



Safety **6**

A. Safety Analysis

Upper Macungie Focus on Safe Connections

The public participation process used to inform the 2019 Comprehensive Plan Update identified seven (7) issues that residents felt needed to be addressed in order to assure that Upper Macungie Township remains a desirable place to live well into the future.

Three of these issues that are directly related to the safety of residents:

- Traffic Congestion
- Community Connectivity
- Community Character and Sense of Place

These sentiments were similarly expressed in the public opinion survey conducted for this VZAP.

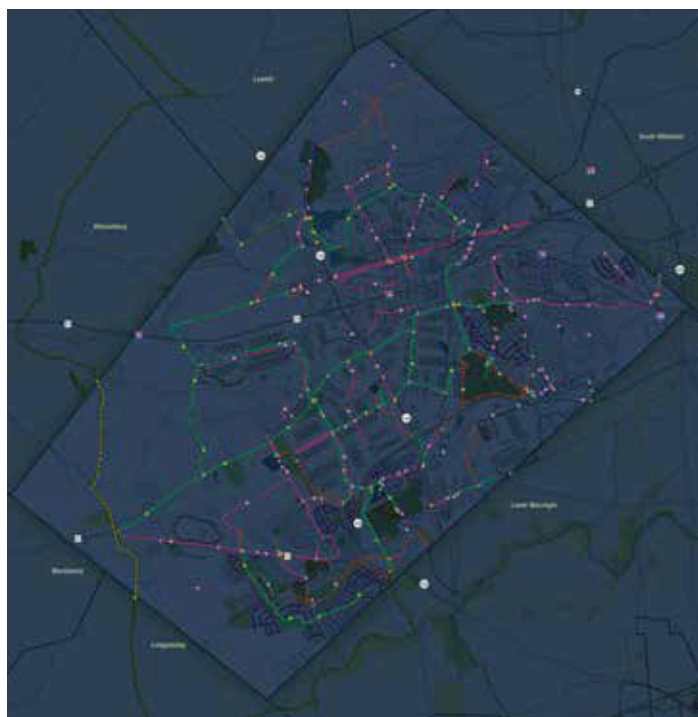
Traffic congestion does not automatically correlate with unsafe conditions. However, traffic congestion may induce behaviors (cut through routes; frustrated/ road rage driving, etc.) that place other motorists and most especially, other non-motor vehicle mode users, in danger.

Community connectivity is achieved through safe pedestrian and bicycle routes that allow neighbors to interact without needing cars.

The Multimodal Safety Improvements Plan contained in this report outlines the tools needed to create these connections. The VZAP is the first step in analyzing where crashes occur and using that information to direct closer investigation of the improvements that move the Township to the goal of zero traffic fatalities and serious accidents by 2032.

Upper Macungie Township Police Department (UMTPD)

The Upper Macungie Police Department participated in discussion about pedestrian and cyclist safety with the VZAP team in order to provide perspective on the yearly police report data that was supplied from 2014 to the present. The UMTPD provided motor vehicle crash data locations in the form of latitudes and longitudes. The Township consultant was able to correlate these locations into the Township geographic information system (GIS) and plot the results in the form of heat maps, maps whose color intensity is indicative of the number of crashes at a particular location.



Motor vehicle crash location data involving pedestrians and cyclists is particularly helpful in identifying where and what types of improvements will achieve the Vision Zero goals for the Township. However, safety for all modes is the goal of the VZAP. Technical studies are quite clear on this point: Safety improvements for at least one mode of transportation improve the overall safety of ALL modes of transportation.



