

CHAPTER 3:

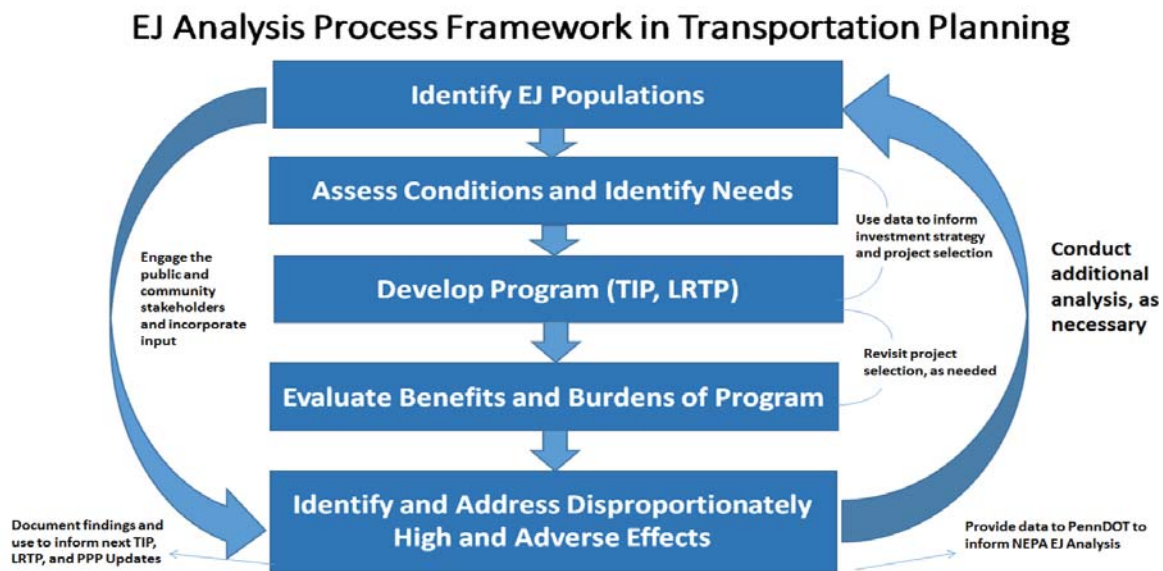
# Title VI and Environmental Justice

As the region’s MPO, DVRPC is mandated to ensure non-discrimination in all of its programs and projects, including the TIP, and respond to federal guidance on Environmental Justice (EJ). There are two primary federal non-discrimination guidelines DVRPC follows in its planning efforts: Title VI of the Civil Rights Act of 1964 and the 1994 President's Executive Order on Environmental Justice (#12898). See Appendix G: Title VI Policy Statement and Complaint Procedures.

To address decades of underinvestment and disproportionate impacts on marginalized communities and to build upon a national commitment to environmental justice, the Biden-Harris Administration created the Justice40 Initiative. Established under Executive Order 14096, “Revitalizing Our Nation's Commitment to Environmental Justice for All” and signed in April 2023, Justice40 has made it a national goal to ensure that 40 percent of the overall benefits of federal investments go to communities disadvantaged by social, economic, and environmental factors. All Justice40 programs receiving federal funding have been asked to identify the benefits of their covered programs, determine how covered programs distribute benefits, and calculate and report on reaching the 40-percent goal. Certain federal funds in the DVRPC FY2025 PA TIP qualify as Justice40 covered programs.

In addition to federal guidance, there is guidance from PennDOT for the state of Pennsylvania that DVRPC also follows, referred to as the South-Central Pennsylvania Environmental Justice Unified Process and Methodology Guide. Figure 4: outlines the key steps of an EJ Analysis Process Framework according to this guidance.

**Figure 4:** EJ Analysis Process Framework in Transportation Planning from the South-Central Pennsylvania Environmental Justice Unified Process and Methodology Guide



**Figure 1** EJ Analysis Process Framework in Transportation Planning

Source: South-Central Pennsylvania Environmental Justice Unified Process and Methodology Guide, 2019

The programming process that DVRPC facilitates during TIP updates is dynamic and complex. The process seeks to meaningfully address diverse needs and requirements in addition to Title VI and EJ considerations,

and to ensure these requirements and considerations influence how the region's resources are allocated. In addition to Title VI and EJ, some other considerations in TIP programming include:

- balancing funds across various areas, and ensuring consistency with DVRPC's Long-Range Plan vision, goals, and objectives;
- resource distribution to different geographic areas;
- different geographic needs;
- competing transportation modes (transit, bicycle, pedestrian, freight, road);
- eligibility requirements of various funding sources (e.g., HSIP versus CMAQ);
- number of funding sources that the city expects; and
- political realities.

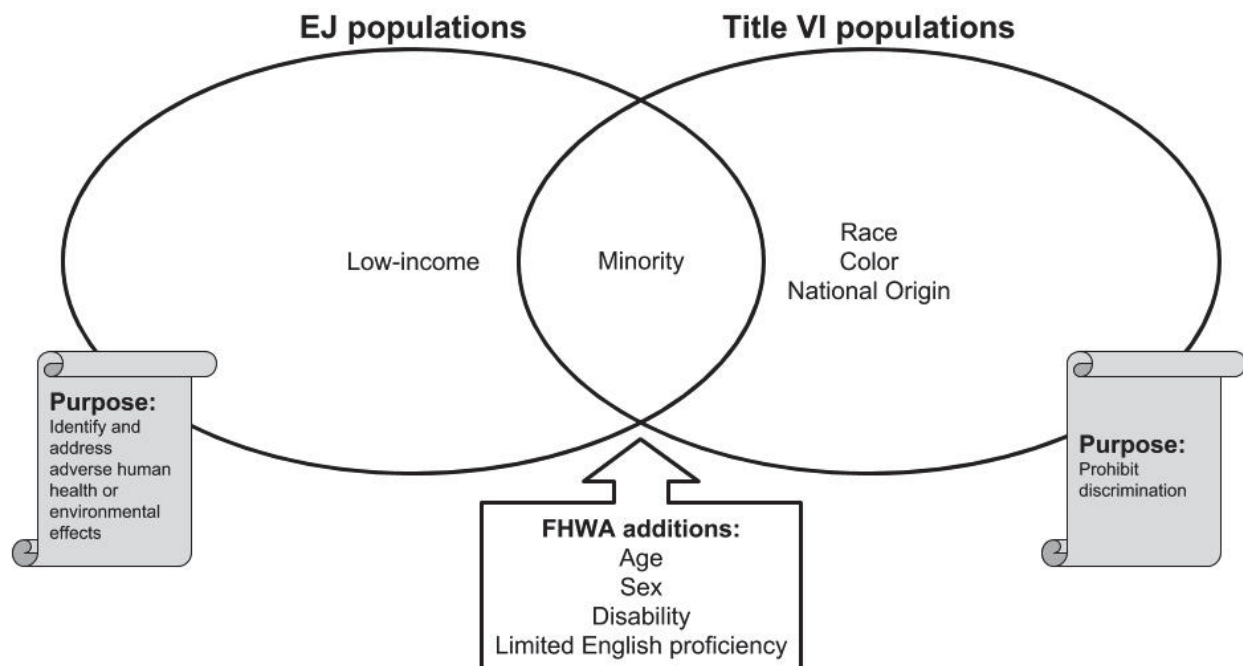
## What Are EJ and Title VI?

Title VI and EJ are required components in the metropolitan planning process due to legislative and executive actions: Title VI of the Civil Rights Act of 1964, the President's Executive Order #12898 from 1994, and the USDOT Order on Environmental Justice in Minority Populations and Low-Income Populations 5610.2(a). Title VI of the Civil Rights Act of 1964, which served as the foundation for the EJ Executive Order, is a nondiscrimination statute that states "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Additional guidance from FTA and the FHWA encourage transportation agencies to follow non-discrimination guidelines based on sex, age, and disability.

The 1994 President's Executive Order #12898 on Environmental Justice ensures that each agency receiving federal financial assistance will make environmental justice its mission "by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States." Upholding the principle of environmental justice in transportation means that projects, such as highway expansions, do not have a disproportionately negative impact on communities that have historically been isolated from and disregarded in the planning process.

In the transportation realm, the USDOT Order on Environmental Justice in Minority Populations and Low-Income Populations 5610.2(a) requires that transportation agencies fully consider environmental justice principles throughout planning and decision-making processes in the development of programs, policies, and activities. See Figure 5 for the overlap in populations and intent of Title VI and EJ. All transportation agencies must strive to offer the opportunity for people to be meaningfully involved in the development of transportation plans; all persons shall experience an equitable distribution of benefits and costs from transportation projects, programs, and policies; a person or population group should not be denied the benefits of the TIP; and agencies should avoid, minimize, or mitigate disproportionate burdens (high and adverse impacts) resulting from a program or project, especially for minority and low-income populations.

