide (2017)
Vision, Strategies, Action: Guidelines for an effective Vision Zero Action Plan.
www.visionzeronetwork.org

Safe Routes to School

- Safe Routes to School is a national program centered on creating **safer options for students to walk and bike to school.** The national program is realized by local programs and initiatives to improve and encourage walkable/bikeable commutes, often through interventions like crossing guards and signage, providing access to traffic safety education, and general roadway safety.

The proximity of local schools and school district offices to the Hogan Boulevard study area presents an opportunity to apply the approaches from Safe Routes to School to improve walking and biking along and adjacent to the corridor. One example is to **integrate traffic safety into PE or other curricula and** provide activities to engage students in safety discussions.

Employer Incentives

- As one of the key employment areas, nearby businesses and offices can support walking and biking by **encouraging employees and shoppers to use alternative transportation options**. For employers, this could be realized as reimbursement for bicycle costs (e.g., a monthly stipend for maintenance, or transit fare discounts) or other incentives and amenities such as providing bicycle parking. For retail properties, incentives could include providing parking or seating options, or organizing walk-friendly events (e.g., a dedicated day where stores along the corridor coordinate on a certain theme or discount, encouraging shoppers to walk or travel between stores).

EVENTS

The most effective way to encourage riding bikes, transit, or walking is to bring others along with you. This can mean friends and family, coworkers, or serving as an advocate or ambassador for alternative forms of transit (e.g., helping others understand bus schedules, or safe biking tips).

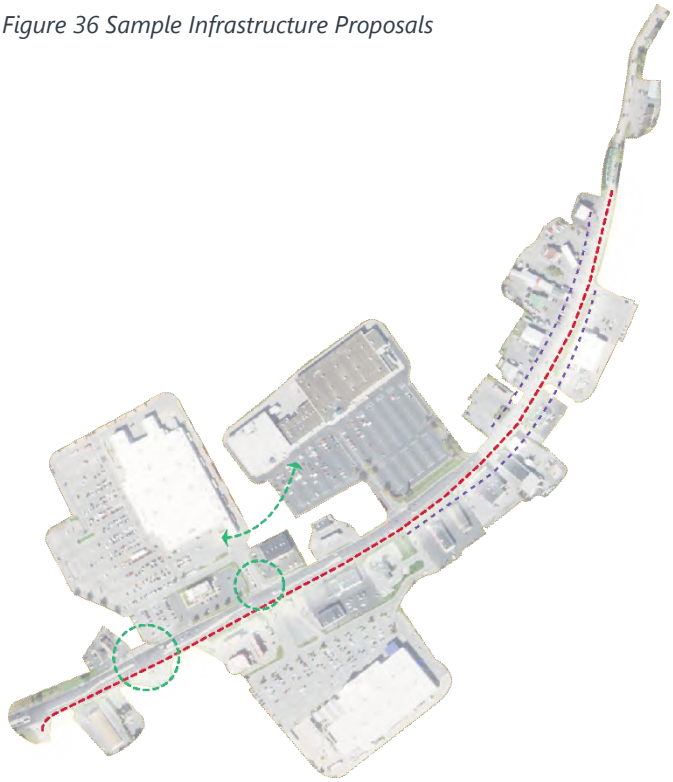
Figure 35 "Walk It! Bike it!" Tour
Source: SEDA-COG Middle Susquehanna Bicycle and Pedestrian Plan (link), p. 5

- Organizing **group rides, walks, or trips** can help travelers acclimate to new modes. For example, organizing recurring short bike ride events that demonstrate possible connections between destinations (see Figure 35), or set plans to take the bus with a group to access the stores on Hogan Boulevard and help others understand transit services, schedules, fares, etc.
- Highlight the multimodal connectivity of the corridor during events like Bike Month, which occurs each May. **Connect walkers, bikers, rollers, and transit riders with mode-related activities** (e.g., "Bike to Work Day").
- Lean on existing events as an opportunity to demonstrate walkability and proximity to destinations. The annual "Bridge to Bridge Run" is one example of an existing event that may allow leveraging additional walking and biking components.