Good Neighbor Coalition

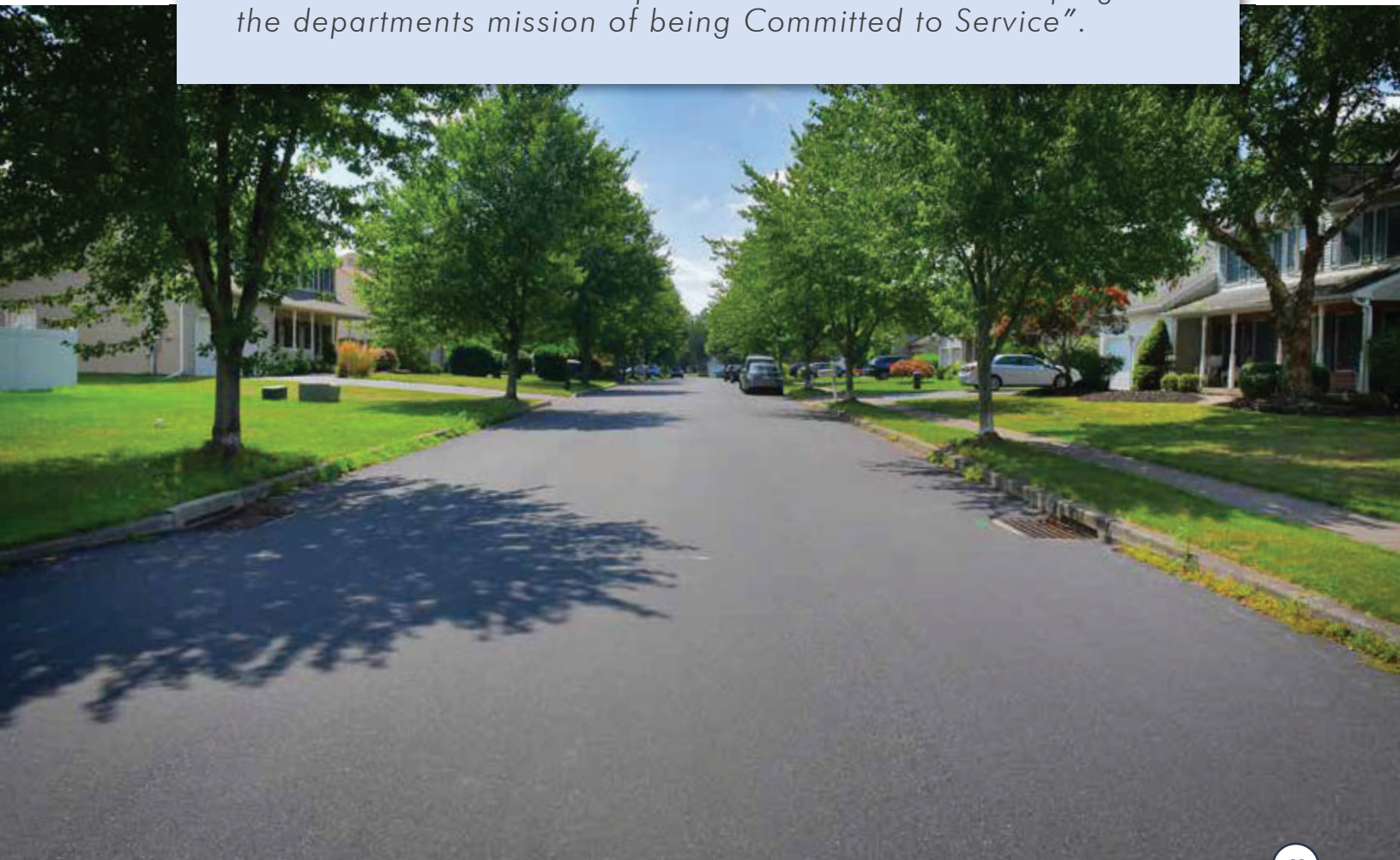
In 2015, the Upper Macungie Police Department sponsored the creation of a resident-led coalition to provide a forum for discussion of the increasing concerns of residents over increased commercial truck traffic and the corresponding safety issues experienced by Township residents. The Good Neighbor Coalition allowed for mutual exchange and education between the community and law enforcement to counteract fears and frustration with truck movement.

As a result of this forum, Upper Macungie Township developed a 'Truck Routes Restrictions Map' provides a tangible tool for safety improvements.