**Figure 5: Populations and Purpose of EJ and Title VI**



Source: DVRPC, 2024

### Identifying Populations

DVRPC is committed to complying with the federal guidance on Title VI and EJ and the state guidance in the South-Central Pennsylvania Environmental Justice Unified Process and Methodology Guide. DVRPC’s Regional Planning division, which includes the Office of Capital Programs, works with the Office of Communications and Engagement to address technical and public involvement activities, respectively, as they relate to Title VI and EJ. To meet the requirements of the federal and state guidance, DVRPC has and will continue to conduct the following activities:

- Enhance its analytical capabilities to ensure that the Long-Range Plan and the TIP comply with Title VI,
- Identify residential, employment, and transportation patterns of low-income and minority populations, so their needs can be identified and addressed, and the benefits and burdens of transportation can be fairly distributed.
- Evaluate and, where necessary, improve the public outreach process to eliminate barriers and engage minority and low-income populations in regional decision making.

DVRPC’s technical work involves Title VI and EJ evaluation through quantitative and qualitative analyses and mapping. In 2001, DVRPC developed a technical assessment to identify populations of concern that may be directly and disparately impacted by the Commission’s plans, programs, and planning processes. This assessment, called Indicators of Potential Disadvantage (IPD), was significantly revised in 2010 and 2018. The IPD analysis is utilized in a variety of DVRPC plans and programs, including the TIP, and is available online at [www.dvrpc.org/webmaps/IPD](http://www.dvrpc.org/webmaps/IPD). For more information about DVRPC’s Title VI Compliance Program and Public Involvement opportunities, please visit [www.dvrpc.org/GetInvolved/TitleVI](http://www.dvrpc.org/GetInvolved/TitleVI) and [www.dvrpc.org/GetInvolved/PublicParticipation](http://www.dvrpc.org/GetInvolved/PublicParticipation).

### IPD Methodology

The TIP selection process and program evaluation use DVRPC’s IPD methodology to analyze projects that can be mapped. There are nine population groups that are currently analyzed via the IPD, all of which have been identified as communities of concern under Title VI and/or EJ:

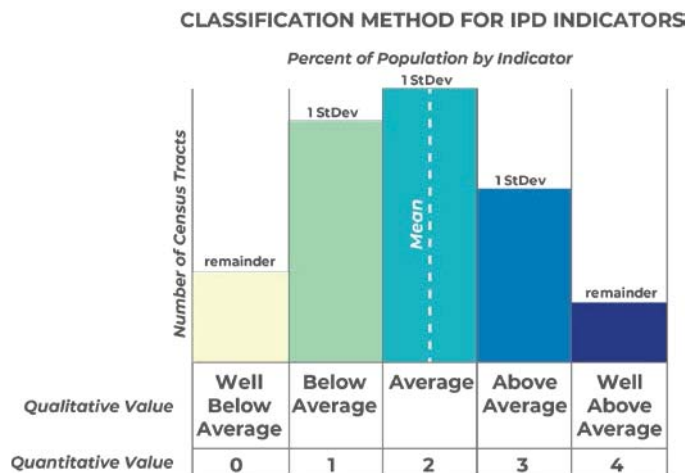
- Ethnic Minority;
- Female;
- Foreign Born;
- Limited English Proficiency;
- Low-Income;
- Older Adults;
- Persons with Disabilities;
- Racial Minority; and
- Youth.

The IPD methodology evaluates each census tract in the DVRPC-PA region for the concentration of each of the nine IPD population groups listed above using American Communities Survey (ACS) data. This methodology is used in the FY2025 TIP to understand the distribution of projects and how they may benefit or burden communities of concern, particularly focusing on the low-income, racial minority, and ethnic minority populations.

In the IPD methodology, the data for each of the indicators in the IPD analysis is split into five categories, which are determined by using the DVRPC-PA regional average to create standard deviations for each indicator. A score is correlated with each of the five categories to create a system for comparing the concentrations of populations within TIP project areas. As Figure 6: below illustrates, a census tract’s “cumulative score” (an IPD score ranging from 0 to 36) is determined by each of the indicator’s individual scores:

- Well Below Average (score of 0);
- Below Average (score of 1);
- Average (score of 2);
- Above Average (score of 3); and
- Well Above Average (score of 4).

**Figure 6: IPD Scoring Methodology**



Source: DVRPC, 2024

For the purpose of the TIP, these summary scores are then again organized into five categories from “Well Below Average” to “Well Above Average,” to allow for regional comparisons and evaluation. See “IPD” on page 90 for more information on IPD scores and categories:

- Well Below Average (scores from 0 to 6);
- Below Average (scores from 7 to 12);
- Average (score from 13 to 18);
- Above Average (scores from 19 to 24); and
- Well Above Average (scores from 25 to 36).

## Demographic Analysis by Low-Income, Racial Minority, and Ethnic Minority

Table 9: provides an overview of demographic data from the U.S. Census for the five-county Pennsylvania region of Bucks, Chester, Delaware, Montgomery, and Philadelphia counties (“DVRPC-PA region”). This includes information on minority and low-income populations, as well as other vulnerable populations like people with disabilities and carless households. A comprehensive table, including other minority populations available via U.S. Census data, is included in Appendix F.

White, Non-Hispanic persons represent nearly 60 percent of the DVRPC-PA region’s population, followed by Black or African American, Non-Hispanic (21 percent), Hispanic (10 percent), Asian alone, Non-Hispanic (7 percent), and two or more races, Non-Hispanic (3 percent). Several other ethnic minority groups have small populations in the region, each representing less than 1 percent of the regional DVRPC-PA population. For the full list of population data, see Table F1 in Appendix F.

Over 26 percent of the regional DVRPC-PA population is considered low-income, and 13 percent of the regional population has household incomes below the poverty line, including 24 percent of Black or African American, Non-Hispanic households, 27 percent of Hispanic households, and 34 percent of households identifying with the “some other race” category. For details on poverty rates for other racial groups, see Table F2 in Appendix F.

Maps depicting concentrations of low-income and minority populations are included in Appendix F as Figures F1 (Concentrations of Low-Income Populations), F2 (Concentrations of Racial Minority Populations), and F3 (Concentrations of Ethnic Minority Populations).

## Assessing Conditions and Needs

As detailed in Chapter 4, the IIJA/BIL requires state DOTs and MPOs to use Performance-Based Planning and Programming (PBPP) in transportation decision making. This includes establishing baseline performance metrics for the transportation network, setting data-driven targets, selecting projects to help meet those targets, and tracking progress. The goal of PBPP is to ensure targeted investment of transportation funds by increasing accountability and transparency and providing for better investment decisions that focus on outcomes related to goals, including safety, infrastructure preservation, congestion reduction, and system reliability. For the FY2025 TIP, DVRPC performed an in-house analysis of existing asset conditions, enabling for the first time a customized approach to understanding the region’s infrastructure challenges, particularly regarding disproportionate conditions in communities of concern, as defined by DVRPC’s IPD analysis. Because this in-house analysis was more tailored to the DVRPC-PA region than prior analyses conducted by PennDOT at the statewide level, the observations related to disproportionate trends may differ from those shown in prior TIPs.

Early in the process of developing the FY2025 TIP, DVRPC developed a new web map application displaying bridge and pavement asset condition and safety data alongside demographic information, including low-income and minority populations, and shared it with the PA TIP Subcommittee. The web map helped facilitate a conversation among stakeholders about how to maintain and improve the region’s transportation network

equitably, avoiding disproportionate impacts or levels of investment. Regional versions of the asset condition maps with demographic data are provided in Appendix F.

In addition to the web map provided to the Subcommittee, DVRPC conducted and shared an analysis of bridge and pavement conditions in communities of concern at the conclusion of the FY2023 PA TIP update in order to identify and address any disproportionate impacts.

### Bridge Conditions in Communities of Concern

Further analysis of bridge conditions with spring 2024 data found that poor-condition bridges are disproportionately located in communities with above average and well above average concentrations of either low-income or minority populations. When examining the condition of the total number of bridges located in these areas, communities with higher shares of these populations also have a higher share of their bridges categorized as “poor” condition. There also appears to be a higher percentage of bridge deck area in poor condition located in communities with above average and well above average concentrations of minority populations. This may be due to the large size of many bridge structures located in the City of Philadelphia. The FY2025 TIP for Pennsylvania includes nine new bridge projects in addition to approximately 90 bridge projects carried over from the FY2023 TIP. In addition, \$20 million has been set aside in the FY2025 TIP for a new round of the Municipal Bridge Retro-Reimbursement Program and \$76 million has been set aside for a new competitive off-system bridge program.

See Tables F3, F4, and F5 in Appendix F for more details. Maps of bridge conditions with demographic information are also included in Appendix F as Figures F4, F5, and F6.

**Table 9:** Population Estimates in the DVRPC Pennsylvania Region (2018–2022)

Population for Five DVRPC Pennsylvania Counties	Population Estimate	Regional Percentage
Total	4,206,556	100%
White, Non-Hispanic	2,476,647	60%
Minority	1,705,215	40%
Black or African American, Non-Hispanic	873,519	21%
Asian, Non-Hispanic	286,887	7%
Two or more races, Non-Hispanic	142,545	3%
Hispanic	402,264	10%
Low-Income Population	1,074,068	26%
Other Communities of Concern		
Limited English Proficiency (LEP)	278,515	7%
Persons with a Disability	538,310	27%
Female Head of Household with Child	95,385	6%
Elderly (65 years or older)	691,650	16%
Carless Households	244,629	15%

Source: ACS, U.S. Census Bureau, 2018–2022

Note that several other smaller minority populations are listed in Table F1 of Appendix F.

