



**PROGRAM GUIDANCE AND PROCEDURES:
CONGESTION MITIGATION AND AIR QUALITY
IMPROVEMENT PROGRAM**

August 2017

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Southwestern Pennsylvania Commission's Congestion Mitigation & Air Quality Improvement Program 2019-2022 Program Guidance

Background

This document has been prepared to guide sponsors of candidate projects through the Southwestern Pennsylvania Commission's (SPC) application process for the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. The Program Guidance and Procedures document includes the schedule and guidelines for submitting applications for candidate projects, the project selection process, and the project selection criteria.

The following sections of this document provide background information about SPC's CMAQ project solicitation, evaluation, prioritization, and selection process; instructions for completing and submitting applications for candidate projects for CMAQ funding; and a summary of the process that will be followed to manage the region's CMAQ Program after the Transportation Improvement Program (TIP) is approved.

Four appendices are included at the end of this document. [APPENDIX A](#) contains the processes and regulatory requirements of delivering a successful and on-time transportation project with Federal CMAQ funds; [APPENDIX B](#) contains additional Tables; [APPENDIX C](#) contains maps of the air quality nonattainment and maintenance areas in Southwestern Pennsylvania; and, [APPENDIX D](#) contains a list of links to additional information and guidance of use to applicants, and SPC staff contacts.

Program Objective

The federal Congestion Mitigation and Air Quality Improvement (CMAQ) Program provides funds for transportation projects and programs that will contribute to attainment or maintenance of the national ambient air quality standards (NAAQS) for ozone, carbon monoxide (CO), and particulate matter (PM).

The CMAQ program supports two important goals of the federal Department of Transportation: improving air quality and relieving congestion. These goals were strengthened in provisions added to the CMAQ Program by the *Moving Ahead for Progress in the 21st Century Act* (MAP-21; Pub. L. 112-141) and continued in the *Fixing America's Surface Transportation Act* (FAST Act; Pub. L. 114-94). These provisions emphasize cost-effective emission reduction and congestion mitigation activities when using CMAQ funding.

It is the Southwestern Pennsylvania Commission's policy to program projects on the TIP for CMAQ funding that provide the best air quality benefit for the investment, consistent with [Federal Highway Administration \(FHWA\) CMAQ Program Guidance](#) (*Final Program Guidance, The Congestion Mitigation*

and Air Quality [CMAQ] Improvement Program under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, FHWA, October, 2008; and *Congestion Mitigation and Air Quality [CMAQ] Program Interim Guidance: MAP-21 – Moving Ahead for Progress in the 21st Century*, FHWA, November 12, 2013). Projects selected for CMAQ funding are also expected to be consistent with the policies set forth in SPC's adopted Long-Range Transportation Plan ([Mapping the Future: The Southwestern PA Plan, SPC, June 2015](#)). The FAST Act of 2015 added eligibility for verified technologies for non-road vehicles and non-road engines that are used in port-related freight operations located in ozone, PM₁₀ or PM_{2.5} nonattainment or maintenance areas. The Act also specifically makes eligible the installation of vehicle-to-infrastructure communications equipment

Once projects are programmed on the Transportation Improvement Program (TIP) for CMAQ funding, close coordination is necessary between SPC, the Pennsylvania Department of Transportation (PennDOT), and project sponsors to ensure that CMAQ funds are used appropriately and to maximize their effectiveness in satisfying SPC's CMAQ policy and meeting federal transportation and Clean Air Act (CAA) goals. It is also essential that the CMAQ funds are able to be obligated in the year in which they are programmed to the TIP.

The TIP is a four-year program of projects that is updated every two years. During each two-year cycle, projects programmed in the first two TIP years are expected to be funded. The second two years of one TIP will become the first two years of the following TIP. Because of this there is very limited, if any, funding for new projects on a new TIP's first two years. Most of the awarded CMAQ projects will be programmed for the TIP's third and fourth years, which are the federal fiscal years of 2021 and 2022.

FHWA has directed that the CMAQ project selection process should be conducted in accordance with the metropolitan transportation planning process. In addition, the CMAQ project selection process should be transparent, in writing, and publicly available. The process should identify the agencies involved in rating proposed projects, clarify how projects are rated, and name the committee or group responsible for making the final recommendation to the Metropolitan Planning Organization (MPO) board, which is the Southwestern Pennsylvania Commission for this region. The selection process should also clearly identify the basis for rating projects, including emissions benefits, cost effectiveness, and any other ancillary selection factors such as congestion relief, greenhouse gas reductions, safety, system preservation, access to opportunity, sustainable development and freight, reduced SOV reliance, multi-modal benefits, and others. The ensuing sections of this Program Guidance provide information on the project selection process.

Federal Performance Measures

The Federal Highway Administration, with the enactment of the Moving Ahead for Progress in the 21st Century (MAP-21) ACT and the Fixing America's Surface Transportation (FAST) Act, established the requirement that a set of National Performance Management Measures must be developed and used by State departments of transportation (StateDOTs) and Metropolitan Planning Organizations (MPOs) to make investments and policy decisions to achieve the national performance goals. There are seven national performance goals for federal highway programs, each listed in the [Ancillary Selection Factors section on page 9](#).

The National Performance Management Measures for Assessing Performance of the National Highway System, Freight Movement on the Interstate System and Congestion Mitigation and Air Quality Improvement (CMAQ) Program Final Rule Making was published in the Federal Register on January 17, 2017 ([Docket No. FHWA-2013-0054](#)) and went into effect on May 20, 2017, with the exception of certain portions of the regulation pertaining to the greenhouse gas (GHG) measure.

This set of measures will be used by StateDOTs and MPOs to assess the performance of the Interstate and non-Interstate National Highway System (NHS) for the purpose of carrying out the National Highway Performance Program (NHPP); to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the CMAQ Program. The Performance Measures specifically related to the CMAQ Program are listed below.

National Performance Management Measures Congestion Mitigation and Air Quality Improvement Program			
Performance Measure	Measure/Target Applicability	Metric Data & Collection Frequency	Metric
Annual Hours of Peak-Hour Excessive Delay Per Capita	Mainline NHS in urbanized areas with a population over 1M/200K in nonattainment or maintenance for any of the criteria pollutants under the CMAQ program	All traffic/vehicles data in NPMRDS or equivalent data set – every 15 minutes (bus, car and truck volumes in HPMS; occupancy factors published by FHWA	Total Peak-Hour Excessive Delay in person hours
Percent of Non-SOV Travel	Urbanized areas with a population over 1M/200K in nonattainment or maintenance for any of the criteria pollutants under the CMAQ program	ACS, local survey, or local counts (includes bike/pedestrian counts)	N/A
Total Emission Reductions	All nonattainment and maintenance areas for CMAQ criteria pollutants	CMAQ Public Access System	N/A

NHS – National Highway System
 NPMRDS – National Performance Management Research Data Set
 HPMS – Highway Performance Monitoring System
 ACS – American Community Survey, U.S. Census Bureau
 CMAQ Public Access System – Database of CMAQ Project Information

Table 1, August 2017

PennDOT and SPC are responsible for the coordination, development and tracking of the CMAQ program performance targets for Southwestern Pennsylvania. PennDOT has one year from the effective date (May 20, 2017) to develop a set of quantifiable statewide performance targets for the above measures to be achieved over 2 and 4-year performance periods, beginning in 2018. SPC is required to establish targets by either supporting PennDOT’s statewide targets, or by defining a target unique to the SPC region for each measure within 180 days of the date each target is set by PennDOT. SPC will report

progress on achieving its performance targets in the Metropolitan Long-Range Plan and through CMAQ performance reports, which are included in PennDOT Biennial Performance Reports.

