

## Environmental Justice Analysis

Harrisburg Area Transportation Study  
FFY 2023-2026 Transportation Improvement Program

In 2018, South Central Pennsylvania MPOs, PennDOT District 8-0, PennDOT Central Office, the Federal Highway Administration, and the Federal Transit Administration worked with the Alan M. Voorhees Transportation Center at Rutgers University to develop the Environmental Justice Unified Process and Methodology Guide, which builds on PennDOT's Every Voice Counts guidance and provides specific practices to facilitate a more meaningful environmental justice process. The Guide provided a set of Core Elements that would form the backbone of this process, which this analysis will examine regarding the projects proposed for the 2023-2026 Transportation Improvement Program.

The Core Elements identified in the Guide are illustrated in Figure 1. The first two Core Elements, (1) Identify EJ Populations and (2) Assess Conditions and Identify Needs, are taken from the 2045 HATS Regional Transportation Plan (RTP), which was adopted in September 2021. As the HATS region's long range transportation plan, the 2045 RTP examines the location, distribution, and concentrations of our region's minority and low-income populations and how the existing condition of the transportation system, in terms of assets and performance, intersects with those populations. With one of the key functions and purposes of the RTP being to assess transportation conditions and determine transportation needs, the Environmental Justice analysis of the RTP provides an accurate framework for the existing conditions and transportation needs in relation to the region's environmental justice populations, and will serve as the backdrop against which the FFY 2023-2026 Transportation Improvement Program will be analyzed.

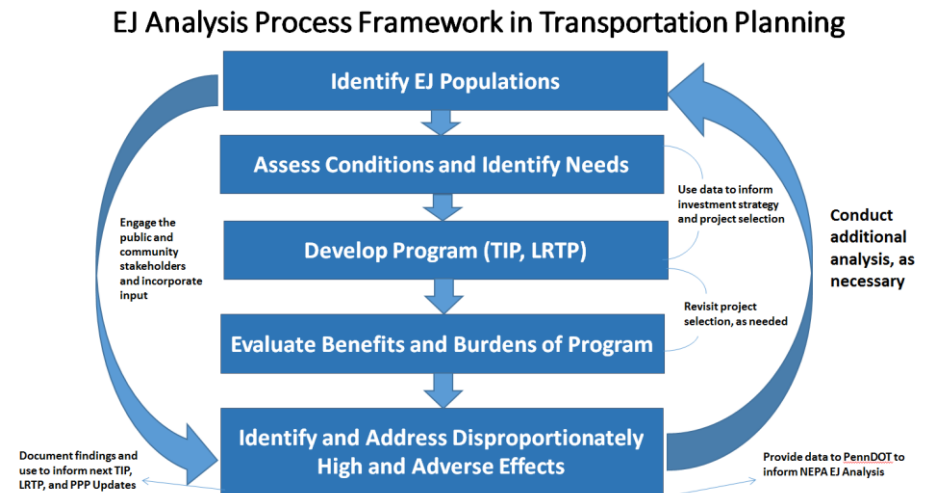


Figure 1. EJ Analysis Process Framework in Transportation Planning

## Identifying Environmental Justice Populations

Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, or national origin. The Office of Management and Budget (OMB) issued Policy Directive 15, Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, in 1997, establishing five minimum categories for data on race. Executive Order 12898 of 1994 and DOT Environmental Justice Order 5610.2(a) of 2012 address persons belonging to any of the following groups:

*Minority, meaning a person is:*

*Black -- a person having origins in any of the black racial groups of Africa.*

*Hispanic or Latino -- a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.*

*Asian -- a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.*

*American Indian and Alaskan Native -- a person having origins in any of the original people of North America, Central America, or South America, and who maintains cultural identification through tribal affiliation or community recognition.*

*Native Hawaiian or Other Pacific Islander -- a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.*

*Low-Income -- a person whose household income (or in the case of a community or group, whose median household income) is at or below the U.S. Department of Health and Human Services poverty guidelines.*

American Community Survey data (2015-2019 5-year estimates) was compiled, analyzed, and mapped to show the concentrations and distribution of environmental justice populations in the HATS Region. In past environmental justice analyses, census block groups with minority or low-income higher than the regional average were identified as “environmental justice communities”. To provide a more nuanced and complete picture of the geographic location and needs of, as well as potential impacts on, the HATS region’s environmental justice populations, this analysis will examine statistically grouped concentrations, rather than solely using a threshold distinction.

Table 1 provides a demographic profile of the HATS region at the county and regional level. The minority population comprises 23.16% of the total regional population, with the vast majority (approximately 70%) located in Dauphin County. The low-income population accounts for 9.77% of the total regional population, a majority (approximately 60%) located in Dauphin County.

Table 2 and Table 3 show the distribution of minority and low-income populations by percentage interval. Approximately 34.06% of the region’s total population and 73.55% of the region’s minority population lives within a block group with higher than average minority population. Approximately 33.08% of the region’s total population and 70.74% of the region’s low-income population lives within a block group with higher than average low-income population. However, the percentages associated with the intervals show the minority population is much more concentrated in the region than the low-income population.

Table 4 shows cross-tabulation of minority and low-income populations by percentage interval. The cross-tabulation data shows minority populations are more likely to be low-income than non-minority populations, indicating a high degree of cross-over between minority and low-income populations in the region.

**Table 1. Profile of Low-Income and Minority Populations**

Demographic Indicator	HATS MPO		Cumberland County		Dauphin County		Perry County	
	Population	Percentage	Population	Percentage	Population	Percentage	Population	Percentage
White, Non-Hispanic	438,775	76.84%	213,638	85.69%	181,239	65.75%	43,898	95.32%
<b>Minority</b>	132,238	23.16%	35,690	14.31%	94,393	34.25%	2,155	4.68%
Black or African American, Non-Hispanic	59,309	10.39%	9,190	3.69%	49,695	18.03%	424	0.92%
American Indian and Alaska Native, Non-Hispanic	649	0.11%	200	0.08%	357	0.13%	92	0.20%
Asian alone, Non-Hispanic	22,806	3.99%	10,602	4.25%	12,042	4.37%	162	0.35%
Native Hawaiian and Other Pacific Islander, Non-Hispanic	29	0.01%	20	0.01%	9	0.00%	0	0.00%
Some other race, Non-Hispanic	730	0.13%	290	0.12%	411	0.15%	29	0.06%
Two or more races, Non-Hispanic	12,504	2.19%	5,573	2.24%	6,422	2.33%	509	1.11%
Hispanic	36,211	6.34%	9,815	3.94%	25,457	9.24%	939	2.04%
<b>Low-Income Households</b>	20,933	9.09%	6,675	6.69%	12,540	11.18%	1,718	9.42%
<b>Low-Income Population</b>	53,947	9.77%	16,370	6.95%	33,354	12.31%	4,223	9.29%

Source: 2015-2019 American Community Survey 5-Year Estimates

**Table 2. Distribution of Population by Minority Population Intervals**

Population/Asset	Percent Minority Population Intervals					Total
	0% -9.49%	9.50% -23.16%	23.17% -44.58%	44.59% -70.93%	70.94% -97.60%	
<b>Total Population</b>	199,795	176,735	107,702	50,785	35,996	<b>571,013</b>
<b>Total Population (in %)</b>	34.99%	30.95%	18.86%	8.89%	6.30%	<b>100%</b>
<b>Minority Population</b>	8,268	26,705	36,465	29,530	31,270	<b>132,238</b>
<b>Minority Population (in %)</b>	6.25%	20.19%	27.58%	22.33%	23.65%	<b>23.16%</b>

Source: 2015-2019 American Community Survey 5-Year Estimates

**Table 3. Distribution of Population by Poverty Population Intervals**

Population/Asset	Percent Below Poverty Population Intervals					Total
	0% -4.88%	4.89% -9.77%	9.78% -21.60%	21.61% -37.46%	37.47% -80.41%	
<b>Total Population</b>	221,827	147,694	128,761	31,783	22,081	<b>552,146</b>
<b>Total Population (in %)</b>	40.18%	26.75%	23.32%	5.76%	4.00%	<b>100%</b>
<b>Below Poverty Population</b>	5,151	10,634	18,695	8,804	10,663	<b>53,947</b>
<b>Below Poverty Population (in %)</b>	9.55%	19.71%	34.65%	16.32%	19.77%	<b>9.77%</b>

Source: 2015-2019 American Community Survey 5-Year Estimates

**Table 4. Poverty Rate among Racial/Ethnic Groups**

		HATS MPO	Cumberland County	Dauphin County	Perry County
<b>White, Non-Hispanic</b>	Total	426,253	204,106	178,680	43,467
	Low-Income	28,872	11,811	13,145	3,916
	Percentage	6.77%	5.79%	7.36%	9.01%
<b>Black, Non-Hispanic</b>	Total	60,525	7,722	52,474	329
	Low-Income	14,660	2,003	12,644	13
	Percentage	24.22%	25.94%	24.10%	3.95%
<b>American Indian, Non-Hispanic</b>	Total	1,148	322	719	107
	Low-Income	246	60	155	31
	Percentage	21.43%	18.63%	21.56%	28.97%
<b>Asian, Non-Hispanic</b>	Total	22,350	10,207	11,981	162
	Low-Income	1,698	542	1,151	5
	Percentage	7.60%	5.31%	9.61%	3.09%
<b>Native Hawaiian, Non-Hispanic</b>	Total	114	52	51	11
	Low-Income	0	0	0	0
	Percentage	0.00%	0.00%	0.00%	0.00%
<b>Some Other Race, Non-Hispanic</b>	Total	9,356	2,420	6,758	178
	Low-Income	2,698	614	2,049	35
	Percentage	28.84%	25.37%	30.32%	19.66%
<b>Two or More, Non-Hispanic</b>	Total	15,065	6,085	8,470	510
	Low-Income	2,062	614	1,405	43
	Percentage	13.69%	10.09%	16.59%	8.43%
<b>Hispanic</b>	Total	34,374	8,619	24,872	883
	Low-Income	8,505	1,909	6,407	189
	Percentage	24.74%	22.15%	25.76%	21.40%

Source: 2015-2019 American Community Survey 5-Year Estimates

Map 1 and Map 3 also illustrate this data, by displaying percentage minority and low-income populations by census block groups. These maps illustrate significant concentrations of both low-income and minority populations in and around our urban centers of Harrisburg, Carlisle, and Shippensburg. Map 2 and Map 4 add dot densities for the demographic data, which depicts minority and low-income populations within census block groups that have

relatively low concentrations. It is important to note that these dot densities are a graphic devise used to illustrate a population within the entire census block group and should not be interpreted to be portraying an exact location.

### Assess Conditions

To provide an accurate picture of the impacts of transportation planning on our region’s environmental justice populations, the current conditions of the transportation system must be evaluated in the context of environmental justice. This will allow us to not just evaluate the impact of any one plan or program, but to examine the impacts of the decades of decisions made that comprise our comprehensive transportation planning process while identifying additional areas of need and gaps in our system. Working cooperatively with PennDOT, a variety of indicators were compared to the distribution and concentration of environmental justice populations and are presented below.

As previously mentioned, the regional threshold will not be solely used to identify specific communities as “environmental justice communities”. However, the regional average will still be referenced in some of the following analyses.

#### Bridge Condition

Table 5 and Table 6 show the distribution of poor condition bridges and all bridges, respectively, by minority population interval. There are a total of 138 poor condition bridges in the HATS region, of which 17 (12.3%) are located within census block groups whose concentration of minority population exceeds the regional average. Conversely, there are a total of 1,328 bridges in the HATS region, of which 237 (17.8%) are located within census block groups whose concentration of minority population exceeds the regional average.

**Table 5. Distribution of Poor Condition Bridges by Minority Population Intervals**

Population/Asset	Percent Minority Population Intervals					Total
	0% -9.49%	9.50% -23.16%	23.17% -44.58%	44.59% -70.93%	70.94% -97.60%	
<b>Poor Condition Bridge Count</b>	91	30	10	2	5	<b>138</b>
<b>Percentage</b>	65.9%	21.7%	7.2%	1.4%	3.6%	<b>100%</b>
<b>Total Population</b>	199,795	176,735	107,702	50,785	35,996	<b>571,013</b>
<b>Total Population (in %)</b>	35.0%	31.0%	18.9%	8.9%	6.3%	<b>100%</b>
<b>Minority Population</b>	8,268	26,705	36,465	29,530	31,270	<b>132,238</b>
<b>Minority Population (in %)</b>	6.3%	20.2%	27.6%	22.3%	23.6%	<b>23%</b>
<b>Poor Condition Bridges Per 1000 Pop.</b>	0.46	0.17	0.09	0.04	0.14	<b>0.24</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

**Table 6. Distribution of All Bridges by Minority Population Intervals**

Population/Asset	Percent Minority Population Intervals					Total
	0% -9.49%	9.50% -23.16%	23.17% -44.58%	44.59% -70.93%	70.94% -97.60%	
<b>Total Bridge Count</b>	810	281	145	47	45	<b>1,328</b>
<b>Percentage</b>	61.0%	21.2%	10.9%	3.5%	3.4%	<b>100%</b>
<b>Total Population</b>	199,795	176,735	107,702	50,785	35,996	<b>571,013</b>
<b>Total Population (in %)</b>	35.0%	31.0%	18.9%	8.9%	6.3%	<b>100%</b>
<b>Minority Population</b>	8,268	26,705	36,465	29,530	31,270	<b>132,238</b>
<b>Minority Population (in %)</b>	6.3%	20.2%	27.6%	22.3%	23.6%	<b>23%</b>
<b>Total Bridges Per 1000 Pop.</b>	4.05	1.59	1.35	0.93	1.25	<b>2.33</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

**Table 7. Distribution of Poor Condition Bridges by Poverty Population Intervals**

Population/Asset	Percent Below Poverty Population Intervals					Total
	0% -4.88%	4.89% -9.77%	9.78% -21.60%	21.61% -37.46%	37.47% -80.41%	
<b>Poor Condition Bridge Count</b>	20	57	54	3	4	<b>138</b>
<b>Percentage</b>	14.5%	41.3%	39.1%	2.2%	2.9%	<b>100%</b>
<b>Total Population</b>	221,827	147,694	128,761	31,783	22,081	<b>552,146</b>
<b>Total Population (in %)</b>	40.2%	26.7%	23.3%	5.8%	4.0%	<b>100%</b>
<b>Below Poverty Population</b>	5,151	10,634	18,695	8,804	10,663	<b>53,947</b>
<b>Below Poverty Population (in %)</b>	9.5%	19.7%	34.7%	16.3%	19.8%	<b>10%</b>
<b>Poor Condition Bridges Per 1000 Pop.</b>	0.09	0.39	0.42	0.09	0.18	<b>0.25</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

**Table 8. Distribution of All Bridges by Poverty Population Intervals**

Population/Asset	Percent Below Poverty Population Intervals					Total
	0% -4.88%	4.89% -9.77%	9.78% -21.60%	21.61% -37.46%	37.47% -80.41%	
<b>Total Bridge Count</b>	420	485	348	36	39	<b>1,328</b>
<b>Percentage</b>	31.6%	36.5%	26.2%	2.7%	2.9%	<b>100%</b>
<b>Total Population</b>	221,827	147,694	128,761	31,783	22,081	<b>552,146</b>
<b>Total Population (in %)</b>	40.2%	26.7%	23.3%	5.8%	4.0%	<b>100%</b>
<b>Below Poverty Population</b>	5,151	10,634	18,695	8,804	10,663	<b>53,947</b>
<b>Below Poverty Population (in %)</b>	9.5%	19.7%	34.7%	16.3%	19.8%	<b>10%</b>
<b>Total Bridges Per 1000 Pop.</b>	1.89	3.28	2.70	1.13	1.77	<b>2.41</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

Table 7 and Table 8 show the distribution of poor condition bridges and all bridges, respectively, by low-income population interval. Of the 138 poor condition bridges in the HATS region, 61 (44.2%) are located within census block groups whose concentration of low-income population exceeds the regional average. Of the 1,328 total bridges in the HATS region, 423 (31.9%) are located within census block groups whose exceed the regional average. Map 5 and Map 6 display the distribution of poor condition bridges by minority population and low-income population, respectively.

*Pavement Condition*

Table 9 and Table 10 show the distribution of poor condition pavement and excellent condition pavement, respectively, by minority population interval. There are a total of 215.59 miles of poor condition pavement in the HATS region, of which 45.58 (21.1%) are located within census block groups whose concentration of minority population exceeds the regional average. Conversely, there are a total of 550.49 miles of excellent condition pavement in the HATS region, of which 56.18 (17.8%) are located within census block groups whose concentration of minority population exceeds the regional average.