4.3 Infrastructure

Infrastructure recommendations for the study area are presented in the following section, organized by mode and focus area. Figure 36, below, introduces a sample of bicycle and pedestrian facility types for consideration, each of which is accompanied by additional details and scoping in the following pages. Of note, the longer-term recommendations to consider either an off-road multi-use path or an on-road contraflow cycle path reflect two proposed alternatives to be vetted, ranked, and prioritized (e.g., to select one option) following engineering analyses and community engagement.

Figure 36 Sample Infrastructure Proposals



Bicycle + Pedestrian Proposals

Advisory Shoulder / Shared Lane

- **Markings dedicated off-road space** for walking, biking, and rolling
- Width: **6' minimum**
- Supports multiple modes traveling in **both directions**
- Needs: Potential agreements with adjacent property owners

Multi-use Path

- **Separated, dedicated off-road space** for walking, biking, and rolling
- Width: **6' minimum**
- Supports multiple modes traveling in **both directions**
- Needs: Potential agreements with adjacent property owners

Contraflow Cycle Path

- **Dedicated on-road space** for biking and rolling
- Width: **8' minimum**
- Supports travel in **both directions**
- Needs: Reclaim shoulder and median; reduce lane widths by 1' and turn lanes by 2'

Restripe Crosswalks

- **Restripe** crosswalks or introduce high-visibility treatments
- Design: **Physical/visual cues**
- Needs: Consider other devices, such as advisory beacons, to alert drivers to pedestrians in the crosswalk.

New Connections

- **Paths to connect properties** (e.g., Walmart to Millbrook Plaza) can support walkable connections
- Design: **Phyiscal connection**
- Needs: Property agreements, engineering to address slope and drainage.

Access Management

- **Limit conflict zones** at driveways and curbcuts, improve line-of-sight for drivers entering/exiting
- Design: **Physical/visual cues**
- Needs: Consider relocating drive ways if applicable; improved signage or **clear access points**

The following tables outline a series of recommendations to support walking, biking, and rolling on Hogan Boulevard through targeted infrastructure interventions and design. These recommendations serve to provide a starting point for further dialogue and consideration by local leadership and the communities they serve. When applicable, recommendations include timing considerations (e.g., near-term or immediately applicable; mid-term, referring to items that require a longer timeline for planning and securing resources; and longer-term recommendations that would require significant engineering).

Focus Area	Recommendation	Notes
Note: Recommendations are organized by focus area (mode or type of infrastructure).		
Wayfinding and Signage	• Clarify speed limits in advance of the commercial district (e.g., additional signage or warning signs), including temporary installations or 'speed trailers' to measure and report vehicle speeds in real-time. Warnings are provided to drivers traveling more than posted speed.	*Estimated cost: $200 per sign* *Request temporary use from PennDOT District 2-0* *Estimated cost: $9,500 for a trailer; rental rates vary.*
	• Deploy temporary signage (e.g., VMS) to inform drivers of bicycle/pedestrian activity or requirements such as laws for passing cyclists.	
	• Install human-scale signage directing pedestrians and bicyclists to key destinations and providing reassurance about the available route/amenities.	*Estimated cost: $1200 (average of $200 per sign with post)*[21]
	• Install a sign to alert drivers to expect cyclists on the approach to the commercial corridor from Eagleville.	*Estimated cost: $200 per sign*
	• Add signage relevant to bicycle laws (e.g., "Share the Road") in advance of the area and on the corridor to remind drivers of required driving behaviors when interacting with cyclists.	

[21] Cost estimate source: Active Communities/Transportation (ACT) Research Group. *Benefit-Cost Analysis of Bicycle Facilities.* Sponsored by NCHRP, MNDOT, and the Midwest Regional UTC. "Sign with Post". Available at https://www.bicyclinginfo.org/bikecost/notes_code_3_12/