DVRPC’s IPD analysis defines Low-Income Populations as 200 percent of the poverty level or below.

## **Pavement Conditions in Communities of Concern**

Analysis of pavement conditions found that there is a significant difference in the distribution of pavement in poor condition among communities in the DVRPC-PA region. Communities with above average or well above average low-income and minority populations have a higher percentage of their pavement in poor condition compared to areas with lower concentrations of these populations. Similarly, communities with above average or well above average concentrations of low-income and racial minority populations had a disproportionately lower percentage of their pavement in good condition when compared to communities with lower shares of these populations and when compared to the regional average. For pavement in fair condition, there was no trend among areas varying by income, race, or ethnicity. There are currently 228 segment miles of pavement in excellent condition in the entire five-county DVRPC-PA region, while there are over 1,100 miles in good condition, close to 1,500 miles in fair condition, and approximately 1,400 miles of pavement in poor condition. This distribution of good, fair, and poor pavement condition is consistent with PennDOT's LLCC approach, described in Chapter 2.

Pavement conditions in the region are addressed in two ways: through the TIP and through maintenance funding not captured in the TIP. The FY2025 TIP includes 24 Roadway Rehabilitation projects, including one programmed on the statewide IMP. These tend to be larger, more complex projects that include improvements beyond the scope of simply addressing pavement conditions. PennDOT District 6 also has a five-year resurfacing plan to address pavement, which is updated periodically. This five-year resurfacing plan is funded with state maintenance dollars that do not appear in the TIP. The segments on the five-year plan are currently selected based primarily on asset management system data and analysis. Going forward, a more nuanced approach may be required to balance federal performance targets for pavement preservation with ensuring that pavement condition is addressed equitably throughout the DVRPC-PA region. DVRPC will work with PennDOT District 6 to evaluate new methods to update this process. It is also important to note that several large packages of resurfacing projects programmed on the FY2025 TIP in the City of Philadelphia will address pavement conditions, including many roadways in disadvantaged communities.

See Tables F6, F7, and F8 in Appendix F for more details. Maps of pavement condition with demographic information are also included in Appendix F as Figures F8, F9, and F10.

## **Safety: Crashes and Communities of Concern**

Crash data is complex and multifaceted. To understand possible trends, DVRPC analyzed PennDOT crash data from 2018 to 2022 and census data for communities of concern under Title VI and EJ for the same period of time. (See Tables F9-F14 in Appendix F.) This data includes total crashes, fatal and suspected serious injuries, and crashes involving bicycle and pedestrians, or vulnerable road users (VRUs). DVRPC's in-house analysis normalized crash data by adjusting for the size of each population group, calculating crash rates per 10,000 residents.

The data indicates an over-representation of killed and severely-injured (KSI) crashes in communities with above average and well above average concentrations of low-income and minority populations (see Tables F9, F10, and F11 in Appendix F). This trend is particularly alarming for VRU crashes in communities with above average or well above average concentrations of low-income and minority populations (see Tables F12, F13, and F14 in Appendix F). See Figures F10, F11, and F12 for maps depicting bicycle and pedestrian (VRU) crashes with concentrations of low-income and minority communities.

In 2018, DVRPC published an analysis and report, *Crashes and Communities of Concern in the Greater Philadelphia Region* (DVRPC Product #18022), which found that census tracts with above average concentrations of low-income, racial minority, ethnic minority, and disabled populations correlate with census tracts that have above average crash rates in the region. The safety analysis conducted for this TIP update further confirms these findings.

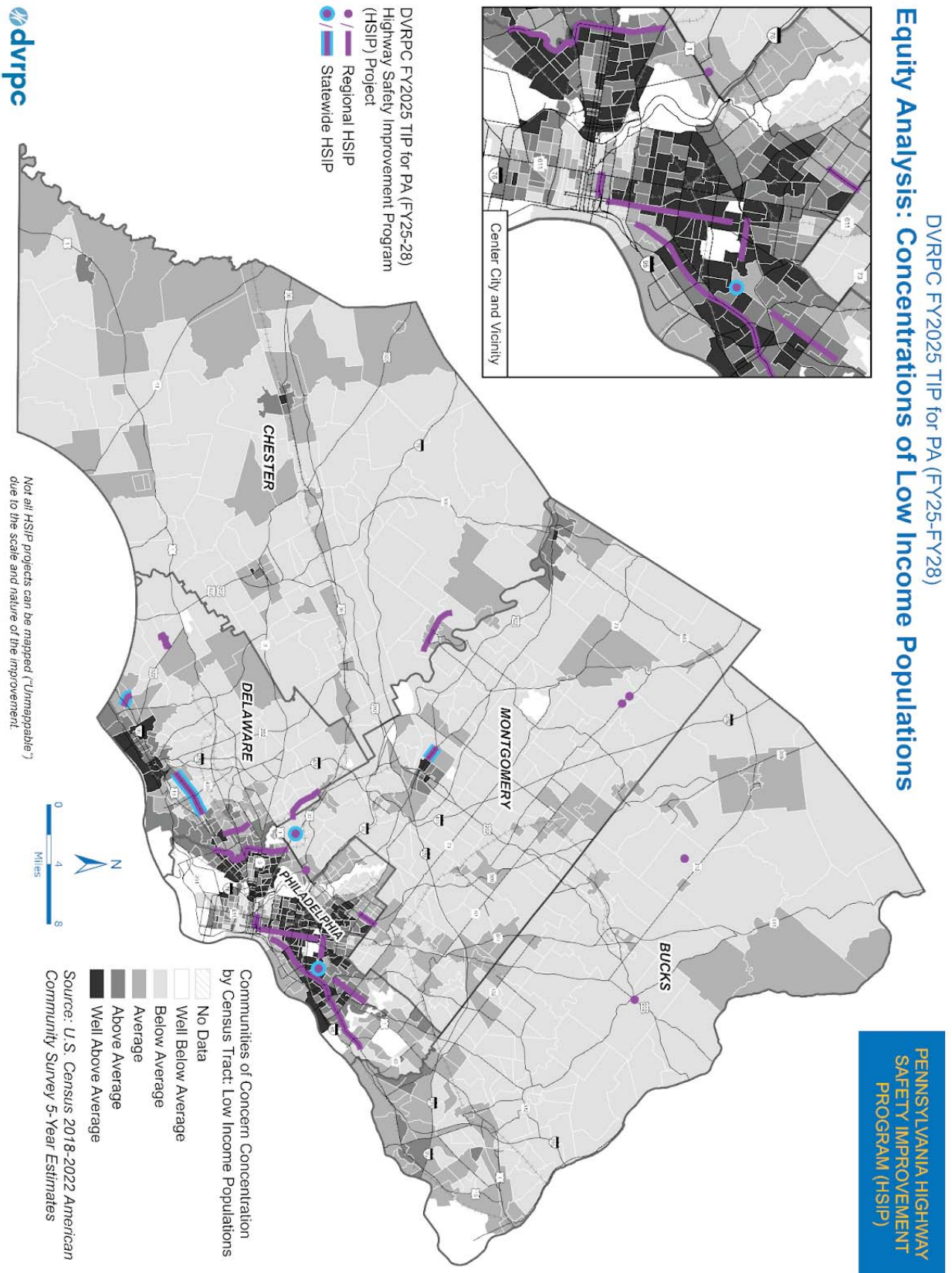
As noted in Chapter 4, "Performance-Based Planning and Programming," there are multiple approaches for funding transportation projects that will improve safety. One core approach is developing projects that are funded with HSIP funds. PennDOT funds a Statewide HSIP Set-Aside Program and the DVRPC-PA region, working with PennDOT District 6, also funds a program of Regional HSIP projects. Many of the projects in this pipeline will address pedestrian and bicycle crashes in communities with high concentrations of low-income

and minority populations. Figure 7 shows concentrations of low-income communities and FY2025 TIP projects programmed with statewide and regional HSIP funds. Similar maps with concentrations of racial and ethnic minority populations can be found in Appendix F as Figures F13, F14, and F15.

*Connections 2050* includes a Regional Vision Zero 2050 goal. In February of 2024, the DVRPC Board voted to adopt regional safety targets to meet that goal. Per federal regulations, if an MPO adopts regional safety targets, the adopted targets must cover the entire MPO region. The adopted regional safety targets represent fatal and suspected serious injury data for the combined nine-county bi-state DVRPC region. In taking this action, DVRPC's member governments and agencies agreed to plan and program projects that contribute toward meeting or exceeding the regional safety targets. This commitment can be seen in the new candidate projects selected for the FY2025 TIP. Of the 17 total non-bridge projects, nearly half include a significant focus on safety improvements. These include intersection improvements, a Complete Streets project, and pedestrian facility improvements. All of the candidates added to the TIP scored well in the safety criteria of the Plan-TIP Project Evaluation Criteria analysis. All of these projects were funded with sources other than HSIP. In addition, as noted at the end of this chapter, the DVRPC-PA region has received a number of significant federal competitive grants since the passage of the IIJA/BIL that will implement safety improvements in communities of concern.