**Table 9. Distribution of Poor Pavement by Minority Population Intervals**

Population/Asset	Percent Minority Population Intervals					Total
	0% -9.49%	9.50% -23.16%	23.17% -44.58%	44.59% -70.93%	70.94% -97.60%	
<b>Poor Pavement Mileage</b>	142.31	27.81	22.74	12.56	10.27	<b>215.69</b>
<b>Percentage</b>	66.0%	12.9%	10.5%	5.8%	4.8%	<b>100%</b>
<b>Total Population</b>	199,795	176,735	107,702	50,785	35,996	<b>571,013</b>
<b>Total Population (in %)</b>	35.0%	31.0%	18.9%	8.9%	6.3%	<b>100%</b>
<b>Minority Population</b>	8,268	26,705	36,465	29,530	31,270	<b>132,238</b>
<b>Minority Population (in %)</b>	6.3%	20.2%	27.6%	22.3%	23.6%	<b>23%</b>
<b>Poor Pavement Per 1000 Pop.</b>	0.71	0.16	0.21	0.25	0.29	<b>0.38</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

**Table 10. Distribution of Excellent Pavement by Minority Population Intervals**

Population/Asset	Percent Minority Population Intervals					Total
	0% -9.49%	9.50% -23.16%	23.17% -44.58%	44.59% -70.93%	70.94% -97.60%	
<b>Excellent Pavement Mileage</b>	373.08	121.24	43.03	7.32	5.83	<b>550.49</b>
<b>Percentage</b>	67.8%	22.0%	7.8%	1.3%	1.1%	<b>100%</b>
<b>Total Population</b>	199,795	176,735	107,702	50,785	35,996	<b>571,013</b>
<b>Total Population (in %)</b>	35.0%	31.0%	18.9%	8.9%	6.3%	<b>100%</b>
<b>Minority Population</b>	8,268	26,705	36,465	29,530	31,270	<b>132,238</b>
<b>Minority Population (in %)</b>	6.3%	20.2%	27.6%	22.3%	23.6%	<b>23%</b>
<b>Excellent Pavement Per 1000 Pop.</b>	1.87	0.69	0.40	0.14	0.16	<b>0.96</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

**Table 11. Distribution of Poor Pavement by Poverty Population Intervals**

Population/Asset	Percent Below Poverty Population Intervals					Total
	0% -4.88%	4.89% -9.77%	9.78% -21.60%	21.61% -37.46%	37.47% -80.41%	
<b>Poor Pavement Mileage</b>	24.80	86.51	83.88	10.37	10.12	<b>215.69</b>
<b>Percentage</b>	11.5%	40.1%	38.9%	4.8%	4.7%	<b>100%</b>
<b>Total Population</b>	221,827	147,694	128,761	31,783	22,081	<b>552,146</b>
<b>Total Population (in %)</b>	40.2%	26.7%	23.3%	5.8%	4.0%	<b>100%</b>
<b>Below Poverty Population</b>	5,151	10,634	18,695	8,804	10,663	<b>53,947</b>
<b>Below Poverty Population (in %)</b>	9.5%	19.7%	34.7%	16.3%	19.8%	<b>10%</b>
<b>Poor Pavement Per 1000 Pop.</b>	0.11	0.59	0.65	0.33	0.46	<b>0.39</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

**Table 12. Distribution of Excellent Pavement by Poverty Population Intervals**

Population/Asset	Percent Below Poverty Population Intervals					Total
	0% -6.67%	6.68% -10.51%	10.52% -30.33%	30.34% -52.55%	52.56% -85.92%	
<b>Excellent Pavement Mileage</b>	155.48	231.05	148.84	8.34	6.78	<b>550.49</b>
<b>Percentage</b>	28.2%	42.0%	27.0%	1.5%	1.2%	<b>100%</b>
<b>Total Population</b>	221,827	147,694	128,761	31,783	22,081	<b>552,146</b>
<b>Total Population (in %)</b>	40.2%	26.7%	23.3%	5.8%	4.0%	<b>100%</b>
<b>Below Poverty Population</b>	5,151	10,634	18,695	8,804	10,663	<b>53,947</b>
<b>Below Poverty Population (in %)</b>	9.5%	19.7%	34.7%	16.3%	19.8%	<b>10%</b>
<b>Excellent Pavement Per 1000 Pop.</b>	0.70	1.56	1.16	0.26	0.31	<b>1.00</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

Table 11 and Table 12 show the distribution of poor condition pavement and excellent condition pavement, respectively, by low-income population interval. Of the 215.59 miles of poor condition pavement in the HATS region, 104.38 (48.4%) are located within census block groups whose concentration of low-income population exceeds the regional average. Of the 550.49 miles of excellent condition pavement in the HATS region, 163.96 (29.8%) are located within census block groups whose exceed the regional average.

Map 7 and Map 8 display the distribution of poor and excellent condition pavement by minority population and low-income population, respectively.

*Bicycle/Pedestrian Crashes*

Table 13 shows the distribution of bicycle and pedestrian related crashes (2013-2017) by minority population interval. Of the total 877 bicycle and pedestrian related crashes in the HATS region, 554 (63.2%) occurred within census block groups whose concentration of minority population exceeds the regional average. Additionally, the number of bicycle and pedestrian crashes per 1000 population is approximately 400% higher in census block



groups whose concentration of minority population exceeds the regional average (3.86 average) than in census block groups whose concentrations of minority population does not (0.86 average). The census block groups in the lowest minority population interval have the lowest number of crashes per 1000 population and the census block groups in the highest minority population interval have the highest number of crashes per 1000 population. This shows a strong connection between concentration of minority population and incidence of bicycle and pedestrian crashes.

**Table 13. Distribution of Bicycle & Pedestrian related crashes by Minority Population Intervals**

Population/Asset	Percent Minority Population Intervals					Total
	0% -9.49%	9.50% -23.16%	23.17% -44.58%	44.59% -70.93%	70.94% -97.60%	
<b>Bike-Pedestrian Crash Count</b>	152	171	210	141	203	<b>877</b>
<b>Percentage</b>	17.3%	19.5%	23.9%	16.1%	23.1%	<b>100%</b>
<b>Total Population</b>	199,795	176,735	107,702	50,785	35,996	<b>571,013</b>
<b>Total Population (in %)</b>	35.0%	31.0%	18.9%	8.9%	6.3%	<b>100%</b>
<b>Minority Population</b>	8,268	26,705	36,465	29,530	31,270	<b>132,238</b>
<b>Minority Population (in %)</b>	6.3%	20.2%	27.6%	22.3%	23.6%	<b>23%</b>
<b>Crashes Per 1000 Pop.</b>	0.76	0.97	1.95	2.78	5.64	<b>1.54</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

**Table 14. Distribution of Bicycle & Pedestrian related crashes by Poverty Population Intervals**

Population/Asset	Percent Below Poverty Population Intervals					Total
	0% -9.49%	9.50% -23.16%	23.17% -44.58%	44.59% -70.93%	70.94% -97.60%	
<b>Bike-Pedestrian Crash Count</b>	186	149	261	151	130	<b>877</b>
<b>Percentage</b>	21.2%	17.0%	29.8%	17.2%	14.8%	<b>100%</b>
<b>Total Population</b>	221,827	147,694	128,761	31,783	22,081	<b>552,146</b>
<b>Total Population (in %)</b>	40.2%	26.7%	23.3%	5.8%	4.0%	<b>100%</b>
<b>Below Poverty Population</b>	5,151	10,634	18,695	8,804	10,663	<b>53,947</b>
<b>Below Poverty Population (in %)</b>	9.5%	19.7%	34.7%	16.3%	19.8%	<b>10%</b>
<b>Crashes Per 1000 Pop.</b>	0.84	1.01	2.03	4.75	5.89	<b>1.59</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

Table 14 shows the distribution of bicycle and pedestrian related crashes (2013-2017) by low-income population interval. Of the 877 bicycle and pedestrian related crashes in the HATS region, 542 (61.8%) occurred within census block groups whose concentration of low-income population exceeds the regional average. The number of bicycle and pedestrian crashes per 1000 population is approximately 450% higher in census block groups whose concentrations of low-income population exceeds the regional average (4.22 average) than census block groups whose concentrations of low-income population does not (0.92 average). Similar to the trend discussed in the minority population data, census block groups in the lowest low-income population interval have the lowest number of crashes per 1000 population and the census block groups in the highest low-income population interval

have the highest number of crashes per 1000 population. This shows a strong connection between concentration of low-income population and incidence of bicycle and pedestrian crashes.

Map 9 and Map 10 display the distribution of bicycle & pedestrian crashes by minority population and low-income population, respectively.

*Fatal/Serious-Injury Crashes*

Table 15 shows the distribution of fatal and serious-injury related crashes (2013-2017) by minority population interval. Of the 1,044 fatal and serious-injury related crashes in the HATS region, 340 (32.6%) occurred within census block groups whose concentration of minority population exceeds the regional average. While the average crashes per 1000 population was slightly higher in census blocks whose concentration of minority population exceeds the regional average than those that do not (1.95 average vs 1.84 average), the difference does not appear to be significant.

**Table 15. Distribution of Injury & Fatal related crashes by Minority Population Intervals**

Population/Asset	Percent Minority Population Intervals					Total
	0% -9.49%	9.50% -23.16%	23.17% -44.58%	44.59% -70.93%	70.94% -97.60%	
<b>Injury-Fatal Crash Count</b>	453	251	156	87	97	<b>1,044</b>
<b>Percentage</b>	43.4%	24.0%	14.9%	8.3%	9.3%	<b>100%</b>
<b>Total Population</b>	199,795	176,735	107,702	50,785	35,996	<b>571,013</b>
<b>Total Population (in %)</b>	35.0%	31.0%	18.9%	8.9%	6.3%	<b>100%</b>
<b>Minority Population</b>	8,268	26,705	36,465	29,530	31,270	<b>132,238</b>
<b>Minority Population (in %)</b>	6.3%	20.2%	27.6%	22.3%	23.6%	<b>23%</b>
<b>Crashes Per 1000 Pop.</b>	2.27	1.42	1.45	1.71	2.69	<b>1.83</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

**Table 16. Distribution of Injury & Fatal related crashes by Poverty Population Intervals**

Population/Asset	Percent Below Poverty Population Intervals					Total
	0% -9.49%	9.50% -23.16%	23.17% -44.58%	44.59% -70.93%	70.94% -97.60%	
<b>Injury-Fatal Crash Count</b>	366	313	247	58	60	<b>1,044</b>
<b>Percentage</b>	35.1%	30.0%	23.7%	5.6%	5.7%	<b>100%</b>
<b>Total Population</b>	221,827	147,694	128,761	31,783	22,081	<b>552,146</b>
<b>Total Population (in %)</b>	40.2%	26.7%	23.3%	5.8%	4.0%	<b>100%</b>
<b>Below Poverty Population</b>	5,151	10,634	18,695	8,804	10,663	<b>53,947</b>
<b>Below Poverty Population (in %)</b>	9.5%	19.7%	34.7%	16.3%	19.8%	<b>10%</b>
<b>Crashes Per 1000 Pop.</b>	1.65	2.12	1.92	1.82	2.72	<b>1.89</b>

Source: 2015-2019 American Community Survey 5-Year Estimates, PennDOT

Table 16 shows the distribution of fatal and serious-injury related crashes (2013-2017) by low-income population interval. Of the 1,044 fatal and serious-injury related crashes in the HATS region, 122 (32.6%) occurred within census block groups whose concentration of low-income population exceeds the regional average. The average crashes per 1000 population was slightly higher in census blocks whose concentration of low-income population exceeds the regional average than those that do not (2.15 average vs 1.88 average), indicating a possible connection between concentration of low-income population and fatal and serious-injury related crashes.

Map 11 and Map 12 display the distribution of fatal and serious-injury related crashes by minority population and low-income population, respectively.

#### Transit Access

Figure 2 shows approximately 28% of the minority population and 60% of the non-minority population lives within a census block group with no designated CAT bus stops, while approximately 46% of the minority population and 17% of the non-minority population lives within a block group with more than 5 designated CAT bus stops. Figure 3 shows approximately 54% of the non-low-income population and 38% of the low-income population lives within a block group with no designated CAT bus stops, while approximately 35% of the low-income population and 27% of the non-low-income population lives within a block group with more than 5 designated CAT bus stops.

Map 13 and Map 14 display the distribution of transit service by minority population and low-income population, respectively.

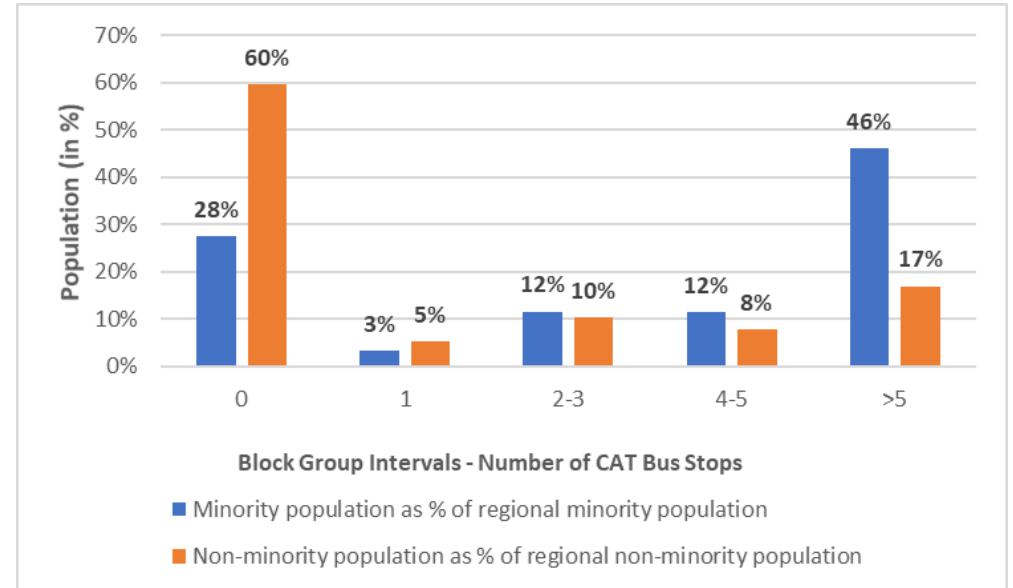


Figure 2. CAT Stops by Minority Status

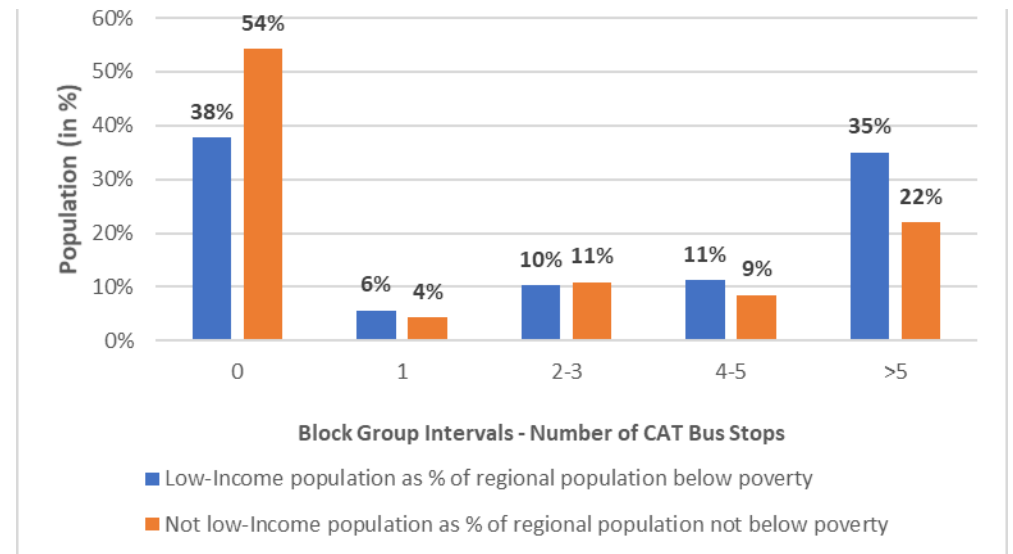


Figure 3. CAT Stops by Poverty Status

## *Conclusions*

Based on the above analyses, performed for and included in the HATS 2045 Regional Transportation Plan, poor pavement condition and bicycle/pedestrian-related crashes are more prevalent in areas with higher than average concentrations of minority and/or low-income populations.

To mitigate or begin to address these discrepancies, and move toward a transportation system that improves the quality of life, promotes human health and provides a safe experience for all users, the 2045 RTP identified a few steps and strategies for implementation. The 2045 RTP Project Pipeline evaluation criteria included environmental justice populations, applying points along the population intervals discussed above. This evaluation criteria results in Transportation Needs being assigned a regional priority (High, Medium, or Low), with those identified as High Priorities being targeted for inclusion in the newly programmed projects for each round of TIP development.

In addition, HATS is pursuing other efforts that will help improve the equity within our region's transportation system by addressing some of the issues identified above as more prevalent in areas with higher than average concentrations of minority and/or low-income populations. These include the efforts being made to expand the capacity to collect and analyze data on locally-owned, federal-aid eligible assets, safety planning efforts focusing on non-motorized users, and the RTP Implementation Grant Program, which funds transportation studies and improvements that meet HATS Regional Transportation Plan and TCRPC Regional Growth Management Plan goals while "providing for safer, more walkable, bikeable and transit-friendly transportation systems."

## **Benefits and burdens**

The benefits that the transportation improvement program can provide include improved access, mobility, safety and environmental quality. The burdens of the program can be a reduction in any of those areas to a community. Many transportation projects require a trade-off between those aspects of the transportation system and the distribution of the benefits and burdens. For example, a project that decreases congestion along one corridor can improve access, mobility, and safety for those who use that corridor, while decreasing the environmental quality for those that live or work along that corridor. Increased safety may require a trade off in access or mobility, and increased access may bring mobility concerns. These impacts can vary both community to community, and among populations or individuals within a single community. Benefits and burdens analysis in respect to environmental justice is done to ensure that the benefits of transportation investment are being shared equally and that the burdens created by new projects are not being borne disproportionately by one part of the public over another.

## *Types of projects and distribution*

While there is no singular, all-encompassing analysis that shows the environmental justice impacts a transportation improvement program will have, one method is to examine how the distribution of projects and allocation of funding compares to the location of our region's environmental justice populations. Maps 15 and 16 show this distribution, while the analysis that follows discusses how funding was allocated among project categories in census block groups below and above the regional average for minority and low-income population.

While this analysis examined the projects included on the draft FFY 2023-2026 Highway & Bridge and Interstate TIPs, project costs and totals includes all project phases and costs programmed on the full FFY 2023-2034 Twelve Year Plan (TYP). This provides a fuller picture of the complete project and its expected expenditures, beyond just the next four fiscal years. The projects included in the draft FFY TIPs total approximately \$2.2 billion (excluding line items) and include identified roadway and bridge projects, Bike/Ped projects, intermodal projects, and interstate projects.

The quantitative analysis used GIS software to compare projected investment to the location of EJ populations (low-income and minority) in the HATS region. The analysis was heavily impacted by the programmed Interstate projects, which represents approximately 73% of the total estimated spending in the HATS region over the next 12 years.