Focus Area	Recommendation	Notes
Pedestrian Facilities	***Near-Term***	
	• Identify opportunities to formalize desire paths through tactical urbanism techniques and designs (e.g., light, quick, and inexpensive interventions to create quick impact)	*Lowest cost options focus on maintenance (labor only)*
	Mid-Term	
	• Restripe crosswalks, consider higher-visibility treatments and designs at signalized intersections and at Draketown Road.	*Estimated cost: $8.50 per foot; $2,500 per crosswalk (high visibility treatment)*[22]
	• Introduce multi-use paths (see bicycle facilities below) or adjust pavement design on parking lots to serve as a de-facto sidewalk (e.g., a consistent segment of raised pavement at the edge of the parking lot where vehicles are not allowed to park. Prioritize and look for opportunities to introduce sidewalks along the corridor to meet the existing ADA ramps.	*Estimated Cost: $8 per foot for asphalt option, (total cost of $84,000 for full length sidewalks on both sides)*
	• Connect parking lots with walkable pathways, such as between Walmart and Weis, and between storefronts that have curbs or other tripping hazards as parking lot boundaries. Look for opportunities to leverage public and private funding sources to support this project, including soliciting support from property owners (willingness to engage or financial support). Engage with Pennsylvania's Department of Community and Economic Development (DCED) and PennDOT to determine eligibility for grants or other funding opportunities.	*Requires willingness to engage from property owners, followed by engineering for topography, drainage, and preferred routes. Coordination with DCED, PennDOT to pursue grants*

[22] UNC Highway Safety Research Center. *Costs for Pedestrian and Bicyclist Infrastructure Improvements: A Resource for Researchers, Engineers, Planners, and the General Public.* (2013). Available at: https://www.pedbikeinfo.org/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf (Page 24)

Focus Area	Recommendation	Notes
Bicycle Facilities	***Near-Term***	
	• Address shoulder erosion and clearance for cyclists using the roadways. Can also help improve drainage by clearing grates located in the shoulder area.	*Maintenance effort (labor costs only)*
	• Restriping where lane markings visibility or reflectivity has degraded or worn away.	*Estimated cost: $0.6 per foot ($2k per mile)*[23]
	Mid- to Longer-Term	
	• Formalize use of the roadway shoulder for biking or walking as an advisory bike lane (also known as dashed lane or shoulder). Shoulders are delineated using dashed lines or color treatment. Advisory shoulders provide a dedicated (though nonexclusive or fully separated) space and help drivers learn to expect and predict cyclist movement;	*Advisory lanes are not Federally approved. Requires MUTCD clearance to pilot (Section 1A.10)*[24]
	• Consider placing bike symbols in shoulders (1,000 foot spacing) if designating as a functional bike lane, or sharrows in advance of the bridge and on exterior lanes.	*Estimated cost: $25-100 per symbol*
	• In areas with slip ramps or turn lanes, consider dashed through-lines that depict bicycle movement. May include "yield to bikes" signage as well to bring awareness to the lines and cyclists.	*Estimated cost: $2000 (average of $200 per sign with post*[25]*, plus additional striping ($0.6 per foot) and bicycle signage ($180 per marking).*[26]

[23] Cost estimate source: Active Communities/Transportation (ACT) Research Group. *Benefit-Cost Analysis of Bicycle Facilities.* Sponsored by NCHRP, MNDOT, and the Midwest Regional UTC. "Lane Striping". Available at https://www.bicyclinginfo.org/bikecost/notes_code_3_12/

[24] Alta Planning. *Small Town and Rural Design Guide: Facilities for Walking and Biking (*website, supplement to the FHWA Small Town and Rural Multimodal Networks document). "Advisory Shoulder". Available at: https://ruraldesignguide.com/mixed-traffic/advisory-shoulder

[25] Cost estimate source: Active Communities/Transportation (ACT) Research Group. *Benefit-Cost Analysis of Bicycle Facilities.* Sponsored by NCHRP, MNDOT, and the Midwest Regional UTC. "Sign with Post". Available at https://www.bicyclinginfo.org/bikecost/notes_code_3_12/

[26] UNC Highway Safety Research Center. *Costs for Pedestrian and Bicyclist Infrastructure Improvements: A Resource for Researchers, Engineers, Planners, and the General Public.* (2013). Available at: https://www.pedbikeinfo.org/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf (Page 30)

