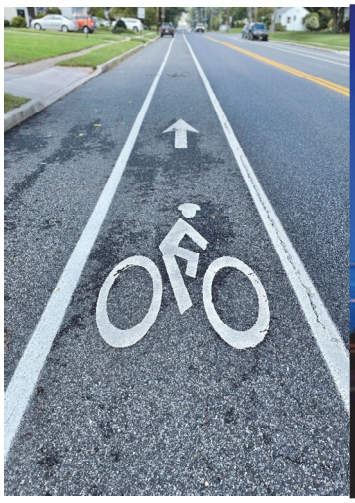
DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

November 2024



Carbon Reduction Program Funding Strategy

For the DVRPC Region

DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

The Delaware Valley Regional Planning Commission (DVRPC) is the federally designated Metropolitan Planning Organization for the Greater Philadelphia region, established by an Interstate Compact between the Commonwealth of Pennsylvania and the State of New Jersey. Members include Bucks, Chester, Delaware, Montgomery, and Philadelphia counties, plus the City of Chester, in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties, plus the cities of Camden and Trenton, in New Jersey.

DVRPC serves strictly as an advisory agency. Any planning or design concepts as prepared by DVRPC are conceptual and may require engineering design and feasibility analysis. Actual authority for carrying out any planning proposals rest solely with the governing bodies of the states, local governments or authorities that have the primary responsibility to own, manage or maintain any transportation facility.

DVRPC is funded through a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

Title VI Compliance *The Delaware Valley Regional Planning Commission (DVRPC) fully complies with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice, and related nondiscrimination mandates in all programs and activities. DVRPC is committed to ensuring that no person is excluded from participation in, or denied the benefits of, all programs and activities on the basis of race, creed color, national origin, age, gender, disability, sexual orientation, or income level, as protected by Title VI of the Civil Rights Act of 1964 and other related nondiscrimination mandates.*

DVRPC's website, www.dvrpc.org, may be translated into multiple languages. Publications and other public documents can be made available in alternative languages and formats, if requested. DVRPC's public meetings are always held in ADA-accessible facilities, and held in transit-accessible locations whenever possible. DVRPC will work to accommodate all reasonable requests for translation, interpretation, accommodations or other auxiliary services and encourages that requests be made at least seven days prior to a public meeting. Requests can be made by contacting the Commission's ADA and Title VI Compliance Officer Shoshana Akins via email at public_affairs@dvrpc.org, calling 215.592.1800, or while registering for an upcoming meeting.

Any person who believes they have been aggrieved by an unlawful discriminatory practice by DVRPC under Title VI has a right to file a formal complaint. Any such complaint must be in writing and filed with DVRPC's ADA and Title VI Compliance Officer Shoshana Akins and/or the appropriate state or federal agency within 180 days of the alleged discriminatory occurrence. Complaints that a program, service, or activity of DVRPC is not accessible to persons with disabilities should be directed to Shoshana Akins as well. For more information on DVRPC's Title VI program or to obtain a Title VI Complaint Form, please visit: www.dvrpc.org/GetInvolved/TitleVI, call 215.592.1800, or email public_affairs@dvrpc.org.

Table of Contents

Figures

Tables

Executive Summary

Carbon Reduction Program (CRP)

The CRP was authorized under the Federal Infrastructure Investment and Jobs Act (IIJA) also known as the Bipartisan Infrastructure Law (BIL) with the purpose of reducing Carbon Dioxide (CO_2) and greenhouse gas emissions (GHG) from the nation's transportation system. The CRP requires states to develop a Carbon Reduction Strategy (CRS) and offers formula funds for projects that reduce GHG emissions. Funds are allocated to the states based on the state's population and further allocated to the metropolitan planning organizations (MPO) in the states based on the population of the state's urban areas (UAs).

Projects utilizing CRP funds must meet the program's eligibility requirements.[1] The CRP guidance allows MPOs to develop a regional Carbon Reduction Program Funding Strategy (CRPFS) that supports the state CRS goals and prioritizes funding for transportation projects that are relevant to the region's demographics and emissions reductions goals.

The Delaware Valley Regional Planning Commission (DVRPC) CRPFS

The DVRPC regional CRPFS identifies strategies that take advantage of the built environment, extensive transportation system, and active freight industry of the region to fund transportation projects that have impactful emissions reductions and help the region meet DVRPC's Long-Range Plan (Plan) goal of net zero GHGs by the year 2050.

The goals of the regional CRPFS are to reduce carbon emissions from transportation projects, invest CRP funds equitably, and improve safety. They reflect the goals and purpose of the federal CRP and the New Jersey and Pennsylvania state CRSs. The goals support the statewide CRS goals and align with the CRP eligibility requirements.

Carbon Emissions Reduction

The primary purpose of this program is to reduce CO_2 emissions from transportation projects. Projects funded with regional CRP funds will have quantifiable emissions reductions and special consideration will be given to projects that demonstrate cost effective emissions reductions.

Equitable Investment of CRP Funds

The CRP is subject to the federal Justice 40 requirement that forty percent of the program's benefits must accrue to disadvantaged communities. The Climate and Economic Justice Screening Tool[2] maps the locations of census tracts that have been historically disinvested and overburdened by pollution. Environmental Justice analysis tools are used to prioritize projects that reduce carbon emissions and benefit disadvantaged communities.

[1] USDOT Federal Highway Administration (FHWA), "Carbon Reduction Program (CRP) Implementation Guidance" (Memorandum), April 21, 2022, www.fhwa.dot.gov/environment/sustainability/energy/policy/crp_guidance.pdf (accessed November 5, 2024).
[2] USDOT, "Equity and Justice 40 Analysis Tools," last updated April 5, 2024, www.transportation.gov/grants/dot-navigator/equity-and-justice40-analysis-tools (accessed November 5, 2024).

Safety for All Users

Transportation system safety is a federal, state, and regional policy priority. The regional CRPFS considers safety as a necessary component for reducing CO_2 emissions. Safety benefits include encouraging active transportation and mobility for non-drivers and reducing non-recurring congestion due to crashes.

Priority Strategies to Reduce Carbon Dioxide Emissions

DVRPC staff conducted a survey of multiple state and federal sources to develop a set of strategies that reduce CO_2 emissions from the transportation network. The regional CRPFS is aligned with and supports the priority strategies outlined in the New Jersey and Pennsylvania state CRSs' as well as state and local climate action plans (CAPs). Based on recommendations from these sources and consideration of the needs of the Greater Philadelphia region, DVRPC staff have identified the following strategies as effective means to reduce transportation emissions and enhance equity, safety, and multi-modal mobility in the region.

Reduce Vehicles Miles Traveled (VMT)

Reducing VMT to decrease carbon emissions is a common approach included in various CRSs and CAPs. There are various strategies that can be effectively employed to reduce VMT including encouraging transit use and active transportation such as biking or walking.

The DVRPC region is home to a diverse range of communities from dense urban neighborhoods to rural areas. Making safe and convenient connections within and between these development forms is critical to reducing regional VMT.

Strategies to reduce VMT in the DVRPC region that are eligible for CRP funds include:

- new trails, bike lanes, and sidewalks to enhance mobility and create connections;
- enhanced bicycle and pedestrian amenities to encourage and support active transportation; and
- improved connections to transit.

Decarbonize Fuels

Biking, walking and taking transit are not possible for all trips or all users of the transportation system. Activities such as long-distance travel, transportation in rural areas, construction and maintenance, and goods movement often require some form of vehicular transportation.

Expanding the use of low and zero-emissions vehicles (ZEVs) for personal trips, transit, and commerce are critical to achieving the region's net zero ghg emissions goals. This involves replacing the use of internal combustion engines with electric technologies or transitioning to low carbon fuel sources. Although not all vehicle classes are available in ZEV models, there are ZEV vehicles across a number of weight and vehicle classes currently available on the market.

The DVRPC CRPFS recommends funding for ZEV vehicles that serve a public service or demonstrate significant carbon emissions reductions.

Strategies to decarbonize fuels and increase ZEV use in the DVRPC region include:

- electrify public fleets;
- deploy publicly accessible Electric Vehicle Service Equipment (EVSE); and

- invest in zero-emission freight and cargo handling equipment.