**Table 17. Project Distribution by Minority Populations**

Percent Population Minority - Block Group Intervals		0% -9.49%	9.50% -23.16%	23.17% - 44.58%	44.59% - 70.93%	70.94% - 97.60%	TOTAL
<b>Population Shares by Interval</b>	Total Population	199,795	176,735	107,702	50,785	35,996	<b>571,013</b>
	Regional Share of Total Population	35.0%	31.0%	18.9%	8.9%	6.3%	<b>100%</b>
	Minority Population	8,268	26,705	36,465	29,530	31,270	<b>132,238</b>
	Regional Share of Minority Population	6.3%	20.2%	27.6%	22.3%	23.6%	<b>100%</b>
<b>Bike-Ped Projects</b>	Percentage of Funding	2.9%	2.0%	10.5%	84.0%	0.0%	
	Amount of Funding	\$778,000	\$535,000	\$2,821,000	\$22,561,000	\$0	<b>\$26,863,000</b>
<b>Bridge Projects</b>	Percentage of Funding	41.9%	10.2%	13.5%	20.3%	14.1%	
	Amount of Funding	\$127,714,000	\$31,020,000	\$41,061,000	\$61,945,000	\$42,824,000	<b>\$304,564,000</b>
<b>Intermodal Projects</b>	Percentage of Funding	0.0%	0.0%	0.0%	0.0%	0.0%	
	Amount of Funding	\$0	\$0	\$0	\$0	\$0	<b>\$20,845,000</b>
<b>Roadway Projects</b>	Percentage of Funding	21.2%	15.9%	40.4%	15.9%	6.5%	
	Amount of Funding	\$30,255,000	\$22,676,000	\$57,638,000	\$22,678,000	\$9,278,000	<b>\$142,532,500</b>
<b>All Projects (Without Interstate)</b>	Percentage of Funding	32.1%	11.0%	20.5%	21.7%	10.5%	
	Amount of Funding	\$158,747,000	\$54,231,000	\$101,520,000	\$107,184,000	\$52,102,000	<b>\$494,804,500</b>
	Per Capita Funding	\$794.55	\$306.85	\$942.60	\$2,110.54	\$1,447.44	<b>\$866.54</b>
<b>Interstate Projects</b>	Percentage of Funding	0.5%	0.1%	0.0%	37.0%	62.4%	
	Amount of Funding	\$8,900,000	\$2,600,000	\$0	\$655,263,054	\$1,104,840,000	<b>\$1,771,603,054</b>
<b>All Projects (With Interstate)</b>	Percentage of Funding	7.5%	2.5%	4.5%	33.9%	51.5%	
	Amount of Funding	\$167,647,000	\$56,831,000	\$101,520,000	\$762,447,054	\$1,156,942,000	<b>\$2,246,187,054</b>
	Per Capita Funding	\$839.10	\$321.56	\$942.60	\$15,013.23	\$32,140.85	<b>\$3,933.69</b>

As shown in Table 17, per capita spending is higher in census block groups with minority populations higher than the regional average than those with minority populations lower than the regional average. This is true whether the Interstate projects (which, as discussed heavily skew this analysis) are included or not. Roadway and Bridge projects dominate the non-Interstate investments programmed on the TYP, accounting for more than 90% of the

total. Approximately 47% of roadway and bridge investments are located within block groups below the regional average for minority population. However, as noted above, the per capita spending is higher for block groups above the regional average than below the regional average. Bicycle/Pedestrian funding is concentrated in the third and fourth highest percent interval. On the FFY 2023-2026 TIP, intermodal projects consist exclusively of unmapped projects that aren't included in this quantitative analysis. It should be noted that these intermodal projects and investments includes support for transit, typically through the flexing of CMAQ funding, and ride-sharing, through the support of SRTP and Commuter Services, providing benefits to environmental justice populations by increasing access to transit.

**Table 18. Project Distribution by Low-income Population**

Percent Population Low-income - Block Group Intervals		0% -4.88%	4.89% -9.77%	9.78% -21.60%	21.61% -37.46%	37.47% -80.41%	TOTAL
<b>Population Shares by Interval</b>	Total Population	221,827	147,694	128,761	31,783	22,081	<b>552,146</b>
	Regional Share of Total Population	40.2%	26.7%	23.3%	5.8%	4.0%	<b>100%</b>
	Low-income Population	5,151	10,634	18,695	8,804	10,663	<b>53,947</b>
	Regional Share of Low-income Population	9.5%	19.7%	34.7%	16.3%	19.8%	<b>100%</b>
<b>Bike-Ped Projects</b>	Percentage of Funding	3.8%	6.2%	4.1%	85.3%	0.0%	
	Amount of Funding	\$1,025,000	\$1,655,000	\$1,108,000	\$22,907,000	\$0	<b>\$26,863,000</b>
<b>Bridge Projects</b>	Percentage of Funding	6.7%	30.4%	27.9%	22.5%	12.4%	
	Amount of Funding	\$20,535,000	\$92,721,000	\$84,996,000	\$68,481,000	\$37,831,000	<b>\$304,564,000</b>
<b>Intermodal Projects</b>	Percentage of Funding	0.0%	0.0%	0.0%	0.0%	0.0%	
	Amount of Funding	\$0	\$0	\$0	\$0	\$0	<b>\$20,845,000</b>
<b>Roadway Projects</b>	Percentage of Funding	1.3%	33.9%	55.2%	0.5%	9.1%	
	Amount of Funding	\$1,920,500	\$48,318,500	\$78,619,000	\$729,000	\$12,938,000	<b>\$142,532,500</b>
<b>All Projects (Without Interstate)</b>	Percentage of Funding	4.7%	28.8%	33.3%	18.6%	10.3%	
	Amount of Funding	\$23,480,500	\$142,694,500	\$164,723,000	\$92,117,000	\$50,769,000	<b>\$494,804,500</b>
	Per Capita Funding	\$105.85	\$966.15	\$1,279.29	\$2,898.31	\$2,299.22	<b>\$896.15</b>
<b>Interstate Projects</b>	Percentage of Funding	0.2%	30.2%	7.2%	62.4%	0.0%	
	Amount of Funding	\$3,300,000	\$535,780,488	\$127,682,566	\$1,104,840,000	\$0	<b>\$1,771,603,054</b>
<b>All Projects (With Interstate)</b>	Percentage of Funding	1.2%	30.2%	13.0%	53.3%	2.3%	
	Amount of Funding	\$26,780,500	\$678,474,988	\$292,405,566	\$1,196,957,000	\$50,769,000	<b>\$2,246,187,054</b>
	Per Capita Funding	\$120.73	\$4,593.79	\$2,270.92	\$37,660.29	\$2,299.22	<b>\$4,068.10</b>

As shown in Table 18, per capita spending as it relates to low-income population percentage intervals are similar to the trends discussed for minority populations above – generally higher in the block groups above the regional average. Approximately 63% of roadway and bridge projects are located in block groups above the regional average for low-income population. Bicycle/pedestrian projects and intermodal projects follow the same general pattern as discussed above as well.

Bridges represent the majority of funding allocated within block groups that have minority and low-income populations below the regional average. The need to maintain current facilities and continue making progress regarding PM2 requires investments in poor condition bridges, which are predominantly located within block groups with minority or low-income populations below the regional average, as is shown in Tables 5-8.

Because of the location and associated funding amounts of the Interstate Program, it has been considered and presented separately for this analysis. Significant investment (more than twice the amount of the Highway & Bridge TIP) is being made, which skews any examination of funding allocation, as shown in Tables 17 and 18. The Interstate Program will be discussed in more detail later in the analysis.

There are 11 bike/ped projects programmed totaling approximately \$26,685,000. The majority of the investments are located within census block groups that have higher than average minority and low-income populations. Significant projects, including the Lemoyne Bottleneck Improvements and the CAT Intermodal Bridge is located adjacent to a census block with higher than average minority and low-income populations and will substantially improve bicycle and pedestrian access and safety between the City of Harrisburg and the Borough of Lemoyne. In addition to these, several line items or projects with locations yet-to-be-determined are included on the draft FFY 2023-2026 TIP, including the RTP Implementation Program and HATS Bike Share. These bike/ped projects, and the intermodal projects discussed above, are particularly relevant because they offer residents a transportation option that does not require a car, thus improving the accessibility and mobility of the local population.

The interstate program includes 14 projects totaling approximately \$1.7 billion. These interstate investments are dominated by those required to improve and maintain I-83, which is located in multiple census block groups above the regional average for both minority and low-income populations. These projects provide capacity improvements, reduce congestion and delays, and improve safety to the system, and reduce the environmental impact of traffic on the interstate.

The draft 2023-2026 Transit TIP includes projects totaling \$ 82,015,649 which are dedicated to maintaining the existing transit and paratransit service for the Harrisburg Region. HATS also traditionally flexes a portion of the federal CMAQ funds allocation to CAT to assist in providing quality transit service. Any increases in transit funding will allow for additional bus routing and stops, thus expanding the availability of alternative transportation and increasing mobility to access employment opportunities and health services.

### *Significant Interstate Projects*

For the FFY 2023-2026 TIP, the vast majority of projects will not require significant right-of-way acquisition, require the displacement of people, or cause burdens on the mobility, access, or environmental health of any community or population group. This is because the vast majority of the HATS Highway & Bridge TIP is proposed to be programmed to maintain or enhance the existing transportation system.

The major exceptions to this are the projects associated with I-83 on the Interstate TIP, which will improve and significantly reconfigure the Eisenhower Interchange and expand I-83 to the South Bridge, which is an identified freight route and high congestion corridor. As these projects progress past

preliminary phases, right-of-way impacts and potential takings will be finalized and will be addressed throughout the project development process when identified.

While these projects will require displacement, they also propose to improve the operations of the multiple interchanges and over-/under-passes, while also adding bicycle and pedestrian improvements, which would improve the mobility of both the impacted block group and other nearby populations. It should be noted that these projects pass through block groups with a total population of 18,112, a minority population of 11,180, and low-income population of 2,218. Overall these project will have widespread benefits for both the region and the state.

### **Moving Forward**

The condition assessment in the 2045 RTP identified poor pavement condition and bicycle/pedestrian crashes as disproportionately located within areas with higher than average concentrations of low-income populations. While this doesn't necessarily indicate adverse or disparate impact, it is important to monitor moving forward. In our proposed program, the majority of roadway investments are located within areas with higher than average concentrations of minority (62.9%) or low-income populations (64.7%). The impact of those projects will be better gauged in the Environmental Justice Analysis done for future TIP and Regional Transportation Plan updates.

This analysis is a snapshot of the current conditions and how this proposed program will address them. Environmental Justice is incorporated into the evaluation criteria of our RTP Project Pipeline, which prioritizes locally identified transportation needs, and our RTP Project List. Over the past two rounds of TIP development, 22 projects have been programmed which originated on the RTP Project Pipeline, totaling approximately \$65,177,000. Many of these projects are either designated bicycle/pedestrian improvements or include them among the project elements. Because of the incorporation of minority and low-income populations into the evaluation criteria, the vast majority of these 22 projects are located in areas with higher than average concentrations of low-income and/pr minority populations.

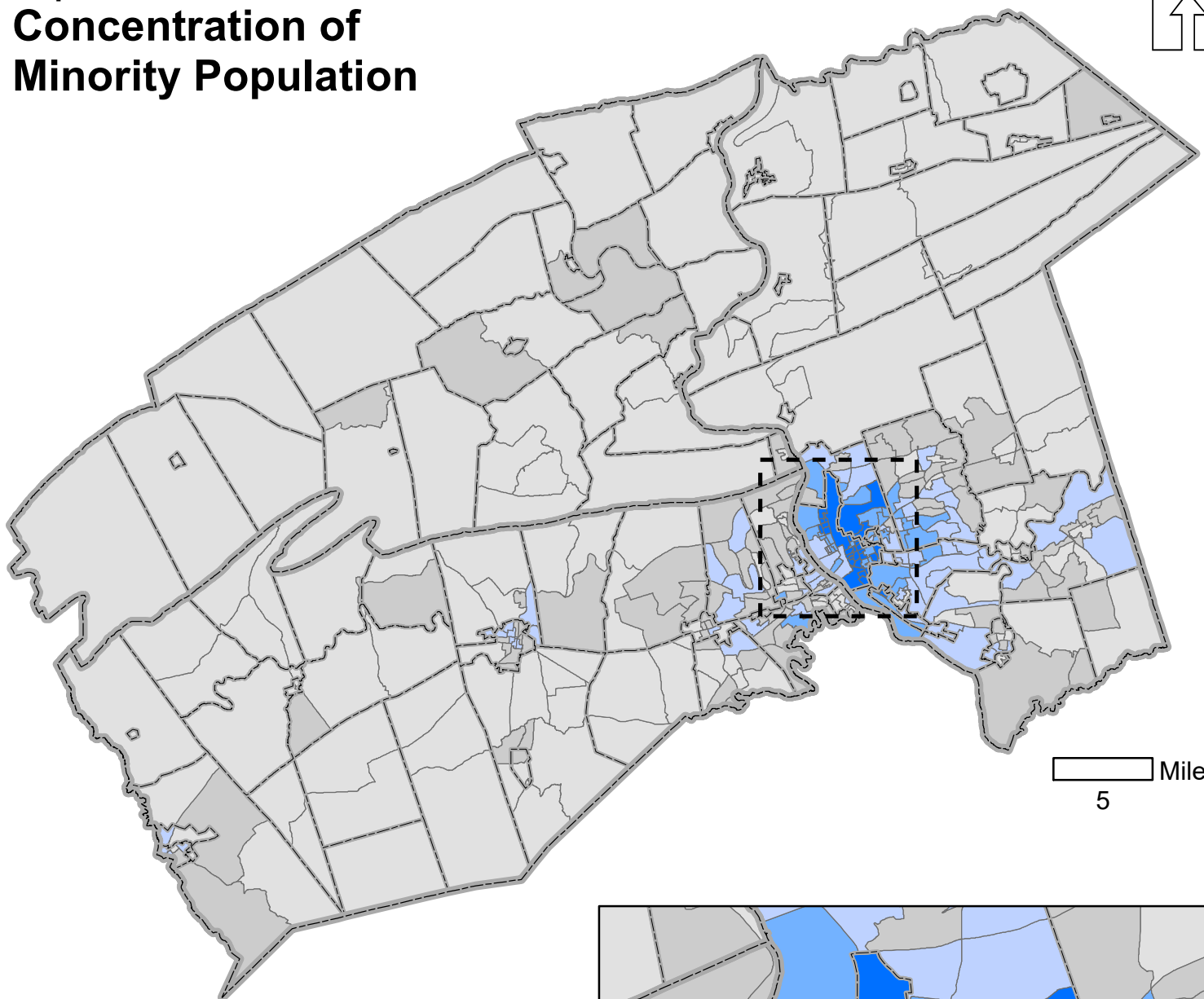
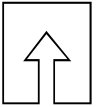
No statistical analysis provides a complete picture. Our understanding of how the condition of our transportation system and our transportation programs impact and achieve environmental justice will continue to evolve over time. As that understanding of the causes improves, so does our ability mitigate or address them.

### *Conclusion*

The majority of project funding proposed for the FFY 2023-2026 Transportation Improvement Program is located within block groups with higher than average minority and/or low-income populations. The majority of project funding located outside these block groups is due to bridge projects meant to address asset management concerns and continue progress on Performance Measure 2. While some statistical disparities were made apparent during the condition assessment conducted as part of this analysis, the FFY 2023-2026 Transportation Improvement Program will not exacerbate them and will provide an equitable distribution of benefits and burdens.



# Map 1 Concentration of Minority Population

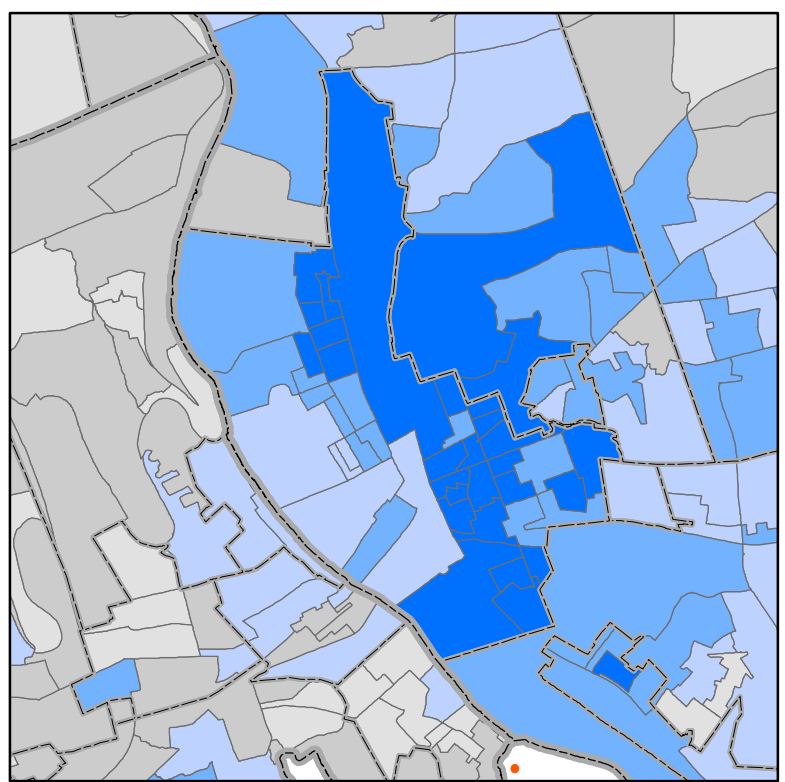


5 Miles

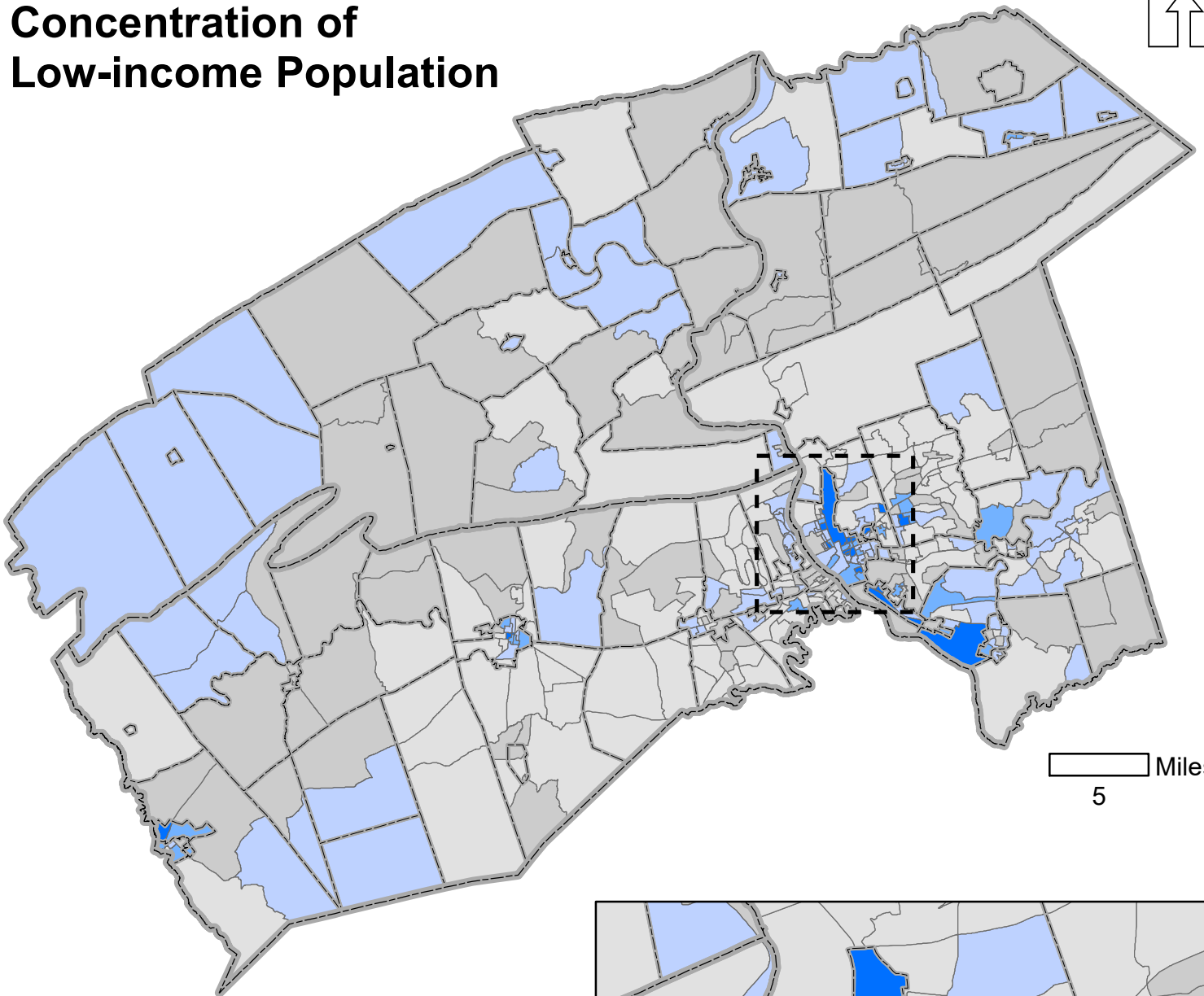
## Minority Population Percentage by Block Group