The Coalition was disbanded in 2021 due to a lack of resident leadership. However, it provided a model of communication and education on critical safety issues within the Township[. The incorporation of this type of cooperative collaboration would be beneficial for the annual updating of the components of the VZAP which is discussed in Chapter 8 – Plan of Action/ Recommendations. A 'VZAP Coalition' could provide critical real-world input to how safe multimodal connections are working as the Township grows and prioritize where and when the improvements are implemented.

The Good Neighbor Coalition Mission Statement:

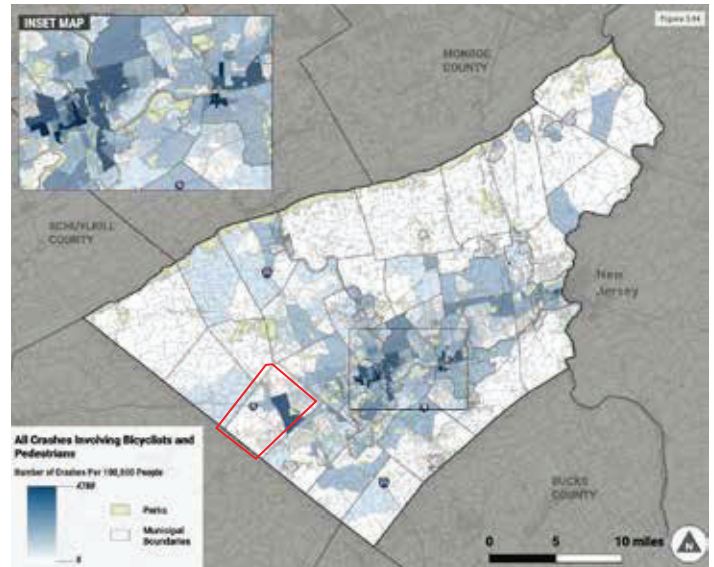
The mission of the Good Neighbor Coalition (GNC) is to enhance safety and improve community relations between law enforcement and the commercial and residential entities within UMT and beyond. This endeavor will be accomplished through education, awareness and mutual cooperation. This will be in keeping with the departments mission of being Committed to Service”.



Motor Vehicle Accident Data: Regional

As noted in the graphic taken from the WalkRoll LV study completed by the LVPC in 2020, outside of the greater Allentown and Easton areas, Upper Macungie Township represents the largest concentration of all crashes involving bicyclists and pedestrians. The report notes that speed has been recorded as a low cause of these accidents—possibly due to lack of evidence. This item may require attention by UMTPD to be able to inform future crash data involving pedestrians and cyclists.

Upper Macungie has made great strides in adjusting safe speed limits on Township roads. Other traffic calming measures and safety improvements are contained in the Multimodal Safety Improvements Plan contained within this VZAP. As data is accumulated through the years, these plans must be updated to reflect this important data.



Upper Macungie Township (highlighted in red) within the Lehigh-Northampton County region. All Crashes Involving Bicyclists and Pedestrians per 100,000 residential population. Graphic Courtesy of WalkRoll LV (Lehigh Valley Regional Planning Commission)



Upper Macungie Accident Data Analysis: Five Year Analysis 2018 through 2022

Upper Macungie Township Crash Data is a joint coordination effort between UMTPD, Township Planning Staff, and consultants. This information compilation did not exist prior to this study. Now, this visual expression of the compiled data has the potential to assist both UMTPD and planning decisions regarding warehouse and residential development in this Township.

The quantity of motor vehicle accidents rose from 2018 to 2019. While dropping during the 2020 pandemic year, the number of crashes in 2021 and 2022 rebounded to levels greater than pre-pandemic years.

The number of crashes is relatable to the increased population in Upper Macungie. Survey results show that the primary mode of transportation for 98% of the population is motor vehicles. Increased truck traffic also is relatable to the increase.

