Community Demographic Assessment

2027-2030 TIP

SVATS

Introduction

Shenango Valley MPO values all people and backgrounds and wishes that all are treated fairly and have meaningful opportunities to participate in decisions that affect their communities, regardless of race, color, national origin, or income. The MPO aims to identify and address disproportionately high and adverse human health or environmental effects of transportation programs, policies, and activities on minority populations and low-income populations.

Federal transportation agencies, including the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), are responsible for ensuring that transportation planning and project development comply with federal nondiscrimination and equity requirements. This responsibility extends to state departments of transportation and regional planning organizations involved in the planning and programming of federal transportation funds.

These requirements emphasize the following principles:

To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations.
To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

Disproportionately high and adverse effects refer to the totality of significant individual or cumulative human health or environmental impacts, including related social and economic effects. These impacts may include, but are not limited to, bodily impairment, illness or death; air, noise, and water pollution; soil contamination; disruption of natural or human-made resources; loss of aesthetic values; disruption of community cohesion or economic vitality; reduced access to facilities and services; vibration; adverse employment impacts; displacement of residents, businesses, farms, or nonprofit organizations; increased traffic congestion; or the isolation or separation of populations within a community.

A disproportionately high and adverse effect may occur when:

1. The impact is predominantly borne by a minority population or a low-income population; or
2. The impact on a minority or low-income population is appreciably more severe or greater in magnitude than the impact experienced by non-minority or higher-income populations.

The Shenango Valley Area Transportation Study (SVATS) Metropolitan Planning Organization is responsible for planning and programming federal transportation funds within the region. As part of this responsibility, SVATS evaluates whether transportation investments could result in disproportionately high and adverse impacts on minority or low-income populations and ensures that affected communities have opportunities to participate in the transportation planning process. The following analysis describes the methods used to evaluate these considerations.

Core Elements—An Approach for Pennsylvania Planning Partners

In April 2019, the FHWA PA Division, FTA Region III, PennDOT Central Office, PennDOT Engineering District 8-0, and six MPOs within District 8-0 Pennsylvania, jointly developed the *South-Central Pennsylvania Environmental Justice Unified Process and Methodology Guide*. This was developed to help these agencies collaboratively analyze potential impacts to minority and low-income populations in a straightforward manner. This guidance was then shared with the remaining MPOs and RPOs for consideration of their future programs including their respective Transportation Improvement Programs (TIP) and the Long-Range Transportation Plans (LRTP).

The Guide outlines several strategies for accomplishing the core elements of an analysis acceptable to FHWA and FTA. The Guide identifies specific core activities that MPOs in Pennsylvania should complete in a CDA analysis. Although the guide encourages some level of standardization and best-practices, it also allows for tailored approaches between different MPOs and RPOs. To this point, the guide provides an incremental approach to follow, with consideration given to variances in regional staff expertise and regional needs. The guide provides a number of strategies and tools to support the core elements.

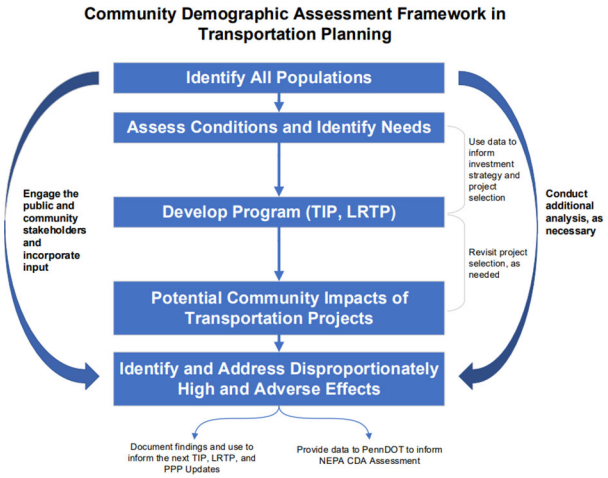


Figure 1. Community Demographic Assessment Framework in Transportation Planning

Chart from *South Central Pennsylvania Environmental Justice Unified Process and Methodology Guide*

These Core Elements, which also correspond to the organizational structure of this document, are the:

1. Identification of all populations

2. Assessment of conditions and identification of needs
3. Evaluation of potential burdens and benefits
4. Identification and addressing of disproportionate and adverse impacts, which will inform future planning efforts

SVATS MPO's Approach to the Core Elements Methodology

The MPO completed their Long-Range Transportation Plan (LRTP) toward the end of 2021. A much more robust process using the Core Elements approach was used to analyze new capital projects. Moreover, how the MPO considers the methodology into its project selection criteria was refined. The MPO is currently in the process of developing a Complete Streets Policy that will further incorporate prioritization of potentially sensitive populations in the project selection process.

Like just about every MPO across the Commonwealth, the vast majority of TIP projects are carryover asset-management projects (e.g. preserving pavement or improving bridges) and selection of these generally simpler projects tends to be more on condition than on other factors. However, with the few new projects on the TIP, CDA (the Community Demographic Assessment) has become an important consideration. And even on the asset management projects, the analysis described below allows us to ensure that even the preservation of our overall system does not unfairly harm or underinvest in communities of lower income or higher minority rates.

The next four sections of this document demonstrate the SVATS MPO's current approach to meeting the Core Elements Methodology. Despite the aforementioned challenges and limitations, the analysis on the following pages includes several steps taken to continually improve the MPO's process.

Core Element #1—Identification of Sensitive Populations

For the purposes of this analysis, two population groups are considered—racial minority and low-income members of the population. It is important to note that there is technically no such thing as a "Sensitive Population," though this section title is used to align with the developed Pennsylvania Core Element framework. The table on the following page contains definitions used for the purposes of the analysis:

Population	Definition
Minority	Person who is: 1) Black/African American; 2) Hispanic or Latino; 3) Asian American; 4) American Indian/Native American and Alaskan Native; 5) Native Hawaiian and Pacific Islander
Below Poverty Level	Person whose median household income is at or below the U.S. Department of Health and Human Services poverty guidelines
White alone	Person who is White only
Above Poverty Level	Person whose median household income is above the U.S. Department of Health and Human Services poverty guidelines

Data

When reading through the following analysis, it is important to pay attention to the source and timeframe of data, as various data sources were used in this analysis. Each has its advantages and limitations:

U.S. Census Data 2020—Census data that was available only for certain communities within Mercer County, and was not available at a Block Group or even Census Tract level of geography. Moreover, as

has been the case since 2010, the decennial census does not provide any data on income. Census data is highly accurate, as the entire population is attempted to be counted.

American Community Survey (ACS) 5-Year Estimates, 2019-2023 —ACS data contains a much larger margin of error than census data, but is available for many different metrics and is updated on a much more frequent basis. Statistics from the ACS are taken from samplings of the population each year, and are grouped into a five-year rolling average. Because of the smaller sample sizes, these can, for all intents and purposes, be considered rough estimates. Income data is collected purely through the ACS.

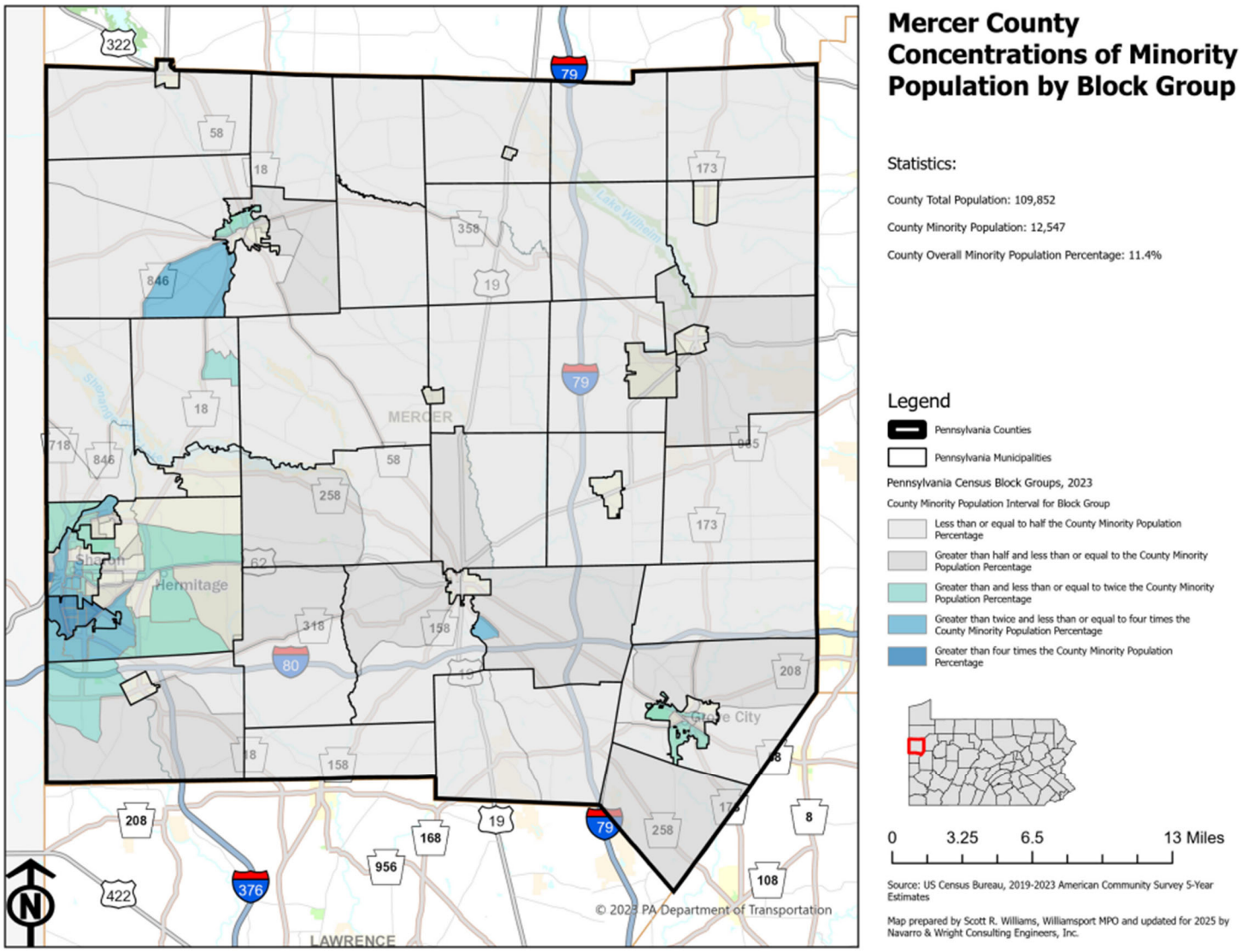
In order to ensure that minority and low-income data are collected with the same methodology and during the same timeframe, 2019-2023 ACS data is used as the primary data source for this analysis. 2010 and 2020 Census data is used as an additional way of analyzing (only) the minority population, and comparing to the ACS data that serves as the primary data source. Some of the higher-level ACS demographic data relating to this analysis is shown below on the table below.