Increase Transportation System Efficiency

Changing travel behaviors, transforming the nation's infrastructure to support widespread adoption of ZEVs, and shifting land-use patterns toward more sustainable built environments are all long-term actions necessary for reaching the goal of net zero carbon emissions. While those actions are being addressed, populations and economic activity continue to grow putting pressure on existing transportation facilities.

Technology improvements, such as intelligent transportation systems (ITS), can improve the efficiency of the existing network by providing travelers with real time data that assists in avoiding congestion, finding parking, or simply moving traffic more effectively. These projects can reduce idling time and result in more fuel-efficient travel. ITS investments in freight movement, such as delivery appointment systems, wayfinding signage, and strategic truck parking investments, can be particularly effective in reducing emissions from the system's least fuel-efficient vehicles.

Strategies to increase freight and transportation system efficiencies include:

- ITS and traffic management investments on roadways; and
- truck parking, routing, and wayfinding investments.

CRP Implementation

As a Federal Highway Administration (FHWA) Federal Highway Aid funding source, CRP funded projects are required to be included in the transportation improvement program (TIP) in order to be implemented. Through consultation with the DVRPC planning partners, staff has determined that the respective TIP subcommittees, state departments of transportation (DOTs), and staff will nominate projects for CRP funding. These projects will then be analyzed for how well the projects align with the DVRPC CRPFS goals.

At a minimum, all projects must meet the federal program eligibility requirements. Projects will be evaluated for quantifiable CO_2 emissions reductions using the FHWA Congestion Mitigation and Air Quality (CMAQ) emissions toolkit. The nominated project(s) will be evaluated for their benefits to disadvantaged communities using the Justice40 mapping and DVRPC equity analysis tools. Finally, nominated projects will be evaluated for benefits to meeting the National Safe Systems approach and support of the region's Vision Zero goal.

CRP funding was available to the region and needed to be programmed before program guidance and the state and regional CRPFS were published. Staff and DVRPC planning partners continue to develop a pipeline of eligible project proposals that support federal, state, and local climate action, equity, and safety goals. This strategy is meant to help guide the identification and development of future projects that receive CRP funds.

CHAPTER 1:

Introduction

The earth is experiencing historically rapid changes in temperatures and climatic conditions. The scientific community has attributed these changes to an accumulation of greenhouse gases or GHGs in the atmosphere from the burning of fossil fuels since the beginning of the Industrial Revolution. The impacts of climate change on the Greater Philadelphia region include higher temperatures, fluctuations in the timing and amounts of precipitation, more frequent and stronger storms, and poorer health outcomes from degrading air quality and increases in vector-borne diseases. Climate change has also contributed to national and global environmental and economic disruptions that have a direct impact on the people and environment of the DVRPC region.

GHGs include a number of hydro-carbon compounds that trap heat within the earth's atmosphere but one of the most common GHG results from the burning of fossil fuels is CO_2. While energy generation and industrial processes play a large role in the emission of GHGs, and CO_2 in particular, the nation's transportation system, and gasoline and diesel fueled vehicles that permeate that system, are one of the largest sources of GHG emissions in the region and nationally.

Transportation Emissions

Cars, trucks, buses, and motorcycles (on-road mobile transportation) accumulate 110.6 million vehicle miles traveled (VMT) in over 25 million vehicle trips each day.[3] According to the DVRPC 2019 *Greenhouse Gas Inventory* these vehicles account for approximately 26 percent of the GHG emissions in the Greater Philadelphia region.[4] While medium- and heavy-duty vehicles (MDHD) nationally represent only 4.8 percent of the vehicles on the road, they account for 9.4 percent of the VMT (2018 data)[5] and 21 percent of national on-road mobile GHG emissions.[6]

Reaching DVRPC's *Connections 2050 Long-Range Plan* goal of regional net zero emissions by 2050 will require reducing both the number of trips and emissions from the remaining trips. Successfully meeting that goal will require a variety of near- and long-term strategies that focus on shifting trips to zero or low emission options, investing in infrastructure and programs that shift trips away from single occupancy vehicles, and implementing projects that increase transportation and goods movement efficiency.

Impacts of Climate Change

The expected impacts of climate change on the region are well documented by New Jersey and Pennsylvania state government agencies. Rising temperatures are responsible for cascading disruptions that destabilize weather patterns and raise the risk of natural disasters.

Higher temperatures and fluctuations in precipitation are two of the most common climatic changes that are attributable to the buildup of GHGs in the earth's atmosphere. These fluctuations lead to more intense storms.

---

[3] USDOT Bureau of Transportation Statistics, "Daily Travel Statistics," www.bts.gov/daily-travel (accessed November 27, 2023)
[4] DVRPC, *Greenhouse Gas Inventory 2019*, https://catalog.dvrpc.org/dataset/greenhouse-gas-emissions.
[5] USDOT FHWA, "Annual Vehicle Distance Traveled in Miles and Related Data," www.fhwa.dot.gov/policyinformation/statistics/2018/pdf/vm1.pdf (accessed November 27, 2023).
[6] U.S. Environmental Protection Agency (EPA), "Sources of Greenhouse Gases," last updated October 22, 2024, www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions (accessed November 5, 2024).

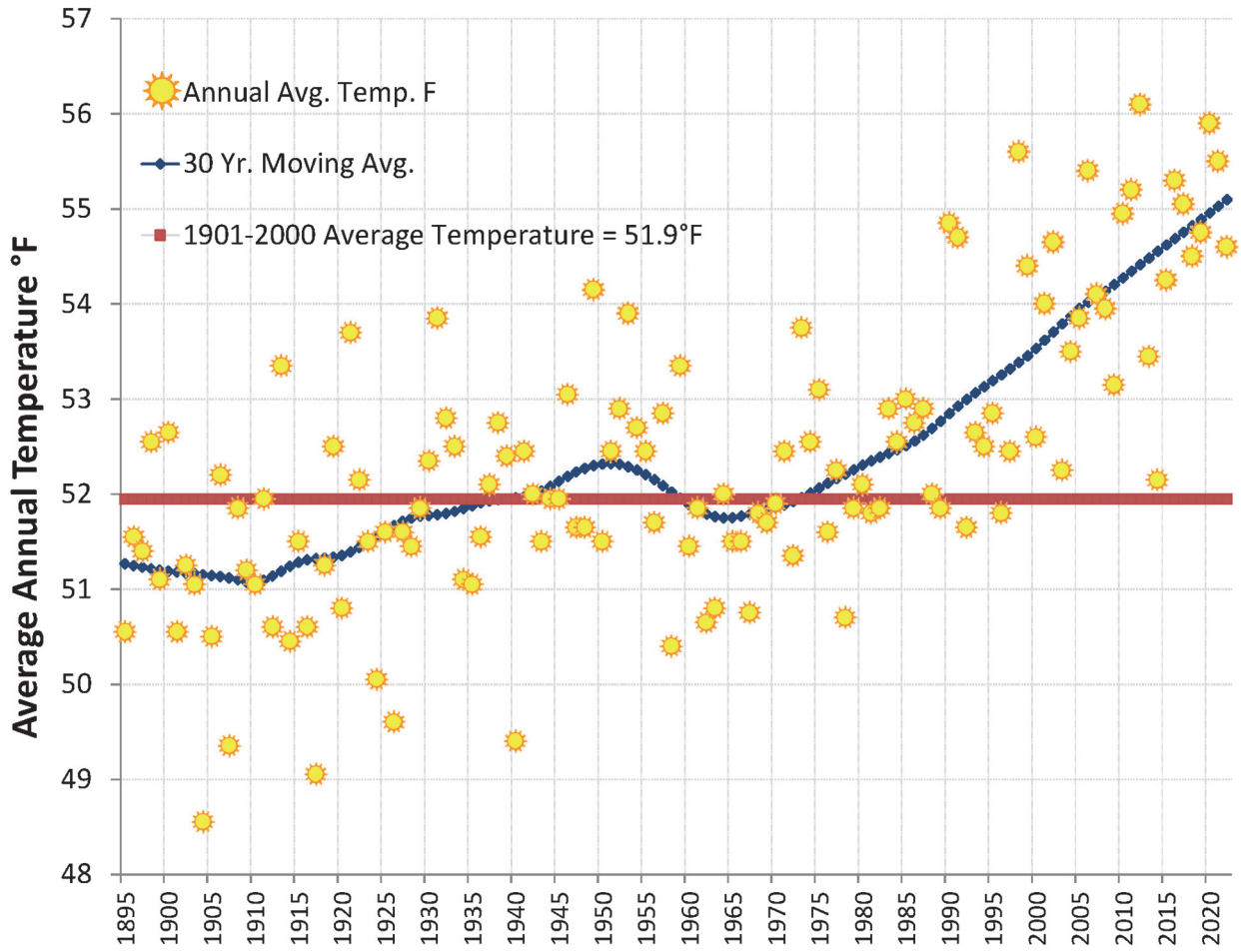
Temperature

In 2022, the 30-year average temperature in the DVRPC region had increased almost 3°F over the average temperature between 1961 and 2000.[7] These temperatures are expected to rise 5°F over the 50-year average by 2050.[8] Rising temperatures will have direct impacts on human health and the economy. Expected impacts of rising temperatures include:

- extreme heat events that stress vulnerable populations and increase cooling bills;
- degraded air quality as higher temperatures fuel ground-level ozone formation and more frequent forest fires; and
- spread of vector-borne diseases as temperatures allow mosquitoes, ticks, and other parasites to expand their range and increase populations.

Figure 1: Historical Average Temperatures for the DVRPC Region

Source: NOAA National Center for Environmental Information, 2023



Fluctuations in Precipitation

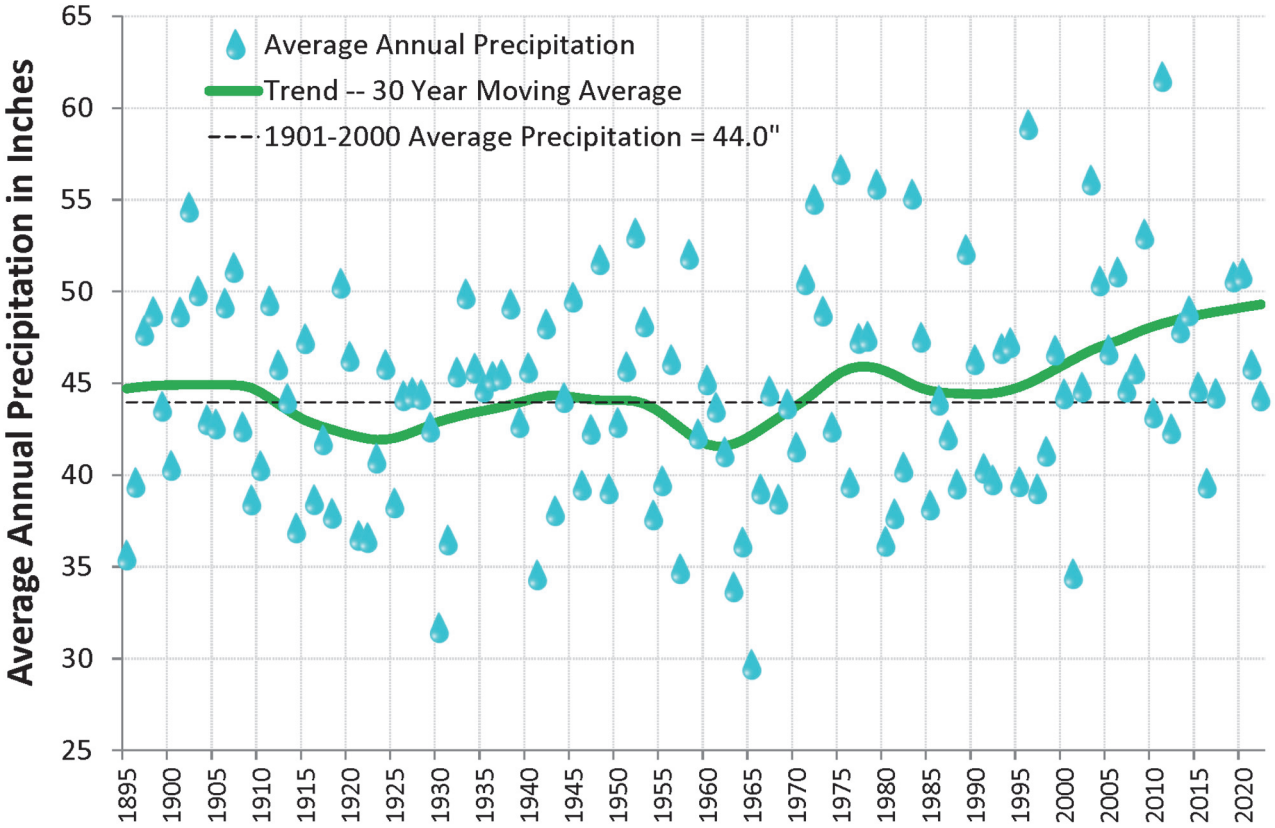
[7] NOAA National Center for Environmental Information, "Climate at a Glance Divisional Time Series," www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/divisional/time-series (accessed November 13, 2023).
[8] DVRPC, "Climate Projections for the DVRPC Region," www.dvrpc.org/energyclimate/ccmit/ (accessed November 5, 2024).

The 30-year annual average rainfall in the region has increased by 5 inches over the average from 1961–2000.[9] Precipitation levels are anticipated to reach up to 3 more inches over the 50-year average by 2050.[10] Increased average rainfall is falling in more frequent major storms and is accompanied by the likelihood of prolonged drought. The combination of rising temperatures and major storm events has also increased strong wind storms and tornados. Combined with sea-level rise, fluctuations in precipitation place 83 municipalities in the region, located in the Delaware River estuary, under increased risk for tidal influenced flooding.

The expected impacts of precipitation fluctuations include:

- localized flooding, loss of life, and infrastructure damage;
- more frequent droughts and impacts on water quality; and
- more frequent tornados and strong windstorms.

Figure 2: Historical Average Precipitation for the DVRPC Region



Source: NOAA National Center for Environmental Information, 2023

[9] NOAA National Center for Environmental Information, "Climate at a Glance Divisional Time Series," www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/divisional/time-series (accessed November 13, 2023).
[10] DVRPC, "Climate Projections for the DVRPC Region," www.dvrpc.org/energyclimate/ccmit/ (accessed November 5, 2024).

According to the Union of Concerned Scientists, in order to prevent the worst consequences of climate change, nations will need to reach net zero GHG emissions by 2050 or sooner across all sectors of the economy, including transportation sources.[11]

CRP

The IIJA was passed by the U.S. Congress in 2021. It includes $6.4 billion for the CRP to fund projects that directly reduce CO_2 emissions from the nation's transportation system. The CRP provides formula funds to states "to reduce transportation emissions through the development of state carbon reduction strategies and by funding projects designed to reduce transportation emissions".[12]

The CRP has allocated $154 million to the state of New Jersey and $265 million to the state of Pennsylvania. Sixty-five percent of the states' allocations are awarded to UAs on the basis of that area's share of that state's population. Pennsylvania has also awarded between $17-$20 million in additional funds to the MPOs and Regional Planning Organizations (RPOs) of the state from the state's CRP allocation.

For DVRPC, the New Jersey portion of the Philadelphia UA will receive approximately $2.6 million annually and the Trenton UA will receive approximately $677,000 annually.[13] The DVRPC Pennsylvania counties will receive between $10.2 million and $10.6 million annually in formula funds and approximately $2.5 million in additional funds from the state.[14]

The CRP requires that each state develop a CRS that identifies how the state intends to fund projects that are expected to reduce carbon emissions from transportation sources. The CRP program guidance includes lists of transportation project types that are eligible for funding under this program and also outlines the requirements of the states' CRS.