Crashes involving pedestrians:

- 2018 – 2
- 2019 – 4
- 2020 – 1
- 2021 – 4 Including one (1) fatality location: Hamilton Boulevard near Schaeffer Run Road)
- 2022 – 1

The spike in pedestrian accidents from 2020 to 2021 may be relatable to the decreased motor vehicle use for commuting in 2020 and the resumption of commuting patterns in 2021.

Fatality Rate

Based on the Township population (24,138), the fatality rate calculated from the data shown below is 8.28 per 100,000 residential population.

Crash-Related Fatalities

Source: Upper Macungie Police Department, 2023

Crash Date	Crash Time	Number of Killed	Latitude Degrees	Latitude Minutes	Latitude Seconds	Latitude Decimal	Longitude Degrees	Longitude Minutes	Longitude Seconds	Longitude Decimal	Principal Road Street Name	Principal Road Street Ending	Intersecting Road Street Name
7/31/2017	23:30	1	40	33	50	331	75	35	1	485	US-222	Bypass	MILL CREEK
2/16/2018	9:55	1	40	34	30	300	75	33	59	320	CETRONIA	Road	
3/30/2019	18:00	1	40	33	6	190	75	35	38	670	HAMILTON	Boulevard	
6/7/2020	8:35	1	40	32	42	960	75	40	20	660	INDEPENDENT	Road	SCHANTZ
7/23/2020	20:30	1	40	34	21	680	75	38	46	960	NESTLE	Way	
1/17/2021	4:41	1	40	32	39	840	75	40	19	470	HAMILTON BLVD	Boulevard	
3/17/2021	14:13	1	40	32	27	860	75	38	31	90	HAMILTON	Boulevard	
3/22/2021	10:36	1	40	33	50	280	75	35	7	60	US222	Bypass	
8/24/2021	23:10	1	40	33	28	120	75	36	30	650	TREXLERTOWN	Road	
12/19/2021	18:26	1	40	35	51	910	75	36	23	830	HICKORY	Lane	SNOWDRIFT

Schantz Road, Tilghman Street, and Trexlertown Road represent Township roads (non-PennDOT route) with the greatest quantity of traffic crash 'heat'.

SR 222 at Schantz Road and SR 863 (Independent Road)/ Farmington Road is the single largest accident site in the Township.

The geometric configuration of this intersection and the addition of motor vehicle speed in this more rural (less-dense) section of the Township may account for this condition.

PennDOT District 5-0 crash data shows a relatively consistent level of crashes distributed across State Routes in Upper Macungie for the five year period 2017 - 2021.

Concentrated heat is shown at shown at SR 222 at Cetronia Road and Breinigsville Road. SR 100 shows concentrated

heat at Schantz Road, Penn Drive, Industrial Boulevard, and its intersection with SR 222.

Concentration of motor vehicle accidents at intersections.