Schedule & CMAQ Evaluation Committee

The application period for candidate projects for CMAQ funding in the 2019-2022 TIP is being publicly announced by SPC through its technical committees (Transit Operators Committee [TOC] and Transportation Technical Committee [TTC]), SPC's website, and other forums as appropriate.

The project application period will begin on Friday, August 4, 2017 and close on Friday, September 8, 2017. To prepare potential sponsors for submitting and possibly delivering a federally funded transportation project, Project Delivery Workshops will take place in August at SPC offices, and in each of the three PennDOT Districts in the 10-county region. (Please refer to [SPC's Website](#) for Workshop dates and additional information). Following the close of the application period, SPC staff and the CMAQ Evaluation Committee will complete the screening and evaluation of candidate projects by early December, 2017. Table 2 below summarizes the CMAQ Program development schedule for the 2019-2022 TIP.

CMAQ Program Schedule & Process Timeline for the 2019-2022 TIP	
August 4, 2017	CMAQ Application Period Opens
August, 2017	SPC Project Delivery Workshops for Candidate Sponsors
September 8, 2017	CMAQ Application Period Closes
September - December, 2017	Application Review and Technical Scoring by SPC and CMAQ Evaluation Committee
December 7, 2017	TTC Action to Recommend SPC Endorsement of CMAQ Program
December 11, 2017	SPC Action to Endorse CMAQ Program for Preliminary Draft 2019-2022 TIP
December 29, 2017	SPC Submits Draft TIP to PennDOT for Review
February - June 2018	Completion of Air Quality Conformity Analysis, Finalization of Draft TIP Report, Opening of Joint SPC /PennDOT Public Review & Comment Period
June 29, 2018	SPC Action to Adopt 2019-2022 TIP
October 1, 2018	Federal Fiscal Year 2019 Begins (Effective Date for 2019-2022 TIP)

Table 2, August 2017

CMAQ Evaluation Committee

The CMAQ Evaluation Committee (CEC) will be convened in September 2017. It will assist in prioritizing the candidate projects for CMAQ funding on the 2019-2022 TIP, reporting their findings, and making recommendations to SPC's Transportation Technical Committee, which will ultimately recommend the final CMAQ program for inclusion on the TIP. Membership of the CEC is designed to be a balanced and diverse representation of the SPC committees and air quality planning partners. The CEC will prioritize the candidate projects based on the air quality technical analysis, the ancillary selection factor ratings that will be completed by SPC staff, the evaluation of deliverability/project readiness that will be completed by the CEC, and SPC's Regional Priorities for Competitive Transportation Funding Programs. Recommendations will be developed by early December 2017. These recommendations will be presented to SPC's Transportation Technical Committee and others, as appropriate, in December prior to presentation to SPC's Executive Committee at its December 11, 2017 meeting. [Table B-3](#) summarizes the CMAQ Evaluation Committee membership.

Funding and Local Match Requirements

The CMAQ Program provides up to 80% of total eligible project costs associated with costs for infrastructure type projects, and activities and operating costs for non-infrastructure projects. The minimum local share is 20% and must be provided from local, state, or other non-federal sources. Costs associated with a non-CMAQ funded phase of the project are not considered as part of the local share. CMAQ funds are able to be combined with other federal funds on the same project, but the full amount of local match for all federal funds is still required.

Sponsor and Project Eligibility

Sponsor Eligibility

Any qualified government entity, including local governments, regional transit agencies, port authorities, and state agencies is eligible to apply for CMAQ funding. Non-profits and private sector entities may partner with an eligible applicant to apply for CMAQ funding; however there must be a formal agreement in place with their partnering public agency in order to receive funding. Applicants are required to contact county and municipal government(s) where the project will be implemented to inform them of their intent to apply and to coordinate the project effort. The same case applies to applicants seeking to implement public transportation improvements, these applicants however are also required to contact the public transit agency that provides service in the proposed project area.

Project Eligibility

The federal CMAQ program provides funds for transportation projects that ease congestion and contribute to the attainment and maintenance of air quality standards for ozone, carbon monoxide and particulate matter. The program emphasizes cost effective emission reduction and congestion mitigation activities. It is SPC's policy to program CMAQ projects on the TIP that provide the best air

quality benefit for the investment and support two important goals of the federal Department of Transportation: improve air quality and relieve congestion.

In Southwestern Pennsylvania, congested corridors are identified as part of the regional Congestion Management Process (CMP). The CMP also identifies and prioritizes congestion mitigation strategies for each of these corridors. SPC's regional priority for CMAQ funding is to identify projects that provide the best congestion and air quality benefits for the investment. These are often derived from the CMP and are contained in documents such as the region's adopted Long-Range Transportation Plan, Regional Operations Plan, Regional Freight Plan, and the Transit Development Plans for the transit operators in the region. Examples include Intelligent Transportation System (ITS) deployments (both highway and transit), park-n-ride lots, travel demand management activities, traffic signal improvements, geometric/operational upgrades, and bottleneck mitigation projects. As described on page 11, under the [Congestion Management \(CMP\) Corridor Rating Section](#), projects on CMP corridors receive additional points toward their application.

All federal eligibility requirements for transportation projects must be met and be consistent with [FHWA's CMAQ Program Guidance](#). Specific activities and projects are explicitly identified as either eligible or ineligible for CMAQ funding within FHWA's CMAQ Program Guidance. Projects and activities will be placed into one of the six Project Category activities below.