The federal CRP allows for the creation of a regional strategy to identify projects that are appropriate for the local conditions and support recommendations of local CAPs. The Pennsylvania CRS encourages regions to develop "processes for identifying, prioritizing, and selecting carbon reduction projects that can be integrated with ongoing activities related to local CAPs, the Transportation Improvement Program (TIP), and the Long-Range Transportation Plan (LRTP)". [15] The DVRPC regional strategy is titled the *Carbon Reduction Program Funding Strategy* (CRPFS) to reflect the document's purpose of identifying how projects that use this funding source are prioritized and selected.

DVRPC staff held an online meeting with member governments in February 2024 to review the proposed CRPFS goals, priority strategies, and the mechanism for how the projects using CRP funds will be selected for inclusion on the regional TIPs. Staff held ongoing conversations about potential projects. Partner input was incorporated in the development of the CRPFS and CRP funding was discussed at multiple TIP project selection committee meetings to confirm consensus around the projects being selected to utilize CRP funds. The DVRPC CRPFS will be updated every four years to correspond with the state's CRS updates and to respond to any changes in the federal and state programs.

---

[11] Union of Concerned Scientists, "Climate Solutions," www.ucsusa.org/climate/solutions (accessed November 10, 2023).
[12] USDOT FHWA, "Carbon Reduction Program (CRP) Implementation Guidance."
[13] NJDOT, "New Jersey Carbon Reduction Strategy," November 2023, https://www.nj.gov/transportation/works/njcrs/pdf/NJ_CRS1.pdf (accessed November 5, 2024).
[14]PennDOT, "Carbon Reduction," www.penndot.pa.gov/ProjectAndPrograms/Planning/Pages/Carbon-Reduction.aspx (accessed November 5, 2024).
[15] Ibid

CHAPTER 2:

Federal, State, and Local Greenhouse Reduction Goals

President Biden's Executive Order 14057, released in December 2021, outlines goals for the federal government to reach net zero carbon emissions by 2050 The Executive Order requires reducing carbon emissions from energy generation by obligating the government to purchase 100 percent renewable energy by 2030, operate a 100 percent electric vehicle fleet by 2035, and commit to net zero emissions buildings and net zero emissions procurement by 2045.

The federal Sustainability Plan outlines the government's strategy to meet these goals and provides the roadmap for the federal government to meet net zero emissions by 2050.[16] Many federal programs, including the CRP that funds this CRS are targeted towards helping state and local partners set and reach emissions-related goals.

State and Local Carbon Action Plans

Both New Jersey and Pennsylvania have established GHG reduction goals that would reduce GHG emissions by 80 percent over 2006 and 2005 levels respectively. DVRPC's *Connections 2050 Long-Range Plan* establishes a "net zero" goal that calls for 100 percent GHG emissions reductions by 2050.

A number of counties and municipalities in the region have adopted similar goals through the development of CAPs and sustainability plans (see Table 1). It is a stated purpose of the Pennsylvania state CRS that DVRPC's CRPFS support the goals of state and local CAPs and provide funding for transportation strategies that are identified in those plans.

This CRPFS identifies strategies to reduce GHG emissions from the transportation sector consistent with the strategies and the goals of state and local CAPs.

Table 1: State and Local Climate Action and Sustainability Plans

State or County	Plan	Goal (% reduction)	Link
New Jersey Department of Environmental Protection	Global Warming Response Act (2020)	2020 Goal: 20% from 2006 2050 Goal: 80% from 2006	dep.nj.gov/climatechange/mitigation/80x50-report/
New Jersey Department of Transportation	Carbon Reduction Strategy (2023)	No Established Goal	www.nj.gov/transportation/works/njcrs/pdf/NJ_CRS1.pdf
Pennsylvania Department of Environmental Protection	Climate Action Plan (2021)	2025 Goal: 26 % from 2005 2050 Goal: 80% from 2005	www.dep.pa.gov/Citizens/climate/Pages/PA-Climate-Action-Plan.aspx
Pennsylvania Department of Transportation	Carbon Reduction Strategy (2023)	No Established Goal	www.penndot.pa.gov/ProjectAndPrograms/Planning/Pages/Carbon-Reduction.aspx

[16] Office of the Chief Officer of Sustainability, "Federal Sustainability Plan," www.sustainability.gov/federalsustainabilityplan/ (accessed November 23, 2023).

State or County	Plan	Goal (% reduction)	Link
Chester County	Climate Action Plan (2021)	2050 Goal: 80% from 2005	www.chescoplanning.org/Environmental/pdf/ClimateActionPlan.pdf
Delaware County	Sustain Delco (2023)	2028 Goal: 20% County emissions from 2019	www.delcopa.gov/sustainability/pdf/SustainDelcoPlan.pdf
Montgomery County	MontCo Climate Action 2050	2030 Goal: 40 % from 2015 2050 Goal: 100% from 2015	www.montgomerycountypa.gov/3943/Climate-Action-Plan
City of Philadelphia	Climate Action Playbook (2021)	2025 Goal: 25% from 2005 2050 Goal: 100% from 2015	www.phila.gov/media/20210113125627/Philadelphia-Climate-Action-Playbook.pdf

Source: DVRPC, 2024

DVRPC Climate Action Goals

DVRPC has published a regional *Priority Climate Action Plan* (PCAP) that identifies near-term opportunities to reduce ghg emissions.[17] DVRPC has received a Carbon Pollution Reduction Grant to fund these efforts in the Philadelphia UA as well as a William Penn Foundation grant to assist alignment of clean transportation and energy goals and to identify potential enhancements to the Plan-TIP Project Evaluation Criteria greenhouse gas emissions criterion.

The final PCAP includes nine measures that were identified as measurable, impactful initiatives that local governments and agencies across the Philadelphia Metropolitan Statistical Area (MSA) can enact to reduce GHG emissions in the near-term. Three of those measures are targeted to reduce GHG emissions from the transportation system. These measures are consistent with this CRPFS and CRP funds can assist in the implementation of these types of projects.

The transportation related measures from the PCAP are:

- **Measure 4:** Actions to Transition Light-Duty Vehicles to Low- or No-Carbon Emission Vehicles
- **Measure 5:** Actions to Expand and Improve Transit
- **Measure 6:** Actions to Implement Bicycle, Pedestrian, and Active Transportation Improvements

DVRPC will integrate climate action into all agency programs including the Plan, TIP, and various funding programs including the CRP.

[17] DVRPC, "Priority Climate Action Plan," March 2024, www.dvrpc.org/products/24137 (accessed November 6, 2024).

CHAPTER 3:

DVRPC CRPFS Goals

One of the eligible activities for funding under the federal CRP program is the development of a regional or local CRS. DVRPC's FY 2024 Unified Planning Work Program includes a project to develop the regional CRPFS to identify projects and strategies that are appropriate to the population density and transportation context of the Greater Philadelphia region. The DVRPC CRPFS focuses on strategies and recommends funding for projects that may be a higher priority for this part of New Jersey and Pennsylvania compared to other regions in the states. For example, the region's population density and access to transit make active transportation connections to transit, commercial, and employment centers an effective strategy to reduce carbon emissions. The region's role as a critical goods movement hub along the Mid-Atlantic corridor presents opportunities to reduce carbon emissions from freight and goods movement. DVRPC staff will work with planning partners and regional stakeholders to fund projects that help the region attain its GHG reduction goals.

The DVRPC CRPFS incorporates input from planning partners and local CAPs, as well as decades of experience managing the CMAQ funding program to recommend a menu of transportation projects that can effectively reduce transportation emissions.

The DVRPC CRPFS is an evolving document that identifies short-, medium-, and long-term approaches for decarbonizing the region's transportation network. DVRPC staff will review the strategy document every four years, following the update schedule of the state CRS.

The DVRPC CRPFS will support the goals of the federal CRP. Projects will be funded through CRP funds provided to the state and sub-allocated to UAs.

Projects prioritized for funding under the CRP should meet the following goals:

- reduce carbon emissions;
- equitably fund projects across the region and support the Justice 40 initiative; and
- improve safety for all transportation system users.

Carbon Emissions Reductions

Reducing CO_2 emissions are at the core of the CRP. While factors like project readiness, timing, and stakeholder commitment play a major role in project evaluation, all projects that utilize CRP funds must meet the program's eligibility requirements. In the case of the DVRPC CRPFS, projects must demonstrate cost effective and quantifiable reductions in CO_2 or CO_2-equivalent (CO_{2e}) emissions.