Mercer County Race & Ethnicity (2019-2023 ACS)	Count	Percent
Total Population	109,852	-
Not Hispanic or Latino	108,101	98.41%
White alone	97,305	88.58%
Black or African American alone	6,015	5.48%
American Indian and Alaska Native alone	76	0.07%
Asian alone	673	0.61%
Native Hawaiian and Other Pacific Islander alone	20	0.02%
Some other race alone	358	0.33%
Two or more races	3,654	3.33%
Hispanic or Latino	1,751	1.59%
Hispanic or Latino, White alone	432	0.4%
Minority	**12,547**	**11.4%**

For this TIP (as well as the prior 2019, 2021, 2023 and 2025 TIPs), the prevalence of minority and low-income populations was analyzed at a U.S. Census Tract Block Group level of geography. Typically, Census Tracts (CTs) correspond to some degree with municipal borders. A more populous municipality might have several CTs within its jurisdictional boundaries, while very rural municipalities may share a CT. Most CTs contain several Block Groups (BGs). The borders of BGs often correspond to more significant geographical borders that separate neighborhoods. Examples include waterways, railroad tracks, and more significant roadways (such as arterials or collector roads). All of these can also correspond to CTs. Within BGs, there can be numerous blocks found within. A “block” is simply an area surrounded completely by roads. In an urban area, city blocks are commonplace, while blocks may be much larger in suburban or rural areas with fewer roads and/or no-outlet streets. Getting down to this level of geography can provide many inconsistencies, and data is not always available at this level. Therefore, CT BGs were determined to be the most practical and detailed level of data available for this analysis.

Minority Population

According to the 2019-2023 American Community Survey 5-Year Estimates, Mercer County's minority rate is 11.4% of the entire population. This rate was 8.97% during the 2010 Census and 11.13% during the prior (2018-2022) 5-year rolling average. Like many other regions, there is a tremendous geographic variance in the minority rate within the county. Areas of highest minority populations are found in portions of the Shenango Valley—the geographic area that includes the urbanized cluster of municipalities in the southwestern portion of Mercer County. Much of the City of Farrell and portions of the City of Sharon have minority rates well above the county average. In Mercer County, the black population (6,015, or 5.4%) is by far the largest minority population. The following map shows the geographic distribution of the minority population within Mercer County.



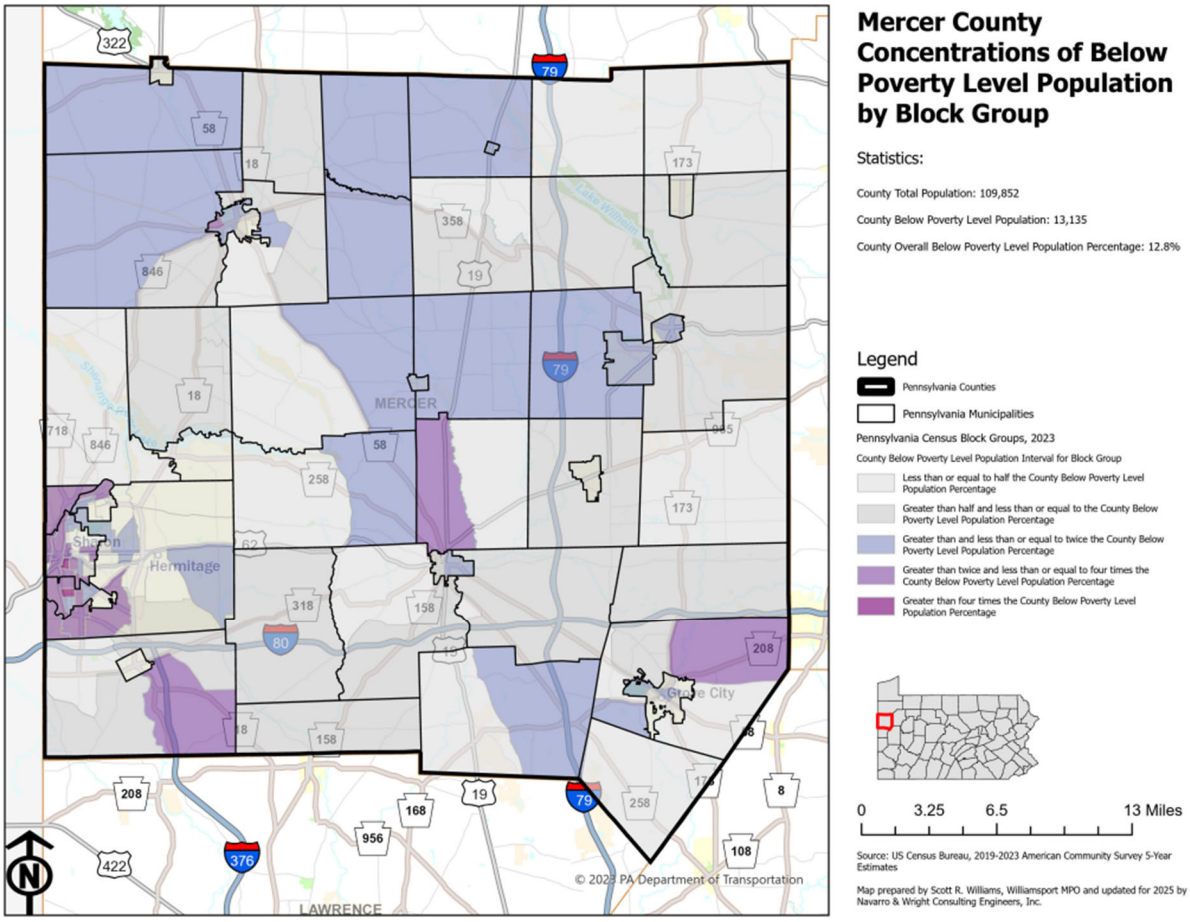
Below Poverty Level Population

Data from the United States Census Bureau American Community Survey (ACS) Five-Year Estimates (2019–2023) indicate that approximately 13,135 residents in Mercer County, or 12.8 percent of the population, have incomes below the federal poverty level. Poverty rates vary across the county, with higher shares generally occurring in several of the county's more populated municipalities and lower overall rates observed in many rural townships and smaller boroughs.

For purposes of transportation planning analysis, poverty status was reviewed at the census block group level using ACS Five-Year Estimates (2018–2022). Of the 115 block groups in Mercer County, 51 block groups report poverty rates above the countywide average. These areas contain an estimated 40,436 residents, representing approximately 39 percent of the population included in the ACS poverty universe for that time period.

The population used for poverty calculations (103,728 individuals) differs from the county's total population estimate because the Census Bureau calculates poverty status only for the ACS poverty universe, which excludes certain institutional and group-quarters populations. Consistent with federal guidance, all percentages in this analysis are based on the population included in the ACS poverty dataset.

This information is used to help identify areas where additional outreach and evaluation may be appropriate to ensure that transportation planning activities provide fair access to transportation benefits and do not result in disproportionately high and adverse effects on populations with lower household incomes.



Poverty Among Minorities

The table below shows how poverty rates vary among different racial groups within Mercer County. This is most meaningful when looking at White and Black populations, and significantly less meaningful for minority racial groups small in number. For example, there is a 0% poverty rate amongst the County's Native Hawaiian or Pacific Islander population, yet only 16 members identifying as this race live in Mercer County. Particularly noteworthy is that Mercer County's Black population has a poverty rate over four times higher than what exists for the White population.

Below Poverty Level among Racial/Ethnic Minority Groups Mercer County (2019-2023 ACS)	Total Population	Low-Income Population	Percent
White Alone	92,034	10,152	11.0%
White Alone, Not Hispanic or Latino	91,700	10,038	10.9%
Black or African American Alone	5,475	2,073	37.9%
American Indian and Alaska Native Alone	98	5	4.9%
Asian Alone	602	70	11.6%
Native Hawaiian and Other Pacific Islander Alone	16	0	0.0%
Some Other Race Alone	669	138	20.6%
Two or More Races	4,106	697	17.0%
Hispanic or Latino Origin (of any race)	1,469	407	27.7%

Taking this information into account, and reviewing the maps on the previous pages, leads to the realization that there is a very strong correlation between the minority and low-income populations. This is particularly important to be mindful of, both when programming decisions are made (*e.g.* making sure investment occurs in such areas) and as project scopes are refined (*e.g.* making a concerted effort to take into consideration—through PennDOT Connects and other public involvement processes—any particular needs that may exist among these members of the population).