Focus Area	Recommendation	Notes
*Note: Longer-term recommendations below identify two bicycle and pedestrian infrastructure options: **on-road** and **off-road.** It is recommended that Clinton County and Vision Zero partners identify the preferred facility type for the corridor, either a multi-use path or a contraflow cycle path, following essential outreach, engineering, and feasibility analyses.*		
Bicycle Facilities	**Longer term priority – off-road facility:** • Consider a *Multi-use Path* providing separated, dedicated **off-road** space for walking, biking, and rolling. Requires a path width of 6 feet (minimum) and would require potential agreements with adjacent property owners. Multi-use paths provide shared space for multiple modes traveling in both directions.	*Estimated Cost: costs begin at $30,000 unpaved or $60,000 paved, per mile (e.g., study area)*
	Longer term priority – on-road facility: • Consider a *Contra-flow Cycle Path* providing dedicated **on-road** space for walking, biking, and rolling. A contra-flow path supports travel in both directions. Requires a path width of at least 8 feet, which would require reclaiming the full shoulder and the median to reduce travel lane widths by 1' in each direction and turn lanes by 2'. (Note: the commercial segment of the study area featuring the raised median/sidewalk would require significant effort to adjust).	*Estimated costs would be significant, feasible only if the roadway is undergoing reconstruction.*

Focus Area	Recommendation	Notes
Transit Service & Amenities	***Near-Term***	
	• Support efforts to bring fixed and on-demand transit service to Hogan Boulevard. Continue working with STEP and county partners to support designated stop project, with Hogan Boulevard as a possible pilot site.	*Explore possible financial sources or partnerships to support, match funds, underwrite transit service in the area*
	• Remove unused transit signage or infrastructure along the corridor and replace with updated information as available. If feasible, consider updating with wayfinding information (e.g., refit poles with new signage/information.	*Partner with RVT to ensure accuracy; costs focus on maintenance / labor only*
	• Continue coordinating with LHU as a partner in mobility solutions for students.	*Include workforce (faculty, staff) in discussions as well as student representatives*
	Mid-Term	
	• Expand education and marketing to encourage transit ridership as an option and mode shifts.	*Estimated cost: $300-500/ month*[27]
	• Add highly visible transit shelters at key designated stops or destinations (e.g., Walmart and other stores).	*Estimated cost (examples): $220 per bench, $5,000 per shelter (stop with roof)*

[27] Nelson\Nygaard Consulting Associates, NCHRP 20-65 Task 73. *Best Practices and Marketing to Increase Rural Transit Ridership and Investment*. (2018). Available at: https://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-65(73)_FR.pdf

Focus Area	Recommendation	Notes
Note: Lighting, Parking and Access Management, Roadway Design and Traffic Signal recommendations are mid-term to longer-term concepts that will require financial resources as well as analysis or design.		
Lighting Conditions	• Add human-scale lighting options, in addition to the overhead, cobra-head lights. Focus human scale lighting around intersections, sidewalks and crossing areas, and by the bridges.	*Estimated cost: $3,600 per light*[28]
	• Consider LED lights when replacing cobra-heads to enhance lighting and reduce energy costs. (May be supported or eligible for match funding through the U.S. Department of Energy (DOE) Energy Efficiency and Conservation Block Grant Program, or other state energy programs and funds.	*Cost savings from reduced energy and maintenance needs, longer light life span.*
Parking & Access Management	• Consider adapting parking requirements to increase flexibility with businesses that share access points and parking spaces (e.g., consider reducing parking minimums for future developments in the district).	*Bald Eagle Township to act on any adaptations to zoning ordinances*
	• Revisit access management requirements and plans for the corridor. Look for opportunities to optimize traffic flow and reduce turning movements by sharing entrance/exits with multiple properties (e.g., in the area between Draketown Road and the Bald Eagle Creek).	*(Ongoing consideration to consider with future development)*
Roadway Design	• Re-stripe crosswalks or other fading striping to increase visibility for drivers and other roadway users.	*Estimated cost: $8.50 per foot; $2,500 per crosswalk (high visibility treatment)*
	• Continue evaluating the potential for signals at the intersection of Hogan Boulevard and Draketown Road, especially as industrial businesses expand. This could include alternative designs such as traffic circles or introducing the merge to one lane earlier, West of Draketown Road.	*Estimated costs: Roundabout $27,190*[29]

[28] Note: Lighting options, including cobra-head lights, are typically spaced at a rate approximately three-times the height of the pole. For human-scale option, e.g., 15'-20' height, would likely have approximately 60' between poles. For estimations – plans and associated costs vary based on existing utilities.