Project Grouping

Listed in [TABLE B-2](#) are the six Project Category activities and examples of projects and activities that are eligible for CMAQ funding. All projects will be placed into a project category, which will be used for grouping and comparison purposes. These categories are:

1. Commuter Bicycle and Pedestrian Improvements
2. Transportation Demand Management
3. Traffic Flow Improvements
4. Diesel Emissions Reductions and Alternative Fuel Technologies
5. Transit Improvements and Programs
6. Other Projects (Eligible projects under Federal CMAQ Guidance that do not fit into any of the above categories)

Ineligible Activities

The following projects are ineligible for CMAQ funding:

- Light-duty vehicle scrappage programs.
- Projects that add new capacity for SOVs are ineligible for CMAQ funding unless construction is limited to high-occupancy vehicle (HOV) lanes. This HOV lane eligibility includes the full range of HOV facility uses authorized under 23 U.S.C 166, such as high-occupancy toll (HOT) and low-emission vehicles.
- Routine maintenance and rehabilitation projects (e.g., replacement-in-kind of track or other equipment, reconstruction of bridges, stations, and other facilities, and repaving or repairing roads) are ineligible for CMAQ funding as they only maintain existing levels of highway and transit service, and therefore do not reduce emissions. Other funding sources, such as Surface

Transportation Block Grant Program and FTA's Urbanized Area Formula Program (49 U.S.C. 5307), are available for such activities.

- Administrative costs of the CMAQ program may not be defrayed with program funds (e.g., support for a State's "CMAQ Project Management Office" is not eligible).
- Projects that do not meet the specific eligibility requirements of Titles 23 and 49, United States Code, are ineligible for CMAQ funds.
- Stand-alone projects to purchase fuel.
- Models and Monitors—Acquisition, operation, or development of models or monitoring networks are not eligible for CMAQ funds. As modeling or monitoring emissions, traffic operations, travel demand or other related variables do not directly lead to an emissions reduction, these activities or acquisitions are not eligible. Such efforts may be appropriate for Federal planning funds.
- Litigation costs surrounding CMAQ or other Federal-aid projects.

How to Submit Completed Candidate Project Applications

All completed applications for CMAQ funding must be submitted electronically and uploaded to SPC using the SPC SharePoint site. The SPC SharePoint site requires a username and password. Project sponsors will need to contact [Kristin Baum](#) for additional information regarding submitting an application via SPC's SharePoint site.

Application Process

The CMAQ program is structured to fund cost effective transportation projects and programs in non-attainment and maintenance areas which reduce transportation-related emissions. A complete CMAQ candidate project application will consist of several components to ensure selected projects are efficiently and effectively implemented.

Project Application Forms

A complete application will consist of several components, these include:

- Application Checklist form (needed for all projects)
- Candidate Project Description form (needed for all projects)
- Project Budget and Schedule form (needed for all projects)
- Project Delivery Checklist form (needed for all projects)
- Project Type form appropriate for the project category ([TABLE B-2](#))
- Additional Information forms (as many as needed to fully describe the project)
- Supporting information (maps, drawings, photographs, reports, etc)

Eleven separate application forms are posted on the [SPC CMAQ website](#) along with this document. Project sponsors should download needed forms from the SPC website, enter appropriate information about the candidate project on each form, and save the files to a project folder. If supporting information is part of the project application package, the project sponsor should identify each piece of supporting information on an Additional Information form. All of the application forms are interactive files. Data entry must be done on the computer. Completed forms must be saved as interactive files. SPC

will extract the submitted CMAQ project information via SharePoint. Handwritten paper copies, or electronic copies without the interactive features cannot be accepted.

Pre-Qualification Screening

To be eligible for CMAQ funds a project must be a transportation project consistent with the region's adopted Long-Range Transportation Plan ([Mapping the Future: The Southwestern PA Plan](#)), be located in an air quality nonattainment or maintenance area, and have demonstrated air quality benefits. Please refer to the [FHWA Program Guidance](#) for more information about CMAQ Program eligibility.

SPC staff will prepare a map identifying the location of each candidate project in relation to the region's air quality nonattainment areas. Project screening will be done by SPC staff for review by the CEC. Screening criteria address provisions of the FAST Act and assess consistency with Mapping the Future: The Southwestern PA Plan, local comprehensive plans, and the Commonwealth's Smart Transportation goals. Projects must be shown to be consistent with FAST Act eligibility requirements, Mapping the Future, and at least one of the other documents or it will not be considered further.

Application Review

SPC staff will review applications submitted by the September 8, 2017 deadline for completeness. Applicants will be notified by September 15th if the applications are incomplete and will be given one week (September 22, 2017) to submit missing or incomplete information.

Project Carryover Limitations

Beginning with the 2019-2022 TIP update, all CMAQ projects (or project phases) will have two TIP cycles to obligate their allocated CMAQ funding, beginning with the year in which they are originally programmed onto the TIP. If CMAQ funds allocated to a project (or project phase) are not obligated in this timeframe, the funds for the project (or project phase) will be removed from the TIP and reverted back to the regional CMAQ line item for redistribution. The project sponsor will then have to reapply to the CMAQ program if the project remains a priority.

Any project programmed on the TIP prior to the 2015 program will have a grace period of two years (until the 2021 TIP update) to obligate their funds. The time frames to obligate CMAQ funds are as follows.

TIP Program Year	TIP Obligation Deadline
2015 and prior	2021 (September 30, 2020)
2017 & 2018	2021 (September 30, 2020)
2019 & 2020	2023 (September 30, 2022)
2021 & 2022	2025 (September 30, 2024)

Table 3, August 2017

Project Evaluation Criteria

Projects will be prioritized based on the five Air Quality Technical Analysis factors, the five Ancillary Selection Factors, and the Deliverability/Project Readiness Factors described in this Section. A CMAQ Project Rating Scorecard, completed by SPC staff and members of the CEC, will rate candidate projects on these factors. To assist in developing the final recommended list of projects, the CEC will also utilize a decision support tool (Decision Lens) to dynamically analyze the impacts on project ranking that result from adjusting the emphasis on various scoring factors. The CEC's recommendations for project funding will be based on this information as well as the projections of available CMAQ funding for each year of the four-year TIP period.

A copy of the CMAQ Project Rating Scorecard is presented in [Table B-1](#)

Air Quality Technical Analysis

All projects that pass the pre-qualification screening will be grouped by project category (as defined above) and evaluated for their effect on air quality using a standardized set of analysis tools developed for PennDOT. Evaluation results will enable the projects to be rated based on the following Air Quality and cost/benefit factors:

- Change in emissions (VOC, NO_x, PM, CO).
- Change in vehicle miles traveled (VMT).
- Change in vehicle trips.
- CMAQ cost per unit change in emissions.
- CMAQ cost per unit change in vehicle trips and vehicle miles traveled.

Ancillary Selection Factors

The Ancillary Selection Factors rely heavily on outcome driven, performance based metrics. The increased focus on performance based planning and programming is a result of MAP-21 and the FAST Act's aim to create a streamlined and performance-based surface transportation program. StateDOTs and MPOs must make investments and policy decisions to achieve the national performance goals. There are seven national performance goals for federal highway programs:

- **Safety** - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
- **Infrastructure Condition** - To maintain the highway infrastructure asset system in a state of good repair
- **Congestion Reduction** - To achieve a significant reduction in congestion on the National Highway System
- **System Reliability** - To improve the efficiency of the surface transportation system
- **Freight Movement and Economic Vitality** - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development

- **Environmental Sustainability** - To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- **Reduced Project Delivery Delays** - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

These national goals are reflected in *Mapping the Future: The Southwestern PA Plan* through the plan performance measures, which are ultimately implemented through the TIP and programs such as CMAQ.