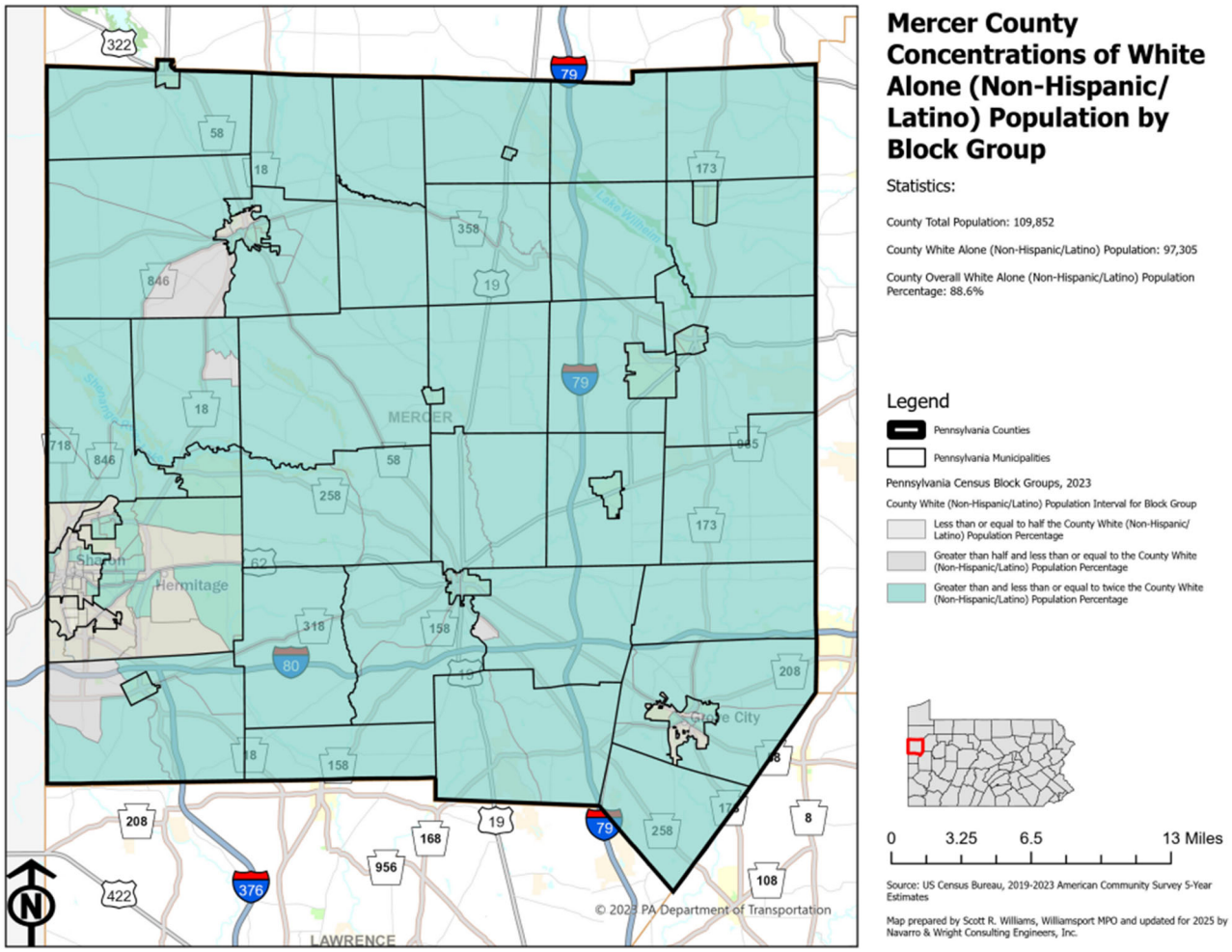
Other Potentially Disadvantaged Populations

While the focus of this Demographic analysis is on race and income, several other indicators might be used to understand differences within the total county population. It is beyond the scope of this document to delve deeply into further analysis, yet it is important to consider indicators such as those listed in the table below when equity is brought into the planning and programming process. The data does not tell us why somebody, for example, does not own a vehicle or why they do not have internet access, or whether their disability becomes an issue that intersects with their individual transportation needs. Certainly, many of these populations do so by choice—making the conscious decision to *not* own a car or to *not* utilize computers, for example. Factors like age or geography (access to transit or walkable communities) come into play. But it's safe to assume that many households without personal vehicles, computers or internet access are without these items because of affordability. Regardless of reason, factors many people consider to be standard practices (e.g. owning a car) are by no means ubiquitous.

Other Disadvantaged Populations (2019-2023 ACS)	Count	Percent
Limited English Proficiency (LEP)	1,573	1.5%
Persons with a Disability	18,417	17.0%
Elderly (65 years or older)	24,927	22.7%
Housing Units with No Vehicle	4,421	9.6%
Below Poverty Level Households	5,928	12.9%
Housing Units with No Computer	4,799	10.4%
Housing Units with No Broadband Subscription	7,186	15.6%

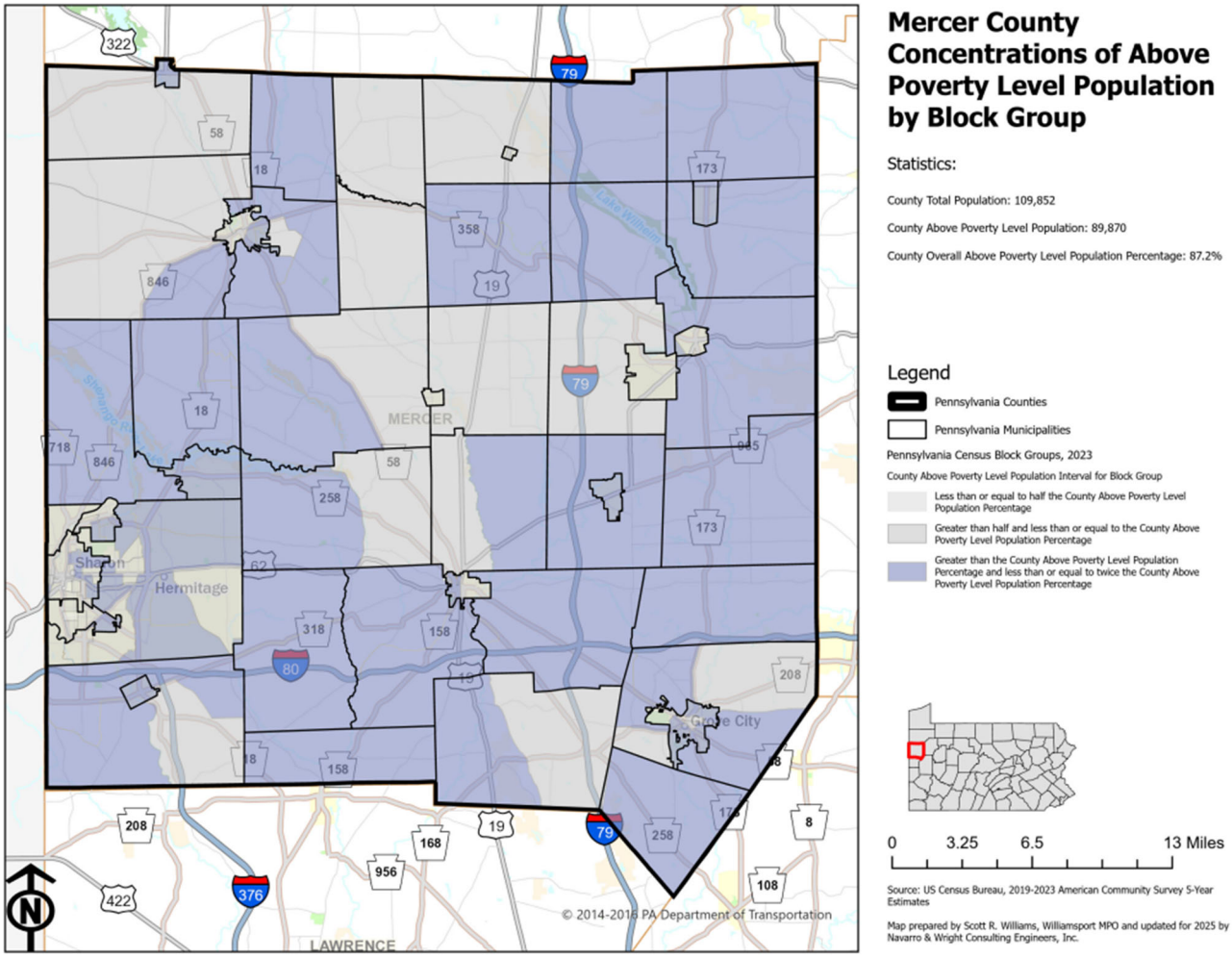
White Alone Population

According to the American Community Survey (ACS) Five-Year Estimates (2019–2023), 97,305 residents are White alone, or 88.6% of the county's total population. Of this group, 10,152 (11.0%) are below the poverty level. Overall, the White population in Mercer County is a greater portion of the population percentage in the majority of the county's rural communities, particularly in the eastern portion of the county, while it is lower in urban areas such as Sharon and Farrell. The Shenango Valley region of the county shows the lowest concentration of the White alone population.



Above Poverty Level Population

According to the 2019-2023 American Community Survey 5-Year Estimates, 89,870 residents of Mercer County are above the poverty level, or 87.2% of the population. The concentration of this population is relatively evenly dispersed throughout Mercer County, although it should be noted that communities in the Shenango Valley region (southwest) have a lower concentration comparatively. The eastern portion of the county displays a stronger concentration of above poverty level populations.



Core Element #2—Assessment of Conditions and Identification of Needs

The following section assesses the performance and condition of transportation assets in Mercer County, relative to the prevalence of low-income and minority populations. Essentially, this marries the concept of performance-based planning (see the Transportation Performance Measures section of this TIP) with the CDA. The following information can be used to determine the unmet needs and any gaps in the transportation system and its investment.

A myriad of maps and data were created in order to provide a snapshot of transportation asset conditions and safety needs throughout the region. The information analyzed includes the following four components, and the correlation of each with populations defined as minority and low-income:

Metric	Description of What Is Analyzed
Pavement Condition	Excellent (best) and Poor (worst), based on International Roughness Index (IRI) ranking
Bridge Condition	Poor (worst), based on International Bridge Inventory (NBI) ranking (0-4 out of 9 pt scale)
Bike/Ped Crashes	Location of each occurrence, based on 5 years of data (2019-2023)
Injury/Fatal Crashes	Location of each occurrence, based on 5 years of data (2019-2023)
All Reportable Crashes	Location of each occurrence, based on 5 years of data (2019-2023)

Data is analyzed using the County Minority and Low-Income Intervals. The intervals are not geographical, but rather correspond to areas of the county that are less than, equal to, or greater than the population percentage makeup of minority and below poverty level populations. The intervals are displayed on the maps above. The tables below describe each interval.

Interval ID	Minority Population Percentage = 11.4%
Mercer 1	Less than or equal to half county minority population percentage
Mercer 2	Greater than half and less than or equal to county minority population percentage
Mercer 3	Greater than county minority population percentage and less than or equal to twice to the county minority population percentage
Mercer 4	Greater than twice and less than or equal to four times the county minority population percentage
Mercer 5	Greater than four times the county minority population percentage

Interval ID	Below Poverty Level Population Percentage = 12.8%
Mercer 1	Less than or equal to half county low-income population percentage
Mercer 2	Greater than half and less than or equal to county low-income population percentage
Mercer 3	Greater than county low-income population percentage and less than or equal to twice to the county low-income population percentage
Mercer 4	Greater than twice and less than or equal to four times the county low-income population percentage
Mercer 5	Greater than four times the county low-income population percentage

The chart below displays data for each of the five intervals for low-income and minority data. Each ascending interval has a greater share of low-income or minority persons. The county totals have slight differences because the data is based on 2019-2023 ACS data that uses sampling and, therefore, provides estimates rather than exact values. Additionally, while the values listed in each table are rounded, the percentages consider the original unrounded value, so not all percentages will appear exactly mathematically accurate.