[29] UNC Highway Safety Research Center. *Costs for Pedestrian and Bicyclist Infrastructure Improvements: A Resource for Researchers, Engineers, Planners, and the General Public.* (2013). Available at: https://www.pedbikeinfo.org/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf (Page 17)

Focus Area	Recommendation	Notes
Traffic Signals	• No adjustments to traffic signal timing are recommended, however, inclusion of walk signals (e.g., countdown or commands) could be added to select intersections.	*Continue traffic impact analyses required for new developments*
	• Evaluate feasibility of No Turn on Red restrictions during specific times or in certain locations.	*Pending locations meet MUTCD and PennDOT Vehicle Code requirements (section 212.116)*
	• Consider flashing beacons or other pedestrian warning signals to drivers near key intersections (permanent or button-activated)	*Estimated cost: $5,150 per beacon*

4.4 Operations

Integrating Vision Zero Principles into Operations

Evaluation is one of the five Es of Vision Zero. Determining performance measures and continually reviewing the safety of the corridor is an important operational and organizational task for the County, SEDA-COG, and local stakeholders. Towards adopting Vision Zero principles and implementing active transportation interventions, the Vision Zero committee or other public works, planning, and safety stakeholders should engage in ongoing evaluations of the corridor's safety, use, and areas of improvement. Evaluations should be used to inform next-level studies, interim improvements, or outreach, or plans for future projects.

Three other operational considerations to prioritize in the short-term include:

1. Integrating active modes into local planning and traffic management processes, to ensure safety of all modes is considered.
2. Engaging first responders and other public safety officers to report on safety hot spots or lessons learned from their work in the community.
3. Organizing access management (both existing, and in proposals for new development) to optimize throughput and reduce entrances/exits when avoidable.

Ongoing Maintenance Recommendations

In the short-term, maintenance efforts to improve access and visibility for cyclists and pedestrians will improve the overall perceived safety of the area. In addition, these efforts can support interim interventions (e.g., short-term 'light, quick, and cheap' designs and can spur interest in longer-term plans for infrastructure interventions). Ongoing maintenance to consider integrating into local roadway options include debris removal, vegetation maintenance, and other trimming/maintenance to ensure clear lines of sight for all users.

Ongoing maintenance recommendations include:

1. Remove debris from the shoulder of the roadway to improve drainage and remove obstacles for travelers biking or rolling on this area. This includes snow removal or other weather-related obstacles.
2. Consider evaluating vegetation or overgrowth to see where desire paths are and, if applicable, identify ways to make them safer in the interim. This includes trimming or removing vegetation or debris from current towpaths, or using equipment to delineate paths (stones, pavement, mowing walkways, etc.)
3. Ensure sightlines are not obstructed by overgrowth, especially in the segment between Pennsylvania Avenue and Country Club Road, and on either side of the bridges.

Each of these maintenance and operations recommendations should be considered in the immediate-term and included as a consideration as new infrastructure is introduced (e.g., controlling vegetation or upkeep of any new walkways, shelters, signage, lanes, or furniture).

4.5 Next Steps

The Hogan Boulevard Bicycle and Pedestrian Safety Study serves to equip the community and decision makers with an understanding of the corridor context, specific safety needs, and opportunities for improvement. Findings and recommendations, as outlined in the Complete Streets Plan, offer potential interventions to address critical safety gaps and encourage walking, biking, and rolling on Hogan Boulevard.

Next steps in realizing or advancing these recommendations will include next-level engineering and environmental analyses to determine feasibility as well as public input on any identified projects and cost estimation. Based on these next steps, prioritized recommendations or activities can be integrated into candidate project lists at the municipal, County, or regional level. Stakeholders, including the Study Management Team, can consider looking for alternative funding and project delivery options such as financial or technical assistance grants, or identifying private funding partners (e.g., the network of businesses along the corridor that would benefit from safer access to their properties).