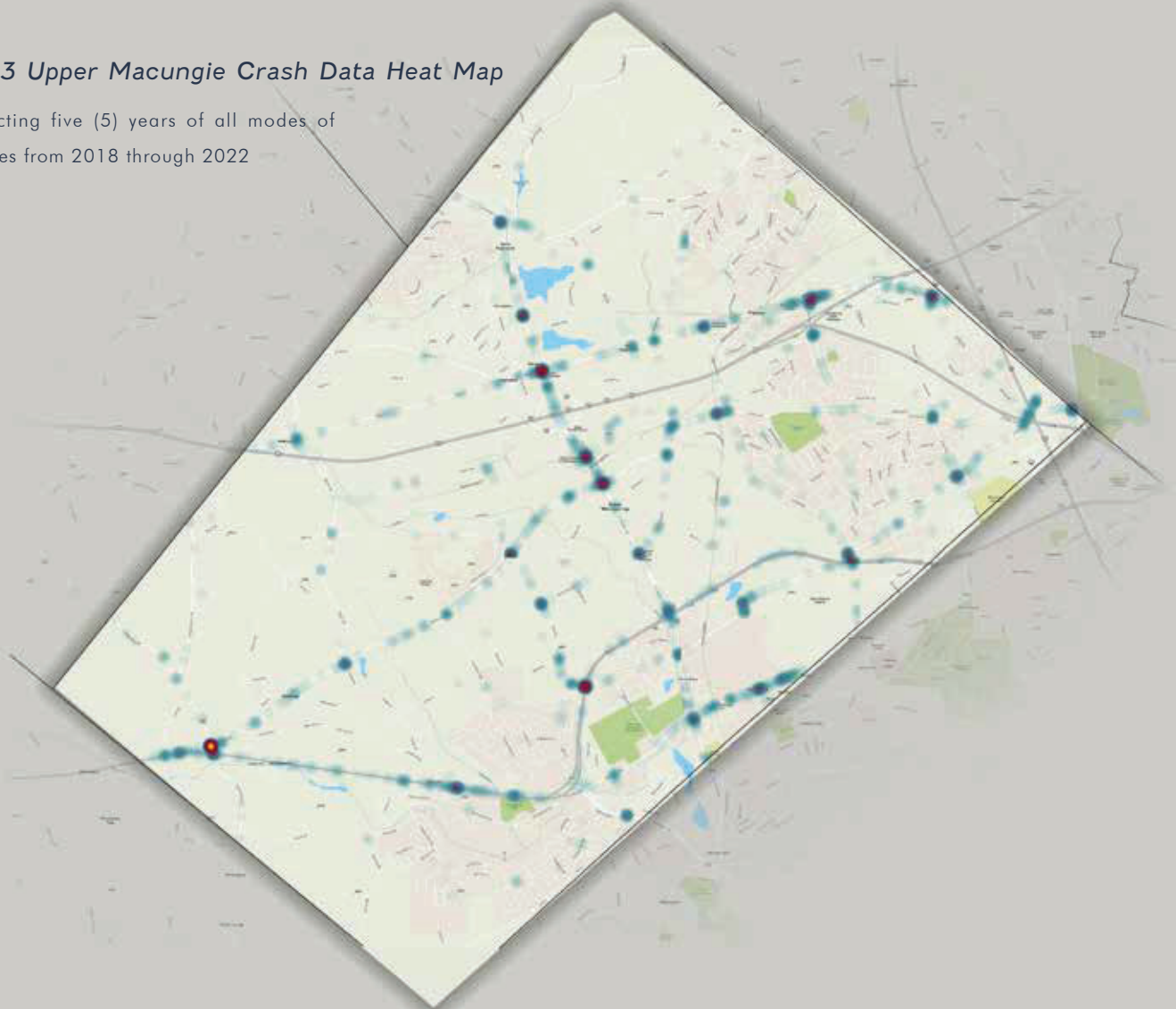
Protection of pedestrians at high-accident intersections is critical to Vision Zero improvements.

At the heart of eliminating fatalities and serious injury is the need to reduce speeds.

National research has found that pedestrians are much more likely to survive a crash without life-altering injury if they are hit by a vehicle moving at 20 mph than at higher speeds. Once vehicles move at speeds of 30 mph or greater, the likelihood of death or serious injury increases.

2023 Upper Macungie Crash Data Heat Map

Reflecting five (5) years of all modes of crashes from 2018 through 2022



A Safe Systems approach to Vision Zero.

Driver behavior can, in part, be addressed through the design of roadways. People will drive as fast as they are able based on the design of the road and their perceptions of their own safety within a car. If roadway design forces slower speeds, the field of vision of the driver increases giving them more time to react and reduce the likelihood of a crash. A *Safe Systems* approach also involves diligent attention to policies and enforcement of rules and the education of all roadway users.