County Low Income Interval ID	Below Poverty Level Population	Interval Population	Below Poverty Level Percent of Interval Population	County Minority Interval ID	Minority Population	Interval Population	Minority Percent of Interval Population
Mercer 1	1,166	38,034	3.1%	Mercer 1	1,252	49,861	2.5%
Mercer 2	2,408	30,125	8.0%	Mercer 2	2,451	27,992	8.8%
Mercer 3	4,632	27,520	16.8%	Mercer 3	2,807	18,238	15.4%
Mercer 4	4,423	13,379	33.1%	Mercer 4	3,618	9,900	36.5%
Mercer 5	506	744	68.0%	Mercer 5	2,419	3,861	62.7%
Total	**13,135**	**109,852**	**12.0%**	**Total**	**12,547**	**109,852**	**11.4%**

Pavement Condition

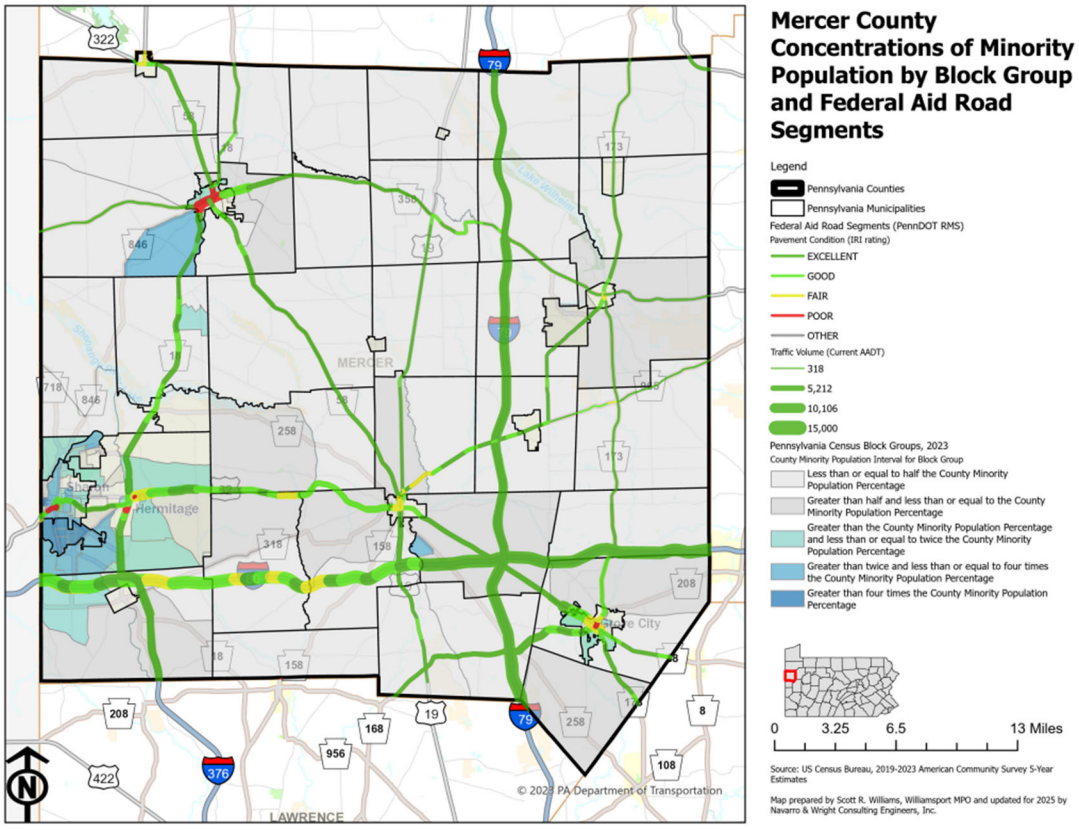
The chart below displays data about Mercer County's pavement condition in regard to minority populations. As can be seen from the first table below, the overall percent of poor International Roughness Index (IRI) increases as the share of minority population increases. Although the highest minority interval (areas with more than four times the county minority percentage) has no Federal Aid Segment Miles, the next two intervals with a minority rate higher than that of the entire county (Intervals 3 and 4) have a higher percentage of poor pavement than the county overall. High minority areas have a significantly less proportion of excellent pavement condition than the Interval 1 (areas with less than or equal to half the county minority rate) and Mercer County's overall portion of excellent pavement.

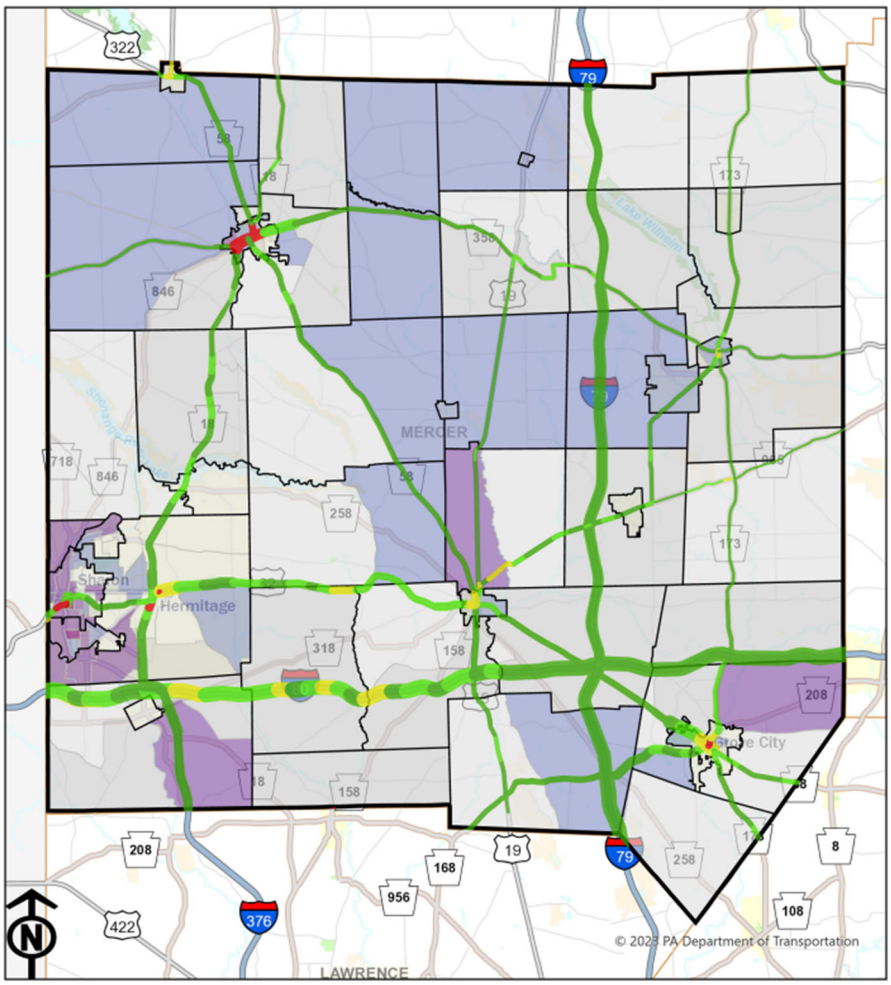
County Minority Interval ID	Total Federal Aid Segment Miles	Excellent IRI	Percent Excellent IRI	Poor IRI	Percent Poor IRI
Mercer 1	247.7	191.4	77.3%	3.3	1.3%
Mercer 2	99.8	72.1	72.2%	0.7	0.7%
Mercer 3	37.9	17.8	46.9%	2.8	7.3%
Mercer 4	8.8	5.0	56.5%	0.8	9.6%
Mercer 5	0.0	0.0	0.0%	0.0	0.00%
Total	**394.3**	**286.2**	**72.6%**	**7.6**	**1.9%**

As can be seen on the next chart, the three highest below poverty level intervals (areas with greater than twice the poverty rate or four times the poverty rate) have significantly higher portion of poor IRI than areas with less poverty and the entire county. Interval 5 also has no pavement with excellent IRI.

County Below Poverty Level Interval ID	Total Federal Aid Segment Miles	Excellent IRI	Percent Excellent IRI	Poor IRI	Percent Poor IRI
Mercer 1	107.4	74	68.9%	1.1	1.0%
Mercer 2	185.7	133.8	72.1%	1.1	0.6%
Mercer 3	92.3	72.3	78.4%	2.0	2.2%
Mercer 4	25.0	16.3	65.3%	1.4	5.8%
Mercer 5	2.5	0	0.0%	0.8	33.6%
Total	**412.9**	**296.5**	**71.8%**	**6.5**	**1.6%**

The areas with the next highest minority and rates and poverty rates (Interval 4) have significantly higher portions of pavement with poor IRI than compared to the other intervals, aside from Interval 5 of the poverty rates table. While it cannot be assumed that these areas exactly overlap, the maps on the following page display high volumes of poor pavement conditions in the areas with the highest concentrations of low-income and minority populations. This correlation is especially true in the most urban areas of Mercer County. The pavement IRI data demonstrates that both areas with high minority rates and areas with high poverty rates require investment and are rightly the target of Demographic analysis.