Details on how each of the five Ancillary Selection Factors will be scored are presented below:

1. **Consistency with Mapping the Future: The Southwestern PA Plan**

All applicants must demonstrate consistency with the Long-Range Transportation Plan (LRTP) Performance Measures, the Regional Vision, and Air Quality related policies (listed below and within [Mapping the Future: The Southwestern PA Plan](#)). Project sponsors will be given a checklist with the following Plan performance measures, Vision, and Policies and will be asked to check each one that the candidate project will help to advance.

Performance Measures:

- Reduces Annual Serious Injury and/or Fatality Rates
- Reduces Vehicle Miles Traveled (VMT)
- Reduces Delay
- Improves Air Quality
- Improves System Reliability
- Improves Access to Employment and/or Community Facilities
- Improves Access to Public Transportation
- Supports Tourism
- Increases Mode Split (away from drive alone trips)

Vision:

Promote transportation and land use that support and enhance the regional economy and the communities within it.

Policies:

- Investment in infrastructure improvements will be coordinated and targeted at the corridor level to optimize the impact of the investment.
- Transportation and development choices will reflect a priority on safe and secure multimodal and intermodal networks for people and goods.
- The region's transportation system will be proactively managed and operated to allow the system to function at its full potential.
- The region's transit system will connect people with resources throughout the entire region.

- The region’s infrastructure system will be designed to protect and enhance public health and the environment.

Projects that meet the Vision, three (or more) Policies, and at least seven of the Performance Measures will receive a **High (3)** rating for this scoring factor, projects that meet the Vision, two Policies, and 4 to 6 of the Performance Measures will receive **Medium (2)**, and projects that meet the Vision, one Policy, and 1 to 3 Performance Measures will receive **Low (1)**. Projects that do not advance the Vision, Policies or any of the LRTP Performance Measures will receive 0 points.

2. Congestion Management Process (CMP) Corridor Rating

Federal transportation legislation requires that each metropolitan planning organization maintain an ongoing Congestion Management Process (CMP). SPC’s CMP identifies corridors in the region with existing traffic congestion and corridors where congestion is expected in the future. The CMP also assesses the suitability of 25 congestion management strategies within identified corridors, and the potential effectiveness each strategy has in reducing congestion. The [CMP is extensively documented on SPC’s website](#), and within [APPENDIX D](#).

Projects on CMP corridors that include high priority congestion management strategies suited to the corridor as part of the project scope will be scored **High (3)**. Projects on CMP corridors that include less effective strategies suited to the corridor will be scored **Medium (2)**. Projects not located on a CMP corridor that implement a CMP strategy suited to the corridor will be scored **Low (1)**. Projects not on a CMP corridor will be scored as **Not Addressed (0)**.

3. Safety Improvements

Safety is an essential consideration to all transportation improvement projects. In order to evaluate the safety impacts of the candidate CMAQ projects, similar project categories will be grouped together and calculated as follows:

- **Transit and Transportation Demand Management (TDM):** Regional crash rate per million vehicle miles traveled*projected reduction in vehicle miles traveled = expected reduction in crashes
- **Traffic Flow and Bicycle and Pedestrian:**
 - Two way AADT*regional crash rate (by federal functional classification)*365/1,000,000 = number of crashes per mile
 - Number of crashes per mile*mileage of project = total number of crashes
 - Expected reduction in crashes = total number of crashes*crash reduction factor¹

The Diesel Emissions Reductions and Alternative Fuel Technologies category receives no points for the Safety factor. Projects in the Other Projects category will be scored accordingly on a case-by-case basis.

¹ Crash Reduction Factor (CRF) A CRF is the percentage crash reduction that might be expected after implementing a given countermeasure. (In some cases, the CRF is negative, i.e. the implementation of a countermeasure is expected to lead to a percentage increase in crashes.) A CRF should be regarded as a general estimate of the effectiveness of a countermeasure for planning purposes only. The estimate is a useful guide, but, ultimately, it remains necessary to apply engineering judgment and to consider site-specific environmental, traffic volume, traffic mix, geometric, and operational conditions which will affect the safety impact of a countermeasure.

Projects that are expected to reduce 2.0 or more crashes per year will get a **High (3)** score. Projects with an expected reduction in crashes from .75 to 1.99 crashes per year will get a **Medium (2)** score, and projects with an expected reduction of less than .74 crashes will score **Low (1)**. Projects with no demonstrable impact on safety will receive a score of **(0)** for this factor.

Candidate CMAQ Projects at locations listed in the most recent and applicable SPC MPO High Crash Location List as published by PennDOT Highway Safety Guidance Manual will automatically achieve a High (3) score.

4. Funding

There are two considerations for this factor: federal share and non-traditional funding sources. Projects that bring significant non-federal and non-traditional funding to the TIP will warrant additional consideration. Projects requesting funding of less than 50% of the total project cost from federal funding programs (including CMAQ) will receive a **High (3)** score for this scoring factor. Projects requesting between 50% and 70% federal share will receive a **Medium (2)** score. Projects requesting between 70% and 80% federal share will score **Low (1)**. Projects with a federal share above 80% will score **Not Addressed (0)**.

In addition, projects that can show a firm, in writing, commitment of non-traditional funding to the project will get 1 additional point. These projects are typically public/private partnerships that provide some of the required non-federal matching funds from private donations, philanthropic sources, local businesses, or other non-government resources. As stated previously, these projects are subject to the requirements outlined in [FHWA's CMAQ Program Guidance](#).

5. Air Quality Nonattainment Status in Project Area

Projects in the Clairton PM2.5 nonattainment area will score **High (3)** for this scoring factor. Projects that are not in the Clairton PM2.5 nonattainment area, but in areas that are nonattainment or maintenance for both PM2.5 and Ozone will score **Medium (2)**. Projects in areas that are nonattainment or maintenance for either Ozone only or PM2.5 only will score **Low (1)**. Projects that are not in a nonattainment or maintenance area will score **Not Addressed (0)**. Maps of the nonattainment and maintenance areas in southwestern Pennsylvania are in [APPENDIX C](#).

Deliverability/Project Readiness

The CEC will evaluate each candidate project in terms of its ability to be delivered on-time and within budget. Utilizing the collective knowledge of the CEC and the completed *Project Delivery Checklist* application form, will enable the Committee to best assess a particular project's deliverability.