Figure 7: Pennsylvania HSIP and Concentrations of Low-Income Populations



## Access to Transit

To understand access to transit, DVRPC leverages mapping developed in the Equity Through Access (ETA) project, which is used in the MPO region's Coordinated Human Services Transportation Plan. See [www.dvrpc.org/eta/](http://www.dvrpc.org/eta/) for more details. The ETA transit accessibility map layer shows a composite measure of regional public transit accessibility, considering how many areas a person could access in a 45-minute transit trip, the general number of essential services accessible in a 45-minute transit trip, frequency of service, and walkability of the block group to transit stations/stops.

Using accessibility data at the block group level, the four characteristics were combined and ranked 1 through 10. Higher values were assigned to areas that are less accessible by transit, and lower values were assigned to areas that are more accessible by transit. Figure 8: shows this transit accessibility in the DVRPC-PA region.

## Equity Analysis of the TIP

DVRPC evaluated the FY2025 TIP for Pennsylvania in two ways in order to understand if investments could potentially impact protected population groups and/or communities of concern:

- program evaluation by mapping TIP projects; and
- program evaluation of the allocation of investments.

DVRPC evaluated each candidate project proposed for the FY2025 TIP during the project evaluation process and designated an IPD score (see "Project Selection and Evaluation Process" on page 19 in Chapter 2 for more details). As a result of additional funding from the IJJA/BIL, the DVRPC-PA region was able to add 26 candidate projects, including nine bridges. Each project was analyzed with the Plan-TIP Project Evaluation Criteria tool, which includes an equity measure. After a draft program was agreed upon by the PA TIP Subcommittee, the entire program of investments that can be mapped ("mappable") was evaluated by census tract by using the IPD analysis. This is called Program Evaluation. Not all TIP projects can be mapped ("Unmappable") due to the scale and nature of the improvement (e.g., MPMS #115970, Air Quality Action Supplemental Services). Table F15 in Appendix F lists all 85 TIP projects in the Highway and Transit programs that were not mappable and/or lacked statistically significant residential census data.

DVRPC's Program Evaluation of the TIP covered two aspects: the number of mappable projects and the amount of proposed investment (see the "Benefits and Burdens: Economic Investment" section below). Although some projects were left out of the analysis due to the inability to be represented geographically, the FTA and the FHWA consider utilizing geographic information systems (GIS) in equity analyses as a best practice for identifying potential impact to communities of concern. A 50-foot buffer was applied to the mapped features (points and lines) in order to capture potentially impacted census tracts.

Federal regulation requires that the TIP covers a minimum of four federal FYs of programming (FY25– FY28 for this TIP), but the DVRPC FY2025 TIP for Pennsylvania demonstrates a longer planning and programming horizon in order to provide better information about expected resources and projects that will advance over time. The FY2025 TIP for Pennsylvania details the four required federal FYs (FY25– FY28), as well as an additional eight years, for a total of 12 years of project programming from FY2025 to FY2036. DVRPC analyzed mappable transportation projects in the Highway and Transit programs for the next 12 years (FY25– FY36) with DVRPC's IPD analysis (see the "Benefits and Burdens: Economic Investment" section below).

Apart from the TIP process, EJ and Title VI are also considered early and continuously in the project delivery process before a project can be authorized for construction. Local agencies and project sponsors are additionally required to evaluate projects under the National Environmental Policy Act (NEPA) process to address potential environmental impacts of a transportation project. A transportation project (or program as a whole) can benefit communities, such as by improving existing or adding new transportation infrastructure. Transportation infrastructure, for instance, can support economic growth and reduce poverty within a community by providing residents and businesses safer and faster access to essential goods and services and by reducing transportation costs (e.g., travel time, vehicle operating and parking costs). In return, additional job creation, tax revenues, new businesses or business expansion, higher property values, and

better air quality can result. Yet the same project (or program) can result in burdens or negative externalities for the same and/or other communities. For example, improved vehicle access and reduced cost per vehicle mile may make it more difficult for pedestrians to travel and access goods and services, reduce property values, or lower business revenue by exposing them to more competition (e.g., easier for customers to access other businesses that they could not before).

## Evaluating Benefits and Burdens

Although transportation infrastructure investments form the backbone of a healthy and prosperous region, their impacts may involve changes to traveler costs, accessibility, community cohesion, air quality, noise, visual quality, etc., that can affect one community more than another and at different times of the project process (before, during, and after construction).

Returning to the transportation context of EJ and Title VI of the Civil Rights Act of 1964, all people should be treated fairly and offered the opportunity to be meaningfully involved in transportation projects, programs, and policies; no one person or group should be denied the benefits of the TIP based on one's race, color, or national origin; and MPOs should avoid, minimize, or mitigate disproportionate burdens resulting from a program (or project), especially for minority and low-income populations.

It is important to recognize at the outset that it is challenging to evaluate the potential impacts of transportation projects before they have been designed, as is the case with many of the projects programmed on the FY2025 TIP for Pennsylvania. There are many complex factors to consider beyond the location of the project and the presence of certain populations that determine the relative impacts of each individual project. Conducting the analysis that follows is still an emerging area of transportation planning. DVRPC and its partners will continue to advance the state of the practice with each update of the TIP.

### Planning Process

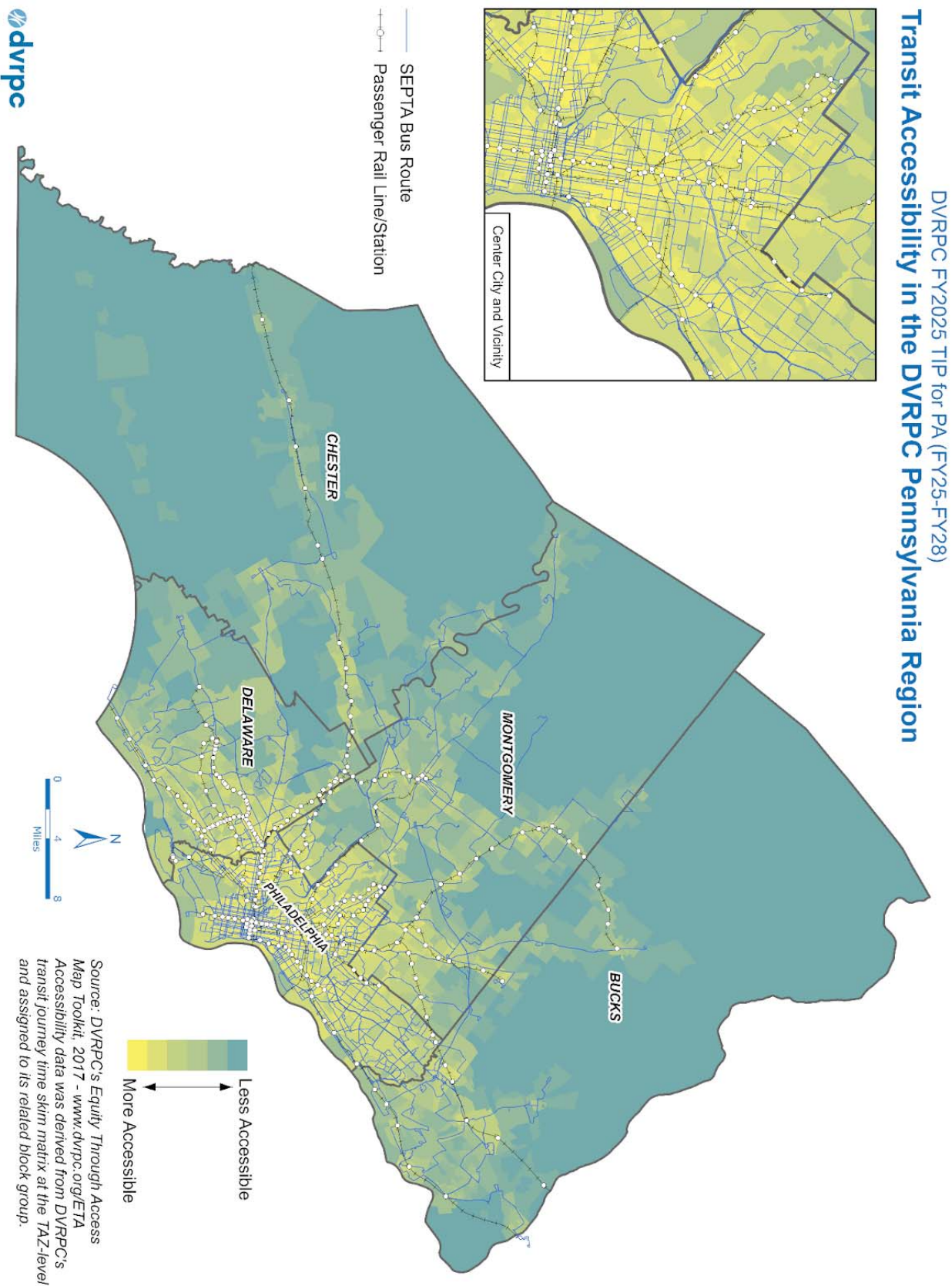
Involving members of disadvantaged communities in the planning process early and often is an important part of preventing disproportionate burdens from transportation projects. DVRPC invites members of the public to participate in specific projects and on standing committees, such as the Public Participation Task Force (PPTF) and the Healthy Communities Task Force. DVRPC's PPTF provides ongoing access to the regional planning and decision-making process, serves as a conduit for DVRPC information to organizations and communities, and assists with implementing public outreach strategies. The PPTF includes members selected through an application process designed to maintain a regionally inclusive task force with diverse interests and backgrounds, including low-income and minority populations.