Mercer County Concentrations of Below Poverty Level Population and Federal Aid Road Segments

Legend

Federal Aid Road Segments (PennDOT RMS)

Pavement Condition (IRI rating)

- EXCELLENT
- GOOD
- FAIR
- POOR
- OTHER

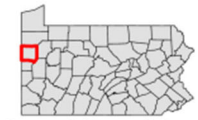
Traffic Volume (Current AADT)

- 318
- 5,212
- 10,106
- 15,000
- Pennsylvania Counties
- Pennsylvania Municipalities

Pennsylvania Census Block Groups, 2023

County Below Poverty Level Population Interval for Block Group

- Less than or equal to half the County Below Poverty Level Population Percentage
- Greater than half and less than or equal to the County Below Poverty Level Population Percentage
- Greater than and less than or equal to twice the County Below Poverty Level Population Percentage
- Greater than twice and less than or equal to four times the County Below Poverty Level Population Percentage
- Greater than four times the County Below Poverty Level Population Percentage



0 3.25 6.5 13 Miles

Source: US Census Bureau, 2019-2023 American Community Survey 5-Year Estimates

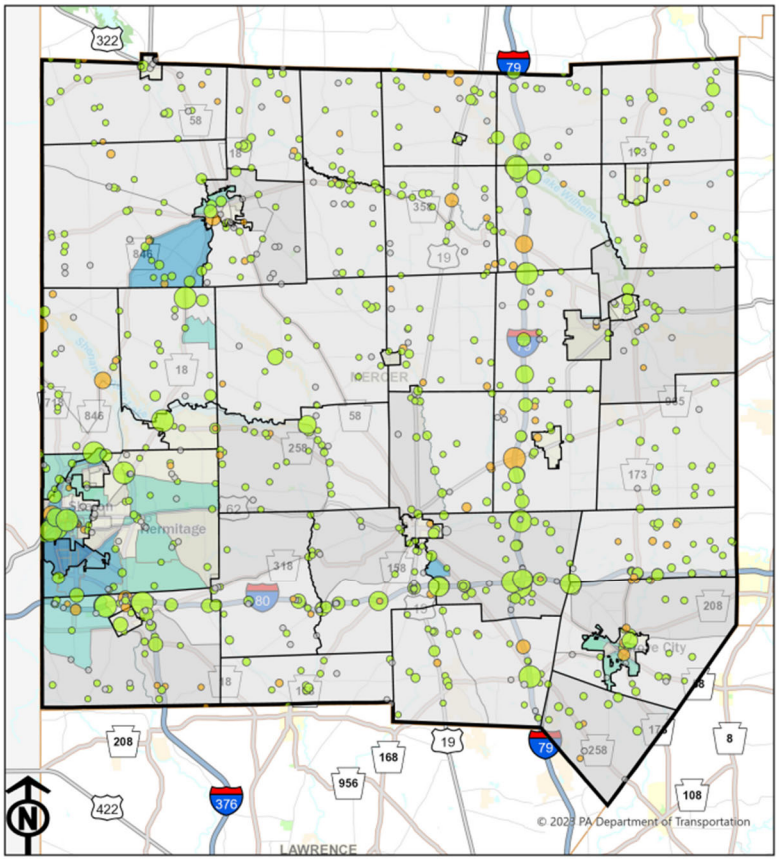
Map prepared by Scott R. Williams, Williamsport MPO and updated for 2025 by Navarro & Wright Consulting Engineers, Inc.

Bridge Condition

County Minority Interval ID	Bridge Count	Bridges in Good Condition	Percent Bridges in Good Condition	Bridges in Fair Condition	Percent Bridges in Fair Condition	Bridges in Poor Condition	Percent Bridges in Poor Condition
Mercer 1	653	220	33.7%	245	37.5%	72	11.0%
Mercer 2	218	73	33.5%	74	33.9%	23	10.6%
Mercer 3	68	18	26.5%	21	30.9%	8	11.8%
Mercer 4	39	12	30.8%	22	56.4%	4	10.3%
Mercer 5	1	0	0.00%	1	100.0%	0	0.00%
Total	**979**	**223**	**33.0%**	**292**	**37.1%**	**75**	**10.9%**

County Poverty Interval ID	Bridge Count	Bridges in Good Condition	Percent Bridges in Good Condition	Bridges in Fair Condition	Percent Bridges in Fair Condition	Bridges in Poor Condition	Percent Bridges in Poor Condition
Mercer 1	297	101	34.0%	112	37.7%	31	10.4%
Mercer 2	388	112	28.9%	144	37.1%	42	10.8%
Mercer 3	231	81	35.1%	82	35.5%	32	13.9%
Mercer 4	69	27	39.1%	26	37.7%	10	14.5%
Mercer 5	4	2	50.0%	2	50.0%	0	0.00%
Total	**989**	**323**	**32.7%**	**366**	**37.0%**	**115**	**11.69%**

The state of the Mercer County's bridges shows a slightly different picture than its pavement condition. Similarly to pavement, the lowest amount bridges (or Federal Aid Road Segments) is located in areas of Interval 5. The first table above shows areas with a minority rate higher than that of the entire county have approximately an equal lower of bridges in poor condition as areas with low minority concentrations, although the overall number of bridges in high minority areas is small. The second table shows that as poverty increases, so does the percent of bridges in poor condition, although this number falls to zero percent in the fifth interval due to low bridge count. Areas with the highest poverty rates have less local funds to address bridge condition. Thus, it is warranted to consider DEMOGRAPHIC ANALYSIS when allocating funding for bridge infrastructure.



Mercer County Concentrations of Minority Population by Block Group and Bridges

Legend

- Pennsylvania Counties
- Pennsylvania Municipalities

State and Local Bridges

ConditionPoorWorse

- Fair Condition or Better
- Poor Condition
- No Data

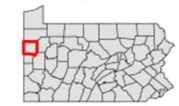
Deck Area (Square Feet)

- 0
- 5,333.33
- 10,666.7
- 16,000

Pennsylvania Census Block Groups, 2023

County Minority Population Interval for Block Group

- Less than or equal to half the County Minority Population Percentage
- Greater than half and less than or equal to the County Minority Population Percentage
- Greater than the County Minority Population Percentage and less than or equal to twice the County Minority Population Percentage
- Greater than twice and less than or equal to four times the County Minority Population Percentage
- Greater than four times the County Minority Population Percentage



0 3.25 6.5 13 Miles

Source: US Census Bureau, 2019-2023 American Community Survey 5-Year Estimates

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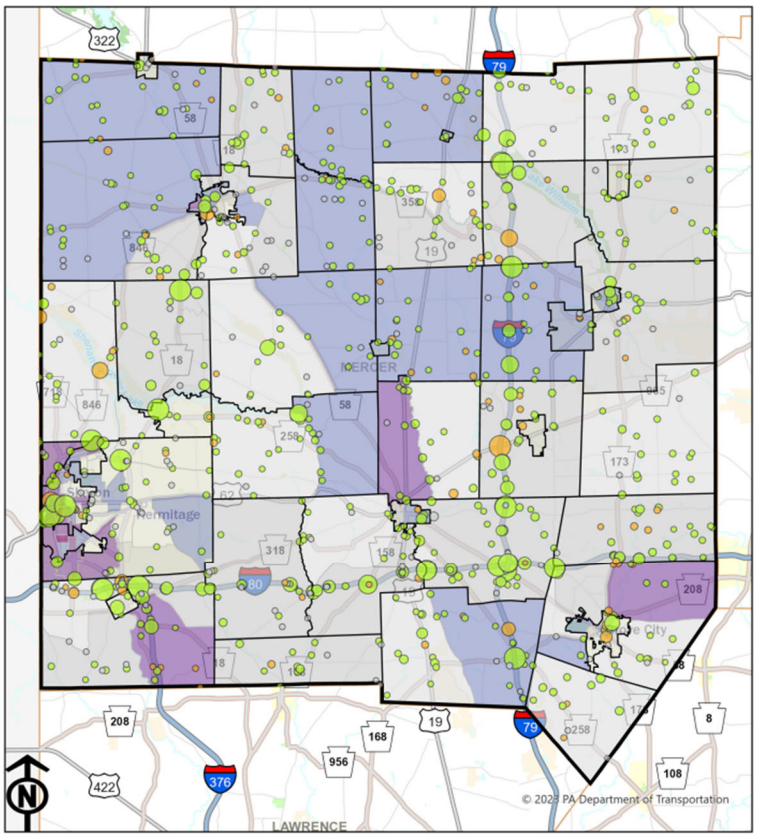


Mercer County Concentrations of Below Poverty Level Population and Bridges

Legend

- Pennsylvania Counties
- Pennsylvania Municipalities

State and Local Bridges

ConditionPoorWorse

- Fair Condition or Better
- Poor Condition
- No Data

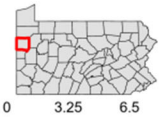
Deck Area (Square Feet)

- 0
- 5,333.33
- 10,666.7
- 16,000

Pennsylvania Census Block Groups, 2023

County Below Poverty Level Population Interval for Block Group

- Less than or equal to half the County Below Poverty Level Population Percentage
- Greater than half and less than or equal to the County Below Poverty Level Population Percentage
- Greater than and less than or equal to twice the County Below Poverty Level Population Percentage
- Greater than twice and less than or equal to four times the County Below Poverty Level Population Percentage
- Greater than four times the County Below Poverty Level Population Percentage



0 3.25 6.5 13 Miles

Source: US Census Bureau, 2019-2023 American Community Survey 5-Year Estimates

Map prepared by Scott R. Williams, Williamsport MPO and updated for 2025 by Navarro & Wright Consulting Engineers, Inc.

Crashes

County Minority Interval ID	Population	Percent of County Population	Total Reportable Crashes	Percent Reportable Crashes	Suspected Serious Injuries Crashes	Percent Suspected Serious Injuries Crashes	Crash Fatalities	Percent Crash Fatalities
Mercer 1	49,861	45.4%	1,937	50.5%	80	58.0%	27	62.8%
Mercer 2	27,992	25.5%	856	22.3%	28	20.3%	10	23.3%
Mercer 3	18,238	16.6%	573	14.9%	12	8.7%	4	9.3%
Mercer 4	9,900	9.0%	342	8.9%	11	8.0%	1	2.3%
Mercer 5	3,861	3.5%	131	3.4%	7	5.1%	1	2.3%
Total	**109,852**	**100.0%**	**3,839**	**100.0%**	**138**	**100.0%**	**43**	**100.0%**

The first table above shows mixed results for Mercer County's transportation system in relation to high minority areas. The areas of the county with an above-average minority rate (Intervals 3,4, and 5 combined) make up over a quarter of the population (29.1%), and they experience just over a quarter of total crashes (27.2%). The same area experiences 21.8% of serious injuries and 13.9% of crash fatalities, both lower than its share of the population. The area with the highest minority concentration (minority Interval 5) has higher injuries (5.1%) but lower crash fatalities (2.3%) as compared to its share of the population (3.5%). Intervals 3 and 4 have lower percentage of crashes, injuries, and fatalities than their share of the population each. Interval 1 experienced the highest portion of the county's crash fatalities 62.8%). Overall, the data shows some positive signs for the Mercer County transportation system's treatment of minority populations but also demonstrates that there is room for improvement.