Applicants must clearly demonstrate project readiness with a well defined scope, schedule, cost estimate, project understanding, commitments of needed non-federal funding, and documentation of support from the other participating agencies in the project. Project sponsors should consult with [PennDOT Publication 740 - Local Project Delivery Manual](#) in order to proactively identify any potential

deliverability issues the candidate project(s) may experience and factor them into their schedules and cost estimates.

Applications that clearly demonstrate that the project can be delivered within the proposed project schedule will be scored **High (3)**. Applications that do not adequately demonstrate project readiness will be scored as **Medium (2)**. Projects with potentially significant issues that could impact project deliverability will be rated **Low (1)**. Applications with insufficient information to determine project readiness will be scored as **Not Addressed (0)**. Applications that receive a *Low* or *Not Addressed* score, will be unlikely to receive a recommendation from the CEC.

Appendix A: CMAQ Program Management and Other Regulatory Requirements

CMAQ Program Management

Once a project is programmed on the TIP, project sponsors have significant work to complete to obligate the funds. A project being placed on the TIP does not guarantee that funding will be made available for the project; the project sponsor must demonstrate to the satisfaction of the funding agencies that the project is deliverable on the schedule shown on the TIP, that other needed project funding is in place, and that the project sponsor has the needed technical and managerial capability and capacity to implement the project.

The additional steps that must be completed by project sponsors after successfully having a project programmed on the TIP include key milestones such as: securing commitments from project partners for the non-federal funds needed for the project; assessments of project readiness by funding agencies; a determination that the project sponsor has the capability to deliver the project; review of the project scope, schedule, and cost to ensure that they are still applicable; and execution of reimbursement agreements or grant contracts for federal funds.

The CMAQ Program is a reimbursement program; not a grant program. Any costs incurred on the project prior to execution of a reimbursement agreements (with PennDOT) or grant contracts cannot be reimbursed by the federal government. As eligible costs are incurred after the reimbursement agreements are in place, the sponsor will generally pay invoices with its own funds, and then request reimbursement from the funding agency (PennDOT). This means that the sponsor must demonstrate that it has the resources and cash flow to complete the project under the required reimbursement agreements.

Ideally, a project will advance according to its programmed schedule. But, projects can be delayed due to unforeseen obstacles such as environmental, utility and right-of-way issues, community concerns, changes in the cost and availability of materials, or changes in the project sponsor's priorities. Please refer to the following section, *Other Regulatory Requirements*, to learn more about these obstacles and to prepare your project to avoid them. Tracking each project's progress is necessary so that delays can be identified and remedied as soon as possible and so that scarce CMAQ resources can be reallocated as necessary.

Shortly after TIP adoption, SPC staff will contact the sponsor of each CMAQ project programmed on the TIP. The sponsor will be required to finalize key project milestones and a schedule for ensuring that CMAQ funds will be approved (obligated) during the year in which funding for the project is programmed on the TIP. Project sponsors are required to provide a preliminary set of milestones and schedule as part of the CMAQ project application. Milestones could include items such as: a date for securing needed non-federal matching funds; deadline for documenting compliance with local ordinances and zoning codes; deadline for executing the PennDOT project reimbursement agreement or federal grant contract; schedule for final state and/or federal concurrence on project scope and cost; dates for completion and approval of environmental reviews. The project milestones are intended to identify the key steps in advancing the project toward funding approval and, ultimately, implementation. They will be unique to each project depending on the project type, complexity, and

coordination required. SPC staff and PennDOT will work with project sponsors to establish realistic milestones and schedules for each project.

Once the project milestones are set, SPC will require periodic status updates from the project sponsor in order to monitor progress against the milestones. The content and format of the updates will be reviewed with project sponsors in more detail when the project is on the TIP.

As stated previously, PennDOT has provided guidance to sponsors of local projects of the processes associated with developing a local transportation project ([PennDOT Local Project Delivery Manual; PennDOT Publication 740, November 2013](#)). The document describes the requirements for implementing local projects using federal funding. The early understanding of these requirements by project sponsors helps to streamline the overall project development process by saving project sponsors' and PennDOT staffs' time, by reducing omissions in projects causing substantial downstream delays, and by making efficient use of federal, state, and local funds.

Before submitting its application for CMAQ funds, project sponsors should understand, and carefully consider:

- PennDOT guidance
- USDOT funding approval processes
- SPC's CMAQ Program Carryover Policy
- Rules for consultant procurement
- Requirements for federal and state oversight during project implementation.

Other Regulatory Requirements:

There are a number of State and Federal regulatory requirements that apply to this program. Most, if not all, of these requirements (competitive bidding, minority business participation, Davis Bacon Act, prevailing wage rates and Americans with Disabilities Act) can be unfamiliar to project sponsors. In most cases, for compliance with environmental regulations during preliminary engineering, it is expected that project sponsors will secure professional assistance (consulting engineers, landscape architects) to assist them in satisfying these requirements and advancing their project. PennDOT District staff should be contacted to assist with the interpretation and application of these requirements. In addition, sponsors should refer to the [PennDOT Publication 740: Local Project Delivery Manual](#).

A list of some of these requirements, as well as a brief discussion of each, follows.

Agreements and Eligible Costs

The project sponsor must execute a standard legal agreement with PennDOT prior to proceeding with any work on the project. Any project costs incurred prior to the execution of a reimbursement agreement for which federal dollars are requested will not be eligible for reimbursement. PennDOT will provide guidance, if requested. Interest payments made by municipalities or other project sponsors to finance any portion of the project costs are not reimbursable. Reimbursement agreements are required for each phase of the project.

Budget

The sponsor must demonstrate that there is an acceptable funding strategy for the project. A well-defined scope of work is needed to develop an accurate budget. Budget considerations are very important and an itemized list of anticipated expenses (including labor, supplies, materials and other anticipated costs) should be provided in an application attachment. The budget must be prepared and should be divided into project development phases that include environmental clearance, right-of-way, and construction phases. The budget should identify all sources of funding and how each itemized activity will be funded. Estimated funding for the project that may be from sources other than CMAQ should be identified, such as other federal funds, state, local, donated services, in-kind services, volunteer, etc.

As sponsors develop their estimated budget, they should talk with PennDOT Engineering District staff and other professionals familiar with PennDOT policies and regulations, such as architects, designers, engineers, contractors, or other appropriate individuals that have PennDOT project experience. **Important:** Project sponsors should design their project cost estimates for the year in which the project is anticipated to be delivered. Note also that 12-15% of the estimated construction cost is used for project inspection. The 12-15% inspection cost must be included in the Total Construction Costs.

Reimbursement

CMAQ is a federal cost reimbursement program and no money is provided upfront. No reimbursement will be provided for costs incurred before a Federal Form 4232/FTA grant agreement is authorized; **this does not occur automatically once a project is awarded or placed on the TIP**. Sponsors are advised to contact PennDOT District or SPC staff soon after their notice of award has been received to review the appropriate next steps.