- Less than 9.49%
- 9.49% - 23.15%
- 23.16% - 44.57%
- 44.58% - 70.93%
- Greater than 70.94%

Source: 2015-2019 American Community Survey 5-Year Estimates



# Map 2 Concentration of Low-income Population

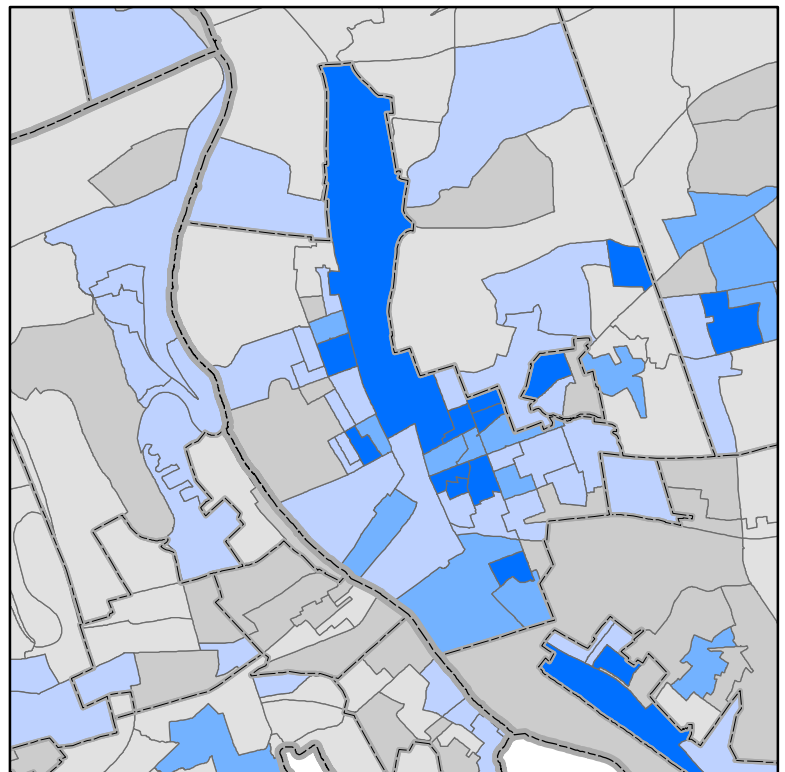


5 Miles

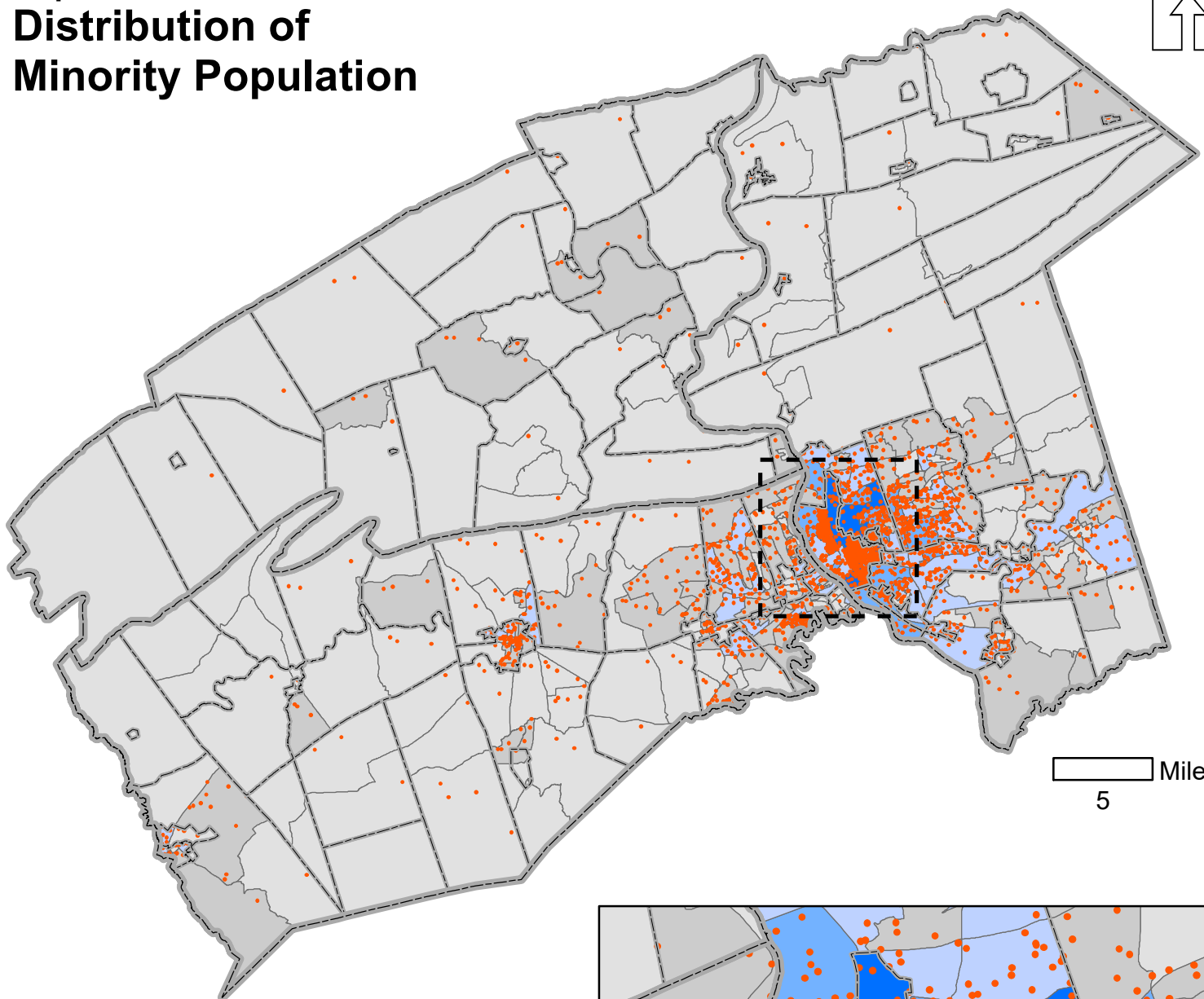
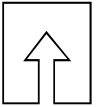
## Low-income Population Percentage by Block Group

- Less than 4.89%
- 4.89% - 9.77%
- 9.78% - 21.59%
- 21.60% - 37.45%
- Greater than 37.45%

Source:  
2015-2019 American Community Survey 5-Year Estimates



# Map 3 Distribution of Minority Population



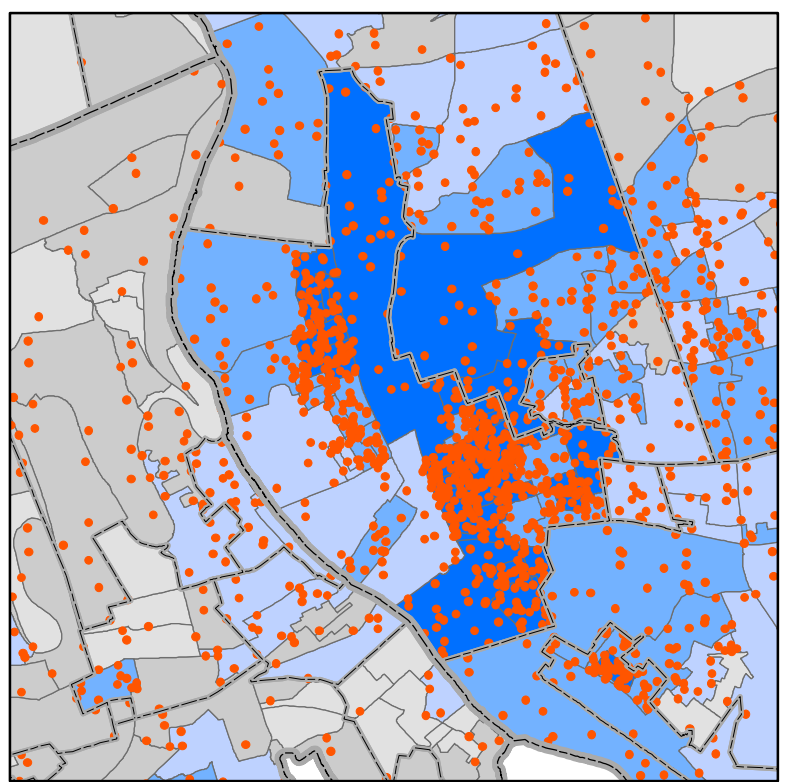
5 Miles

## Minority Population Percentage by Block Group

- Less than 9.49%
- 9.49% - 23.15%
- 23.16% - 44.57%
- 44.58% - 70.93%
- Greater than 70.94%

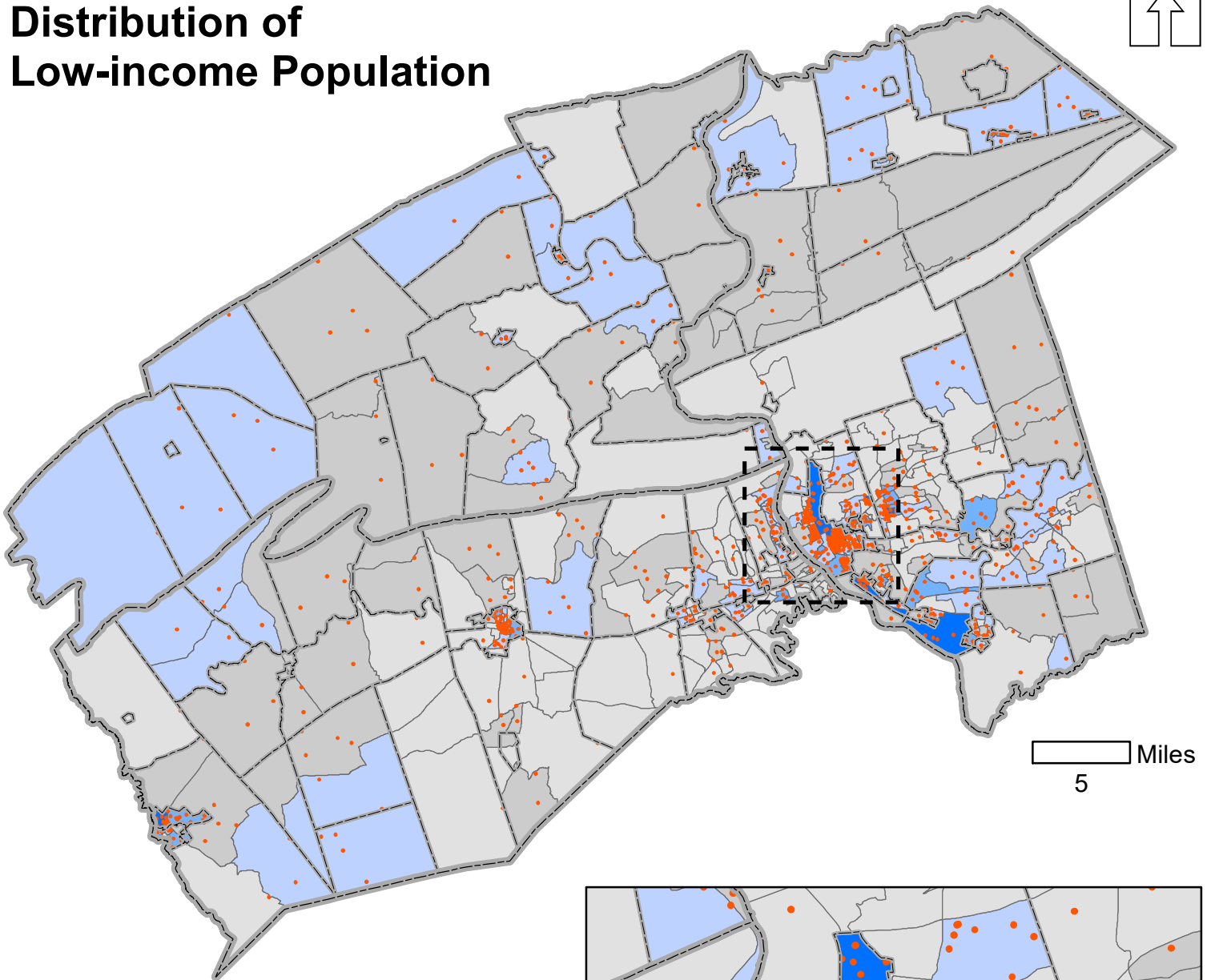
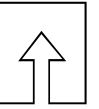
## Dot Density

- 1 Dot = 50
- CntMin



Source: 2015-2019 American Community Survey 5-Year Estimates

# Map 4 Distribution of Low-income Population



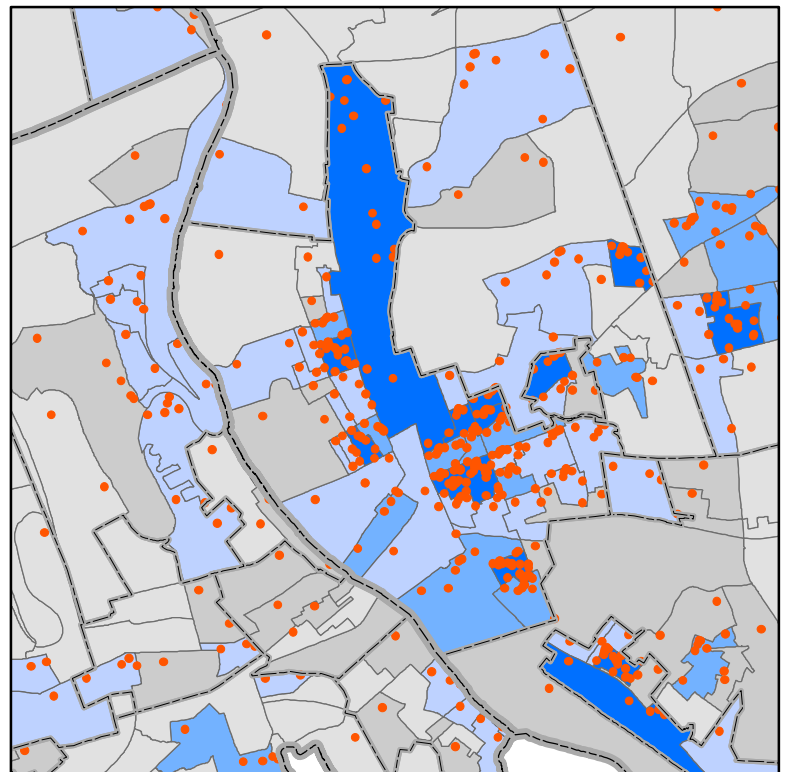
## Low-income Population Percentage by Block Group

- Less than 4.89%
- 4.89% - 9.77%
- 9.78% - 21.59%
- 21.60% - 37.45%
- Greater than 37.45%