County Low-Income Interval ID	Population	Percent of County Population	Total Reportable Crashes	Percent Total Reportable Crashes	Suspected Serious Injuries Crashes	Percent Suspected Serious Injuries Crashes	Fatalities Crashes	Percent Fatalities Crashes
Mercer 1	38,084	34.7%	1,169	30.7%	46	31.9%	12	27.9%
Mercer 2	30,125	27.4%	1,211	31.8%	43	29.9%	15	34.9%
Mercer 3	27,520	25.1%	913	24.0%	38	26.4%	12	27.9%
Mercer 4	13,379	12.1%	467	12.3%	17	11.8%	4	9.3%
Mercer 5	744	0.7%	50	1.3%	0	0.0%	0	0.00%
Total	**109,852**	**100.0%**	**3,810**	**100.0%**	**144**	**100.0%**	**58**	**100.0%**

As can be seen on the second table, low-income areas experience just over 37.6% of the county's total share of crash fatalities and serious injuries, also making up 37.9% of the total population; a near-exact match. Low-income Interval 3 (areas with greater than the county poverty rate but less than twice the county poverty rate) has a higher share of serious injuries (26.4%) and fatalities (27.9%) than its share of the population (25.1%). This interval experiences the second-highest portion of the county's total fatalities. When taken all together, areas of Mercer County with an above-average poverty rate (Intervals 3,4, and 5 combined), constitute less of the total population (37.9%) than they experience their share of serious injuries (38.2%) but more of the population than their crash fatalities (37.2%). The data shows a fairly even proportional impact of transportation accidents on poorer areas of the county. However, some action is needed to make improvements to the overall safety of the transportation system, especially in low-income areas in regards to serious injuries.

County Minority Interval ID	Pedestrians Involved in Crashes	Percent Pedestrians Involved in Crashes	Pedestrian Suspected Serious Injuries	Percent Pedestrian Suspected Serious Injuries	Pedestrian Fatalities	Percent Pedestrian Fatalities
Mercer 1	24	45.3%	7	63.6%	2	50.0%
Mercer 2	8	15.1%	1	9.1%	1	25.0%
Mercer 3	15	28.3%	1	9.1%	1	25.0%
Mercer 4	5	9.4%	2	18.2%	0	0.0%
Mercer 5	1	1.9%	0	0.0%	0	0.0%
Total	**53**	**100.0%**	**11**	**100.0%**	**7**	**100.0%**

County Minority Interval ID	Bicycle Involved in Crashes	Percent Bicycle Involved in Crashes	Bicycle Crashes, Suspected Serious Injuries	Percent Bicycle Crashes, Suspected Serious Injuries	Bicycle Crashes, Fatalities	Percent Bicycle Crashes, Fatalities
Mercer 1	7	53.8%	0	0.0%	0	0.0%
Mercer 2	3	23.1%	1	50.0%	0	0.0%
Mercer 3	3	23.1%	1	50.0%	0	0.0%
Mercer 4	0	0.0%	0	0.0%	0	0.0%
Mercer 5	0	0.0%	0	0.0%	0	0.0%
Total	**13**	**100.0%**	**2**	**100.0%**	**0**	**0.0%**

The data in the table above shows that over a third of crashes involving pedestrians (39.6%) occur in areas with an above-average minority rate (Intervals 3, 4, and 5 combined). This is significantly higher than the percentage these areas makeup of the total population (29.1%). Though the overall number of fatalities and serious injuries is small, a higher number of serious injuries and fatalities occurred in areas with lower-than-average minority rates, but approximately equal to the population rates. The data demonstrates that minorities face disproportionate impact regarding pedestrian safety, specifically when referencing pedestrians involved in crashes.

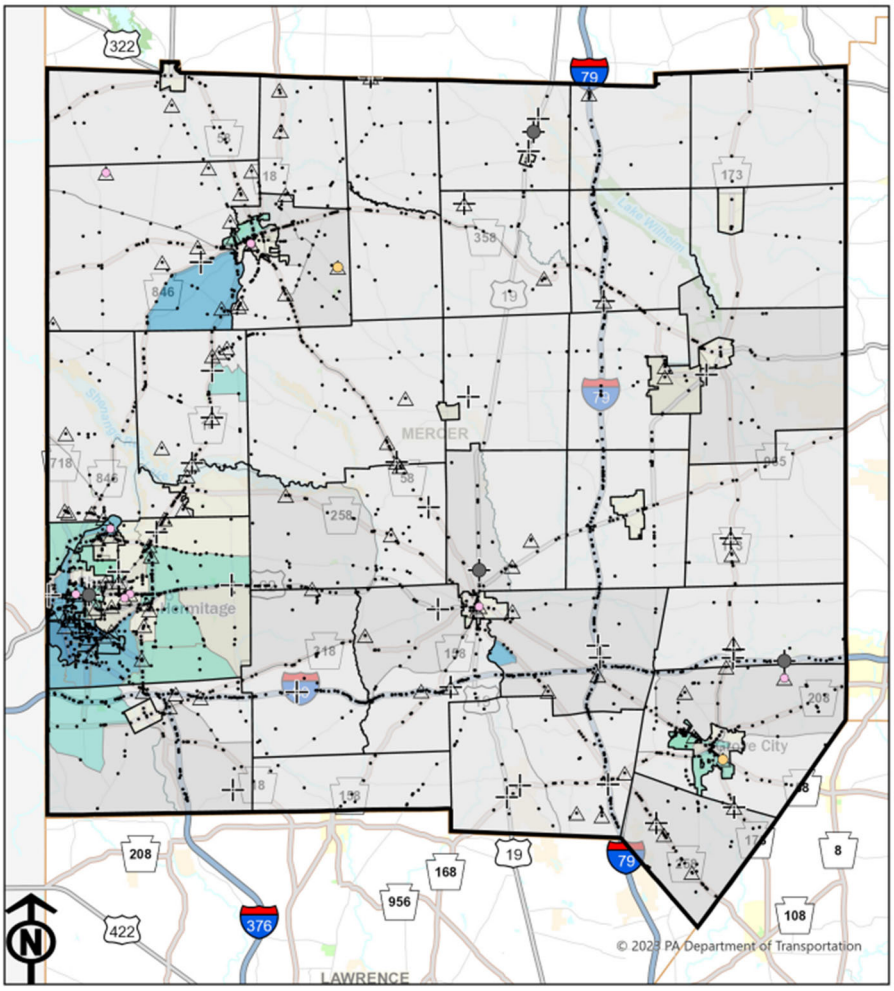
Mercer County was fortunate to have a very small number of crashes involving bicycles and no bicycle-related fatalities. The majority of bicycle-related crashes occur in low minority areas (76.9%), however, one of the two bicycle-involved crashes that resulted in serious injuries occurred in Interval 3. Given this data, it is vital to invest in transportation projects improve safety, enhance recreation, protect the environment, and provide alternate modes of transport.

County Poverty Interval ID	Pedestrians Involved in Crashes	Percent Pedestrians Involved in Crashes	Pedestrian Suspected Serious Injuries	Percent Pedestrian Suspected Serious Injuries	Pedestrian Fatalities	Percent Pedestrian Fatalities
Mercer 1	18	36.7%	3	27.3%	1	20.0%

Mercer 2	2	4.1%	0	0.0%	1	20.0%
Mercer 3	16	32.7%	5	45.5%	1	20.0%
Mercer 4	13	26.5%	3	27.3%	2	40.0%
Mercer 5	0	0.0%	0	0.0%	0	0.0%
Total	**49**	**100.00%**	**11**	**100.00%**	**5**	**100.00%**

County Poverty Interval ID	Bicycle Involved in Crashes	Percent Bicycle Involved in Crashes	Bicycle Crashes, Suspected Serious Injuries	Percent Bicycle Crashes, Suspected Serious Injuries	Bicycle Crashes, Fatalities	Percent Bicycle Crashes, Fatalities
Mercer 1	4	36.4%	1	50.0%	0	0.0%
Mercer 2	3	27.3%	1	50.0%	0	0.0%
Mercer 3	4	36.4%	0	0.0%	0	0.0%
Mercer 4	0	0.0%	0	0.0%	0	0.0%
Mercer 5	0	0.0%	0	0.0%	0	0.0%
Total	**20**	**100.0%**	**3**	**100.0%**	**0**	**0.0%**

As can be seen in the first chart, a majority (59.2%) of pedestrian-related crashes occurred in high low-income areas despite these areas (Intervals 3, 4, and 5) making up just 37.9% of the population. These areas also experienced higher shares of pedestrian serious injuries (72.8%) and pedestrian fatalities (60.0%) despite their lower share of the population, although the overall number of injuries and fatalities was small and none having occurred in Interval 5 (the most impoverished areas of the county). The disproportional number of pedestrian crashes, injuries, and fatalities in impoverished areas emphasizes the importance of investment in these area's pedestrian facilities. Again, the low overall number of bicycle crashes in Mercer County suggests some success. While the majority of bicycle crashes occur in higher-income areas, there are several ways that investing in bicycle infrastructure can serve low-income communities, especially for individuals who may not have access to a vehicle.