PennDOT utilizes a “certified invoice” process whereby project sponsors, upon receipt of invoices for project activities, certify their accuracy and immediately forward them to PennDOT. PennDOT will then initiate a procedure to pay the sponsor. Upon receipt of a check from PennDOT (usually 4-6 weeks), the sponsor pays the contractor within ten days after getting reimbursed from PennDOT. By using this process, the project sponsor does not have to use its own funds. This process is further described in the [PennDOT Publication 740 - Local Project Delivery Manual](#), which is provided to awarded project sponsors.

PennDOT Connects

PennDOT recognizes the profound economic and quality of life implications that transportation has on communities. To better identify the needs of communities early in the project planning process, PennDOT Connects requires the consideration of local planning studies, comprehensive plans and other local government input at the onset of project planning.

Project sponsors will be required to meet with SPC staff to fulfill the requirements of the PennDOT Connects initiative. Other meeting participants will be dependent on the project sponsor, the proposed project, and its location. SPC will work with individual sponsors to determine a meeting time, location, and a list of participants.

Public Involvement

Early and continued public involvement in program activities will need to be sought to ensure consistency with the requirements for public involvement in the metropolitan and statewide planning regulations and with the National Environmental Policy Act (NEPA) project implementation guidelines. The applicant should contact SPC for more information. Generally, the public involvement activities handled through the application review and approval process by SPC fulfills this requirement. However, the project sponsor should discuss their project locally in a public format, such as at local planning commission and/or municipal meetings.

Environmental Clearance

All projects will require an environmental clearance document as part of the preliminary engineering phase of work. The level of effort varies by the type of project, the anticipated impact and the degree of public controversy. The NEPA documentation may be a Categorical Exclusion (CE), Environmental Assessment (EA), or Environmental Impact Statement (EIS). Preparation of the document can be a cooperative venture. Normally, at the project scoping, a decision will be made on the type of documentation required and which entity will prepare the document. The project sponsor or their consultant will be required to prepare the environmental clearance document. At times, there may be costs associated with obtaining environmental clearance. It is important to note that project sponsors should not begin any construction activities or site preparation prior to receiving their environmental clearance.

Consultant Selection Procedures

There are various steps that need to be followed to advance a project into the design phase starting with selecting an engineer/consultant who will complete the work. Prior to advertising for consultant, all Local Project Sponsors must have their selection procedures reviewed by their respective PennDOT District Office. The District will review the documentation and, if appropriate, forward their concurrence to the PennDOT Bureau of Project Delivery, Contract Management Section for review and approval. The Contract Management Section will document approval of the selection procedures via a letter to the District, who should notify the Local Project Sponsor. If this process is not followed, federal funds may be jeopardized. This approval process is found in [PennDOT Publication 93](#), Chapter 7.3.3, Consultant Selection Procedure Approval, and Appendix 7A, Policy and Procedure for Consultant Selection. Selection Procedures need only to be approved one time (after July 1, 2011) and are acceptable to be used for future advertisements. If the Selection Procedures undergo significant revisions at any time, then they must be re-approved.

Project Engineering & Inspection

Projects must follow standard federal/state procedures for all phases of work. Project sponsors should acquire the services of a qualified Project Manager to oversee the development and implementation of the project (including project inspection) and ensure compliance with all state and federal requirements. This professional may be an engineer, architect, or landscape architect depending upon the nature and scope of the project. It is important to recognize that the project sponsor, not PennDOT, employs the design and/or construction professionals.

Treatment of Projects

Projects funded through the CMAQ Program must conform with 23 U.S.C. Section 213(e):

(e) Treatment of Projects.--Notwithstanding any other provision of law, projects funded under this section (excluding those carried out under subsection (f)) shall be treated as projects on a Federal-aid highway under this chapter.

The "treatment of projects" requirement (23 U.S.C. 213(e)) means that all projects carried out using CMAQ funds must comply with applicable provisions in Title 23, such as project agreements, authorization to proceed prior to incurring costs, prevailing wage rates (Davis-Bacon), Buy America, competitive bidding, and other contracting requirements, regardless of whether the projects are located within the right-of-way of a Federal-aid highway.

Design and Implementation Requirements

Certain projects will be required to adhere to design requirements defined in [PennDOT Pub 10 \(Design Manual 1\)](#) (requires Internet Explorer to view). Specifically, Chapters 6 and 7 address key design requirements, including NEPA requirements, preliminary and final design processes, and key procedures for obtaining right of way and utility clearances. If required for the project, these steps, requirements and standards must be followed by the sponsor's project designer for the project to be funded through the CMAQ Program.

Right-of-Way Clearance

All right-of-way acquisition must follow federal regulations, including the Uniform Act (Uniform Relocation Assistance and Real Property Acquisition Policies of 1970). In particular, property owners must be advised that federal funding is being used to implement the project, and they are entitled to fair market value for their property. The property owner must be informed of this value, as determined by a qualified appraiser. In addition, if the sponsor does not have the authority to acquire property by eminent domain, the property owner must be so advised prior to any offer being made. This requirement does not preclude the voluntary donation of property to the project. Federal funds are not available for land that is already within the public domain, e.g., owned by a municipality; however, such land may be donated to the project as part of the sponsor's investment. Right-of-way certification will be required for all projects prior to advertising for construction bids.

- The requirements of the Uniform Act apply to any recent acquisition, regardless if federal funds are used for the purchase. Please contact your PennDOT Engineering District Right-of-Way Administrator if you have any questions or need specific guidance.
- Due to deliverability concerns, sponsors are encouraged not to utilize CMAQ funds for right-of-way acquisition. Requests for this usage will be evaluated on a project-by-project basis.
- More information is available in Chapter 5, Right of Way Phase, of the Local Project Delivery Manual

Utility Clearance

All projects must have a utility clearance form (PennDOT Form D-419) processed *prior* to the advertisement for bids. This procedure requires that the sponsor certify that all necessary arrangements

have been completed for the relocation of any affected utility. PennDOT personnel will provide assistance with this process. Due to deliverability concerns, sponsors are encouraged to not utilize CMAQ funds for the utility clearance phase of the project. Requests for this usage will be evaluated on a project-by-project basis.

Permits

It is the responsibility of the project sponsor to secure all necessary permits to design and/or implement the project. These may involve permits from the Pennsylvania Department of Environmental Protection or the U.S. Army Corps of Engineers, as well as local municipal permits, PennDOT highway occupancy agreements, etc.

Public Utility Commission Involvement

Certain projects may require the involvement of the Public Utility Commission. It will be the responsibility of the project sponsor to contact the Public Utility Commission to secure the necessary actions by that agency.