While these next-level steps and development avenues are considered, stakeholders and community members need not wait for new street designs. Education, engagement, and policy can provide high-impact and low-cost opportunities to demonstrate a commitment to safety and increase awareness of these issues. Advancing the educational campaigns and continuing to build coalitions and networks of safety-focused community members are the best first steps to begin improving safety on Hogan Boulevard.

APPENDIX A. MEETING SUMMARIES

Hogan Boulevard Safety Study Public Meeting #1 - Summary

Meeting Date: March 10, 2022

Meeting Time: 6:00PM

Location: Mill Hall Fire Hall

Attendees: 19, including two who arrived on bike

Meeting Purpose:

Gannett Fleming project team of three presented information about the Hogan Boulevard Bicycle and Pedestrian Safety Study and the study corridor, documented group discussion, listened to attendees' experiences and concerns, and assisted in documenting their perspectives on maps. They noted that a field tour would be conducted the following day.

Key Discussion Items:

- ***Project context*** provided by Katie de Silva when a participant enquired to the group:

Middle Susqehanna Bike-Ped Plan elevated this corridor as a need. PennDOT D2 plans to rehabilitate the Green Bridge (and a PennDOT Connects meeting) brought higher awareness of bike accessibility issues nearby to bridge (e.g., incidents of cyclists being hit, and even wheelchair travelers falling over into roadway). Therefore, SEDA-COG requested funding to study the corridor. (Timeline for rehab projects - Green Bridge - Summer 2023; Canal Bridge (to Flemington) - near future, anticipated2023).

- ***Considerations*** raised by participants for planners/project staff to be mindful of:
    - **Emergence of e-bikes** in recent years
    - Many **requests for sidewalks** to be installed in recent years
    - Improving access for bicycles is more than just improving it along Hogan Blvd itself, it is about **enabling safe travel to/from Hogan & businesses and between businesses**
        - **Cross-parcel travel for bike/peds** is challenging but necessary and it will require coordination with businesses. Improving. Currently unsafe to bike/walk in **parking lots**
        - **Cross-parcel travel can even be difficult for vehicles**, especially when there is snow involved, so it can only be more difficult for bike/peds. Moreover, this difficulty for vehicles may make them even less attuned to looking out for bike/peds than when just in a parking lot going to a single store
        - **Cross-corridor travel** is also challenging, for example: trailer court to Weis or Walmart. Attendees noted limited connections to/from the river basin and parks, etc. Participants admit to seeing pedestrians, daily, walking in two-way turn lane since it is safer in their eyes than walking along sides/in parking lots.

- Lack of bike/ped accommodations on **bridges serve as a bottleneck** for cyclists/walkers to using the Hogan corridor, i.e., if they can't get in, they can't use it
- **Large vehicles** (e.g., semi-trucks and just large pick-up trucks) make it difficult for drivers to see bikers/walkers. Similarly, they make it difficult for bikers/walkers to see cars, for example, when crossing a road and a car sneaks up in the right turn lane as you have almost crossed the road.
- Don't forget about, even if minimal, Amish carriage traffic
- An **OD study** and understanding of the **modal split** would be helpful
- **Culture of car drivers not 'living alongside' cyclists** and pedestrians
  - Drivers don't expect to see bikers, Drivers **don't realize cyclists can share** roadway/take lane, Drivers **yell** at cyclists to get off the road.
- Mill Hall Borough **pool renovation** upcoming (grant funding sought; timing TBD) so expect more kids to want to be able to traverse the Hogan corridor
- Motel being converted into suites for workers (they are regular pedestrians in the area
- **Challenging times of day**: around shift changes, afterschool bus traffic, AM/PM rush hour, lunch time, weekend daytime, example of 3pm at Camelot (i.e., due to buses, etc.)