Mercer County Concentrations of Minority Population by Block Group and Crashes

Legend

- Pennsylvania Counties
- Pennsylvania Municipalities
- Pedestrian Suspected Serious Injuries, 2019-2023
- Pedestrian Fatalities, 2019-2023
- Bicycle Suspected Serious Injuries, 2019-2023
- Bicycle Fatalities, 2019-2023
- All Suspected Serious Injuries, 2019-2023
- All Fatalities, 2019-2023
- All Reportable Crashes, 2019-2023

Pennsylvania Census Block Groups, 2023

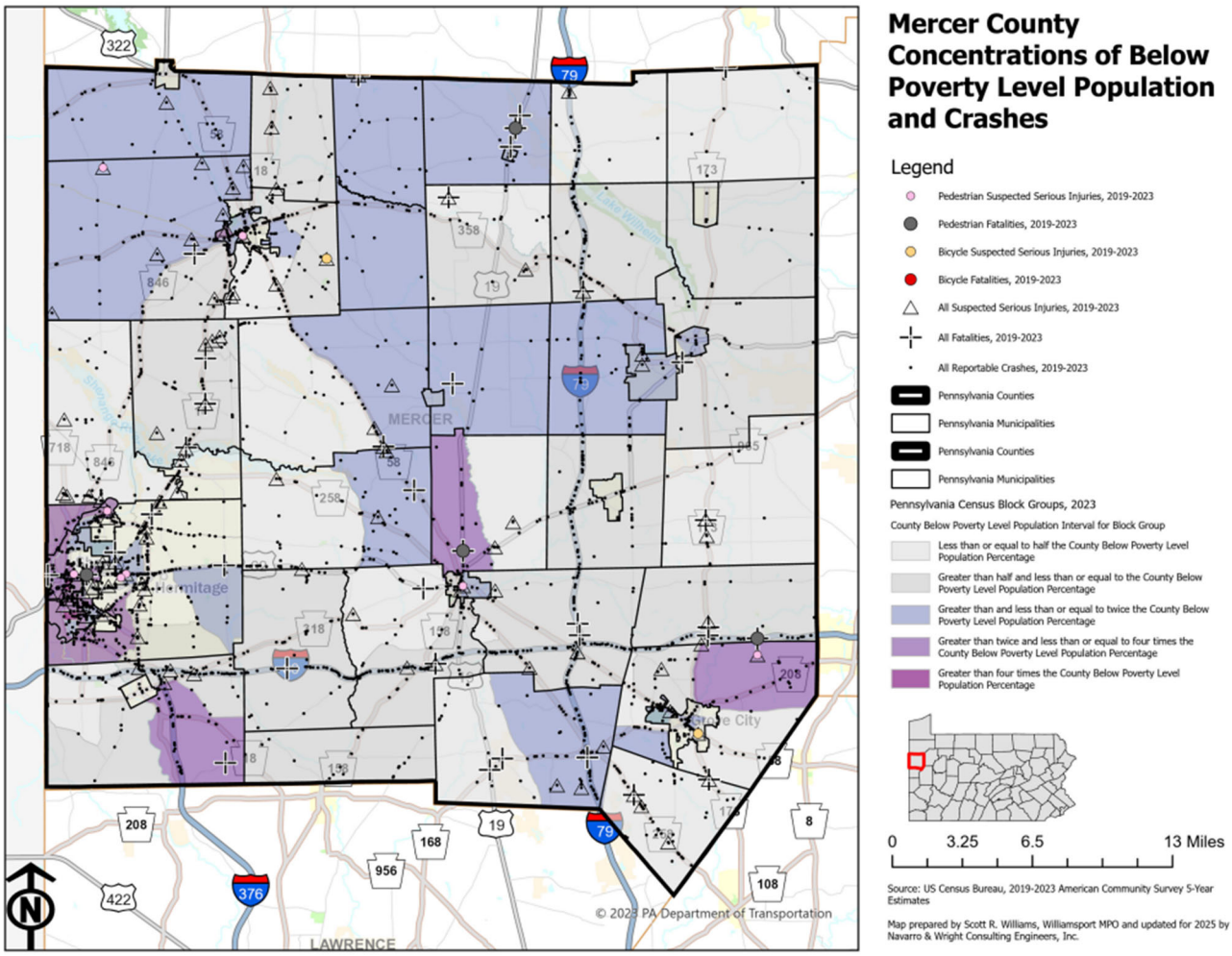
County Minority Population Interval for Block Group

- Less than or equal to half the County Minority Population Percentage
- Greater than half and less than or equal to the County Minority Population Percentage
- Greater than the County Minority Population Percentage and less than or equal to twice the County Minority Population Percentage
- Greater than twice and less than or equal to four times the County Minority Population Percentage
- Greater than four times the County Minority Population Percentage

0 3.25 6.5 13 Miles

Source: US Census Bureau, 2019-2023 American Community Survey 5-Year Estimates

Map prepared by Scott R. Williams, Williamsport MPO and updated for 2025 by Navarro & Wright Consulting Engineers, Inc.



Summary of Core Element # 2

Condition: From this initial analysis, it appears there is some catching up to do in terms of pavement condition. It should also be noted that the total mileage of poor-condition roadways is so low in group five that even one or two segments of roadway can easily skew these metrics from inadequate investment to adequate investment. The initial analysis indicates that some areas of the county include roadway segments with pavement conditions that may benefit from continued maintenance and rehabilitation. The pavement improves

Bridge condition fares better when viewed from a Community Demographic Analysis lens. The number of Poor Condition bridges is lower than what might be expected in areas of high poverty populations, but work needs to be done to address the higher rate of Poor Condition bridges in areas of high minority populations.

Safety: Crash data is also mixed. Pedestrian crashes and severity of pedestrian crashes are significantly higher in areas with higher minority and poverty populations. It is important to consider that many of the highest-minority and lowest-income populations in Mercer County reside in the more urbanized communities, such as Sharon, Farrell, and Greenville. While no data currently exists on the full extent of bicycle and pedestrian activity, it can logically be assumed that the vast majority of activity exists within these denser, more urbanized locations. These communities contain much higher traffic volumes than smaller towns or rural areas as well. The fact that many of these crashes occur in these areas is therefore not at all surprising. On the other hand, this does present an opportunity for further investment in projects that lead to safer walking or bicycling conditions.

The overall rate of injury and fatal crashes is lower in those groups with higher-than-average minority populations, as well as the above poverty level groups. The vast majority of the county's minority population

and much of the lower-income populations live within the Shenango Valley, which itself has most of the county's busiest roads (both in number and traffic volume), contains the majority of the county's traffic signals, and many of the county's highest-crash corridors. But despite this, rates are somewhat lower than might be expected. Reportable crashes (including those without serious injuries and fatalities) are mixed; high minority rate areas are a few percentage points higher than what might be expected.

Core Element #3—Evaluation of Potential Benefits and Burdens

The passage of the federal Infrastructure Investment and Jobs Act (IIJA)/Bipartisan Infrastructure Law (BIL) provided a much-needed infusion to Mercer County's overall funding, which actually had been decreasing over several TIP periods (the impact of which was even higher when accounting for inflation). Our annual program increased from $13m per year to about $18m per year. In reality, however, the copious increase in dollars is being used toward catching up in areas where the transportation network had been falling behind—plugging the gap.

Therefore, it becomes just as important as before to prioritize investments based on where there is the greatest need and level of anticipated impact. This is where performance-based planning comes into play (see separate Transportation Performance Measures Document within the TIP). This could mean prioritizing a more-traveled road, bridge, or sidewalk over a less-traveled one. Or it could mean prioritizing a project that is likely to yield a significant safety benefit or travel time improvement. But, perhaps just as important, the MPO and PennDOT must always consider the impact a given project will have on the population. To this point, this section provides a framework for understanding the likely benefits and burdens of all 2027-2030 TIP projects on identified minority and low-income populations.

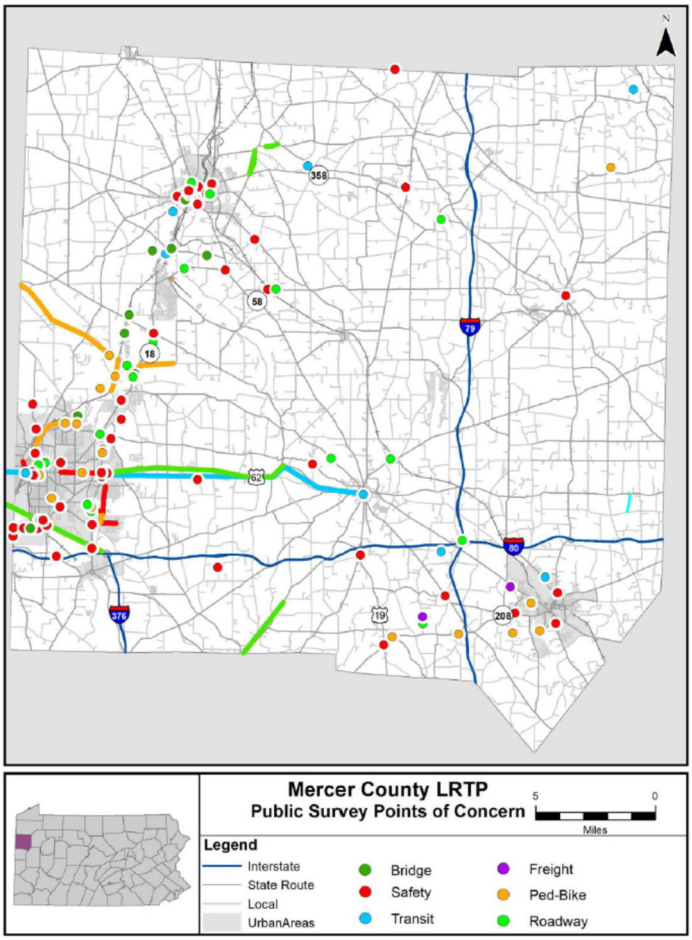
Analysis of the level of benefit or burden that a particular project may have is determined through several methods. First, the scope of the project and what modes it will affect is considered. A simple in-place bridge replacement, for example, won't typically have a major beneficial effect on the lives of surrounding residents (unless it contains sidewalks where they didn't exist before), but perhaps a new bus shelter or new pedestrian amenities will. A new or substantially widened road that would increase traffic significantly (not that we have any such projects on our current TIP) may have detrimental quality-of-life, noise, or pedestrian safety burdens to the public, while a simple road resurfacing usually won't alter the current functionality very much at all.