PennDOT and other state DOTs are working on reliable modeling tools to calculate emissions reductions. In the short term, FHWA has published the CMAQ Emissions Calculator Toolkit.[18] The toolkit is a series of spreadsheet-based emissions reduction calculation tools for various transportation projects that will also provide planning level CO_2 and/or CO_{2e} emissions reductions potential. Emissions reduction estimates are reported in kilograms per day (kg/d).

[18] USDOT FHWA, "CMAQ Toolkit," last updated March 6, 2024, www.fhwa.dot.gov/environment/air_quality/cmaq/toolkit/ (accessed November 6, 2024).

Emission calculations from the CMAQ Emissions Calculator can be standardized to either the kg/d of emissions reduced per total project cost in dollars or gross kg/d of emissions reduced for the project. While these tools use national default data when project-specific data is not available, they provide a standardized method to estimate emissions reduction potential while other emissions analysis models are being developed.

Equitable Investment of CRP Funds

DVRPC staff will utilize the Climate and Economic Justice Screening Tool along with DVRPC's Environmental Justice evaluation tools to identify how projects benefit underserved populations.[19] Underserved populations include minority and low-income populations but may also include many other demographic categories that face challenges engaging with the transportation system and receiving equitable benefits.[20] In addition, the CRP supports the Justice 40 Initiative, which establishes a goal that at least 40 percent of the benefits of federal investments in climate and clean energy infrastructure accrue to disadvantaged communities.

The DVRPC CRPFS will support projects that proactively promote racial equity, workforce development, and economic development. The DVRPC CRPFS will support projects that remove barriers to opportunities, such as those related to automobile dependence for rural and urban communities and look to address prior inequities.

Safety for All Users

The DVRPC CRPFS supports the National Roadway Safety Strategy (NRSS) and DVRPC *Connections 2050 Long-Range Plan* goals of reaching zero highway fatalities by the year 2050. This goal recognizes that transportation investments should include planning and design elements to reduce crash severity and save lives. These strategies can include Complete Streets design, projects that separate motor vehicle traffic from non-motorized users, as well as project elements that increase transit user safety such as bus shelters, lighting, and emergency call systems at transit stops. Recognizing that vehicle electrification will play a role in decarbonizing the transportation system, this safety goal also applies to the user experience at public electric vehicle charging stations, including lighting and emergency call box infrastructure.

Combined with the equity goal, the DVRPC CRS intends to increase safety, connectivity, and accessibility for all users of the transportation system.

[19] USDOT, "Equity and Justice 40 Analysis Tools," last updated April 5, 2024, www.transportation.gov/grants/dot-navigator/equity-and-justice40-analysis-tools (accessed November 6, 2024).
[20] USDOT FHWA, "Environmental Justice Reference Guide" (Publication FHWA-HEP-15-035, USDOT FHWA, Washington, D.C., 2015), https://www.fhwa.dot.gov/environment/environmental_justice/publications/reference_guide_2015/fhwahep15035..pdf (accessed November 6, 2024).

CHAPTER 4:

Strategies to Reduce Carbon Emissions

The federal CRP presents a new opportunity to fund projects that reduce CO_2 emissions. Recognizing that the DVRPC planning partners want to fund a diverse portfolio of projects that provide different co-benefits to the region and host communities, DVRPC proposes funding programs within the Transportation Improvement Program (TIP) that fall within one of the three strategy focus areas. Each state's TIP sub-committee will select projects that support the CRPFS goals for funding. This well-established mechanism helps to ensure that cost effective emissions reductions projects are funded with CRP funds and meet the timing of project construction. Successful implementation of the CRPFS requires that there are short-term eligible projects to accept funding while developing a pipeline of larger, more complex projects that will take longer to develop and progress through design and construction.

Over the 12-year and 10-year planning horizons of the Pennsylvania and New Jersey TIP's respectively, the DVRPC region anticipates approximately $194 million of CRP funding. DVRPC staff propose to program the CRP funding this funding for Active Transportation, Zero Emission Vehicles and Infrastructure, and System and Goods Movement Efficiencies. Active Transportation

Circuit Trails

Circuit Trails have been identified by the Pennsylvania suburban counties as a top-priority to receive CRP funding. These trails form the backbone of a regional active transportation network that has the potential to connect regional employment, commercial, and transportation centers to communities across the region.

> *Emissions Reduction:* Circuit Trails will reduce carbon emissions by providing zero emission, active transportation connections to activity centers. Creating these arterial connections is a critical initial step in developing a regional trail network that will provide non-motorized and micro-mobility transportation options for the foreseeable future. Investment in these regional trails provide opportunities for communities to build out a truly connected active transportation system.
>
> *Equity:* Circuit Trails provide recreational opportunities, green space, connections to employment centers, and regional amenities. These trails are planned in diverse communities across the region including identified disadvantaged communities. Trails that connect to public transit provide additional mobility options for clean transportation and options for carless populations.
>
> *Safety:* The Circuit Trails provide alternative transportation routes that are separated from vehicular traffic. Roadway and railway crossings with the trails are designed to meet safety standards. These trails also include amenities such as lighting to improve user safety and encourage the use of these facilities.

The Circuit Trails are identified in the *Connections 2050 Long-Range Plan* and this funding will enable the counties to construct priority trail segments.

Trails Identified for CRP funding (at time of publication):

- Newtown Rail Trail: Phase III, Bucks County
- Chester Valley Trail: Chester Valley Trail Extension to Downingtown, Chester County
- East Coast Greenway: Eddystone and Ridley Townships, Delaware County
- Route 13/291/Second Street Road Diet, Delaware County
- Darby Creek Trail, Delaware County
- Cross-County Trail: Germantown Pike to Willow Grove YMCA, Montgomery County
- Spring Garden Street Improvement Project (Phase 2), City of Philadelphia

Bike Lanes, Transit Amenities, Connectivity, and Safety

The DVRPC CRPFS emphasizes the need to reduce carbon emissions and increase mobility by investing in safe connections for non-motorized transportation to transit and activity centers. These goals can be reached through a number of project typologies that make walking and biking safer, improve the user experience, and increase accessibility to transit stations and destinations. Emphasis should be placed on last-mile connections that help assure that vulnerable road users (VRUs) can safely access transit and activity centers.

> *Emissions Reductions:* Investments in active transportation networks, particularly those that connect to transit, have well documented potential to reduce transportation carbon emissions, and possess co-benefits for public health and safety. These investments are more effective when the user feels safe and has access to services, such as shelter at transit stops.
>
> *Equity:* Active transportation projects improve access to transportation for VRUs, carless households, and people without direct access to motorized transportation. There is a need for these investments across the region and particularly in disadvantaged communities.
>
> *Safety:* Active transportation projects inherently improve system safety and support state and federal programs, such as the Highway Safety Improvement Program and Transportation Alternatives Set-Aside Program to protect VRUs. These projects will assist DVRPC in reaching the *Regional Vision Zero* goal of "eliminating all traffic fatalities and severe injuries while increasing safe, healthy, equitable mobility for all." DVRPC will rely on safety data, such as killed and serious injury (KSI) and crash rates, and economic data from the Justice 40 Initiative, to promote projects in disadvantaged communities and in locations with high incidences of crashes involving VRUs.

Potential Project Examples

- *DVRPC Retrofit for Bike Lanes Project.* DVRPC maintains a list of potential locations for bike lanes when PennDOT repaves roadways. Funding can support and enhance this program to install bike lanes when more engineering is required.
- *Community Bus Shelter Program.* This is a potential new program to assist in the installation of bus shelters across the region.
- *Safety and access improvements to transit for VRUs.* Fund projects that improve safety and accessibility for VRUs to transit stations, including sidewalks, crosswalks, and other facilities.

Funded Projects (at time of publication):

- *Pennsylvania County Americans with Disabilities Act (ADA) Ramps.* This project funds the installation and upgrade of ADA ramps on sidewalks to meet current design standards across the region.

Key Metrics

Possible key outputs and outcomes to track performance of this measure over time include the following:

- increase in the proportion of people who commute by biking or walking;
- miles of expanded sidewalks and multi-use trails;
- GHG emission reduction; and
- annual number of users of multi-use trail networks.