## Dot Density

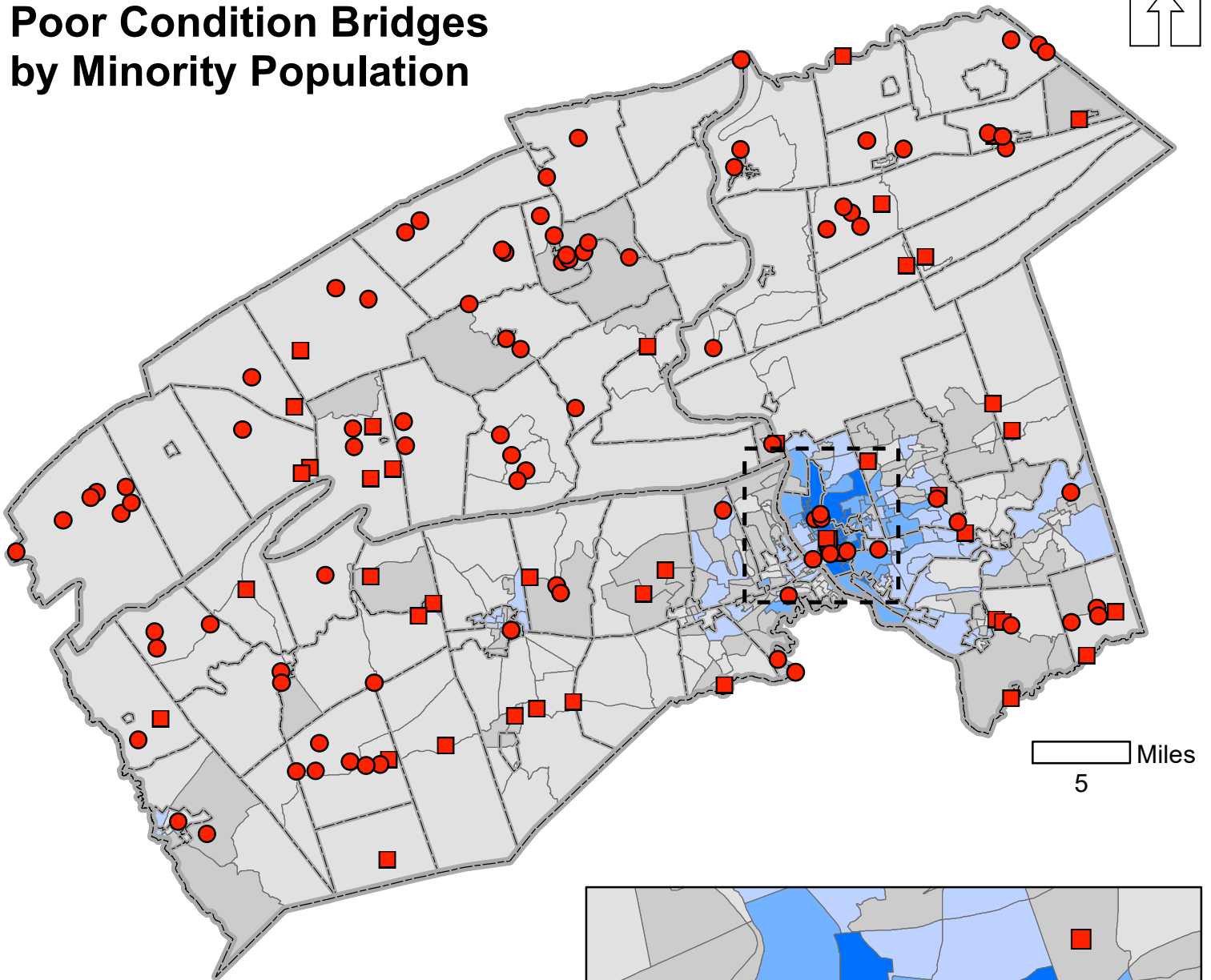
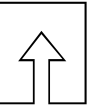
- 1 Dot = 50
- CntPov

Source:  
2015-2019 American Community Survey 5-Year Estimates



Map 5

# Poor Condition Bridges by Minority Population

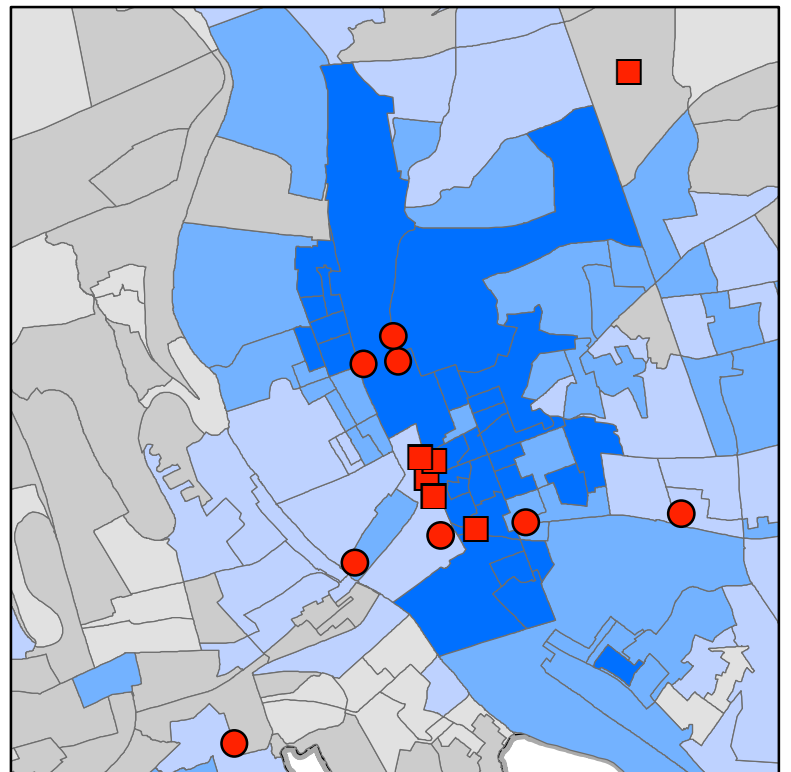


## Minority Population Percentage by Block Group

- Less than 9.49%
- 9.49% - 23.15%
- 23.16% - 44.57%
- 44.58% - 70.93%
- Greater than 70.94%

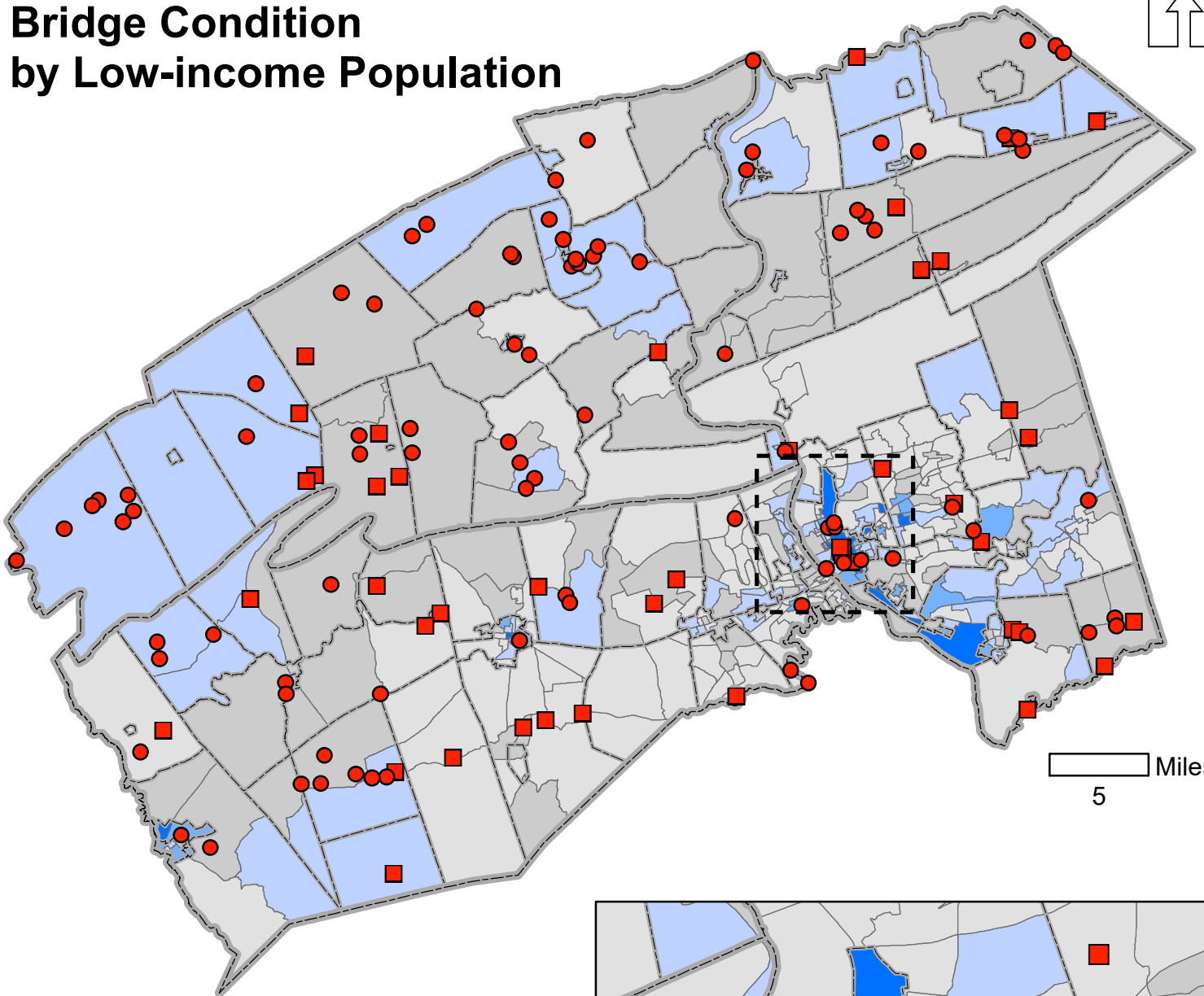
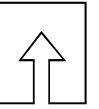
## Poor Condition Bridges

- State Owned
- Locally Owned



Source: 2015-2019 American Community Survey 5-Year Estimates

# Map 6 Bridge Condition by Low-income Population

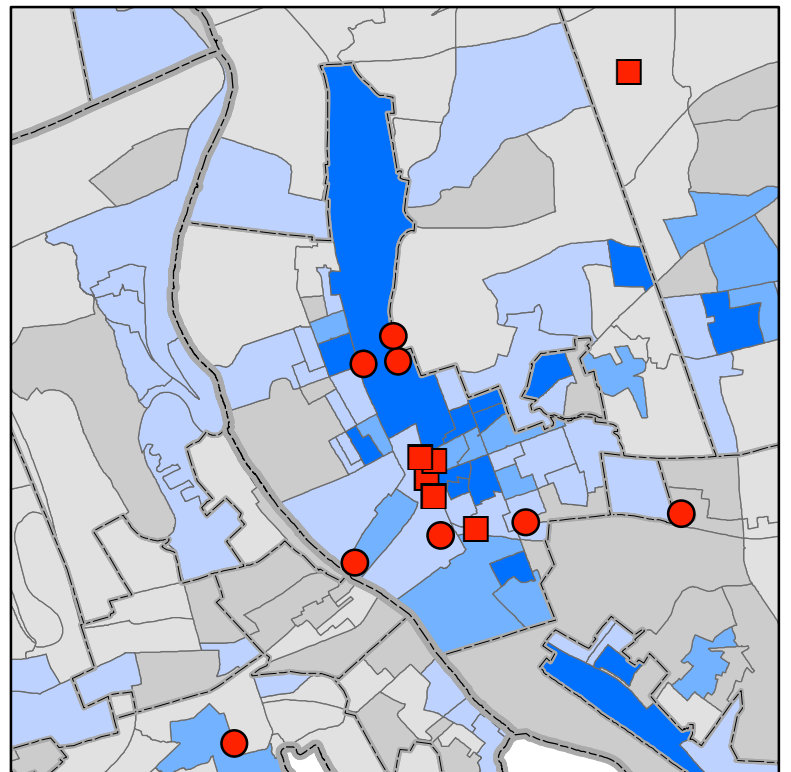


## Low-income Population Percentage by Block Group

- Less than 4.89%
- 4.89% - 9.77%
- 9.78% - 21.59%
- 21.60% - 37.45%
- Greater than 37.45%

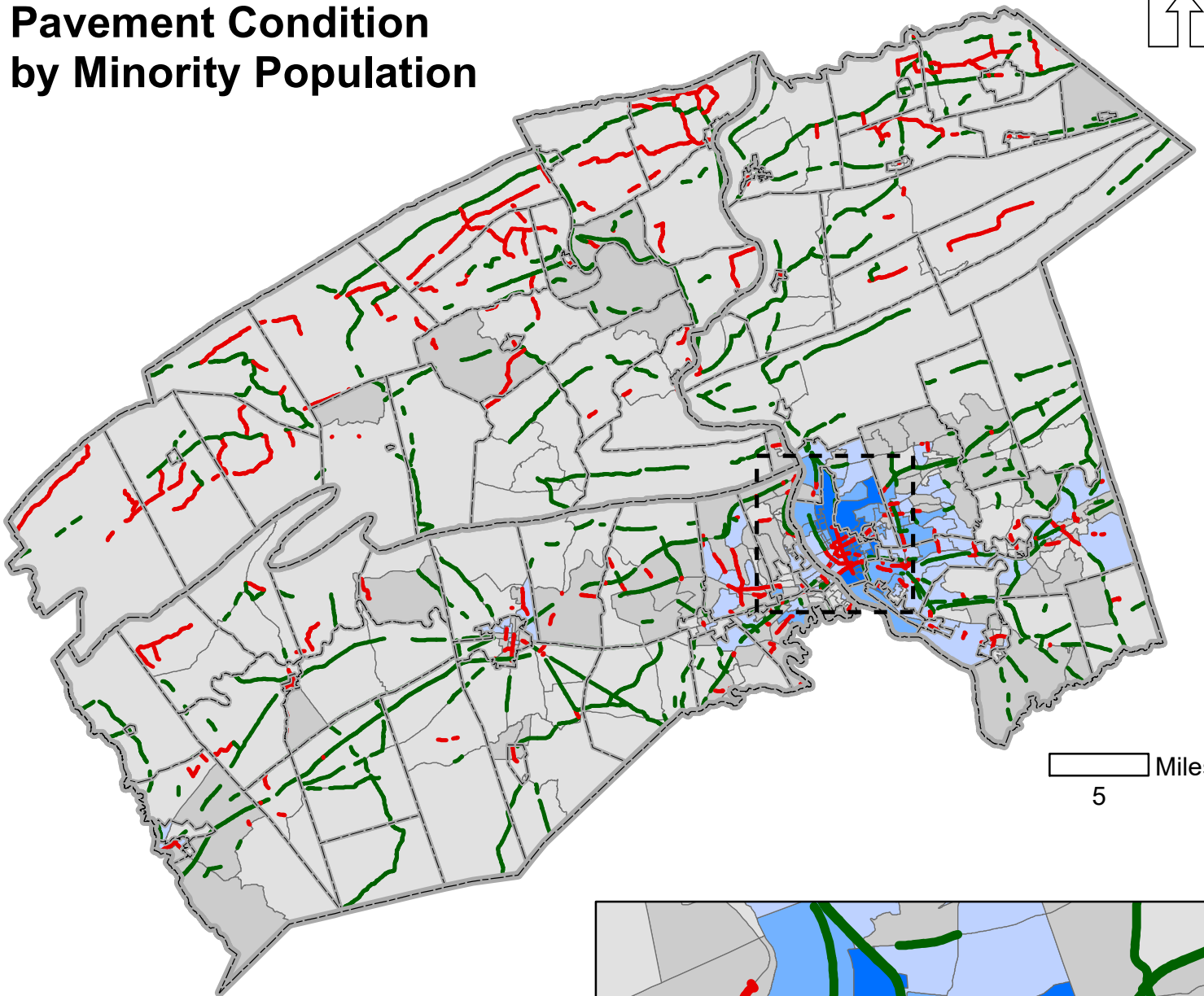
## Poor Condition Bridges

- State Owned
- Locally Owned



Source: 2015-2019 American Community Survey 5-Year Estimates

# Map 7 Pavement Condition by Minority Population



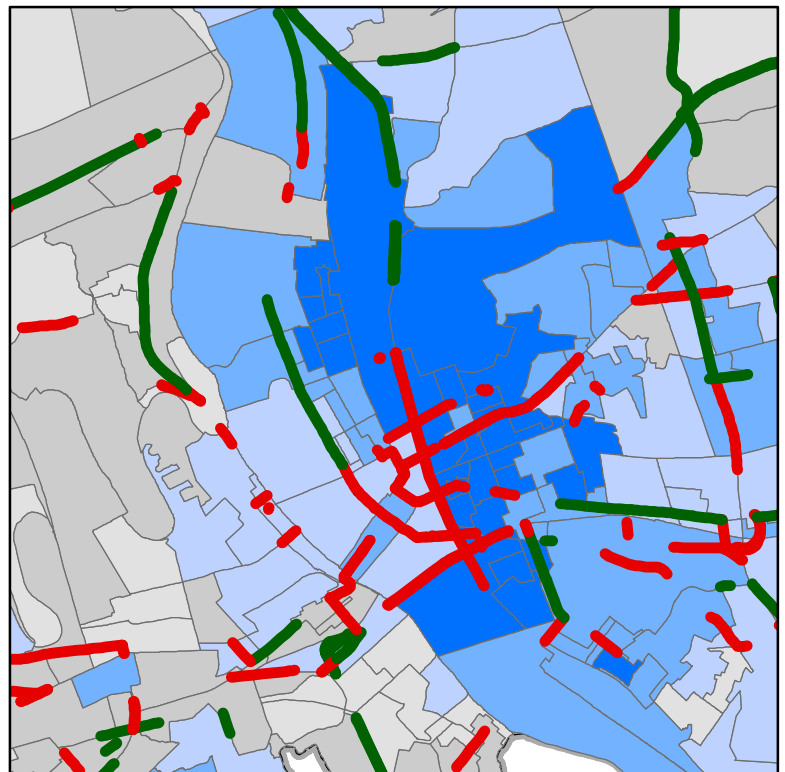
5 Miles

## Minority Population Percentage by Block Group

- Less than 9.49%
- 9.49% - 23.15%
- 23.16% - 44.57%
- 44.58% - 70.93%
- Greater than 70.94%