More broadly, members of the public are encouraged to engage with local municipalities, county planners, DVRPC, and PennDOT in the early stages of problem identification and project development. The PennDOT Connects process, described below, offers opportunities for engagement at several points during the project development process.

As described in Appendix D: DVRPC Plan-TIP Project Evaluation Criteria, the goal of the Plan-TIP Project Evaluation Criteria is to provide a data-informed support tool to guide transportation project investment decisions. The Project Evaluation Criteria includes ten criteria, with each criteria assigned a weight. The Equity criterion, weighted at 12.4 percent of the total score evaluates Equity as it is broadly defined in the Long-Range Plan. This analysis relies on DVRPC's IPD methodology, which includes low-income and minority populations, as well as other communities of concern. Projects score based on a set of potential benefits and burdens multiplied by the max composite IPD score within a quarter-mile buffer of the project's limits.

In addition to the Equity criterion, areas with high concentrations of low-income, minority, and other communities of concern are captured as part of the Safety Criterion. Safety is the highest-weighted criterion in the Project Evaluation Criteria analysis at 23.2 percent of the total score.

**Figure 8: Transit Accessibility in the DVRPC Pennsylvania Region**



## Project Selection: Plan-TIP Project Evaluation Criteria

Each TIP candidate project was analyzed with the Plan-TIP Project Evaluation Criteria. The scores were used to select candidates for funding from a larger pool of county and regional priorities. New for this TIP update, DVRPC introduced a Scenario Builder tool to aid in reaching consensus for the selection of new TIP projects among regional stakeholders. The tool gave users the ability to review Project Evaluation scores, select projects, and adjust funding amounts, building possible scenarios within the constraints of available funding. A key feature of the tool calculated the sum and share of the total available funding users allocated to communities with high IPD scores. This feature underscored impacts and investments to EJ communities during the consensus-building process, uniting stakeholders around shared values and aligning with a key principle in DVRPC's Long-Range Plan. Ultimately, the scenario that was agreed upon included nearly 60 percent of the funding for new projects invested in projects located in EJ communities. In total, with additional funding from the IIJA/BIL, the DVRPC-PA region was able to add nine new bridge and 17 non-bridge candidate projects. Maps of new candidate projects with demographic information are included in Appendix F as Figures F22, F23, and F24.

## PennDOT Connects

Highway-funded candidate projects also undergo screening through PennDOT's local outreach initiative, PennDOT Connects. This process considers community support, potential historic preservation, cultural resource, bicycle and pedestrian, transit, or environmental resource impacts, among other topics that can be identified prior to developing project scopes and estimates. The Connects process also offers an opportunity for local stakeholders to meet with PennDOT project managers to voice local priorities and concerns, which may then be addressed in project scopes.

DVRPC staff evaluates every project that comes through the PennDOT Connects process using DVRPC's IPD mapping tool in order to identify concentrations of low-income, minority, or other disadvantaged populations. Information about specific populations is provided to PennDOT project managers, along with contact information for local groups representing these populations, when such information is known.

## Role of NEPA

PennDOT evaluates potential adverse effects on low-income and minority populations as part of the NEPA process. Recognizing that certain types of actions are unlikely to generate disproportionately high and adverse effects on these populations, PennDOT, in consultation with the FHWA, Pennsylvania Division Office, has developed a list of projects exempt from detailed project-level EJ/Title VI analysis. For more information, see [PennDOT Publication #746](#).

For non-exempt projects, information on disadvantaged populations that was gathered during the planning process, including PennDOT Connects outreach, is evaluated, and additional information about populations in the project area is gathered if necessary. This includes looking beyond the immediate project location to assess impacts from detour routes or impacts to transit services, as applicable.

DVRPC helps provide data and guidance to this process via PennDOT Connects and as requested at the project level. PennDOT supplements demographic data with field evaluations that consider a variety of factors, including access to essential goods and services. This analysis identifies and discusses both direct impacts and indirect/cumulative effects that would result from a given project, then determines if there are disproportionately high and adverse effects on communities of concern. If it is determined that there are disproportionate impacts that cannot be offset by project benefits, where feasible, strategies to minimize those effects are incorporated into the project.

Through its Title VI Compliance Program, DVRPC will continue to explore the benefits and burdens associated with transportation projects, particularly those that can be identified during the programming phase, in an effort to avoid, minimize, or mitigate disproportionate burdens. DVRPC's analysis of benefits and burdens considers all projects, including those that are typically categorized as exempt, in order to provide a comprehensive, high-level evaluation of the potential impacts of the projects on the TIP.

## Economic Investment

The IPD methodology is used to understand the distribution of economic investments and the demographics of those locations that would benefit. Not all investments are universally beneficial, such as expanding a highway in a low-income neighborhood with low car ownership rates, but these more refined considerations of benefit and burden are analyzed in the NEPA process, as detailed above. DVRPC prioritizes evaluating the distribution of projects in order to meet the requirements of Title VI to show non-discrimination and the guidance of environmental justice to understand the benefits and burdens.

Table 10: illustrates the 266 total mappable projects that were analyzed, with funding totaling \$15,387,230 over the 12 years of the FY2025 TIP for Pennsylvania. These projects are analyzed in two ways: by IPD score correlated with the mappable project and by the three IPD indicators that are prioritized in the South-Central Pennsylvania Environmental Justice Unified Process and Methodology Guide: Low-Income, Racial Minority, and Ethnic Minority. For the section using the IPD score, project costs are organized by the IPD score and all project costs in each IPD range are totaled. These totals are then compared to the total investment for the FY2025 TIP in order to understand distribution of economic investment by concentration of IPD populations. As seen in the table, the largest amount of investment (56 percent) is located in communities with an Above Average IPD score and overall more investments are going to communities with higher concentrations of historically and currently underserved populations. For the sections that compare economic distribution by Low-Income, Racial Minority, and Ethnic Minority, project costs are organized by concentrations of each population, and all project costs in each population are totals. These totals are then compared to the total investment for the FY2025 TIP in order to understand the distribution of economic investment by that particular population group.

As seen in the table, over 50% of investment resulting from the mappable projects in the FY2025 TIP is going to communities with above average or well above average concentrations of low-income, ethnic minority, and racial minority populations. This aligns with the TIP and Long-Range Plan's principle of equity, meaning distribution of benefit based on need rather than equality among all groups, and indicates an increased level of investment in these communities when compared to the FY2023 TIP. The overall investment in these communities is likely even higher due to the fact that some of SEPTA's large programs are unmappable, including the SEPTA Bus Purchase Program (MPMS #90512) and Vehicle Overhaul Program (MPMS #60582). These projects represent over a billion dollars of investment from FY2025 to FY2036 and will have many direct benefits for communities of concern. Nevertheless, DVRPC will continue to work with regional stakeholders to ensure that investments consider historically and currently underserved populations, including analysis of all new candidate projects with the Plan-TIP Project Evaluation Criteria.

DVRPC is not able to assign IPD scores and/or population percentages to projects that are unmappable or that are located in census tracts that lack statistically significant residential census data, so those projects were excluded from the analysis.

## Statewide IMP

The IMP is part of the Pennsylvania STIP. It was created to proactively address the maintenance and reconstruction of the state's aging Interstate infrastructure. Funds are allocated to specific projects selected by PennDOT at the statewide level. For the TIP Equity Analysis, DVRPC analyzed 27 IMP projects in the DVRPC-PA region, totaling more than \$2.7 billion over FY2025-FY2036. Those highway projects, including projects to repair and improve I-95 in the City of Philadelphia, I-76 in Montgomery County, I-476 in Delaware County, and the I-95/322 interchange in Delaware County, are listed in a separate IMP section of the TIP document.

It is important to acknowledge that the development of the federally funded Interstate Highway System has been shaped in part by the legacy of racist and discriminatory practices. Some Interstate highways divided communities when constructed and have since had many negative impacts on low-income and minority communities, including air quality, noise, and visual quality. At the same time, these facilities have come to provide critical access to destinations, ports and airports, and major employment centers. Maintaining a state of good repair on the Interstate system in terms of bridge and pavement condition is an essential component of federal performance management goals, as is improving the reliability of the Interstate system, including

for freight movements. (See Chapter 4 for more information.) As decisions are made about redesigning and rebuilding these structures, planners and community groups are exploring ideas for creative, green, and sustainable ground-level enhancements for those living and working in the neighborhoods along these corridors, where feasible. The I-95 projects in the City of Philadelphia include many such improvements. Two significant projects are underway that will cap interstates to reconnect communities and provide green space and amenities. These include the I-95 Central Access Philadelphia (CAP) Waterfront Access project (MPMS #106264) and the Chinatown Stitch project (MPMS #TBD), which was awarded a construction grant through the Reconnecting Communities and Neighborhoods (RCP) federal competitive grant program. Since these projects do not address interstate facilities, they are (or will be) listed on the regional TIP. See page 447 for more information about the IMP in the DVRPC-PA Region.