Bidding

For projects that require a contractor to perform physical construction or rehabilitation, the sponsor's professional will assemble the contract proposal package. PennDOT's Engineering District Office will review the Plans, Specifications, and Estimate (PS&E) package. PENNDOT will bid the project(s) through the ECMS system. [ECMS](#) (Engineering and Construction Management System) is an internet-based computer system used to manage the design and construction of PennDOT projects. Local project sponsors are required to register as a [PennDOT ECMS Business Partner](#), as is any organization that has a business relationship with PennDOT.

Construction

Project sponsors may proceed with the construction phase of the project only upon receipt of PennDOT's written authorization (notice to proceed), which ensures that all necessary approvals have been secured. An approved contractor must perform construction. All materials used in conjunction with the project must meet project specifications and special provisions included in the Plans, Specifications, and Estimate package.

NOTE: 12-15% of the estimated construction cost is used for project inspection. The 15% *must* be included in the Total Construction Costs.

Cost Increases/Changes in Scope of Work

Each programmed project has undergone air quality analysis and has been approved for a specific scope of work and funding level based on the information submitted by the project sponsor. When preparing a project scope and cost estimate, all project materials and labor costs should reflect the anticipated year of construction. It should not be assumed that cost increases can be covered with state or federal funds. There may be cases where the sponsor must bear any unforeseen project cost increases. It should be noted that **only the project in which funding is awarded is the project that can use CMAQ funds**. If the project that is awarded funding cannot proceed, the funding will return to the SPC CMAQ line item in the TIP.

Maintenance

As maintenance is required for all projects constructed with federal funds, the project sponsor will be responsible for the maintenance of the completed project. The project sponsor should develop a plan for maintenance, upkeep and operation of a project constructed with federal funding. As part of the application for funding, the sponsor should clearly illustrate its capacity to carry out on-going maintenance once the project is complete.

Project Cancellation

A project sponsor may, at any time in the project development process, decide to cancel the project and drop out of the program. The project sponsor will be responsible for the reimbursement of all federal funds received as of that date, as well as for PennDOT staff costs incurred as a part of the project. The sponsor will also be responsible for payment of all outstanding invoices to all project contractors. At a project kickoff meeting a joint staff of PennDOT Center for Program Development and Management (CPDM), and Engineering District, and representatives from SPC choose the a timeframe and the specific milestones to be evaluated. Examples include reimbursement agreement, plans approved, etc.

Appendix B: Tables

2019-2022 TIP – CMAQ Project Rating Scorecard

	Scoring Factors	High (3)	Medium (2)	Low (1)	N/A (0)
Air Quality Technical Analysis Factors					
1.	Change in Emissions				
2.	Change in Vehicle Miles Traveled				
3.	Change in Vehicle Trips				
4.	CMAQ Cost per Unit Change in Emissions				
5.	CMAQ Cost per Unit Change in Vehicle Trips & Vehicle Miles Traveled				
Category Total Score:					
Ancillary Selection Factors					
1.	Consistency with <i>Mapping the Future: The Southwestern PA Plan</i>				
2.	Congestion Management Process (CMP) Corridor Rating				
3.	Safety Improvements				
4.	Funding: Bonus Point – Yes <input type="checkbox"/> No <input type="checkbox"/>				
5.	Air Quality Nonattainment Status in Project Area				
Category Total Score:					
Deliverability/ Project Readiness					
1.	Project Scope				
2.	Project Schedule				
3.	Project Cost Estimate				
Category Total Score:					
Total Project Score:					

Table B-1, August 2017

2019-2022 TIP – CMAQ Application Forms by Project Type

SPC CMAQ Application Form	Project Type
Application Checklist	All Projects
Candidate Project Description	All Projects
Project Budget and Schedule	All Projects
Project Delivery Checklist	All Projects
Commuter Bicycle and Pedestrian Improvements	Bicycle Use Marketing / Promotion Bikeway / Bike Lane Improvements Improved Bike Access to Transit Pedestrian Network Improvement
Transportation Demand Management	Area-wide Rideshare Program Carpool/Vanpool Parking Incentives Compressed Work Week Employer-Based Rideshare Program Expansion of Existing Vanpool Program Expansion of Existing Park-and-Ride Facilities Guaranteed Ride Home Programs New Park-and-Ride Facilities New Vanpool Program Off-Street Parking Management in Commercial/CBD Areas Public Education, Outreach, Marketing, Promotions Telework Promotion
Traffic Flow Improvements	Traffic Signal Improvements Intersection Improvements/ Roundabouts Bus Lanes (queue jump or bus-only thru) Bus Pull-Offs Electronic Toll Collection at Toll Plaza Incident Management / Traffic Control Center Deploy ITS HOV/HOT Facilities
Diesel Emissions Reductions and Alternative Fuel Technologies	Commercial Marine and Locomotive Diesel Engines Off-Road Diesel Engines Diesel Emission Control Technology and Equipment Alternate Fuel Vehicles
Transit Improvement and Programs	Bus Rapid Transit Change in Service Frequency for Existing Service Change in Time of Day for Existing Service Financial Incentives for Potential Transit Users High Speed Rail New Fixed-Guideway Service New Express Service New Local Service New Shuttle Service Transit Amenities Improvements Transit Center Transit Vehicle Replacement / Fleet Expansion
Other Projects	Advanced Technology Vehicles Vehicle-to-Infrastructure Communications Equipment Commuter Choice Tax Credit Long Distance Commuter Ferry Truck Stop Idling Reduction Freight and Intermodal Facilities Port-Related Freight Operations