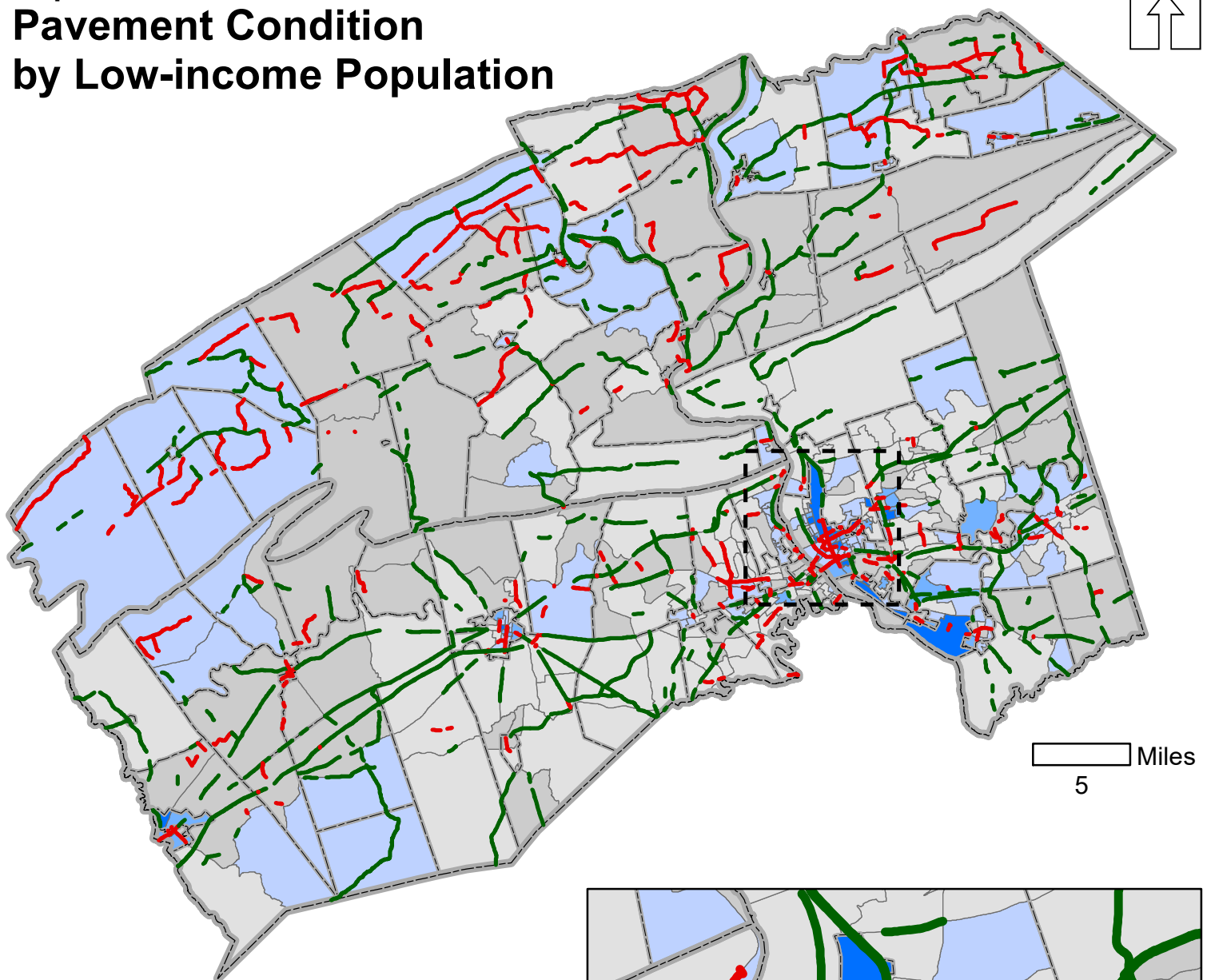
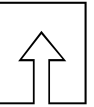
## Road Condition

- EXCELLENT
- POOR



Source: 2015-2019 American Community Survey 5-Year Estimates

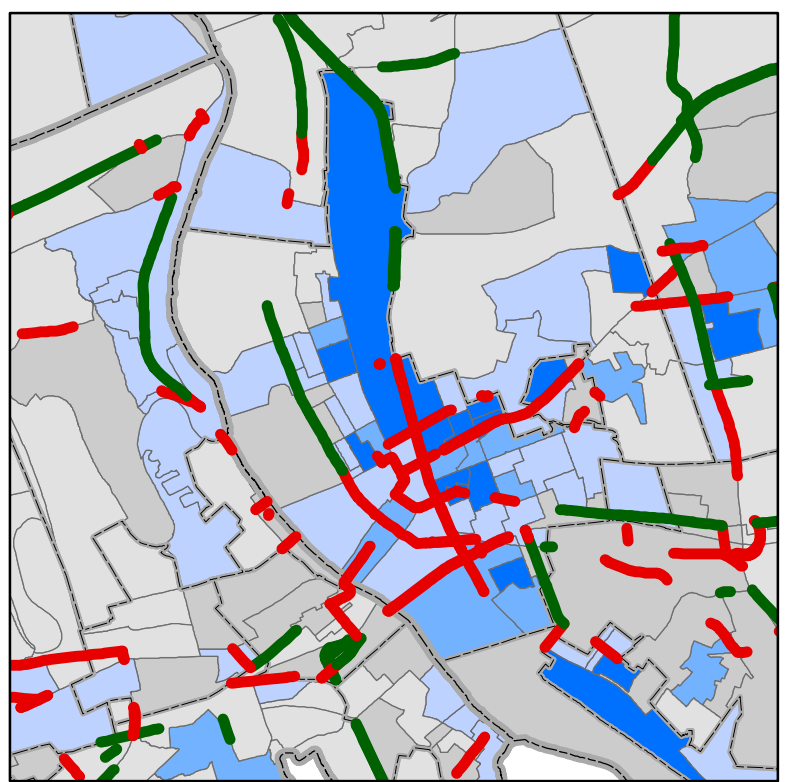
# Map 8 Pavement Condition by Low-income Population



## Low-income Population Percentage by Block Group

- Less than 4.89%
- 4.89% - 9.77%
- 9.78% - 21.59%
- 21.60% - 37.45%
- Greater than 37.45%

- ## Road Condition
- EXCELLENT
  - POOR

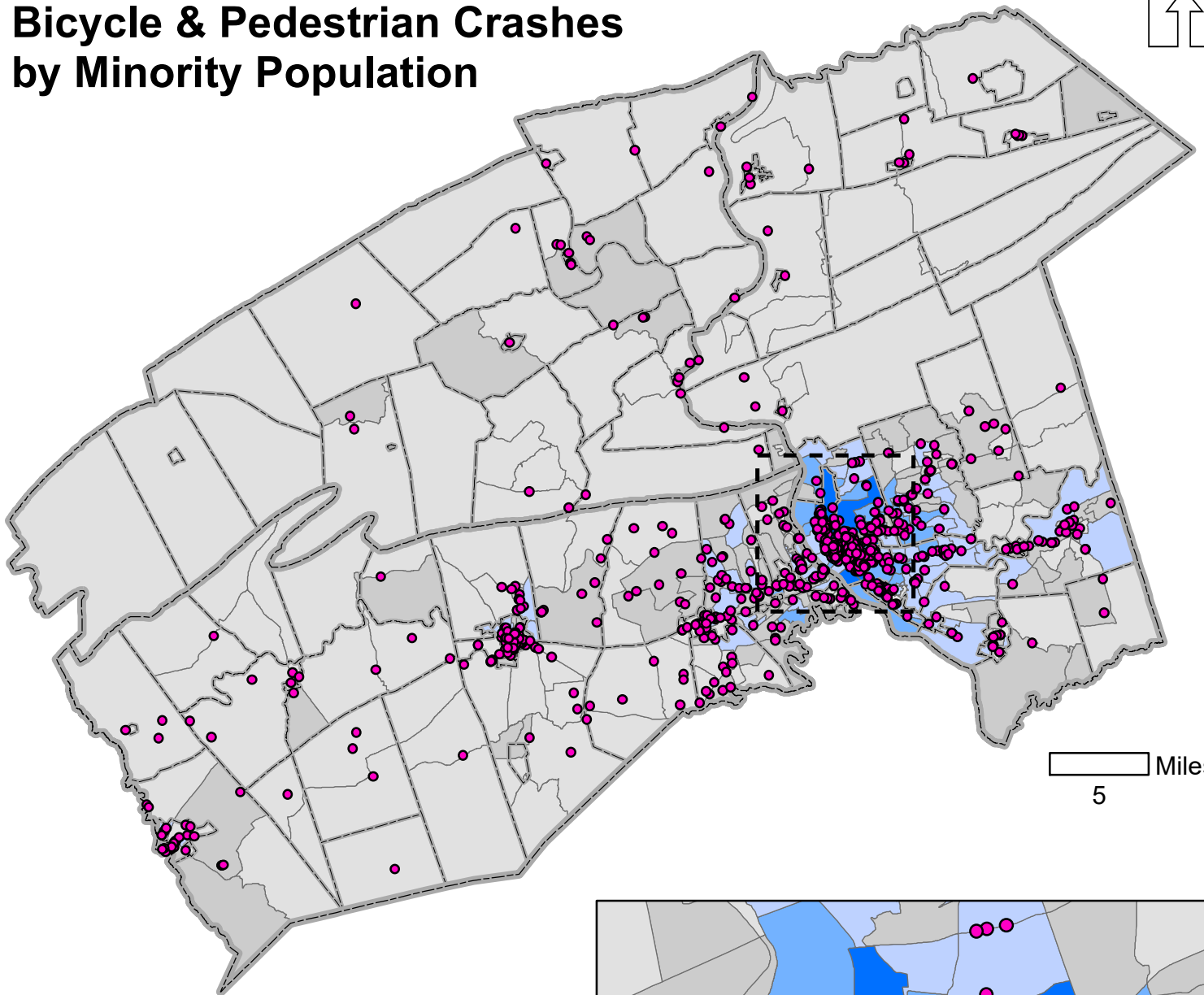
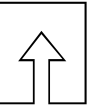


Source: 2015-2019 American Community Survey 5-Year Estimates









Map 9

# Bicycle & Pedestrian Crashes by Minority Population

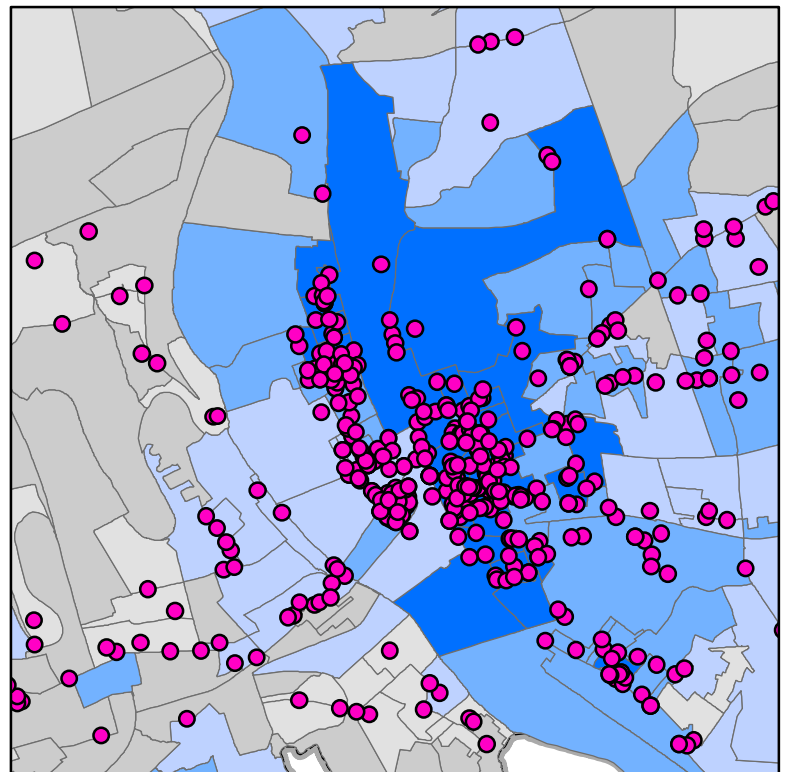


5 Miles

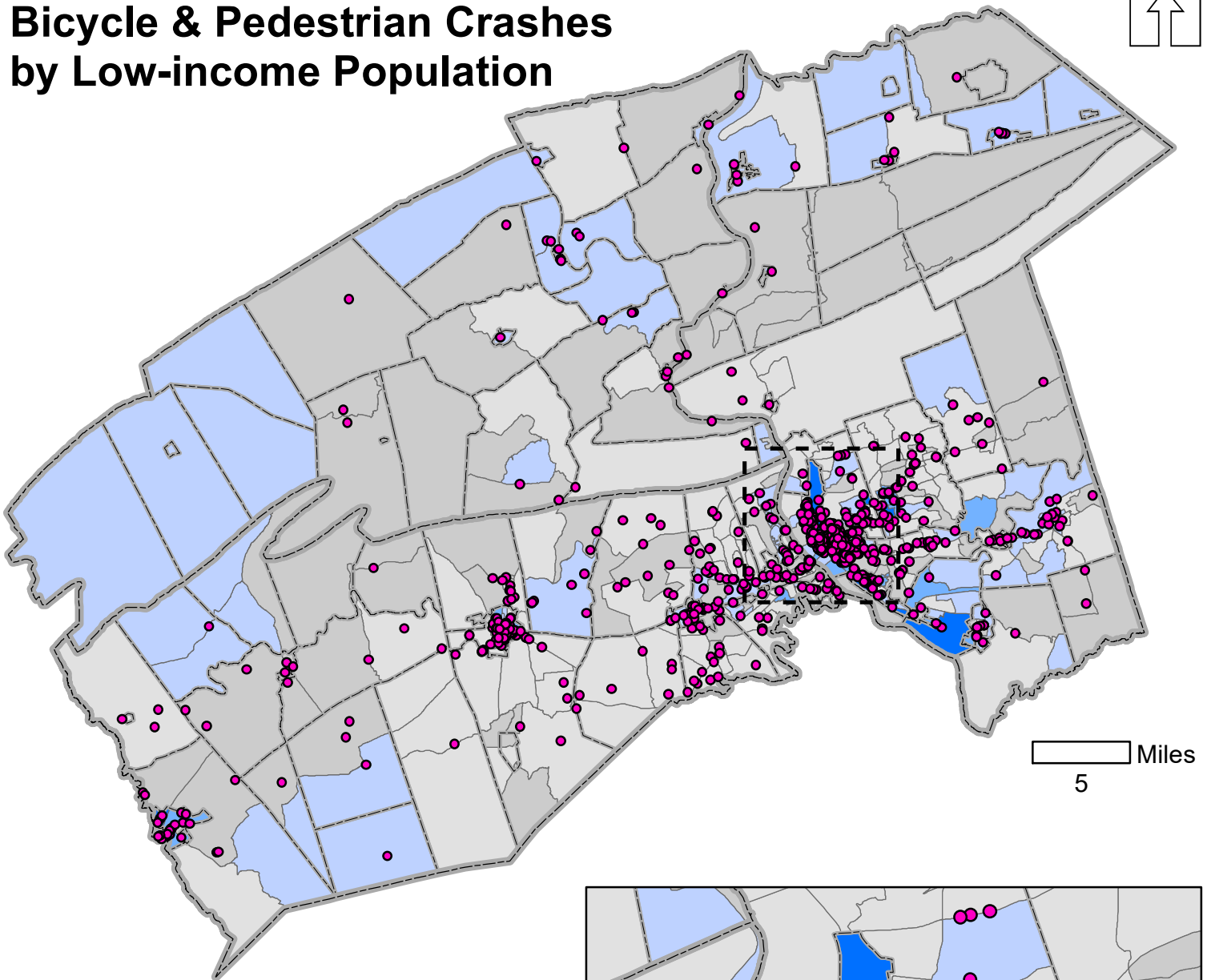
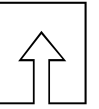
## Minority Population Percentage by Block Group

-  Less than 9.49%
-  9.49% - 23.15%
-  23.16% - 44.57%
-  44.58% - 70.93%
-  Greater than 70.94%
-  Bicycle & Pedestrian Crashes