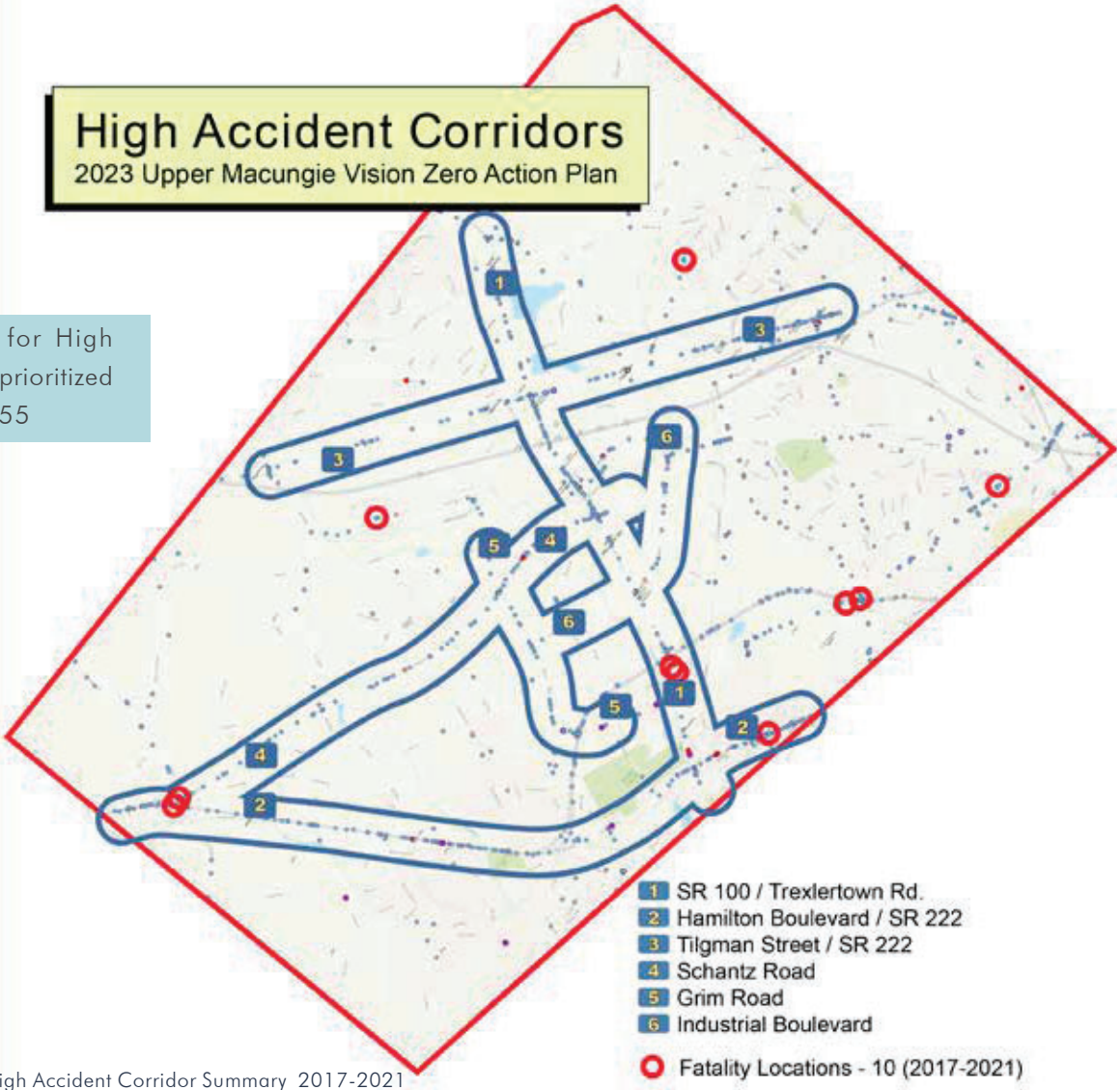
Detailed roadway and traffic engineering assessments of high crash areas is beyond the scope of this report. It is recommended that the Township pursue traffic calming assessments in the high crash areas and coordinate them with the proposed pedestrian and multimodal safety improvements proposed in Chapter 7 as part of the ongoing monitoring process for VZAP improvement.

Safe Systems = Safe Mobility



High Accident Corridors 2023 Upper Macungie Vision Zero Action Plan

Safety improvements for High Accident Corridors are prioritized in Chapter 8. See p.155



Upper Macungie Township High Accident Corridor Summary 2017-2021