Zero Emission Vehicles and Infrastructure

Partner Government EVSE and Fleet Vehicles

Increasing the rate of electrification of the transportation system will be a necessary step to meeting the region's carbon reduction goals. County and municipal partners can serve as effective early adopters by bringing EVs into their fleets and hosting EVSE that can expand charging opportunities in their communities. County and municipal chargers will fill critical gaps in the regional charging network.

The CRP can be used to fund local government fleet conversions to EVs. These vehicles typically have defined duty cycles and return to base each evening, making them ideal for electrification. Publicly owned EVs can serve as examples of EV ownership to encourage private EV adoption while providing cost savings to participating partner governments.

Government-hosted EVSE at libraries, parks, and authority parking lots can provide public charging opportunities and relieve charging anxiety. EVSE at these locations also offer charging opportunities for people who lack opportunities for at-home charging.

> *Emissions Reductions:* The emissions reduction benefits of EVs are well documented. EVs have zero tailpipe emissions, and vehicle lifecycle emissions will improve as renewable and cleaner energy sources become more available across the nation.
>
> *Equity:* Expanding EV fleets in the region has the potential to reduce tailpipe emissions in disadvantaged communities. Publicly available EVSE increases opportunities for EV ownership in communities with multi-family unit developments or areas with limited off-street parking where charging at home is very difficult.
>
> *Safety:* EVSE installed using federal funds are required to consider public safety in the design and construction of the charging stations. Proper lighting and signage improve the user experience, and appropriate site design can improve emergency response in the case of EV equipment or vehicle fires. These elements are critical components to provide safe and accessible EVSE.

Potential Project Examples

- *Public EVSE Investment*. CRP funds are eligible to fund publicly accessible EVSE at county and municipal facilities. Projects identified in the 2023 and 2024 DVRPC Charging and Fueling Infrastructure grant applications are examples of potential project locations and types.
- *Mercer County Fleet Electrification.* Mercer County is investigating electrification strategies for their county fleet vehicles.
- *Public charging on the New Jersey DEP "Community Charging Grant" waitlist.* The state of New Jersey has been providing state funds for EVSE infrastructure. These programs may serve as a pipeline for locations that need funding for EVSE.

- *New Jersey and Pennsylvania National Electric Vehicle Infrastructure (NEVI) Projects.* Both states operate NEVI Programs for Level 3 Fast Chargers on alternative fuel corridors. Projects from these program applications can be considered for CRP funding.

Port and Airport Equipment Electrification

Goods movement and freight transportation accounts for approximately 11 percent of global carbon emissions.[21] Nationally, freight accounts for approximately 29 percent of all transportation GHG emissions.[22] Upgrades to port and freight center equipment and vehicles (including electrification) have been identified by the U.S. EPA as cost-effective strategies for reducing CO_2 emissions. In addition to being cost effective, the facilities are often located in or near disadvantaged communities where emissions reductions of criteria pollutants have immediate health benefits for surrounding communities.

The U.S. DOE and DOT Joint Office of Energy and Transportation released the National Zero-Emission Freight Corridor Strategy to provide an all-of-government approach to aligning investments and accelerating sustainable and scalable deployment of reliable zero-emission medium and heavy duty vehicle (MHDV) infrastructure.[23] This was in response to the US goal to promote 30 percent zero-emission MHDV sales by 2030, and 100 percent by 2040.[24] In the National Zero-Emission Freight Corridor Strategy, the Philadelphia region (and specifically Philadelphia International Airport, the Philadelphia Port System, the South Jersey Port System, Balzano Marine/Rail Terminal, and Greenwich Rail Terminal at Packer Avenue) was identified as a Phase I (2024-2027) Zero-Emission Freight Hub. These areas are most immediately suited to early deployment of battery electric MHDV fleets with return-to-base operations.

Emissions Reductions: Electric vehicles have zero tailpipe emissions. MDHD vehicles used in cargo handling and goods movement transportation typically have poorer fuel economy than light duty vehicles. As a result, replacement of MDHD vehicles with lower emissions options will have higher GHG emission reductions than the replacement of light duty vehicles. Most of these heavier vehicles are fueled with diesel fuel. Electrifying diesel fuel vehicles also provides the co-benefits of reducing $PM_{2.5}$ and Nitrogen Oxide (NO_x) emissions, which contribute to ozone pollution.

While electrification provides the highest benefits, investing in new vehicles with better fuel economy or use lower carbon fuels can provide significant CO_2 and criteria pollutant reductions. Upgrading and modernizing freight equipment, including on-road trucks, is an important investment as MDHD electrification technologies improve and enter the market.

Equity: Freight and goods movement centers are often located near disadvantaged communities that have had to contend with nearby industrial uses. These communities are not only impacted by point-source emissions from these facilities but also the MDHD vehicles traveling through the communities

[21] Massachusetts Institute of Technology, "Freight Transportation," Climate Portal, last updated February 3, 2023, climate.mit.edu/explainers/freight-transportation (accessed February 27, 2024)
[22] USDOT FHWA, "Freight and Land Use Handbook: 3.0 Freight Land Use and Sustainability," Freight Management and Operations, last updated June 1, 2020, ops.fhwa.dot.gov/publications/fhwahop12006/sec_3.htm (accessed February 27, 2024).
[23] Joint Office of Energy and Transportation, "National Zero-Emissions Freight Corridor Strategy" (DOE/EE-2816, U.S. DOE, Washington, D.C., 2024), driveelectric.gov/files/zef-corridor-strategy.pdf (accessed April 18, 2024).
[24] Joint Office of Energy and Transportation, "National Blueprint for Transportation Decarbonization: A Joint Strategy to Transform Transportation" (DOE/EE-2674, U.S. DOE, USDOT, U.S. EPA, and U.S. HUD, Washington, D.C., 2023), www.energy.gov/sites/default/files/2023-01/the-us-national-blueprint-for-transportation-decarbonization.pdf (accessed November 6, 2024).

on local roads. Eliminating tailpipe emissions from on-site cargo moving equipment, as well as vehicles accessing the facilities, will have positive health impacts on nearby communities.

Safety: These projects are not expected to have a significant impact on highway safety.

Project Examples

- *PhilaPort, South Jersey Port Corporation, and Penn Terminal cargo handling equipment (CHE) electrification.* The ports in the DVRPC region utilize a host of MDHD trucks and CHE that are eligible for replacement with low- or no-carbon emitting equipment.
- *Examples from state grant programs for vehicle electrification.* Each state operates grant programs to fund the electrification of vehicles. These grant applications could help identify partners in the regions willing to convert vehicles to ZEV models.

Funded Projects (at time of publication)

- *South Jersey Port Corporation CHE electrification.* This project provided funding for EVSE infrastructure and the replacement of Tier Zero equipment with zero-emission CHE.

Key Metrics

Possible key outputs and outcomes to track performance of this measure over time include low- and no-emission vehicles and supporting infrastructure.

Low- and No-Emission Vehicles:

- number of low- and no-emission vehicles purchased, leased, and/or registered;
- number of low- and no-emission vehicles registered in low income and disadvantaged community (LIDAC) census tracts;
- number of low- and no-emission vehicles in county and municipal fleets; and
- number of MDHD diesel port equipment replaced with low- and no-emission equipment.

Supporting Infrastructure:

- number of publicly accessible chargers by station type (e.g., Level 2, DC Fast Chargers);
- number of publicly accessible chargers by station type on county and municipal property;
- number of EV chargers and clean fueling stations installed in LIDAC tracts;
- number of port and freight center electrification projects; and
- amount of GHG emissions reduced.

System and Goods Movement Efficiencies

Intelligent Transportation Systems (ITS), Variable Message Signage (VMS), and Incident Management

According to the Congressional General Accounting Office (GAO), “ITS includes many different technologies and devices. At a basic level, technologies such as sensors or cameras on roadways used to detect the number and speed of vehicles traveling along them or monitor local conditions are considered ITS. Other ITS

technologies include software systems that use the information provided by such devices to, for example, automatically change the timing of traffic signals or provide information to travelers."[25]

Studies have shown the benefits of ITS technologies for reducing congestion by reducing time spent waiting at traffic lights, reduced travel times, and providing information about hazardous conditions and crashes. ITS has also shown to increase system safety by raising awareness of pedestrian crossings and hazardous traveling conditions.