Source: 2015-2019 American Community Survey 5-Year Estimates

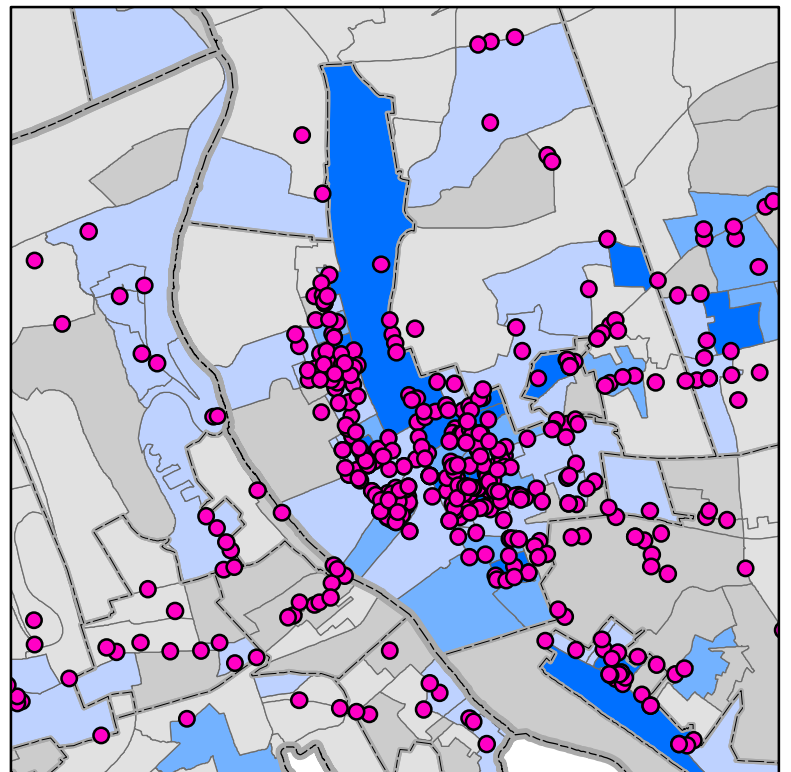


Map 10  
**Bicycle & Pedestrian Crashes  
 by Low-income Population**



**Low-income Population  
 Percentage by Block Group**

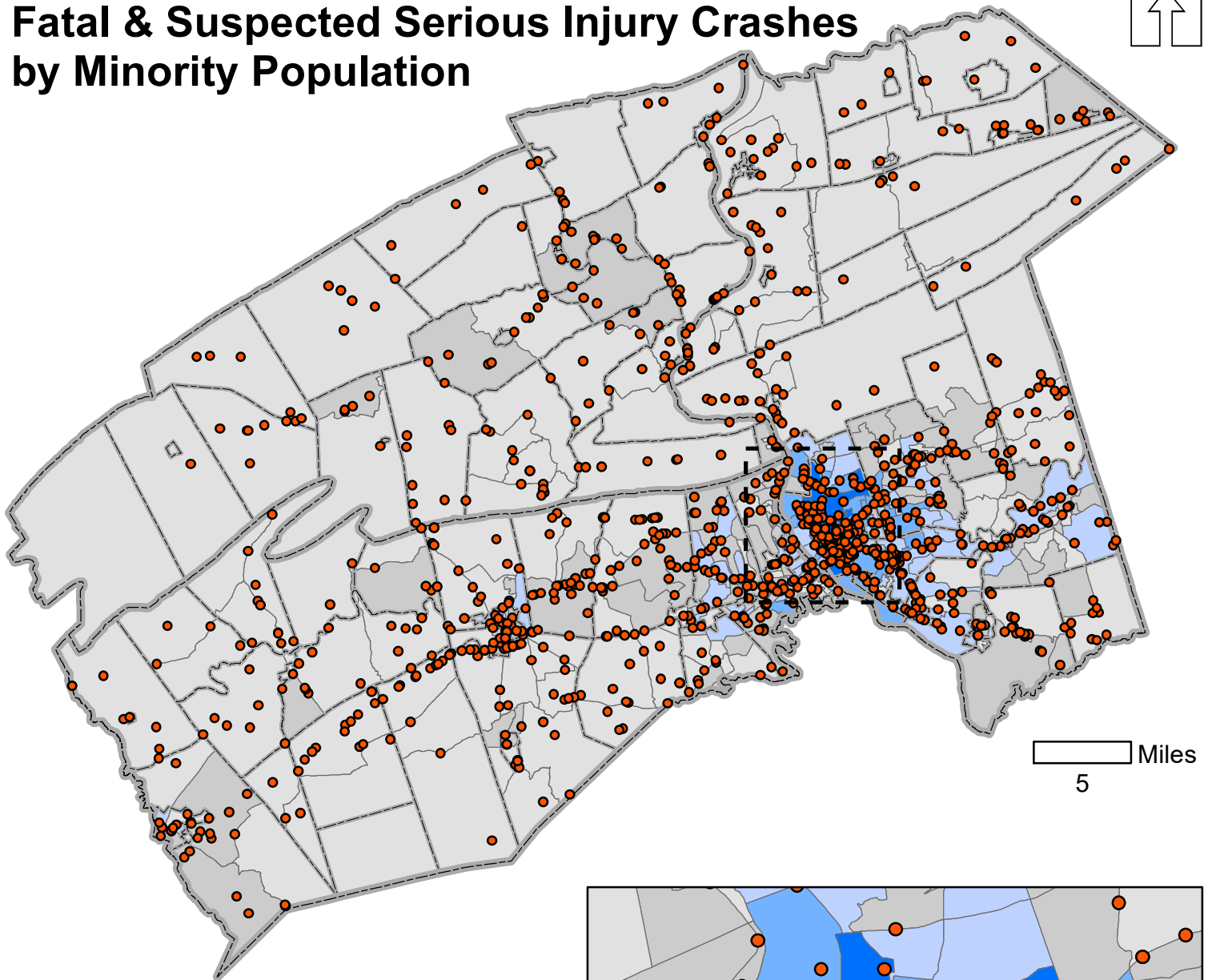
- Less than 4.89%
- 4.89% - 9.77%
- 9.78% - 21.59%
- 21.60% - 37.45%
- Greater than 37.45%
- Bicycle & Pedestrian Crashes



Source: 2015-2019 American Community Survey 5-Year Estimates







Map 11

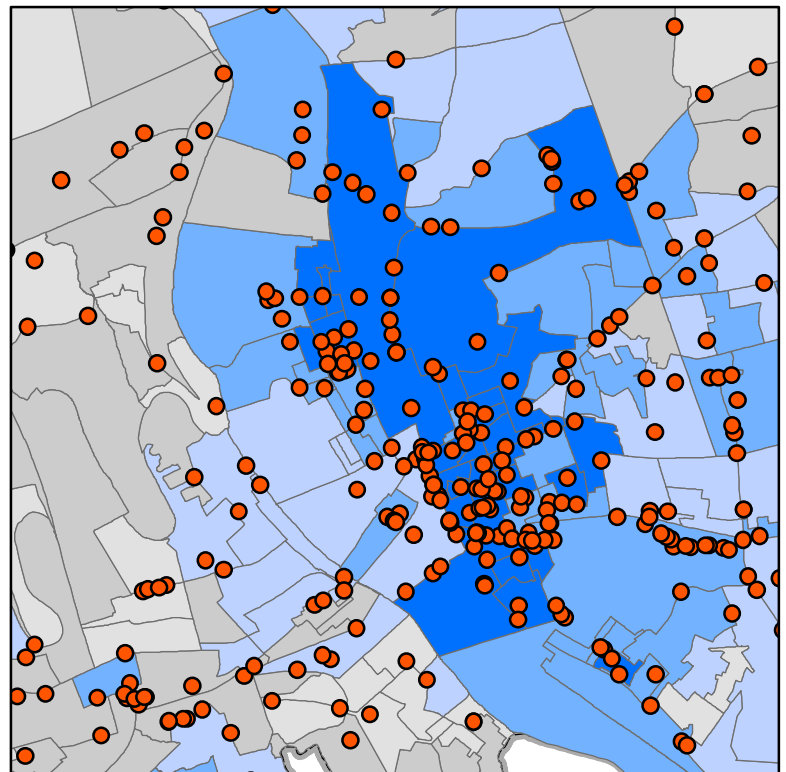
# Fatal & Suspected Serious Injury Crashes by Minority Population



5 Miles

## Minority Population Percentage by Block Group

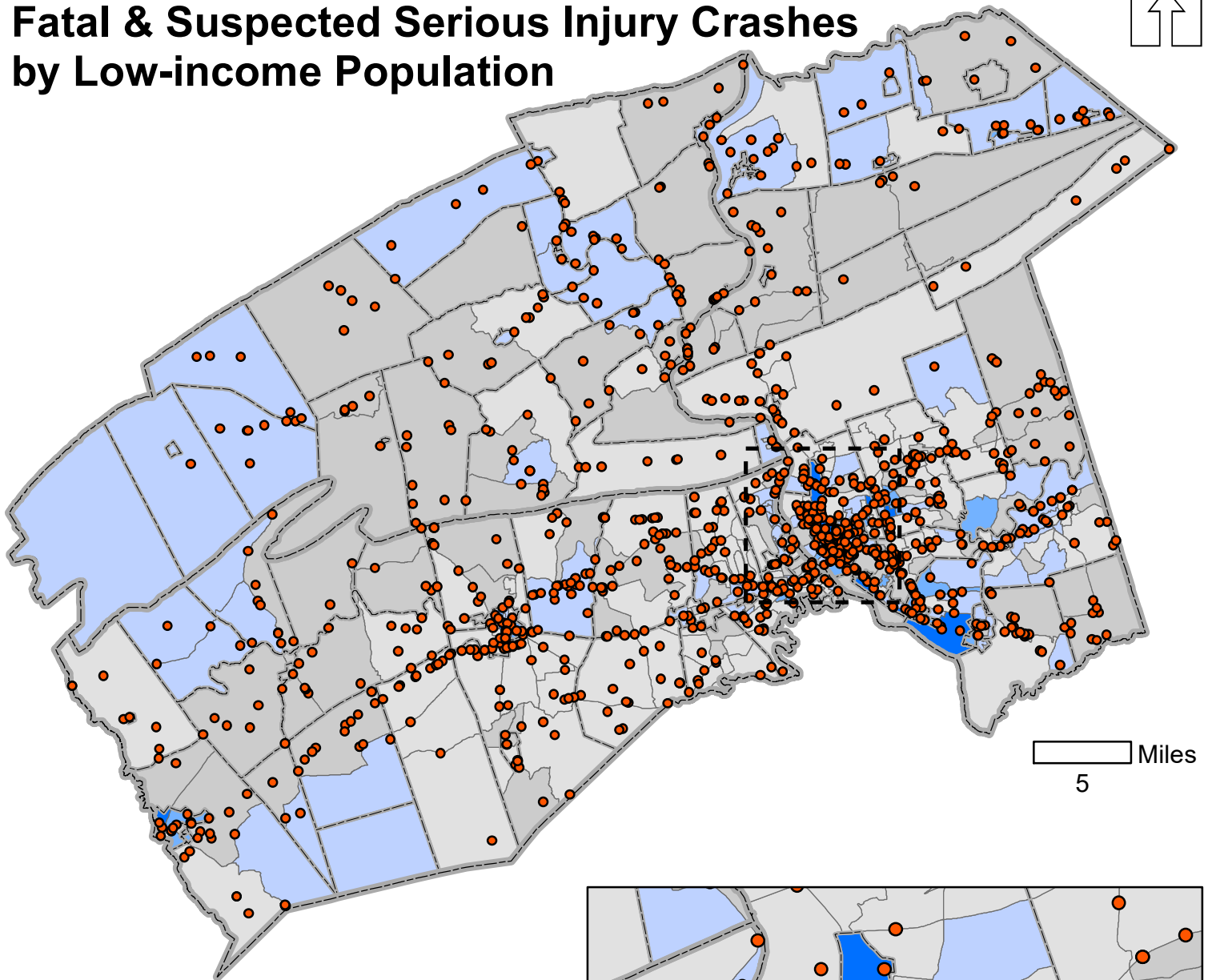
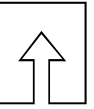
-  Less than 9.49%
-  9.49% - 23.15%
-  23.16% - 44.57%
-  44.58% - 70.93%
-  Greater than 70.94%
-  Fatal & Suspected Serious Injury Crashes



Source: 2015-2019 American Community Survey 5-Year Estimates







Map 12

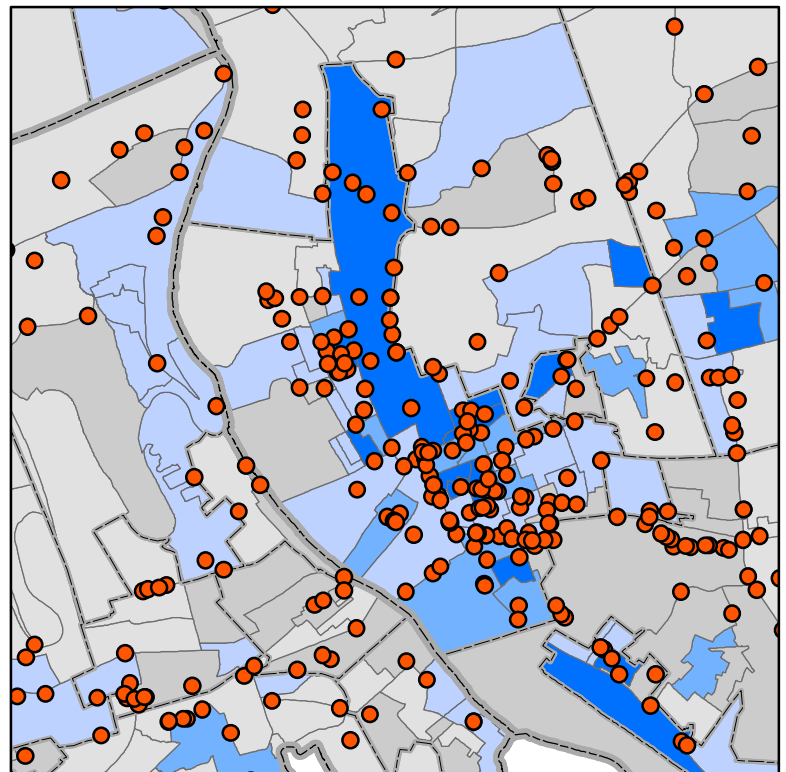
# Fatal & Suspected Serious Injury Crashes by Low-income Population



5 Miles

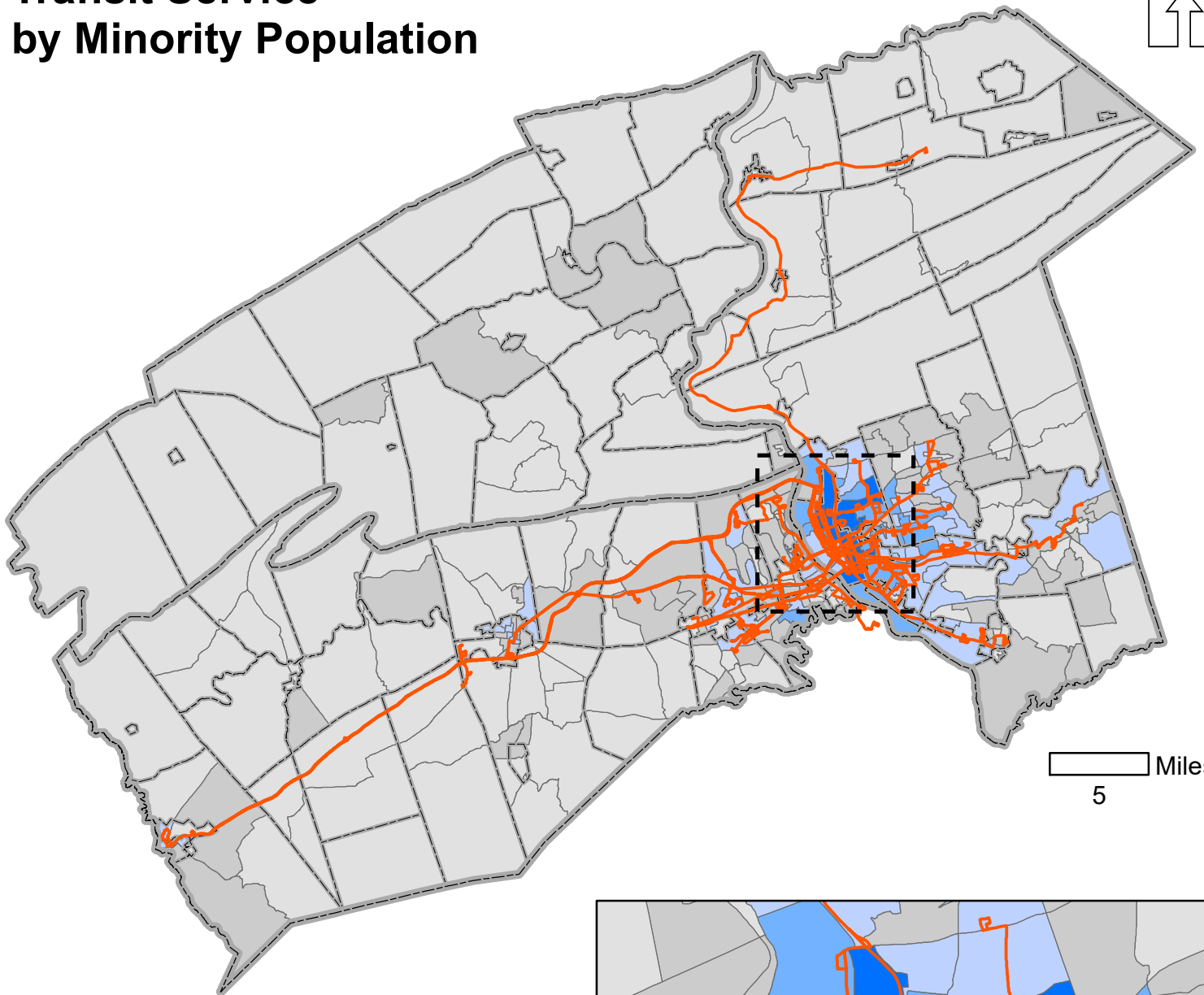
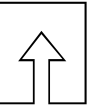
## Low-income Population Percentage by Block Group

-  Less than 4.89%
-  4.89% - 9.77%
-  9.78% - 21.59%
-  21.60% - 37.45%
-  Greater than 37.45%
-  Fatal & Suspected Serious Injury Crashes



Source: 2015-2019 American Community Survey 5-Year Estimates

# Map 13 Transit Service by Minority Population



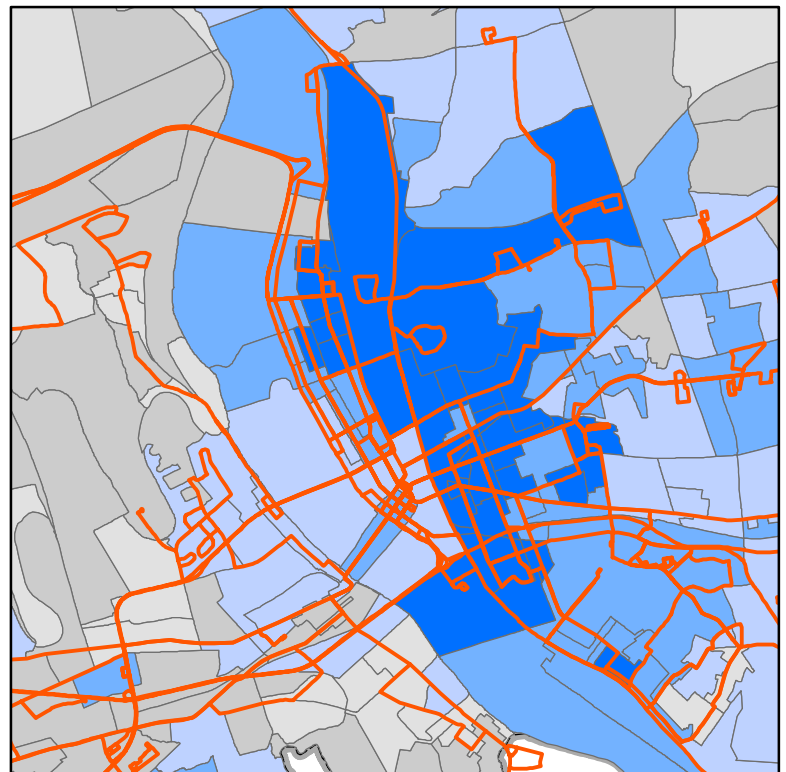
5 Miles

## Minority Population Percentage by Block Group

- Less than 9.49%
- 9.49% - 23.15%
- 23.16% - 44.57%
- 44.58% - 70.93%
- Greater than 70.94%