Possible Solutions and feedback:

- "**Separated bike lane** is the only thing that would make this corridor safe for cyclists" 'A separated bike lane would be necessary to enhance safety'
- Get a ROW for bikes to use along RR tracks as an alternative to Hogan
- **Signage** to alert/remind drivers of cyclists/peds and how they must act on roadway
  - **Clearly defining pedestrian areas, crossings** and adding signage will help drivers progressively understand that the roadway is for more than just drivers
  - "More awareness and respect for pedestrians is needed, drivers can be told, and over time they will understand it, but it takes time"
- **Education** for drivers of cyclists' rights and how to share roadway
  - This was emphasized multiple times by several participants, signage being the most-identified means of education
  - Michelle raised Tactical Urbanism to demonstrate a different future/raise awareness of other travel modes to drivers with a 1-day or 1-week pop-up
- Install **ghost bikes** to mark where fatalities or serious cyclist accidents have occurred
- Right now, there are **ADA pads and crosswalk landings to nowhere**, connect them
- **Signals/Intersections**
  - Pedestrian **crossings with dedicated time** within the signal timing (crossing time seems to be shared with select turn arrow movements). Review signal times and modify them to make them more consistent/ predictable for all users
  - **Limit right on red** ability for drivers. Or at least certain locations/times of day
- **Bike boxes** or other means of giving cyclists dedicated space at intersections so they can start before cars/allow drivers to see them better
- **Install signal** at Drake Town Road (previously a study was performed, and signal deemed not warranted), but perhaps another solution can still be of assistance; the nearby merging in front of the Tractor Supply is a huge problem (cars going from 2 to 1 lane themselves, so it is already car-on-car and aggressive driving, bikers/peds aside)

Comments During Map Exercise

- **Slow down traffic**, via:
    - Reduce speed limit (mentioned they think it is 35 but many drive 50)
    - Road diet to narrow lanes
    - At key pedestrian crossing areas: Flashing beacons, raised crosswalks, etc.
- Look into **what vehicles are most involved in accidents** (e.g., cars, trucks, semis)
- Make a 'higher **fine/violation corridor'**
- Improve **visibility** via lighting
- **Reduce the number of entrances/exits to certain parcels**
- **Tunnel/bridge** under 220 access road?
- Bridge [for cars and/or bikes/peds] **between Walmart and Weis?** (originally, it was proposed but businesses vetoed due to liability concerns)
- "Would like to be able to bike from Lock Haven to pool, the playhouse, new brewery"
- "Right now, I bike from Lock Haven to Lowe's"

Hogan Boulevard Safety Study Public Meeting #2 - Summary

Meeting Date: May 3, 2022

Meeting Time: 6:00PM

Location: Pop-up Meeting at Country Club Road and Hogan Boulevard (Walmart parking lot)

Meeting Summary:

GF project team of two provided a pop-up area where visitors could visit materials, speak with, or otherwise connect with the project team. Information presented in the pop-up area included posters with information about the bike-ped study and the study corridor, including analysis of existing conditions, vision zero concepts, and safety issues. In addition, a QR code was available onsite and on printed hand-outs directing visitors to an online survey, should they prefer to share feedback online rather than in person. The project team listened to visitors/attendees' feedback on the project, as well as any specific experiences and concerns, and assisted in documenting their engagement on the project posters. Online participation was monitored for two weeks following the pop-up meeting.

Key Takeaways:

- **Importance of addressing safety** (e.g., what is or are the best-case design solutions, vs. the cost of no action)
- **Lighting** benefits all travelers
- **Lots of businesses within walking distance of one another**…
    - Engage nearby businesses as partners and as key participants (e.g., employees commuting, traversing the corridor for lunch, other purposes).
    - **What is the economic value** of the corridor? How can a safer corridor benefit this value, how can a more walkable district benefit the economic vitality?
- Interested in **south-side** bike/ped facility, consider **flyover** of intersections/complicated on/off ramp.
- Bridge construction (2023+) will disrupt traffic flow (trucks, school buses, etc.) and may make walking/biking more complicated or dangerous in the short-term – emerging **hot spots.**
- **Turning land to Draketown road** is used as a waiting area/merge area
- **Higher visibility crosswalks** are important
- Consistency in design aesthetics (e.g., a unified or predictable form) would improve the **perception of safety**
- Concern about **freight impact and queuing impact** of any adjustments to signal timing
- *Note*: drivers on corridor yelled at study management team to 'get a car' (or similar) throughout on-site walks, reflecting significant driving culture and **lack of awareness/education on interacting with those walking/biking**
- Need sidewalks on at least one side of the street
    - Throughout – **"if you build it (bike/ped infrastructure) they (walking, biking rolling) will come…"**