Emissions Reductions: Emission reduction benefits from ITS deployment are attributed to reductions in idling, travel times, and improved fuel economy.

A recent report by the GAO cautioned that ITS can have emissions-related benefits, but that the relationship between reducing congestion and emissions is complex. The GAO noted that the Department of Energy (DOE) has cautioned that efforts to reduce congestion may encourage people to drive more.[26] In light of this concern, the DVRPC CRPFS recommends that funds spent on projects aimed at relieving congestion in the Philadelphia UA be targeted at ITS technologies that improve roadway safety and reduce non-recurring congestion, rather than projects that may encourage driving.

ITS and signal upgrades remain eligible CRP project types and may be selected for funding under certain circumstances, particularly when outdated or malfunctioning signal equipment are contributing to congestion and increased transportation emissions.

Equity: The equity benefits of ITS deployment can be associated with increased mobility, particularly when ITS increases transit service reliability and travel times. The safety benefits accrued from reducing vehicle and VRU crashes also increase mobility for non-drivers.

Safety: The safety benefits of ITS are well documented from preventing crashes between vehicles and VRUs, to preventing secondary crashes through incident management, to reducing speeds when hazardous conditions exist, among other safety benefits.

Project Examples

- *PennDOT Interstate ITS projects*. PennDOT has been implementing ITS projects that reduce non-recurring congestion and improve traffic flow by communicating real time information to roadway users.
- *VMS*. VMS in high-crash locations can help to prevent crashes and improve air quality by reducing travel times and idling on the system's roadways.

Funded Projects (at time of publication)

- PennDOT US1 ITS and Truck Wayfinding VMS.

[25] U.S. Government Accountability Office (GAO), "Intelligent Transportation Systems" (GAO-23-105740, GAO, Washington, D.C., 2023), www.gao.gov/assets/gao-23-105740.pdf (accessed January 4, 2024).
[26] Ibid.

Truck Parking, Wayfinding, Queue Management at Freight Centers, and Idle Reduction

Similar to ITS, investing in technologies that reduce congestion and idling of trucks at ports and freight centers has great potential to reduce GHG and harmful emissions. Reduction of truck congestion and idling can also help to increase safety and reduce the impacts of goods movement on surrounding communities. Projects that focus on efficient truck routing, timing arrivals at freight facilities, and increasing designated truck parking on the highway system have been identified by the U.S. DOT as priorities for investment to strengthen the supply chain, increase system safety, and reduce emissions.[27]

The DVRPC region is in particular need for designated truck parking facilities as warehousing, e-commerce, and on-road freight deliveries continue to grow, leaving truck drivers with few options when obeying drive time and safety regulations.

> *Emissions Reductions:* MDHD vehicles used in goods movement have much lower fuel economy than passenger vehicles, making reducing idling time and VMT from these vehicles particularly effective at reducing both GHG and criteria pollutants. Projects that reduce queuing times at freight centers, improve route efficiency, and inform drivers of parking and loading zone openings have been demonstrated to economically reduce emissions.
>
> *Equity:* Since freight centers are often located in or near disadvantaged communities, efforts to prevent emissions from freight movements and prevent MDHD–VRU interactions can improve the quality of life for drivers and the communities near industrial facilities.
>
> *Safety:* Truck parking projects have specifically been identified as a need by U.S. DOT to enhance safety on the NHS by providing options for drivers to rest or park when required by law or when drivers are simply tired. Signage and truck routing prevent oversized vehicles from using local roads that are not designed for MDHD vehicles and help prevent conflicts with other road users.

Project Examples

- *MDHD truck parking recommendations.* The New Jersey and Pennsylvania State Freight Plans identify truck parking as a need in the Greater Philadelphia region. CRP funds can assist in project implementation.
- *Truck Parking and Queue Management* recommendations. The *Lower Bucks Freight Access Study* (DVRPC Publication #23134) and ongoing planning efforts for the HILCO redevelopment site include considerations and recommendations for managing truck routes, parking, and queueing at these important freight centers.
- *Port facility appointment systems.* Appointment systems that manage MDHD trucks at freight centers can reduce idling and trucks parked in communities awaiting entrance to port facilities.

Key Metrics

Possible key outputs and outcomes to track performance of this measure over time include the following:

- improvements in Travel Time Index in corridors with ITS;
- reductions in crashes in corridors with ITS;

[27] USDOT FHWA, "Supply Chain Assessment of the Transportation Industrial Base: Freight and Logistics," February 2022, www.transportation.gov/sites/dot.gov/files/2022-03/EO%2014017%20-%20DOT%20Sectoral%20Supply%20Chain%20Assessment%20-%20Freight%20and%20Logistics_FINAL_508.pdf (accessed October 1, 2023).

- reductions in interactions between MDHD vehicles and VRUs in corridors with wayfinding and ITS;
- truck parking utilization rates; and
- GHG emissions reduction

CHAPTER 5:

Project Selection Process

Overall Objectives

The federal CRP identifies a range of eligible project to reduce transportation emissions. At a minimum, the projects must meet the eligibility criteria provided in the FHWA guidance, be consistent with the DVRPC CRPFS Plan, and be identified in the DVRPC TIP. Meeting these criteria requires consultation between the DVRPC staff, planning partners, and state DOTs.

Ultimately, projects that are selected for CRP funding should contribute to the DVRPC CRPFS Plan goal of net zero carbon emissions by 2050, improve transportation system safety, and provide equitable benefits for communities across the region.

State CRS

The Pennsylvania CRS recommends that DVRPC also develop a framework to identify projects that use CRP funds. This framework can be similar to project identification used for allocating funds from programs like the CMAQ program or other federal transportation programs where DVRPC has the authority to locally allocate funds. The purpose of the framework is to provide transparency to the public on how these funds' expenditures are being prioritized to reduce transportation emissions and also how these projects are meeting additional federal program goals.

Preferred Funding Option

In February 2024, DVRPC staff hosted a virtual informational meeting to discuss the goals, project strategies, and potential project selection process for CRP projects. Staff held subsequent meetings to review the information with project partners and solicit input on the presented information. Input from those conversations is incorporated in this final CRPFS. Attendees at the meetings included member governments' transportation, sustainability, and planning staff. Partners were asked to comment on priority project types, program goals, and the project selection process.

Staff proposed funding mechanisms for the CRP funds that included following the traditional TIP project selection process, holding a CRP competitive program similar to the competitive CMAQ program, or setting aside TIP line items for priority project types such as EVSE or trails.

Based on input from the partner information session and discussions with the state TIP subcommittees, it was determined that CRP-funded projects would be brought to the TIP subcommittees for consideration for CRP funding through the traditional TIP project nomination process.

Potential sources for project recommendations include recommendations from planning partners, DVRPC studies, competitive grant applications such as the Transportation Alternative Set Aside (TASA), Pennsylvania Multi Modal Fund, or New Jersey Freight Impact Fund, and recommendations from local CAPs. By using these sources for potential project identification, the CRP can support this strategy's goals and contribute to comprehensive efforts to increase mobility and system safety, and reduce transportation emissions.