There are three new IMP projects in the FY2025 TIP. One will provide repairs to structures on I-95 in the City of Philadelphia to extend their service life. Though this project intersects census tracts that have above average concentrations of low-income and ethnic minority populations, preserving existing structures typically results in fewer adverse impacts on nearby communities. Two other new IMP projects, I-76 Flex Lanes: US 202 to I-476 (MPMS #116838) and I-76 Flex Lane WB: US 1-Belmont Ave (MPMS #116839), will provide increased highway capacity during peak periods and allow for dynamic lane management during emergency operations, weather events, and maintenance activities. As new roadway capacity projects, these projects have a higher potential for adverse impacts on nearby communities. The I-76 Flex Lane WB: US 1-Belmont Ave project in particular intersects census tracts that have an above average concentration of racial minority populations. This project employs a Very Appropriate strategy according to DVRPC's Congestion Management Process (CMP) by temporarily utilizing a flex lane or shoulder during peak congestion periods. Supplemental congestion management commitments are coordinated through the CMP, including complementary dynamic messaging to motorists about available parking and travel times for bus and train alternatives, active transportation management (ATM) strategies like dynamic lane assignments, and intelligent transportation systems (ITS) improvements to aid in traffic incident management and crash reduction. Alleviating congestion in this corridor may result in positive air quality benefits and improved trip reliability for all roadway users, in addition to improving travel times and reliability for SEPTA buses that utilize I-76.

## Categorization of Projects

Categorizing projects by their potential burdens or benefits enhances the transparency of a spatial investment analysis and project selection. Understanding the type of impact a project may have provides clarity regarding its implications for the communities within and nearby its location, and helps project implementation staff to prepare mitigation strategies. DVRPC staff assigns all TIP projects a primary project type based on their project descriptions in the TIP. The "South Central Pennsylvania Environmental Justice Unified Process and Methodology Guide" assigned project categories into the three levels of potential impact: low, medium, and high. See Tables 11: and 12: for the categorization of projects.

All of the projects in the FY2025 TIP fall under the lower potential for impact and low potential for impact categories. There are no projects in the FY2025 TIP that fall under the projects of concern category.

**Table 10: Economic Investment in Communities of Concern (Mapped Projects, FY25–FY36)**

Population	Cost (\$ in thousands)	Percentage of Investment
<b>All IPDs (Score)</b>		
Well Below Average (0–7)	\$57,247	0.4%
Below Average (8–14)	\$549,577	3.6%
Average (15–21)	\$6,019,509	39.0%
Above Average (22–28)	\$8,566,482	56.0%
Well Above Average (29–36)	\$194,334	1.0%
<b>Ethnic Minority</b>		
Well Below Average (0)	\$72,441	0.5%
Below Average (1)	\$879,805	6.0%
Average (2)	\$6,216,923	40.0%
Above Average (3)	\$5,821,454	38.0%
Well Above Average (4)	\$2,397,327	15.5%
<b>Low-income</b>		
Well Below Average (0)	\$57,247	0.4%
Below Average (1)	\$2,070,992	14.0%
Average (2)	\$3,741,195	24.0%
Above Average (3)	\$1,102,864	7.0%
Well Above Average (4)	\$8,414,932	54.6%
<b>Racial Minority</b>		
Well Below Average (0)	\$57,247	0.4%
Below Average (1)	\$1,997,884	13.0%
Average (2)	\$5,108,004	33.0%
Above Average (3)	\$722,858	5.0%
Well Above Average (4)	\$7,501,237	49.0%
<b>Total Cost of Mapped Projects (FY25 – FY36) (\$000)</b>	<b>\$15,387,230</b>	<b>100%</b>

Source: DVRPC, 2024



**Table 11:** Potential Impact of Mapped and Unmapped Pennsylvania TIP Projects by Type (FY25–FY36)

Project Categories for EJ Analysis	Potential Impact Type	Number of Projects in PA FY2025 TIP	Percentage of Projects in FY2025 TIP
<ul style="list-style-type: none"> <li>• New Right-of-Way</li> <li>• Roadway Expansion</li> </ul>	Projects of concern: High potential for adverse impacts	0	0%
<ul style="list-style-type: none"> <li>• Roadway and Bridge Maintenance</li> <li>• Roadway New Capacity (minor)</li> <li>• Bridge Repair or Replacement</li> <li>• Roadway Rehabilitation</li> </ul>	Lower potential for adverse impacts/potentially beneficial	142	43.8%
<ul style="list-style-type: none"> <li>• Safety Studies</li> <li>• Intersection/Interchange Improvements</li> <li>• Transit Improvements</li> <li>• Bicycle/Pedestrian Improvements</li> <li>• Signal/ITS Improvements</li> <li>• Streetscape</li> </ul>	Low potential for adverse impact/inherently beneficial	144	44.4%
<ul style="list-style-type: none"> <li>• Other</li> </ul>	Unknown or little to no potential for adverse impact/inherently beneficial	38	11.7%

Source: DVRPC, 2024

Over half (56 percent) of the mappable projects on the IMP intersect with a census tract with above average or well above average concentrations of low-income and/or minority populations. However, most of the projects fall under the lower potential for impact (18.5 percent) or low potential for impact (63.0 percent) categories. There are two roadway expansion projects in the FY2025 TIP IMP that fall under the projects of concern category.

**Table 12:** Potential Impact of Pennsylvania TIP IMP Projects by Type (FY25–FY36)

Project Categories for EJ Analysis	Potential Impact Type	Number of Projects in PA FY2025 TIP	Percentage of Projects in FY2025 TIP
<ul style="list-style-type: none"> <li>• New Right-of-Way</li> <li>• Roadway Expansion</li> </ul>	Projects of concern; High potential for adverse impacts	2	7.4%
<ul style="list-style-type: none"> <li>• Roadway and Bridge Maintenance</li> <li>• Roadway New Capacity (minor)</li> <li>• Bridge Repair or Replacement</li> <li>• Roadway Rehabilitation</li> </ul>	Lower potential for adverse impacts/potentially beneficial	5	18.5%
<ul style="list-style-type: none"> <li>• Safety</li> <li>• Studies</li> <li>• Intersection/ Interchange Improvements</li> <li>• Transit Improvements</li> <li>• Bicycle/Pedestrian Improvements</li> <li>• Signal/ITS Improvements</li> <li>• Streetscape</li> </ul>	Low potential for adverse impact/inherently beneficial	17	63.0%
<ul style="list-style-type: none"> <li>• Other</li> </ul>	Unknown or little to no potential for adverse impact/inherently beneficial	3	11.1%

Source: DVRPC, 2024

Although the NEPA process is focused on avoiding and mitigating excessive burdens and adverse effects of transportation projects, it is also important to recognize the clear benefits of many projects in the FY2025 TIP for Pennsylvania for the communities where the projects are located.

Taking a closer look at some of the projects in the categories above, there are numerous projects in the “Lower” and “Low” potential for adverse impact/inherently beneficial categories that are focused on providing benefits to communities with higher-than-average concentrations of low-income, racial minority, and ethnic minority populations. These include dozens of projects to repair bridges, pavement, and transit infrastructure, as well as numerous projects to improve safety. Specific examples of inherently beneficial projects in communities with high concentrations of EJ and Title VI populations include:

- The North Delaware Riverfront Greenway Section 3 (MPMS #79832) project will expand trail infrastructure.
- The I-95 Noise Abatement project (MPMS #108910) will evaluate and implement noise abatement measures along I-95 between US 322 and I-476 in the City of Chester and Chester Township, Delaware County.

- The 5th Street Improvements project (MPMS #118035) will design and construct complete street improvements, and the Spring Garden Connector project (MPMS #118034) will develop a complete street design to better and more safely accommodate all road users.
- The 25th Street: Washington Avenue to Passyunk Avenue project (MPMS #81219) is a new project added to the FY2025 TIP that will restore the roadway and provide street lighting, intersection improvements, and bicycle infrastructure to improve roadway conditions and safety. This project is located in the City of Philadelphia.
- The DeKalb Street Two-Way Reconstruction project (MPMS #118032) in Norristown, Montgomery County, will reconstruct a critical roadway, provide operational and safety improvements, and offer pedestrian amenities.
- The new Hulmeville Road & Brown Avenue Intersection Improvement project (MPMS #81295) will provide operational and safety improvements at a high-volume intersection in Bensalem Township, Bucks County.