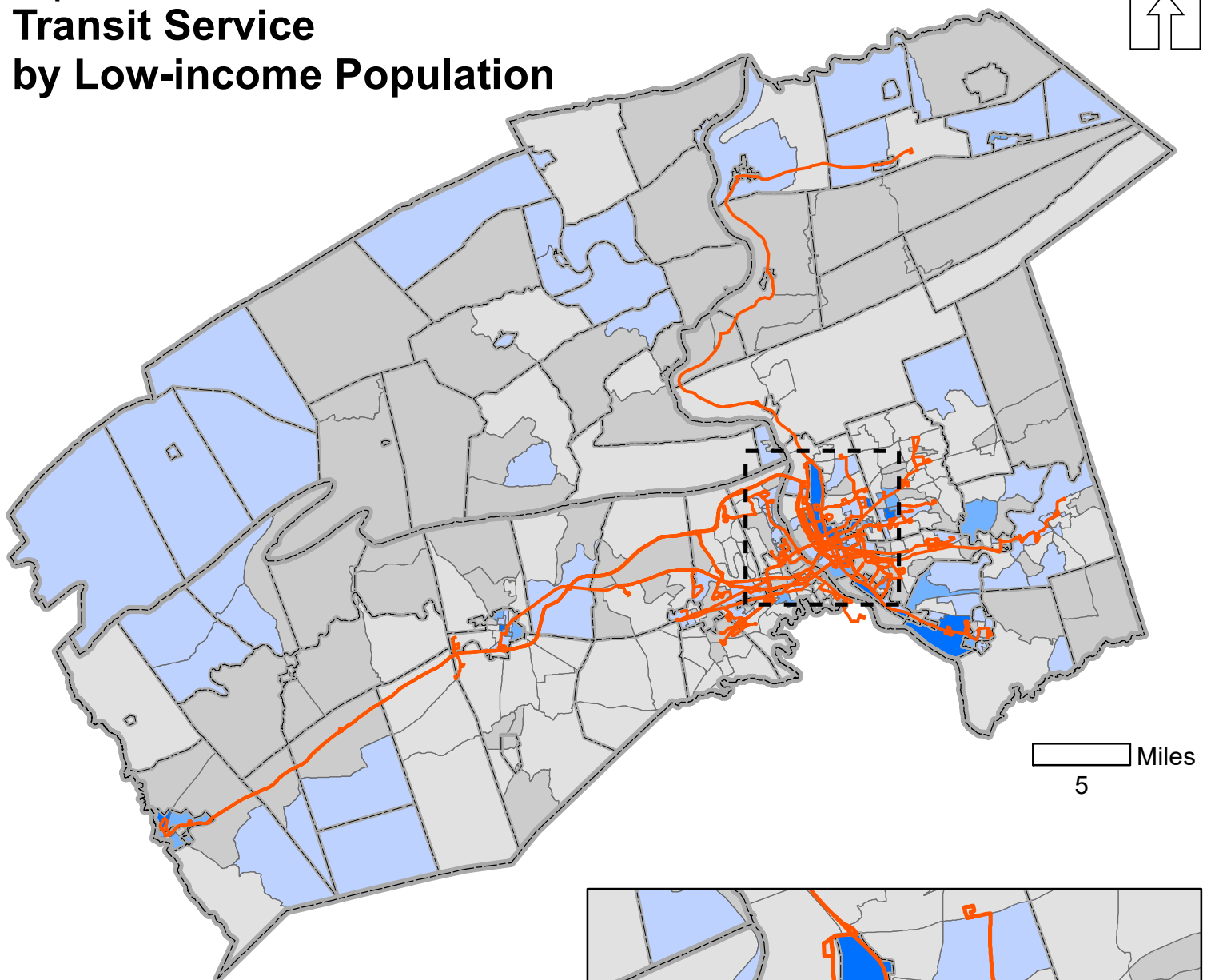
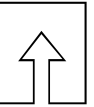
## Transit Service

- CAT Routes



Source: 2015-2019 American Community Survey 5-Year Estimates

**Map 14**  
**Transit Service**  
**by Low-income Population**



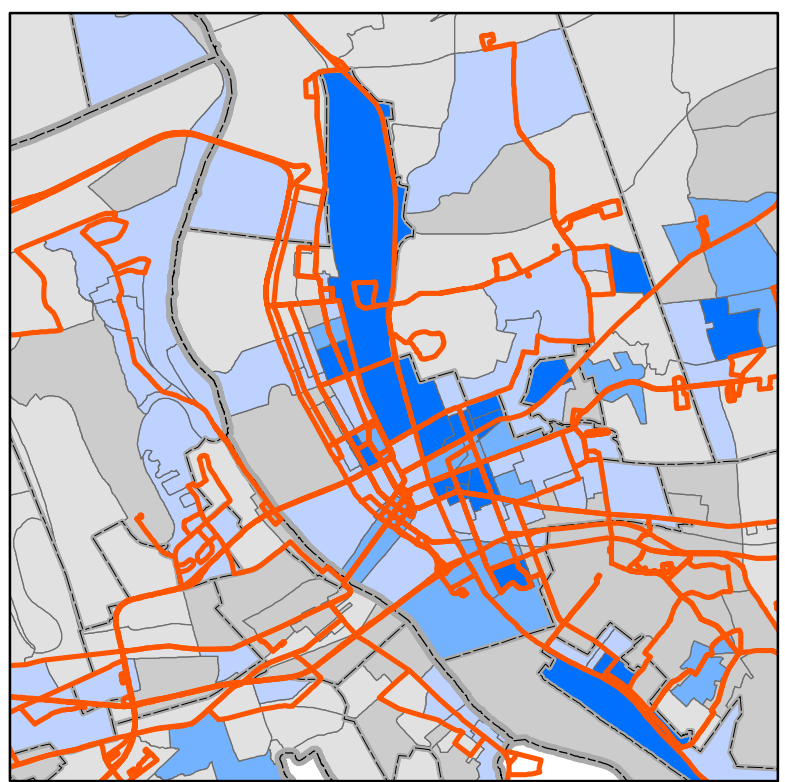
5 Miles

**Low-income Population**  
**Percentage by Block Group**

- Less than 4.89%
- 4.89% - 9.77%
- 9.78% - 21.59%
- 21.60% - 37.45%
- Greater than 37.45%

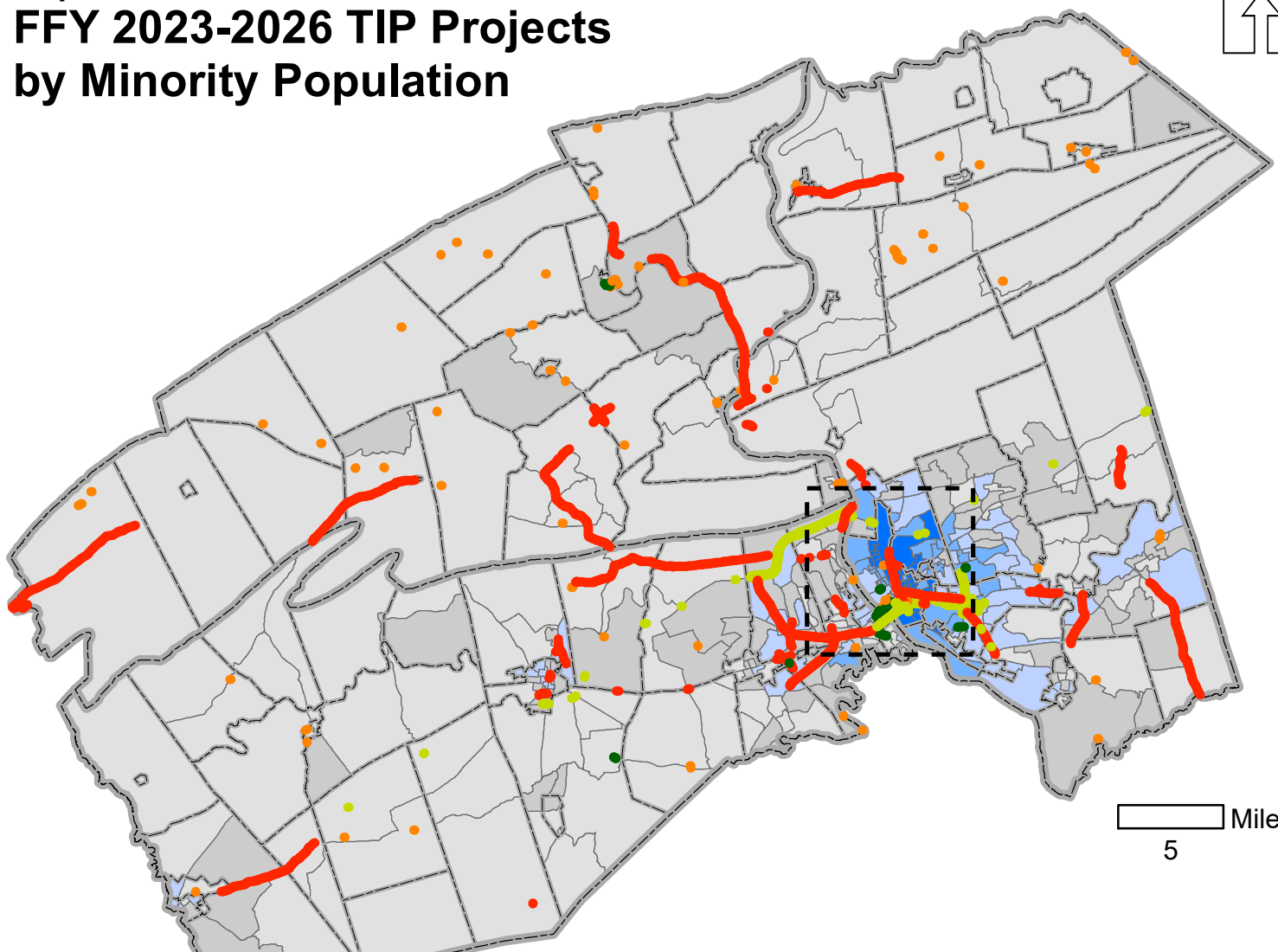
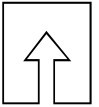
**Transit Service**

- CAT Routes



Source: 2015-2019 American Community Survey 5-Year Estimates

**Map 15**  
**FFY 2023-2026 TIP Projects**  
**by Minority Population**

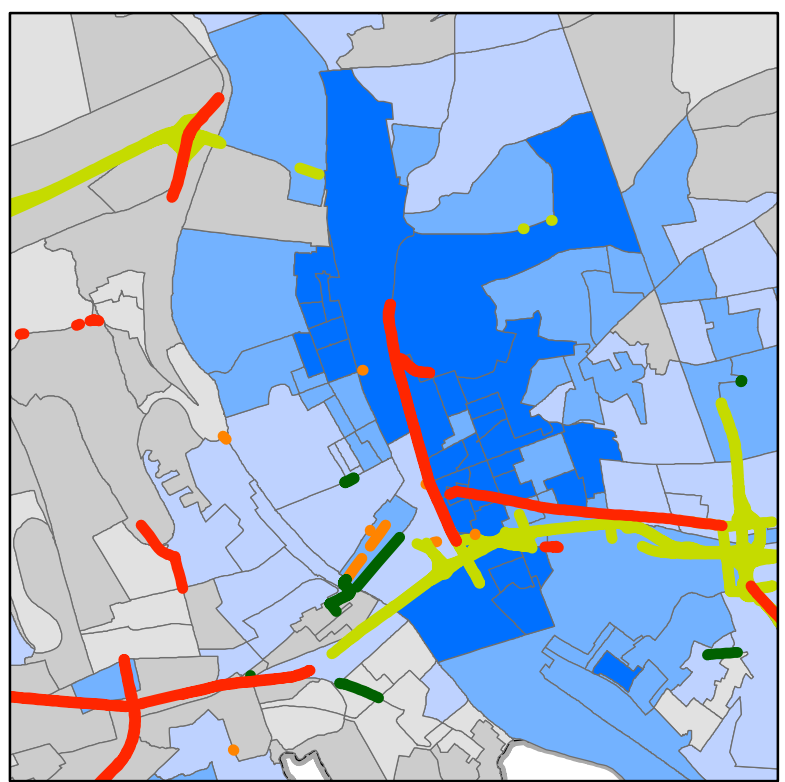


**Category**

- Bike/Ped
- Bridge
- Intermodal
- Interstate
- Roadway

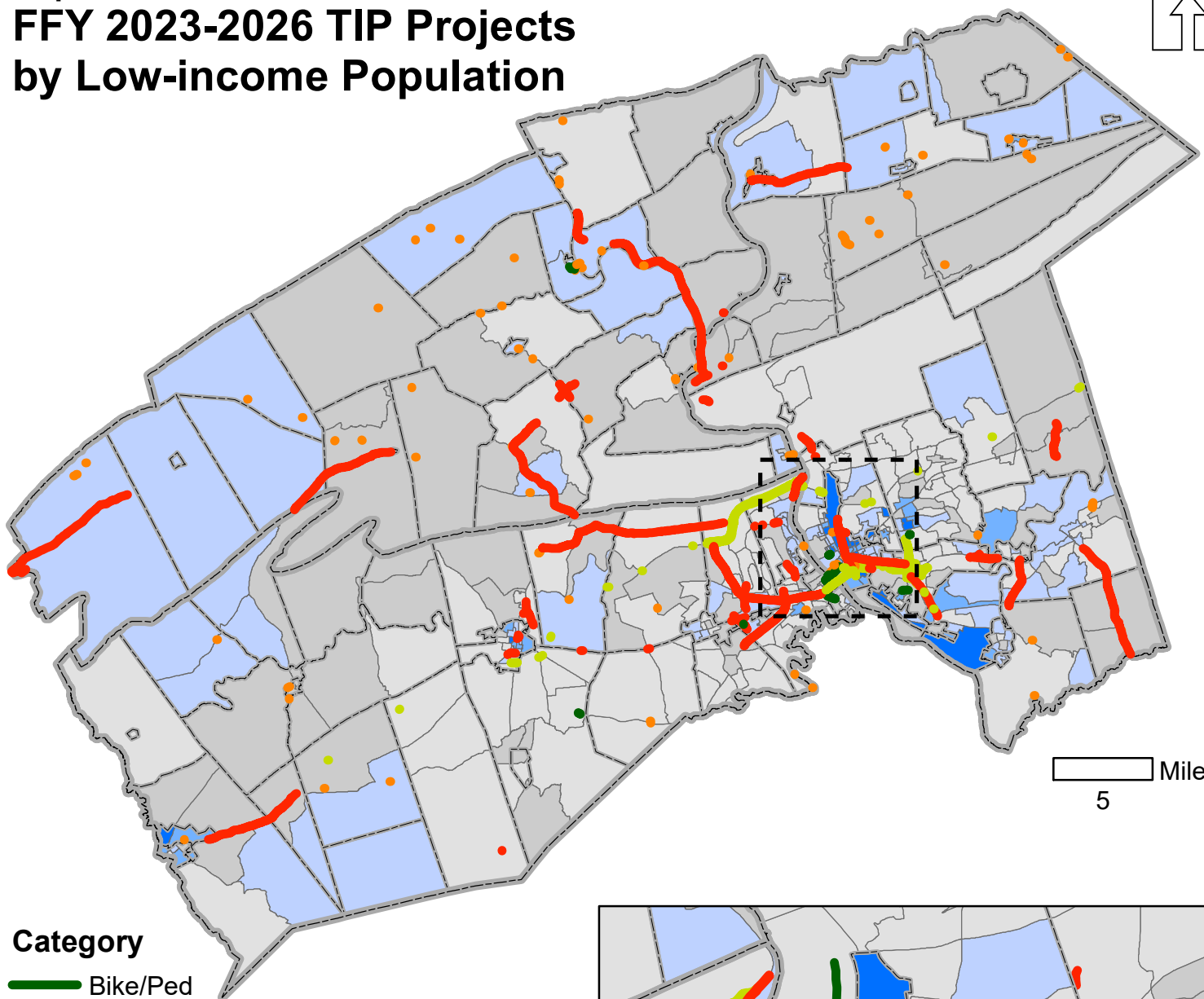
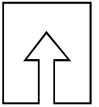
**Minority Population**  
**Percentage by Block Group**

- Less than 9.49%
- 9.49% - 23.15%
- 23.16% - 44.57%
- 44.58% - 70.93%
- Greater than 70.94%



Source: 2015-2019 American Community Survey 5-Year Estimates

**Map 16**  
**FFY 2023-2026 TIP Projects**  
**by Low-income Population**



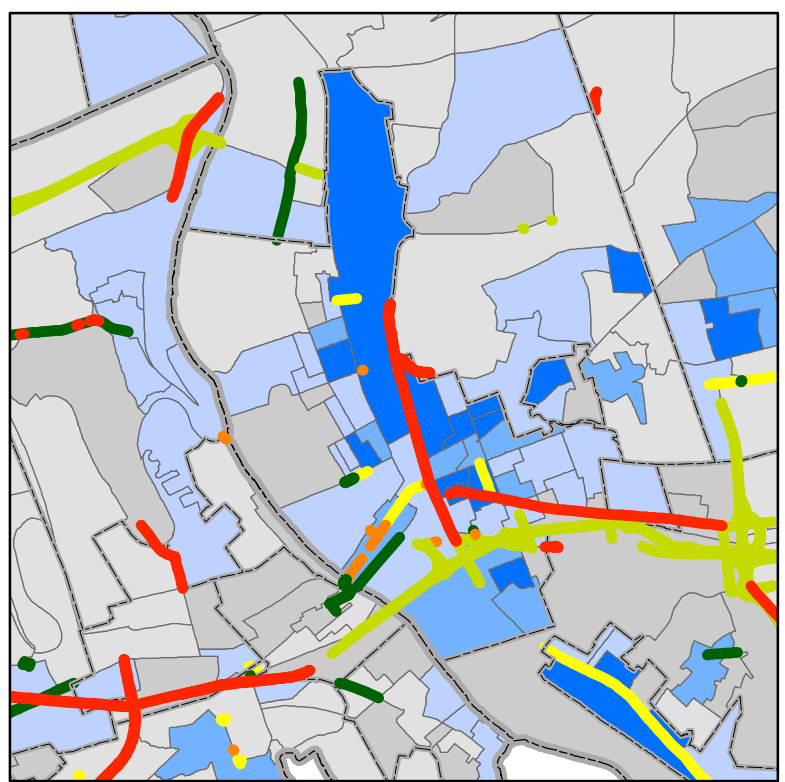
5 Miles

**Category**

- Bike/Ped
- Bridge
- Intermodal
- Interstate
- Roadway

**Low-income Population Percentage by Block Group**

- Less than 4.89%
- 4.89% - 9.77%
- 9.78% - 21.59%
- 21.60% - 37.45%
- Greater than 37.45%



Source: 2015-2019 American Community Survey 5-Year Estimates