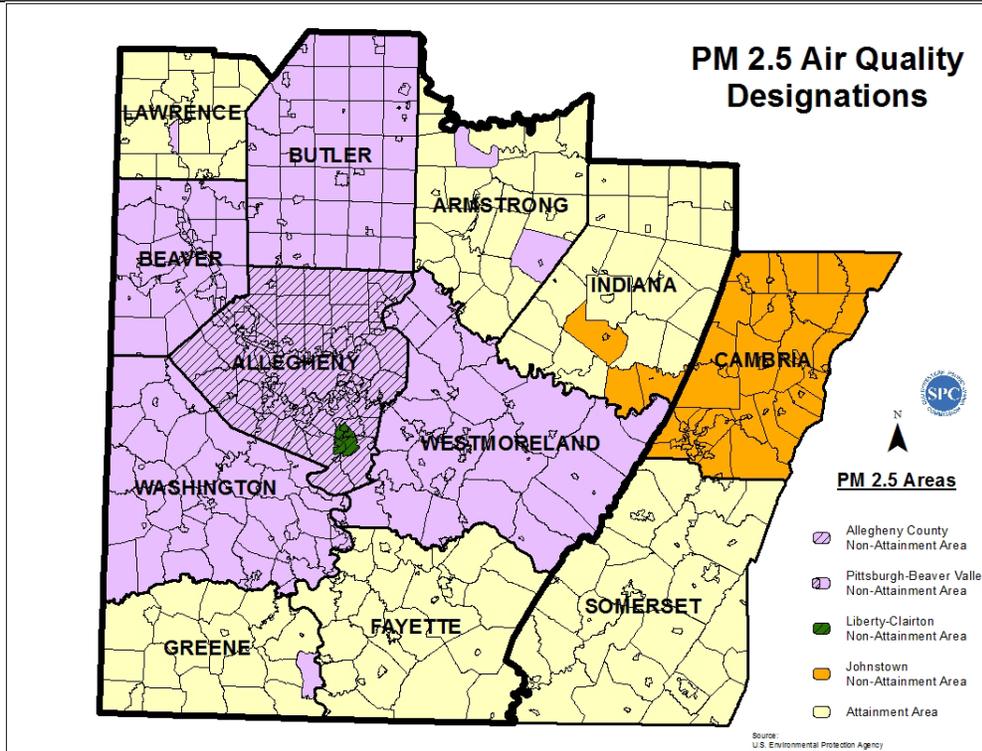
Table B-2, August 2017

2019-2022 TIP – CMAQ Evaluation Committee Membership

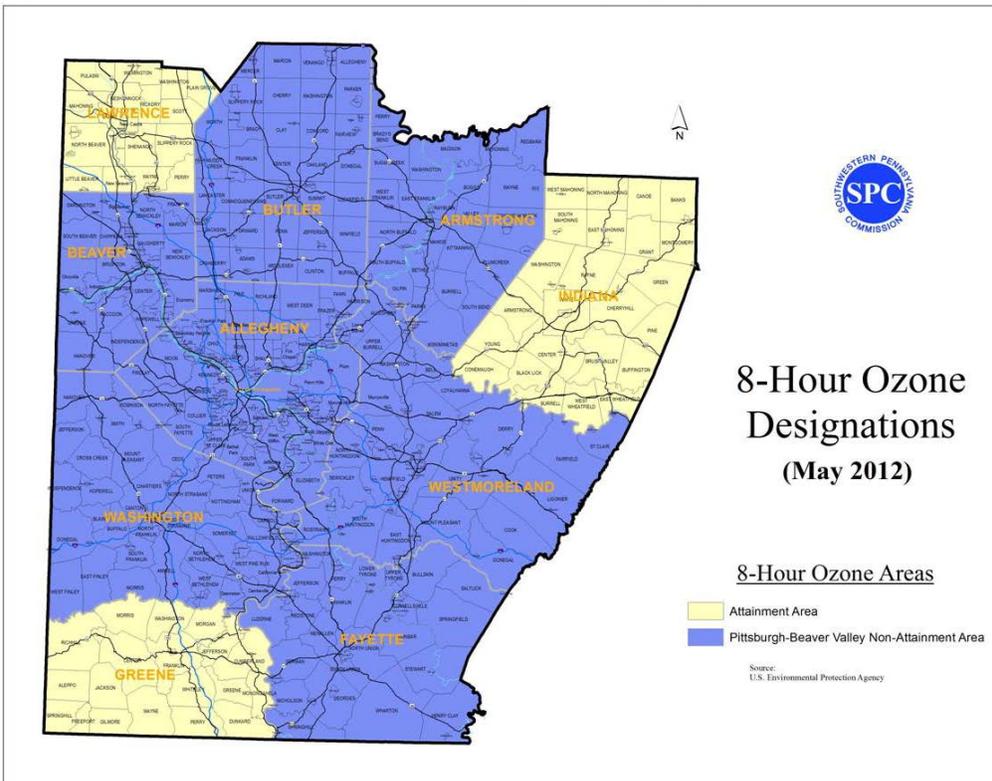
Interest Group	Number from Group	Representing	Other Criteria
Planners	11	Counties/City of Pittsburgh	1 per SPC Member County/City of Pittsburgh
PennDOT Districts	3	PennDOT Districts	1 per local PennDOT District
Transit	3	Transit Operators	1 each - Urban, Small Urban, Rural
PennDOT Central Office	2	PennDOT Central Office	Select from: Program Center, Air Quality Section, Bureau of Public Transit
TMA	1	Transportation Management Associations	1 of ACTA, OTMA or PDP
Air Quality Agency	1	Air Quality Regulatory Agency	PaDEP or Allegheny County Health Department
Resource Agencies			
Federal Highway Administration – Pennsylvania Division Federal Transit Administration – Region III PennDOT – Rail Freight Bureau SPC – CMAQ Program Staff			

Table B-3, August 2017

Appendix C: Maps – Air Quality Nonattainment & Maintenance Areas in Southwestern Pennsylvania



Map A - PM2.5 Areas in Southwestern Pennsylvania, August, 2017



Map B - 8-Hour Ozone Areas in Southwestern Pennsylvania, August 2017

Appendix D: Links to Additional Information and Staff Contacts

The links presented below provide information and guidance about the CMAQ Program and related topics that should be very useful to project sponsors as they complete their candidate CMAQ project applications. Click on the hyperlinks to the left for access to each resource item.

- [SPC Homepage](#)
- [CMAQ Program Guidance and Procedures Document and Application Forms](#)
- [PennDOT Local Project Delivery Manual \(PennDOT Publication 740, November 2013\)](#)
- [FHWA CMAQ Information Webpage](#)
- [FHWA's "CMAQ Public Access System", containing project data from state DOT annual reports](#)
- [FHWA CMAQ Program Interim Guidance, November, 2013](#)
- [FHWA Interim Guidance on CMAQ Operating Assistance under MAP-21, July 2014](#)
- [FHWA's Context Sensitive Solutions webpage – Pennsylvania's Ten Themes of Smart Transportation and the Smart Transportation Guidebook \(PennDOT & NJDOT, March 2008\)](#)
- [SPC Congestion Management Process \(CMP\) Webpage](#)
- [SPC CMP Corridors](#)
- [SPC CMP Strategies](#)
- [US Environmental Protection Agency – Diesel Retrofit Technology Verification Webpage](#)
- [Air Quality and Congestion Mitigation Measure Outcomes Assessment Study: Summary Report of Findings, FHWA, September 2014, \(Report required by MAP-21 Section 1113\)](#)
- [Air Quality and Congestion Mitigation Measure Outcomes Assessment Study: Final Technical Report, FHWA, September 2014, \(Report required by MAP-21 Section 1113\)](#)
- [CMAQ Evaluation and Assessment, Phase 1 Final Report, FHWA, October 2008, \(Report required by SAFETEA-LU Section 1088\)](#)
- [CMAQ Evaluation and Assessment, Phase 2 Final Report, FHWA, July 2009, \(Report required by SAFETEA-LU Section 1088\)](#)
- [TRB Special Report 264 – The CMAQ Program: Assessing Ten Years of Experience, 2002](#)

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