New federal competitive grant funding made possible by the IIJA/BIL has provided support for a number of additional inherently beneficial projects in communities with high concentrations of EJ and Title VI populations. Some of these awards have been programmed on the FY2025 TIP for Pennsylvania, while others may be added as part of the List of Recommended Changes at the time of Board adoption, and still others will be added at a later time, once information becomes available. DVRPC coordinates with PennDOT, FHWA, and FTA staff to gather all the necessary information before programming federal competitive grant awards on the TIP. The timing of this process varies, depending on the specific grant and project. Please note that some federal grant awards (including Safe Streets and Roads for All grants) are not required to be programmed on the TIP.

- The Chinatown Stitch project was awarded a \$158,000,000 Reconnecting Communities and Neighborhoods (RCP) grant. This project will cap part of the Vine Street Expressway and reconnect the Chinatown neighborhood in Philadelphia, addressing historic inequities caused by transportation infrastructure that disproportionately impacted the Chinatown community.
- Delaware County was awarded a \$2,500,000 RCP grant to support a Complete Streets redesign of PA 291 in the City of Chester, a roadway that has experienced a high number of crashes, with many resulting in severe injuries or fatalities. The project will supplement the new TIP project, PA 291 Complete Streets: Irving Street to Ridley Creek (MPMS #82069), which will provide safety improvements for pedestrians, cyclists, transit riders, and motorists and will construct a multi-use sidepath that will be designated as part of the East Coast Greenway.
- SEPTA was awarded a number of competitive grants, including a \$25,000,000 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant providing for the Rebirth for Southwest Philadelphia's Transportation Network: Trolley Modernization & Complete Streets project. With this additional funding, SEPTA will advance a critical piece of its Trolley Modernization project, improving safety, mobility options, and access to economic opportunity through roadway improvements along several streets in Southwest Philadelphia. SEPTA was also awarded a \$56,050,000 All Stations Accessibility Project (ASAP) grant to support accessibility improvements at transit stations in historically disadvantaged communities along the Market-Frankford and Broad Street Lines.

- The City of Philadelphia was awarded a number of competitive grants to help advance safety priorities in neighborhoods across the city. This includes more than \$46,000,000 in Safe Streets and Roads for All (SS4A) grants, aiding the City in progressing towards achieving their vision of zero traffic-related deaths by 2030 (Complete and Safe Streets Philadelphia: Vision Zero High-Injury Network Corridors and Philadelphia Vision Zero Capital Plan Implementation projects). The City was also awarded two \$25,000,000 RAISE grants for the North Philadelphia School Zone Traffic Safety (MPMS #120993) and Great Streets PHL (MPMS #119437) projects. Both of these projects will invest in traffic calming and other safety enhancements in low-income neighborhoods that experience high rates of crashes.
- The City of Philadelphia was awarded a \$78,000,000 USDOT MEGA grant to support vital near-term safety improvements on Roosevelt Boulevard (US 1). The Route for Change project is located primarily in historically disadvantaged communities and areas of persistent poverty, and will address equity and barriers to opportunity as well as improve safety, economic competitiveness, and sustainability along the Roosevelt Boulevard corridor.

The maps on the following pages (Figures 9, 10, and 11) illustrate mappable highway, transit, and Interstate projects in the FY2025 TIP for Pennsylvania, along with concentrations of low-income populations. Similar maps with concentrations of racial and ethnic minority populations can be found in Appendix F as Figures F16, F17, F18, F19, F20, and F21.

## DVRPC Project Development Assistance

DVRPC has initiated two new programs aimed at addressing the underinvestment and disproportionate impacts that certain types of transportation projects have often had on marginalized communities. Both programs identify disadvantaged communities in the region by leveraging DVRPC's [IPD analysis](#) alongside federal datasets like the Climate and Economic Justice Screening Tool ([CEJST](#)) and Equitable Transportation Community Explorer ([ETCE](#)) tied to the implementation of [Justice40](#). Through these efforts, DVRPC offers targeted planning and project delivery assistance to advance local transportation priorities.

### Supporting Communities

In August 2023, DVRPC launched a new program, Supporting Communities, which aims to enhance DVRPC's responsiveness to the needs and preferences of disadvantaged communities, addressing barriers to implementing local transportation priorities. Municipalities in the DVRPC region identified as disadvantaged according to the IPD, CEJST, and/or ETCE were selected as "priority communities" for the Supporting Communities program.

Transportation projects can secure funding for project delivery through various avenues. However, before a project can receive funding, it must be studied and recognized as a local priority. Some communities may lack the resources to find and study these projects, creating a barrier for them to compete for federal support, furthering the cycle of disinvestment. Supporting Communities seeks to assist communities from initial outreach to project implementation. One intent of the program is to collaborate with community stakeholders to prioritize projects in disadvantaged communities based on needs, data, and funding opportunities such as the established formula funding programs and discretionary grant programs included in the TIP.

For the inaugural year of the program, DVRPC worked with nine communities, including five in the DVRPC-PA region. DVRPC staff supported these municipalities by organizing outreach with local service organizations to understand transportation challenges, needs, and priorities. They also facilitated meetings with stakeholders

to develop project ideas based on previous outreach and study efforts, and helped municipalities advance transportation projects through identification of funding sources.

Supporting Communities is an evolving, collaborative program. DVRPC will continue to incorporate lessons learned each fiscal year to enhance the program, further integrate the principles of this program throughout DVRPC's work, and continue to build and strengthen our relationships with local municipalities and county partners.

### **TASA Assistance for Disadvantaged Communities**

Thanks to additional funding from the IIJA/BIL, DVRPC hired a consultant to carry out pre-application engineering tasks for projects eligible for the Transportation Alternatives Set Aside Program (TASA). The TASA program funds projects classified as transportation alternatives, including pedestrian and bicycle facilities, better access to public transportation for non-drivers, trails serving transportation needs, and initiatives like safe routes to school projects.

In October 2024, communities identified as disadvantaged according to CEJST, ETCE, and IPD criteria received priority access to this technical assistance. These services are provided at no cost to the municipalities. Additionally, disadvantaged communities were invited to attend DVRPC's pre-application webinar for the TASA program, which provided a detailed explanation of the engineering assistance process.

### **Continuing Efforts**

In addition to these new programs, DVRPC is actively seeking new ways to support the transportation priorities of marginalized communities. We will continue to leverage the results of the Plan-TIP Project Evaluation and Program Evaluation (asset data analysis) processes to identify and advance projects in disadvantaged communities.

Figure 9: FHWA-funded (Highway) Projects and Concentrations of Low-Income Populations