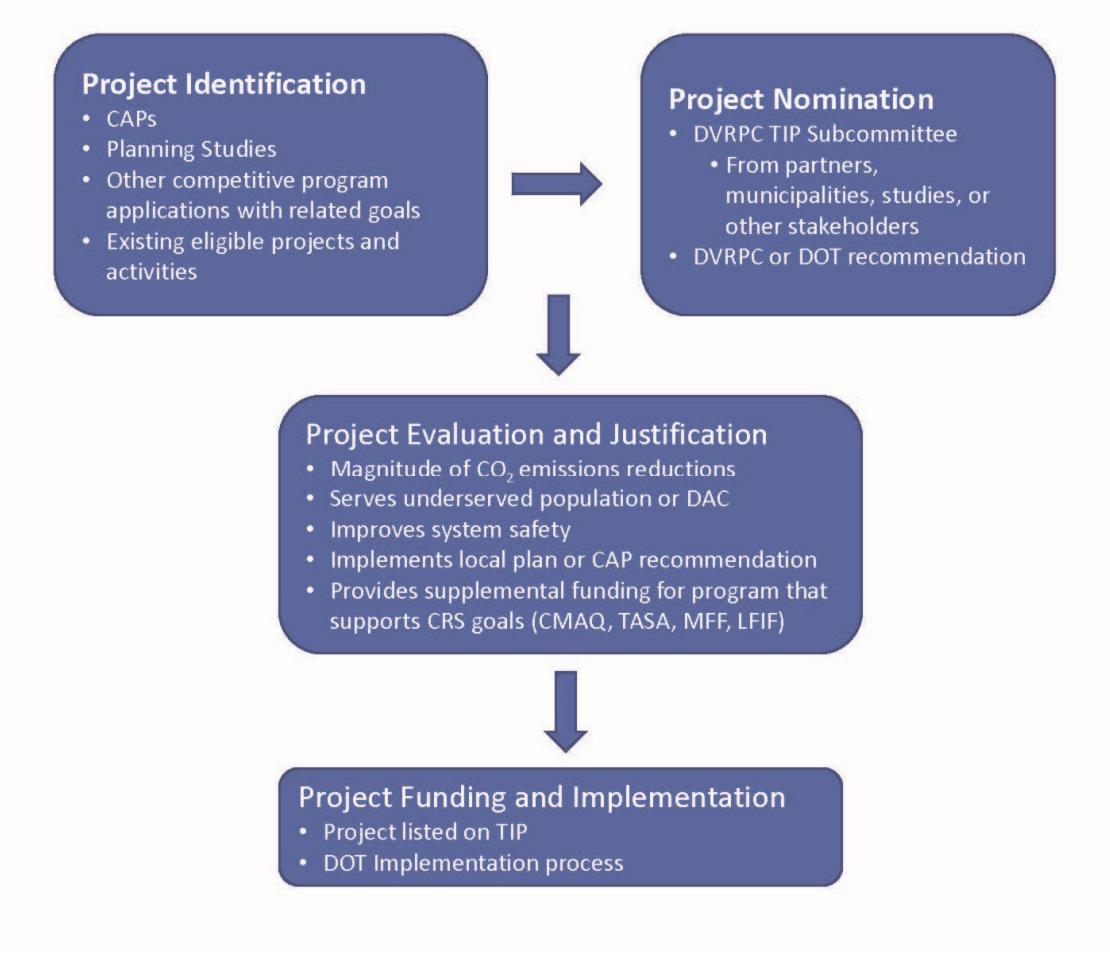
Utilizing existing projects, grant applications to programs with similar goals, and report recommendations will assist DVRPC to develop a list of projects for funding that can be implemented in the near-, medium- and long-term. Having a deep "bullpen" of potential projects helps to insure efficient use of the program funds.

Once project ideas are submitted to staff, projects are then compared to the project justification criteria to identify how well the project meets the program goals identified in Chapter 3 of this strategy, and the projects are then presented to the respected state TIP subcommittees for inclusion in the TIP for funding.

Staff held a public information session on August 21, 2024 for transportation and environmental advocates to explain the CRPFS to these constituents and to encourage those groups to work with their city or county planning staff to propose projects that can access the CRP funds to reduce transportation emissions. Thirty people from approximately twenty organizations attended the information session. DVRPC staff continues to meet with planning partners to explore CRP funding opportunities.

It is the intention that this CRPFS is updated every 4 years along with the state CRS. At that time funding mechanisms and strategies will be reviewed based on the program's progress and effectiveness at meeting the CRP goals and how this funding is integrated with DVRPC's net zero goal. Figure 3. demonstrates the preferred funding process.

Figure 3: Project Identification and Funding Process



Source: DVRPC 2024

CHAPTER 6:

Conclusion

This document serves as the strategy for applying CRP funds allocated to the DVRPC region by FHWA through NJ DOT and PennDOT. The DVRPC CRPFS outlines the region's goals and priority project types with regards to allocating CRP funds to transportations projects and identifies a mechanism for how projects that receive CRP funding are selected for the regional TIPs.

Projects selected for CRP funding must reduce transportation carbon emissions, improve the safety of the transportation system, and provide at least 40 percent of the program's benefits to disadvantaged communities. There are three project priority strategies to meet these goals.

1. Active Transportation
2. Zero-Emission Vehicles and Infrastructure
3. System and Goods Movement Efficiencies

Proposed projects will be nominated for inclusion on the regional TIP for approval by the appropriate state TIP sub-committee. Sources for potential projects include state DOTs, planning partners, and DVRPC staff. Recommendations from studies, CAPs, and applications to grant programs that have similar goals and objectives are also eligible for CRP funds.

DVRPC staff held two information session for potential planning partners. The first was held in February 2024 to solicit input for the goals, priority project types, and recommended funding mechanism for CRP funds. The second was held in August 2024 to educate partners about the DVRPC CRPFS and to encourage planners, environmental, and transportation advocacy groups to work with their DVRPC city or county representatives to sponsor projects that would use CRP funds to reduce carbon emissions from transportation for inclusion on the TIP.

This CRPFS is consistent with and supports the goals and objectives of the New Jersey and Pennsylvania Carbon Reduction Strategies and was developed in consultation with the DVRPC planning partners. This CRPFS will be revaluated at least every four years, along with the state CRS or as appropriate, in order to maximize the effectiveness of this funding program to accomplish the stated goals.

Carbon Reduction Program Funding Strategy for the DVRPC Region

Publication Number: 24162

Date Published: November 2024

Geographic Area Covered:

The nine-county DVRPC planning area, which covers the counties of Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey.

Key Words:

Carbon Dioxide, Carbon Reduction Program, Carbon Reduction Strategy, Climate, Greenhouse Gases, Emissions Reduction Projects, Transportation, Freight, Electric Vehicles, Electric Vehicle Service Equipment, Intelligent Transportation Systems, Active Transportation, Safety, Equity

Abstract:

The Carbon Reduction Program was authorized under the Federal Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), with the purpose of reducing Carbon Dioxide (CO_2) and greenhouse gas emissions (GHG) from the nation's transportation system. The CRP requires states to develop a Carbon Reduction Strategy (CRS) and offers formula funds for projects that reduce GHG emissions. Funds are allocated to the states based on the state's population and further allocated to the Metropolitan Planning Organizations (MPO) in the states based on the population of the state's urban areas (UAs).

Projects utilizing CRP funds must meet the program's eligibility requirements. The CRP guidance allows MPOs to develop a regional Carbon Reduction Program Funding Strategy (CRPFS) that supports the state CRS goals and prioritizes funding for transportation projects that are relevant to the region's demographics and emissions reductions goals. This document identifies the priority project types and process for using CRP funds for transportation projects and programs that will reduce emissions, increase system safety, and equitably distribute the program's benefits through the DVRPC region'

Staff Project Team:

Sean Greene, *Manager, Office of Freight and Clean Transportation*
Matthew Brahms, *Research Analyst*
Jesse Buerk, *Associate Director of Capital Programs and Project Development*
Richard Murphy, *Manager, Office of TIP Development and Maintenance*

Staff Contact:

Sean Greene, *Manager, Office of Freight and Clean Transportation*
215.238.2860
sgreene@dvrpc.org

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

190 N Independence Mall West
8th Floor
Philadelphia, PA 19106-1520
215.592.1800
www.dvrpc.org

DVRPC's vision for the Greater Philadelphia Region is a prosperous, innovative, equitable, resilient, and sustainable region that increases mobility choices by investing in a safe and modern transportation system; that protects and preserves our natural resources while creating healthy communities; and that fosters greater opportunities for all.

DVRPC's mission is to achieve this vision by convening the widest array of partners to inform and facilitate data-driven decision-making. We are engaged across the region, and strive to be leaders and innovators, exploring new ideas and creating best practices.

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

190 N Independence Mall West
8th Floor
Philadelphia, PA 19106-1520
215.592.1800
www.dvrpc.org

Connect With Us!