Just about all of the non-asset management projects on the MPO's TIP (i.e. anything that is altering any asset beyond simple maintenance or preservation) require a planning study. When these studies are undertaken, a concerted effort is made to engage the public during the planning process. This process varies significantly depending on the scope and size of the study, but a typical process looks something like this:

	Public Input	Planning Process
FINISH ← START	Listening tours, surveys, public meetings, etc. used to elicit project ideas	Issue Brought Up During LRTP Development
		Issue or Planning Study Recommendation Identified on LRTP
	Defined public outreach throughout the life of a plan (public meetings, surveys, pop-up events, stakeholder interviews, etc.)	Planning Study Initiated
		Project Alternatives Developed and Refined
		Preferred Alternative Selected, Listed as Recommended Projects
		Recommended Projects Prioritized (based on several factors)
	TIP CDA Analysis Completed, project Initiation forms via PennDOT Connects process	Projects Are Added to TIP through MPO/PennDOT collaboration
	Public comment opportunities (plan displays, meetings, etc.)	Project Progresses through Design
		Project Bid and Constructed

Whether or not it's formally defined as "Environmental Justice," the needs and impacts of/on people—Including those traditionally underserved—are repeatedly considered throughout any planning process. Moreover, technology has allowed for many new and often more effective ways of reaching a larger number of people. In addition to traditional meetings or mailing out letters, various online meetings are held, project webpages are often created, and online surveys become easier to access and understand, particularly when modern marketing techniques are used to advertise a plan or project. At the same time, traditional methods of reaching people are not ignored, as it's important to remember that there are still many people who do not have access to computers or smartphones.

One particularly good example of success in obtaining the public's opinion regarding transportation in Mercer County can be found in our recent Long-Range Transportation Plan. A survey with online and paper components yielded nearly 400 responses. This not only provided us with invaluable input on where there are perceived needs (as shown on the graphic to the right), but also provided great information on travel behaviors, how the pandemic affected transportation, and what types of projects are most important to the public.

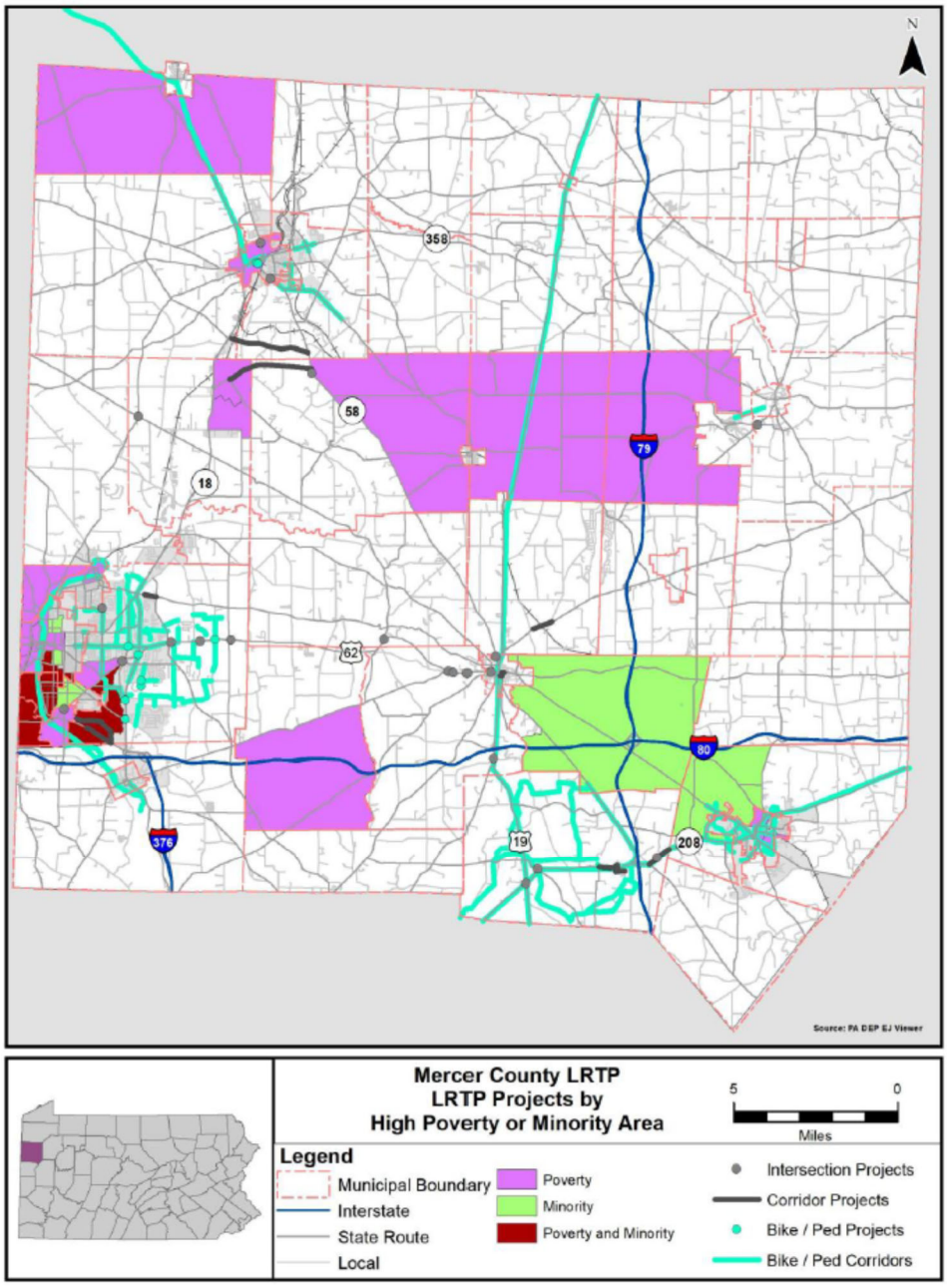


When a project eventually advances to be programmed on the TIP, it is specifically analyzed as part of the EJ Core Elements process. There are a few approaches used to conduct this project-level analysis. One method used to assess such impacts is mapping the location of each TIP project along with the corresponding rates of minority and low-income populations. These maps are shown on the following pages.

Not every TIP project can be mapped, and those that cannot fall into two categories: First, budget line items exist on the TIP in order to create reserves due to project overages, delays, and even the occasional new project. Any new projects that are programmed out of line items subsequent to TIP adoption are collaboratively processed according to the MPO's Memorandum of Understanding for TIP Revision Procedures (see MOU document within this TIP). Examples of line item categories include but are not limited to local bridges, all-weather pavement markings, and (locally-selected) STU projects.

The second category includes most transit projects. The Shenango Valley Shuttle Service (SVSS) provides fixed-route transit services within the Mercer County urbanized area, which includes the Cities of Farrell, Hermitage and Sharon, and the Borough of Sharpsville. Routes are intentionally determined to better connect neighborhoods with high minority and poverty rates to places of business and employment throughout the urbanized area of Mercer County (i.e. the Shenango Valley). In addition to this service, Mercer County Community Transit (MCCT) offers an on-demand, shared ride service as well as an exclusive ride service (operating much like a taxi) to residents living throughout the county. The Mercer County Regional Council of Governments (MCRCOG) manages both of these services. The only Transit TIP projects that could potentially be mapped are geographically-specific capital improvements such as bus shelters. However, no such projects exist on the 2027-2030 TIP.

It should be noted that the County's Long-Range Transportation Plan (LRTP) also took a deep dive into demographic analysis. The update (finalized toward the end of 2021) created several similar maps showing the location of then-current conditions. This plan also followed the Core-Elements four factor analysis in identifying the location of populations (element #1), assessment and identification of the system and needs (element #2) and maps similar to those on the previous pages which show specific projects superimposed over areas of higher disadvantaged populations. An example of the latter can be found in the image to the right.



Core Element #4—Identification and Addressing of Disproportionate and Adverse Impacts, Which Will Inform Future Planning Efforts

The Benefits and Burdens analysis for the 2027–2030 SVATS MPO TIP demonstrates that no projects are likely to result in disproportionate or adverse impacts to minority or low-income populations, with only minor potential impacts identified for the Ohl Street Bridge removal project (as noted on the previous page). Strategies to avoid, mitigate, or minimize these impacts have been incorporated into the project planning process.

Should any unforeseen impacts arise as TIP projects advance through design, construction, or operation, the SVATS MPO will coordinate with PennDOT District 1-0, the CPDM offices, FHWA, and FTA to address and minimize impacts to the maximum extent practicable. Potential strategies include modifying project scope, phasing work to reduce adverse effects, or selecting additional projects for programming through TIP line items. This approach ensures compliance with federal environmental justice guidance and supports equitable distribution of transportation investments.

Looking forward, the SVATS MPO will continue to build upon the process outlined within this analysis as well as the detailed Demographic analysis that was part of the 2021-2045 Long-Range Transportation Plan (LRTP). One benefit of the more robust LRTP process is that it allowed the MPO staff and its planning partners more time to meaningfully consider not only how to mitigate any potential impacts prior to the programming of projects, but also make more strategic decisions about investing in communities with significant levels of traditionally-disadvantaged populations. Through both the LRTP and other planning documents, a more overt consideration of the CDA analysis can be incorporated into project prioritization.

Several other strategies may be utilized to better-consider the analysis within the TIP development process. A menu of potential options is listed in the table on the following page, and these can each be discussed prior to when the next TIP process begins.

Strategy	Opportunities or Advantages	Challenges or Disadvantages
Explicitly consider geography when PennDOT District 1 chooses high-priority betterment projects to advance.	Better-ensures that projects are chosen based on location and the populations served in addition to condition-related data already used.	Major change to the status quo; PennDOT District 1 Maintenance noted that EJ is not a consideration when they recommend projects.
Continue focusing on LRTP project prioritization and the integration of the TIP and LRTP.	Projects selected based on the collaborative LRTP planning process. The current LRTP's project prioritization/ranking considers CDA specifically against various other metrics.	Integrating the two documents has proven challenging, despite a major focus on this. Advancing even the simplest project that goes beyond the maintenance of an existing asset can take a long time.
Have all TIP development partners carefully review this analysis and the LRTP's analysis prior to when TIP project selection occurs.	Easy to do this; already done to some degree.	Informal approach could allow for too much leeway in justifying one opinion vs. another.
Create a formal policy dictating that a certain percentage of dollars or projects are located in high minority or low-income block groups or toward projects that will significantly benefit underserved populations	The most direct way to ensure CDA remains an important part of the project selection process. A few other MPO's across PA have created similar formal policies.	Can be difficult to ensure that the right mix of projects is selected or take away from other aspects of sound project selection. A more proactive and informal process could work just as well.

Please note that TIP project layers are saved on PennDOT's OneMap interactive GIS mapping site and all other data used in this report is on file. If any members of the public or other stakeholders wish to see anything in detail that is difficult to see on smaller-scale county-level maps, or they would like to see more detailed demographic data for a specific block group, they are encouraged to contact the MPO (mail@mcrpc.com); (724-981-2412, x3210).