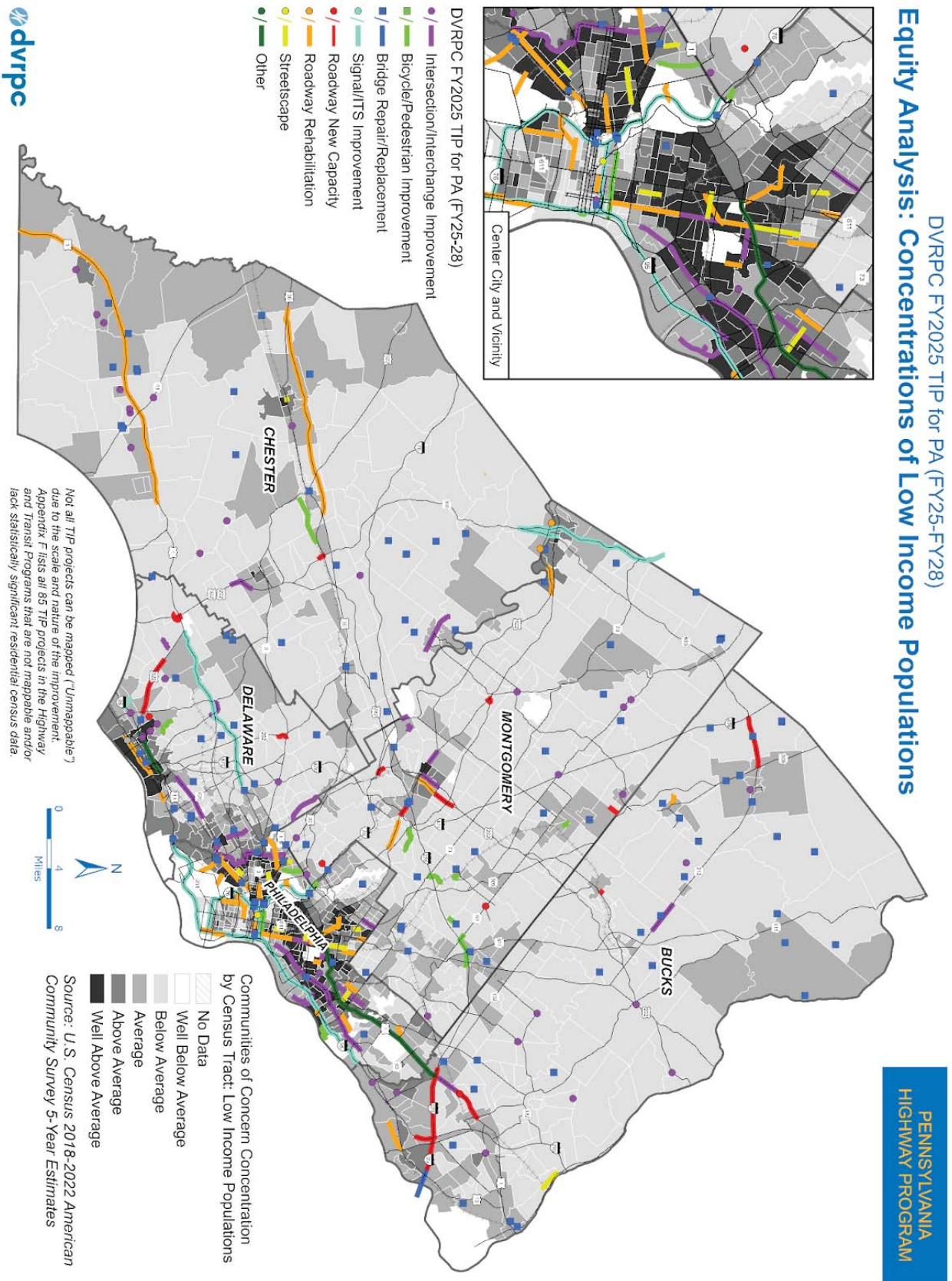
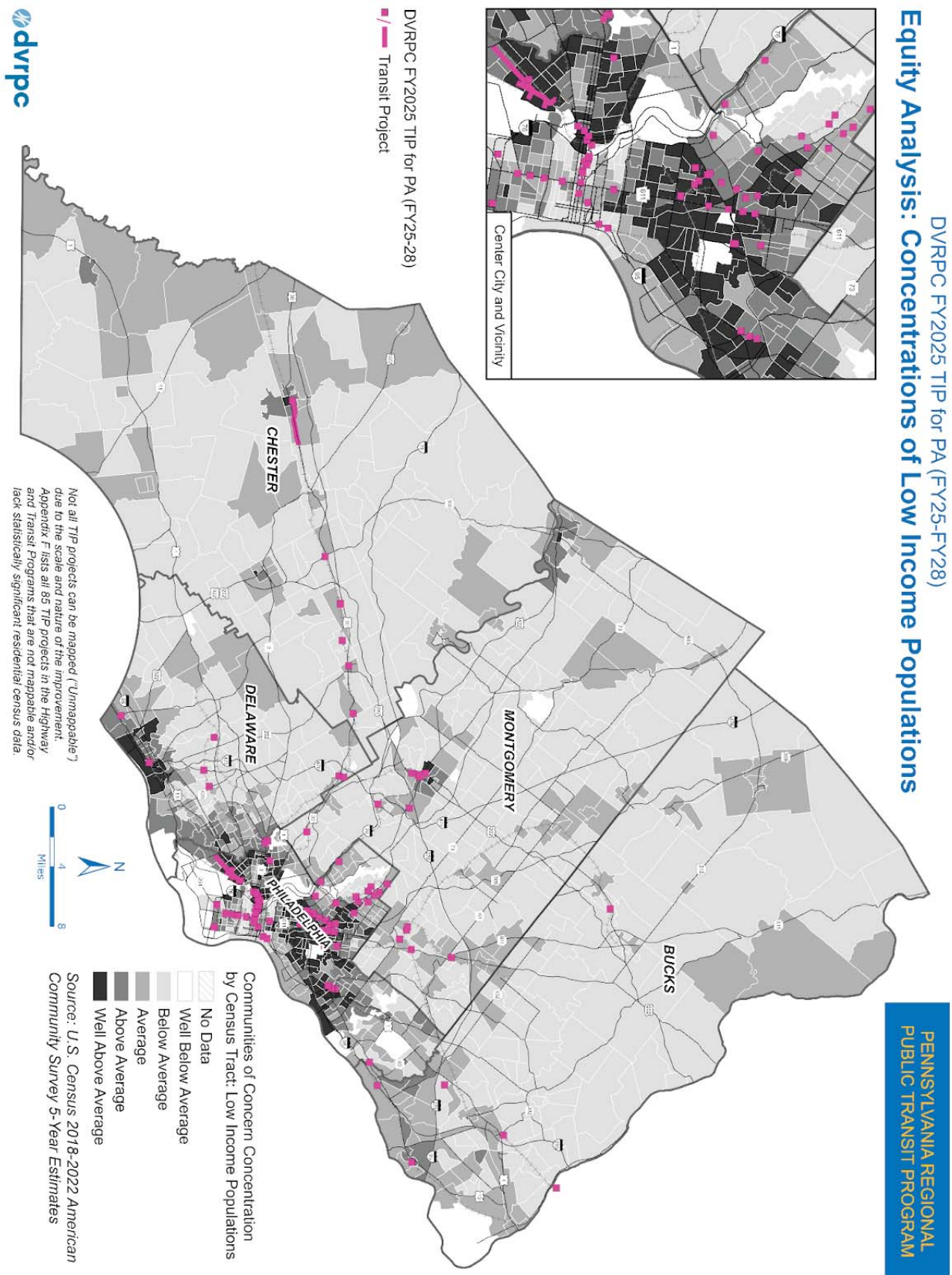


Figure 10: FTA-funded (Transit) Projects and Concentrations of Low-Income Populations



# Equity Analysis: Concentrations of Low Income Populations

DVRPC FY2025 TIP for PA (FY25-FY28)

PENNSYLVANIA INTERSTATE  
MANAGEMENT PROGRAM

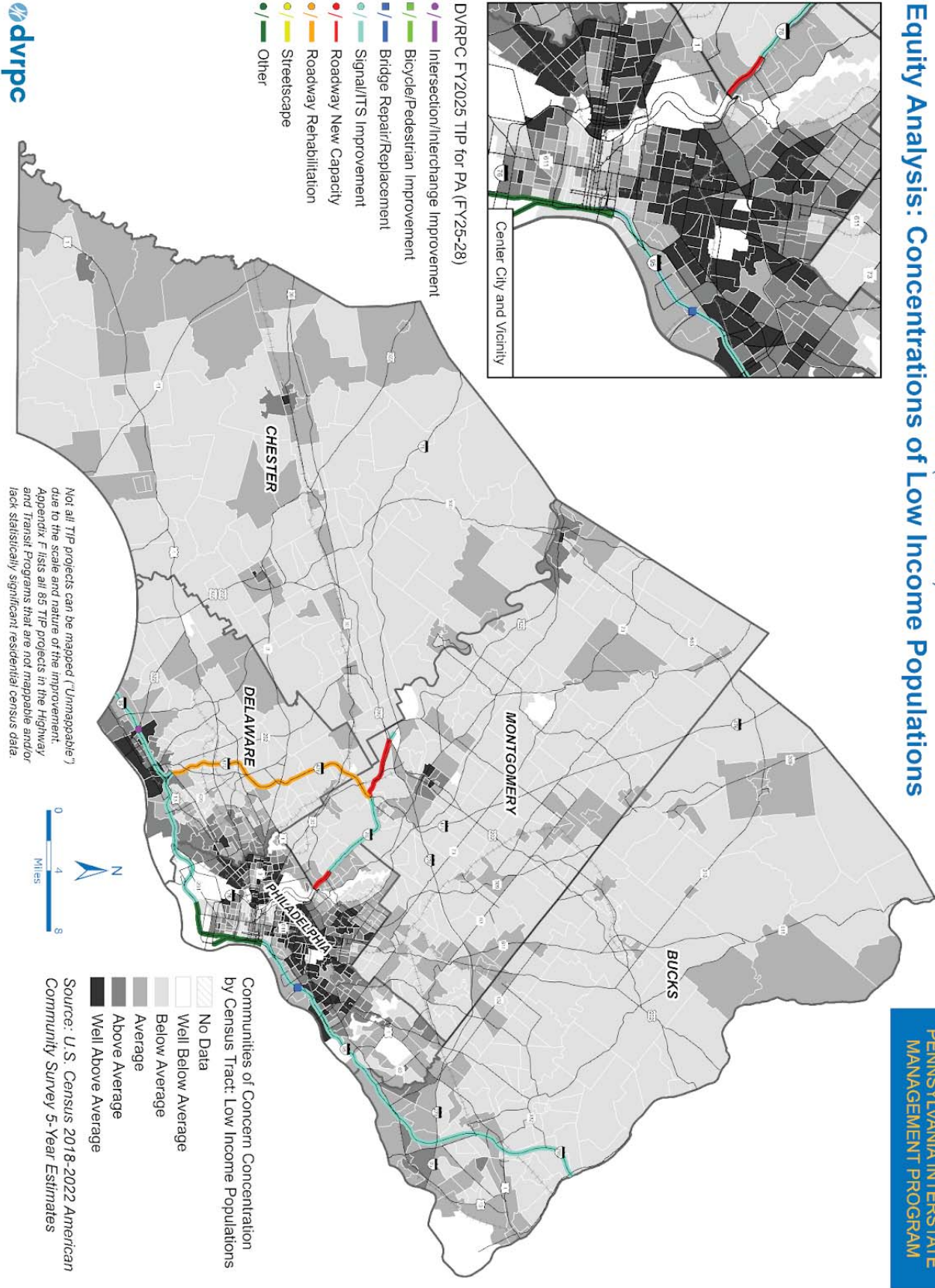


Figure 11: Pennsylvania IMP Projects and Concentrations of Low-Income Populations

